



Reducing vulnerability and increasing resilience to climate change through promoting innovation, transfer and large-scale deployment of adaptation-oriented technologies in priority agriculture value-chains and creating jobs

Part I: Project Information

GEF ID

10377

Project Type

FSP

Type of Trust Fund

LDCF

CBIT/NGI

CBIT

NGI

Project Title

Reducing vulnerability and increasing resilience to climate change through promoting innovation, transfer and large-scale deployment of adaptation-oriented technologies in priority agriculture value-chains and creating jobs

Countries

Congo DR

Agency(ies)

UNIDO

Other Executing Partner(s)

Ministry of Environment and Sustainable Development, Ministry of Industry, Ministry of SMEs, Ministry of Rural Development, Africa Enterprise Challenge Fund (AECF), Office de Promotion des Petites et Moyennes Entreprises Congolais (OPEC)

Executing Partner Type

Government

GEF Focal Area

Climate Change

Taxonomy

Focal Areas, Climate Change, Climate Change Adaptation, Least Developed Countries, Climate resilience, Adaptation Tech Transfer, Innovation, Livelihoods, Private sector, Influencing models, Stakeholders, Private Sector, SMEs, Individuals/Entrepreneurs, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Capacity, Knowledge and Research, Climate finance, Deploy innovative financial instruments

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 2

Duration

72 In Months

Agency Fee(\$)

848,580

Submission Date

10/7/2019

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CCA-1	LDCF	8,932,420	40,730,000
	Total Project Cost (\$)	8,932,420	40,730,000

B. Indicative Project description summary

Project Objective

To reduce vulnerability and enhance resilience to climate change through promoting innovation, transfer and large-scale deployment of adaptation-oriented technologies and services by SMEs and create jobs

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
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Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1: Transforming early-stage climate adaptation – oriented technology and service innovations into commercial enterprises	Investment	<p>1.1 Early-stage innovations in climate adaptation-oriented technologies developed by MSMEs are identified and incubated</p> <p>1.2 MSMEs receive commercialization and market entry support, and investment facilitation services to access funding for delivery of climate adaptation-oriented solutions at scale</p>	<p>1.1.1 MSMEs have increased capacity to assess climate risks and vulnerabilities and to identify business opportunities related to delivering innovative technologies for climate change adaptation</p> <p>1.1.2 Existing incubators and professional training institutions trained to run 5 cycles of annual climate adaptation technology innovation and entrepreneurship competition-based accelerators</p> <p>1.1.3 More than 1000 MSMEs with high-impact innovative climate adaptation-oriented technologies and solutions are trained and coached through competition based accelerators to transform and improve their businesses</p> <p>1.2.1 More than 500 successful MSMEs receive business growth support and seed funding to deliver suitable solutions and grow their climate adaptation businesses</p>	LDC F	3,850,000	17,865,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 2: Innovative financing for large-scale deployment of climate adaptation-oriented technologies and solutions to build resilience of vulnerable groups	Investment	<p>2.1 Awareness on climate change vulnerability and availability of climate adaptation technologies by target vulnerable groups raised</p> <p>2.2 Market linkages between technologies suppliers and vulnerable populations established</p> <p>2.3 Innovative financial mechanism supported to enable vulnerable groups to acquire climate adaptation technologies and services</p>	<p>2.1.1 Information programmes for the target groups are developed and awareness raising activities conducted</p> <p>2.1.2 Capacity building and training workshops for FSPs on viability, financial and adaptation impact of suitable technology solutions and services to address increased climate vulnerability</p> <p>2.2.1 Joint activities linking technology suppliers and the vulnerable population carried out to create demand for the climate adaptation oriented technology by the target populations</p> <p>2.3.1 Innovative financial products and services adapted to the needs of the most vulnerable populations (to reach at least 100,000 beneficiaries), including digitally-enabled solutions, through partner financial services providers (FSPs)</p> <p>2.3.2 Risk mitigation instruments and climate smart investment planning for FSPs including appropriate climate</p>	LDC F	3,850,000	17,865,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 3: Establish linkages with national adaptation planning process for improved climate resilience planning focused on technology innovation and innovative finance	Technical Assistance	<p>3.1 Strong linkages and integrated mechanism with national adaptation planning process</p> <p>3.2 Enhancing investments for climate adaptation, innovation and large-scale deployment</p> <p>3.3 National forums on entrepreneurship, innovation and sustainable financial mechanism organized and linkages to regional and global events and platforms created</p>	<p>3.1.1 Strong linkages with national adaptation planning and relevant partners created</p> <p>3.1.2 Integrated mechanism to promote adaptation, innovation and entrepreneurship established</p> <p>3.1.3 Improved tools for assessing climate vulnerability and appropriate solutions for improved monitoring and planning in priority sectors provided</p> <p>3.1.4 Specialized education, training on climate change and climate adaptation technologies developed</p> <p>3.2.1 Policy instruments to incentivize green investments for innovation and deployment of climate adaptation solutions are strengthened</p> <p>3.3.1 Organize national forums for national policy makers on entrepreneurship, innovation and sustainable financial mechanisms for climate adaptation</p> <p>3.3.2 Linkages to global events and platforms for</p>	LDC F	307,000	1,310,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)	
Component 4: Project Monitoring and Learning	Technical Assistance	4.1 Regular project monitoring and documentation for learning and knowledge sharing	4.1.1 Regular project monitoring and data collection for impact tracking conducted 4.1.2 Knowledge materials and documentation on best-practices developed and disseminated widely	LDC F	410,000	1,451,000	
Component 5: Project Evaluation	Technical Assistance	5.1 Project Evaluation	5.1.1 Project mid-term review and independent terminal evaluation conducted	LDC F	90,067	300,000	
Sub Total (\$)					8,507,067	38,791,000	
Project Management Cost (PMC)							
					LDCF	425,353	1,939,000
Sub Total(\$)					425,353	1,939,000	
Total Project Cost(\$)					8,932,420	40,730,000	

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(\$)
GEF Agency	UNIDO	Grant	Investment mobilized	130,000
GEF Agency	UNIDO	In-kind	Recurrent expenditures	500,000
Government	Ministry of Environment and Sustainable Development	In-kind	Recurrent expenditures	600,000
Government	Ministry of Finance	Public Investment	Investment mobilized	2,000,000
Others	African Enterprise Challenge Fund (AECF)	Grant	Investment mobilized	4,000,000
Others	African Enterprise Challenge Fund (AECF)	In-kind	Recurrent expenditures	500,000
GEF Agency	African Development Bank (AfDB) -DRC Office	In-kind	Recurrent expenditures	8,000,000
Private Sector	Private Finance Advisory Network (PFAN)	Equity	Investment mobilized	5,000,000
Private Sector	Private Sector Entities including Banks	Loans	Investment mobilized	15,000,000
Private Sector	SMEs	Equity	Investment mobilized	5,000,000
			Total Project Cost(\$)	40,730,000

Describe how any "Investment Mobilized" was identified

Initial investment mobilization has been conducted as part of the project design mission to the DRC in September 2019 as well as through UNIDO country office meeting with the key stakeholders. The following stakeholders were consulted during the PIF mission, and were identified as potential sources of co-financing investment. Their contributions will be validated during PPG: Recipient Government - Ministry of Finance is developing a guarantee fund for MSMEs which is expected to generate additional co-financing Private Sector - AECF – is expected to work with MSMEs supported by the project and help them mobilize additional funding in form of catalytic grant and early stage seed funding investments through their extensive networks. In particular, AECF will help MSMEs supported by the project in leveraging matching capital to expand and grow their businesses and hence reach out to more beneficiaries. - PFAN – will work with MSMEs supported by the project and provide them with investment facilitation services so that they can leverage investments to

expand their projects(grants, debt, equity) from their global, regional and national private financing networks - Equity Bank/Raw Bank – is potentially providing long-term funding to incubated/accelerated MSMEs and can therefore provide matching capital - MSMEs – are also expected to raise additional equity funding into their businesses and projects - AfDB – indicated that following two large-scale projects can be linked to this project (detailed description in baseline section): Development of Agricultural Value Chains in six Provinces in Democratic Republic of Congo (PADCA-6P); and The Youth Entrepreneurship in Agriculture and Agri-Business Project (PEJAB).

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(\$)	Total(\$)
UNIDO	LDCF	Congo DR	Climate Change		8,932,420	848,580	9,781,000
Total GEF Resources(\$)					8,932,420	848,580	9,781,000

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(\$)	Total(\$)	
UNIDO	LDCF	Congo DR	Climate Change		200,000	19,000	219,000	
					Total Project Costs(\$)	200,000	19,000	219,000

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
37500.00	0.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
37,500.00			

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted			
	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	35,000			

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Male	65,000			
Total	100000	0	0	0

Part II. Project Justification

1a. Project Description

1.A.1 GLOBAL ENVIRONMENTAL AND/OR ADAPTATION PROBLEMS – ROOT CAUSES - BARRIERS

Despite being the second-largest country in Africa, with an approximate area of 2.3 million square kilometers (890,000 sqmi), and being endowed with rich natural resources, the DRC is the second-poorest country in the world. The average annual income is only \$785 US dollars. In 2016, the United Nations (UN) **Human Development Index (HDI)** ranked the DRC as the 176th least-developed country out of 188 countries with an HDI of 0.435. More than 80% of Congolese people live on less than \$1.25 a day, defined as the threshold for extreme poverty. Although climate change related impacts have been so far less pronounced compared to neighboring countries, DRC is placed 12th on the global ranking of the most vulnerable countries and ranked as the 5th least ready country – meaning that it is highly vulnerable to, yet extremely unready to adapt to climate change effects. It is projected that by 2050, the average annual temperature of the DRC is likely to increase from 2.5 to 3.7 degrees Celsius. Furthermore, it is projected that seasonal and prolonged droughts will occur more frequently and annual precipitation will significantly decrease for most parts of country. Furthermore, extreme weather events are predicted to increase in intensity and frequency.

Increased temperatures and variable rainfall will highly impact food security, particularly as the majority of agricultural production is rain fed and supports livelihoods for the majority of the population. Changing temperature and precipitation regimes will increase pressure on DRC's forests which are already under threat from land use change and growing demand for charcoal and tropical forest products, contributing to an increasing risk on energy security. The effects of climate change, e.g. extended period of droughts, damage of water infrastructure due to storms and contamination of water sources during flash flooding, put additional pressure on availability and accessibility to water for both, rural as and urban populations. More extreme weather events like intense rainfall after prolonged dry spells lead to erosion and flash flooding, damage roads and infrastructure, putting additional lives at risk. For example, heavy rains in January 2018 caused severe flooding, landslides and silting in nine communes of Kinshasa, affecting more than 15,700 people and claiming 51 lives. Current climate variabilities and future climate changes are exacerbating the vulnerability of rural communities, key productive sectors and the overall socio-economic conditions. **For sub-Saharan Africa climate hazards and related multi-sector risks will be strongly felt in an scenario of average annual temperature increase above 2 degrees**

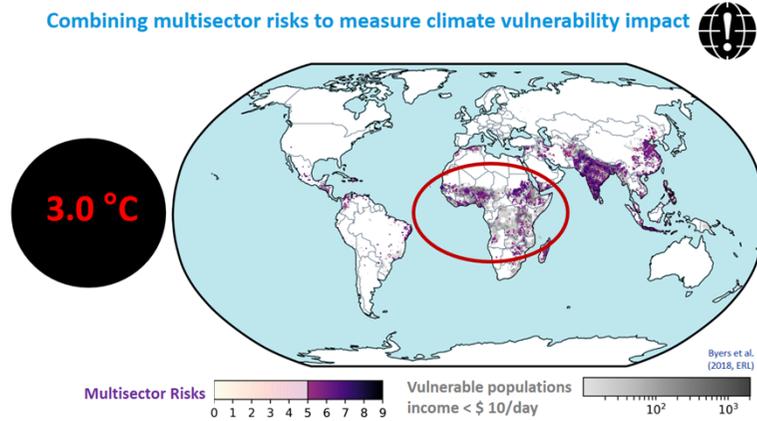
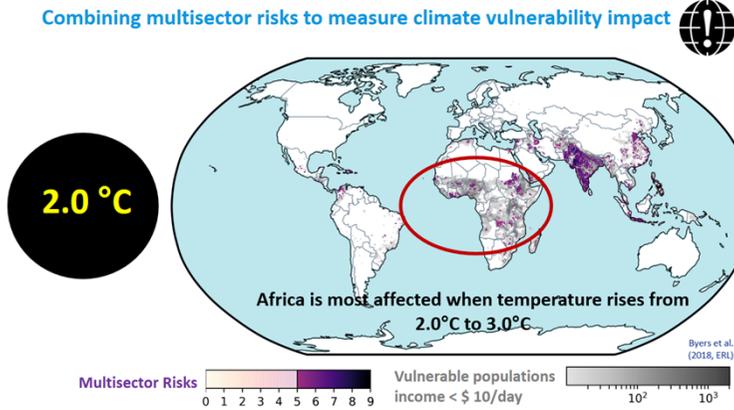


Figure 1: Impact of 2-3 degrees celsius temperature increase scenario for multi-sector risk

Climate change impacts on ecosystem will continue to affect humans in ways that will be increasingly harder to predict, and in ways that will require multi-sectoral teams to address. The poorest in society are disproportionately impacted by climate change, and greater efforts to reduce inequality and promote adaptation are urgently needed. Direct risks of climate hazards include building, infrastructure and machine damage, storage problems or a decrease of labor productivity. Further risks outside the direct sphere of influence, include shortages in resources such as water and energy, disruptions of supply chains. By recognizing the complex connections among humans and ecosystems within the systems, and promoting multi-sectoral collaboration across sectors to address and manage climate change issues. As climate change is inherently cross-sectoral, it presents a major global opportunity to engage with civil society, governments, and the private sector to positively impact human lives and the environment. Multi-sectoral collaboration and incorporation of cohesive approaches to climate adaptation can strengthen local systems and promote resilient communities.

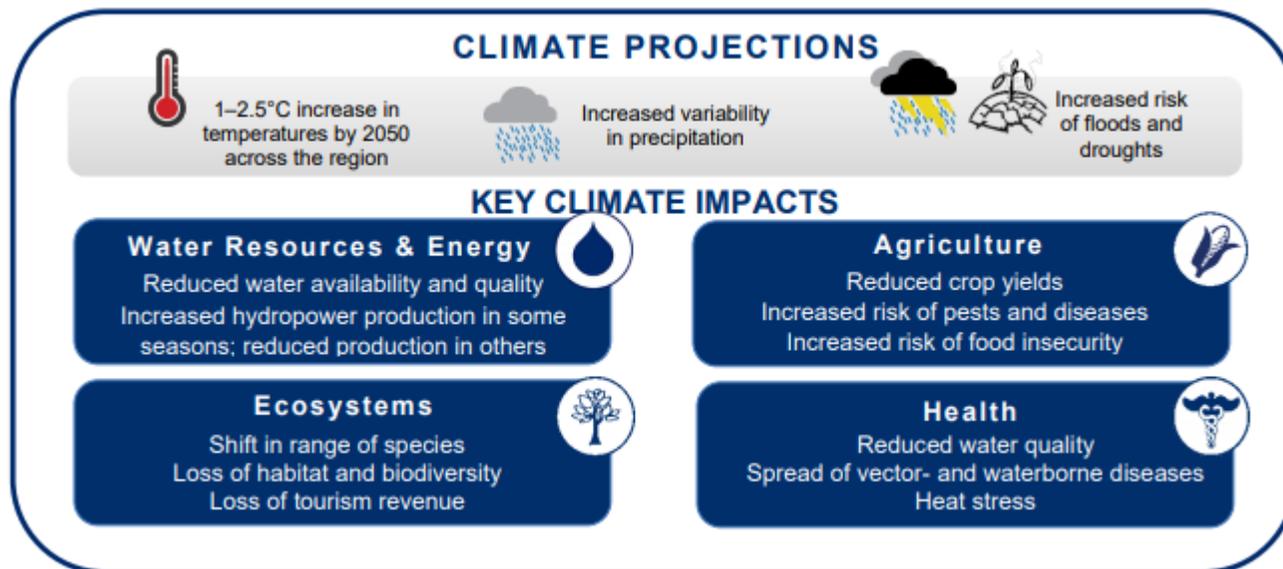


Figure 2: US Aid 2018, DRC Climate Risk profile

The National Adaptation Plan of Action (NAPA) for DRC, identified the following key priority areas i) access to reliable and sustainable energy supply in rural and urban environments as energy insecurity is a key barrier for vulnerable populations to adapt to the adverse effects of climate change; ii) water infrastructure and management; iii) improved natural resource management including forest and water bodies; iv) climate resilient agriculture supply chains, and v) availability of climate data services for planning and monitoring.

The associated climate adaptation investments in these priority areas exceed the financial capacity of the public sector. As a result, private sector capacity and resources are crucial to ensure a transfer of technologies and appropriate innovations for deploying climate adaptation solutions applicable to local needs and requirements. As private sector entities have more decentralized structures and operations, they are able to provide localized solutions on a commercial and sustainable basis. MSMEs are considered as the driving force for inclusive economic and social development, job creation and poverty reduction and play a crucial role for sustainable development, gender equality and environmental protection. SMEs account for 90% of all enterprises in DRC and the rest are industries that are at embryonic stages, mainly resource extractions with minimal value addition. Therefore MSMEs are the backbone of the economy and substantially contribute to employment creation in all economic sectors, in rural as well as urban areas, and to equitable development as they offer opportunities for women and the youth. Nonetheless, DRC is placed 184th at the bottom of the list in the World Bank Doing Business ranking. Impediments are largely attributed to regulatory and infrastructure issues, including access to electricity. The informal sector (> 70%) and the rural sector, with a low capacity for

creating well-paid jobs, prevail at the national level. Rural activity is weighed down by the rigor of the climatic conditions, by environmental degradation, by the high cost of transport, and lack of credit mechanisms in support of private initiatives.

Climate change impacts and proposed adaptation measures for priority sectors

Food security will be affected by land and infrastructure degradation due to erosion/landslides, an increase in livestock and crop diseases due to temperature increase, direct crop failure due to floods and heavy rains, and possible nutrient leaching and fungal growth due to high humidity.

Water security will be affected by possible periods of drought as well as increased risk of floods leading to damaged water infrastructure and increased health risk. For urban areas, increasing population density combined with erratic rainfall may in some cases lead to water stress.

Energy security is affected by climate change adversely affecting existing energy generation and distribution infrastructure (eg through torrential rains, flooding's, hurricanes) and thus leads to severe electricity outages that also adversely affect any business and income-generating activities. Lack of access to energy and negatively affects any other income-generating activities in rural and urban areas and hence reduces economic opportunities and income that would otherwise strengthen the resilience of vulnerable groups to climate change.

AFRICA

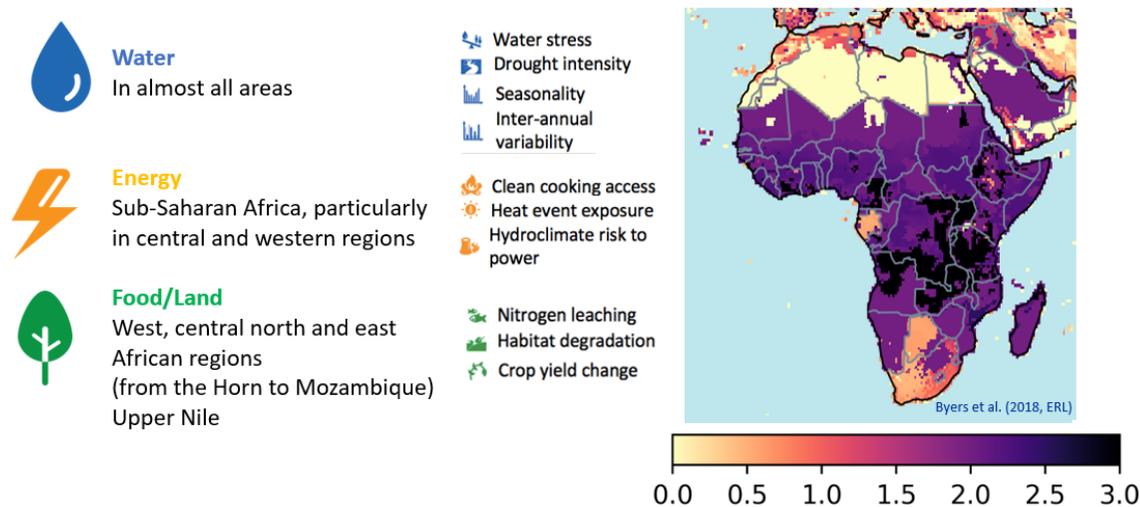


Figure 3: Multi-sectoral risks effecting Energy, Water, Food security

While the figure above outlines the high stress factors on energy, water and food security as a result of increased climate vulnerability (as indicated in the scale in the above figure 3), a number of suitable adaptation solutions deliver multiple benefits across sectors (e.g. solar-water pumping systems). Consequently, an integrated multiple-sectoral approach can deliver clear cost benefits as following:

Enabling a global shift in investment and in operational decision making across sectors, therefore targeted policies considering the integrated water-energy-food perspective have to be deployed

Transition to achievable resource consumption intensities across sectors can largely offset trade-offs between water efficiency and climate proofing and decentralization of energy infrastructure

Investing in an integrated approach, is the most cost-effective way in the long term due to synergies in the energy, water and food sectors

These synergies (in Water, Energy and Food) are paramount for minimizing joint implementation costs.

To ensure maximized impact with minimized implementation costs of suitable climate adaptation solutions, the project seeks to focus on the following major cross cutting themes which define the project key interventions:

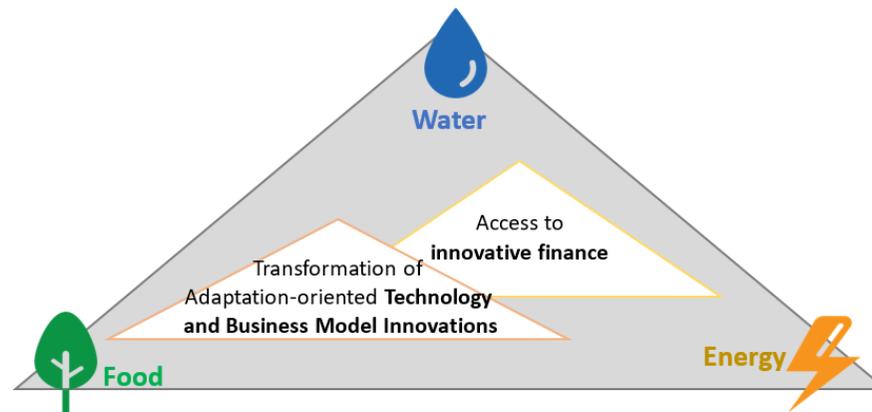


Figure 4: Cross-cutting themes and project key interventions

As such the project seeks to address increased energy, water and food insecurity caused by enhanced climatic hazards through the delivery of adaptation-oriented technology and services innovations and solutions appropriate to the local needs and requirements. Ultimately these technologies will ensure climate proofing of energy and water infrastructure, as well as improve agriculture production, processing and storage capacities.

There's a wide range of innovative climate adaptation products and services that can potentially address different climate problems in the different priority areas defined in the NAPA. For example, agricultural activity, along the entire value chain, is specifically affected by the adverse effects of climate change and there exist a large variety of adaptation solutions for different problems. For example, solar-powered water pumping or irrigation systems address the effects of irregular rainfall patterns and extended dry periods and droughts; refrigeration and cold storage solutions address extreme heat and reduce the loss of agricultural produce and improve its quality.

Climate proofing of water infrastructure through climate smart reservoirs, access to climate data and improved water management as well as integration with energy infrastructure, can effectively address increase water insecurity due to change in rainfall patterns and changes in availability of groundwater. Decentralized energy systems based on renewable energy sources, such as solar lanterns, solar home systems or solar mini-grids, as well as energy storage systems would help the vulnerable populations to better adapt to climate change. Digitally-enabled information and education tools, eg for climate data; information on suppliers of adaptation products and services; information on financial products and services for adaptation products; etc, are further examples of adaptation solutions. As such the project seeks to identify suitable and innovative technologies and services that address increased climate change vulnerability and associated energy, water and food insecurity. Proposed adaptation measures that will be identified and supported through the proposed project seek to address existing climatic hazards and thereby support and strengthen existing climate adaptation efforts in the country.

Climate hazards	Proposed adaptation measures for priority sectors		
	Energy	Water	Agriculture
Irregular rainfall, extended dry periods and droughts severely affect food security and agricultural production	Access to energy for water pumping and irrigation (e.g. solar water pumps and irrigation systems) to adapt to these climate effects (cross-sectoral); diversification of energy sources from small hydro Less natural resource intense energy infrastructure Decentralized RE energy systems Clean and efficient cooking solutions	Rainwater harvesting, efficient water management strategies across all sectors and solar water pumping systems. Improved water management technologies.	Focus on drought resistant crops. Smart agricultural, drip irrigation and hydroponics, soil moisture monitoring, crop diversification and new varieties, biotechnology for crop adaptation Climate smart fertilizers and agricultural practices and inputs. Nutrient management systems.
Higher humidity due to extreme rainfalls affects the processing and preservation of certain crops, e.g. cocoa beans, and hence reduces their quality and quantity and lead to diseases and insect attacks on the crops	Access to sustainable energy for drying systems would mitigate this effect	Flood water management systems	Improved crop storage technologies/material that impede insect intrusion. Mechanized agro-processing facilities
Increased climate hazard including torrential rains lead to destruction of infrastructure (roads, bridges) and hence affects transport and distribution of products	Climate proofing of energy infrastructure (energy storage systems, integrated decentralized RE systems, mobile energy services)	Climate proofing of water infrastructure, flood water management systems	Reduced post-harvest losses Climate insurance products for livestock and crops Digitally-enabled information and education tools, e.g. for climate data
Higher temperatures and extreme heat	Access to energy for refrigeration and refrigerators to	Water harvesting technologies and efficient water	Cold storage and cold chains facilities powered by solar etc.

Table 1: Climate hazards and proposed adaptation measures for priority sectors

Nevertheless appropriate measures have been identified, private sector engagement for the delivery of such solutions is impeded due to following key barriers:

Main barriers to be addressed

a) Low level of awareness and knowledge on effects of climate change and limited access to climate information

Awareness of the problems of climate change and its adverse impacts on the environment remain low including for governmental and public institutions, private sector including MSMEs, start-up's and entrepreneurs as well as most segments of the population in urban and rural areas. Knowledge and expertise on adequate solutions providing climate adaptation benefits is still very low due to a lack of specialized training programmes and curricula on climate change and climate adaptation as well as its threats and opportunities offered at technical colleges and universities. Communities and especially the small scale subsistence farming producers generally report limited awareness on measures and technologies to replace carbon intense infrastructure and nature resource intense production and practices. Unsustainable land use practices such as forest destruction for a fuel source and construction materials show that the populations are not yet aware of the value of their ecosystem services. Low level of awareness partly results of limited access to reliable climate data. Efforts exist for the establishment of national data services, nevertheless the development of more decentralized and use friendly options for access to climate information shall we explored, through innovative and cost effective private sector solutions.

b) Lack of national coordination and institutional framework

Despite notable efforts in responding and preparing to events of climate change in the country, lack of vertical and horizontal coordination persist. The risk to communities highly exposed to climate change is compounded by high levels of social vulnerability perpetuated by uncoordinated systems and mechanisms at the local level. Policy and regulatory environment creating the market-pull for private sector providing climate adaptation solutions is still weak. In addition, entrepreneurial and economic opportunities through addressing climate change vulnerability are not systematically promoted which requires further awareness raising and capacity building of national stakeholders including government institutions, private sector and most importantly vulnerable populations including youth, women with limited opportunities for off-farm activities especially in the rural areas. In order to foster innovation and entrepreneurial spirit requires supportive policies and a business environment that encourages investments.

c) Innovation performance is still at a low level

The lack of expertise as well as market information hamper the innovation and entrepreneurial activity. The present innovation ecosystem required to identify suitable innovations and transform these into marketable products is still weak. This is largely attributed due to insufficient institutional capacities to foster knowledge, expertise and entrepreneurial culture, regulatory environment to streamline innovation, as well as lack of available business development services. As a result, innovations are not systematically supported and even universities and research centres lack dedicated innovation support and promotion programmes, specifically for addressing climate change and developing climate adaptation solutions.

d) Weak market linkages for the provision of affordable and reliable climate adaptation-oriented solutions

Structural deficiencies and lack of a conducive business environment with targeted incentive and promotion mechanisms hamper the development of a sound, prosperous market delivering suitable climate adaptation-technologies and services. Due to limited access to information and available market platforms, as well as the existence of large informal sector, the productivity and competitiveness of a local market remains at very low levels.

e) Insufficient availability and access to funding

A major constraint remains limited access to finance for both, MSMEs to develop and deliver suitable and marketable solutions as well as vulnerable populations to access these. This is attributed to insufficiency of available financing mechanism and inadequacy of financial services providers to provide investment in the medium and long term. There are big gaps with what financial service providers can offer and what is requested. Adequate de-risking instruments and blended finance mechanisms are required to stimulate investments in climate technologies.

In summary following main barriers to the innovation, commercialization and large-scale deployment of suitable climate-adaptation oriented technologies and services in DRC include:

Type of barrier	Description
Barriers impeding MSMEs engagement in innovative climate adaptation technologies and services	<ul style="list-style-type: none"> a. MSMEs lack awareness of the risks and opportunities of climate change and its negative impacts due to limited access to climate data and information b. Lack of available training and business development services c. Lack of capacity by MSMEs to develop solid and validated business plans and marketing strategies to reduce risk of failure; d. Lack of awareness in businesses and private sector of new developments and trends related to their operations, manufacturing and distribution, locally or globally which limits their development; e. Lack of knowledge of the climate adaptation market, target clients and market potential; f. Limited entrepreneurial and management capacities (administrative, legal, financial, marketing, distribution, business plan development); g. Limited access to finance to commercialize and grown enterprises; h. Lack of access to markets/distribution channels

Barriers faced by vulnerable populations in adopting climate adaptation technologies (demand side)	<ul style="list-style-type: none"> a. Lack of awareness of the target groups of the problem of climate change and its negative impacts; b. Lack of knowledge and limited experience with climate adaptation technologies and practices; c. Lack of availability of climate adaptation products and services, especially in rural areas; d. Affordability of climate adaptation products and services; lack of access to finance of target groups
Institutional and market barriers	<ul style="list-style-type: none"> a. Lack of awareness at the government and institutional level of the problem of climate change and its adverse impacts on the priority sectors; b. Lack of coordination amongst sectoral players on market intelligence research (undermining decision-making regarding market opportunities and penetration strategies) and meaning they do not collaborate to support and foster cleantech MSMEs to develop new innovations and commercialize their products and services; c. Little developed innovation ecosystem and weak support mechanisms for innovation and entrepreneurship; d. Weak institutional capacity to drive innovation, incubation and MSME promotion; e. Weak institutional framework (e.g. cumbersome company registration procedures; heavy fiscal burden on MSMEs, no fiscal incentives for start-ups; complicated process of protection of intellectual property rights); f. Little developed professional training sector with limited capacities; g. Lack of specialized education (technical colleges), training and research programmes (universities) in climate adaptation and related technologies; h. Lack of qualified and well trained experts.

Table 2: Barriers

1.A.2 THE BASELINE SCENARIO AND ANY ASSOCIATED BASELINE PROJECTS

The Global Commission on adaptation’s 2019 report established that investing \$1.8 trillion globally in five areas (warning systems, climate-resilient infrastructure, improved dryland agriculture, mangrove protection, and investments in making water resources more resilient) from 2020 to 2030 could generate \$7.1 trillion in total net benefits. These findings makes the case for increased investments in climate resilience as having economic and social benefits. DRC’s National Adaptation Plan of Action (NAPA) identified the need for adaptation in 3 key priority areas namely, energy, water and agriculture. For the water sector the NAPA proposes adaptation strategies introducing technologies and measures that protect water sources against pollution, adoption of adaptation infrastructure capable of supporting the projected hydrological variations as well as improved techniques for evaluation and monitoring on quantity and quality of water resources for enhanced resource allocation. For the agriculture sector and natural resource management, the NAPA has identified adaptation strategies including improved agricultural techniques and technologies, improved supply and distributions chains, technologies and techniques reducing the impact on forest ecosystems, reinforcement of agricultural extension and upgrading knowledge related to adaptation strategies for local populations. For the energy sector, the NAPA highlight the need to substitute fossil-fuel energy by renewable energy sources and incorporating the policies of using clean technologies across all sectors and

industries, including the use of biogas technologies for waste to energy generation, and improvements in electricity generation and distribution. Furthermore the NAPA outlines the development of climate data monitoring and reporting tools and systems for sustainable environmental management. Such tools and systems shall enable improved tracking of land-use changes, access to meteorological, climatological and hydrological data.

At a global level, there is increased recognition of the role of SMEs in developing game-changing technological and business models that, if deployed at scale, can address challenges such as climate change adaptation. The agility and ingenuity of SMEs allows them to be key players in providing innovative climate adaptation technologies and services across various sectors. Therefore, supporting SMEs with innovative climate adaptation oriented technologies and solutions to become profitable businesses enables the private sector to drive the transition to climate resilient economies. The development of a thriving MSME sector hence contributes to the achievement of the following Sustainable Development Goals: 2 (zero hunger), 6 (clean water and sanitation), 7 (energy access), 8 (decent work and economic growth), 9 (industrial development and innovation), 13 (climate action) and 17 (partnerships).

The Government of DRC has recognized the importance of the MSME/SME sector as the backbone of an inclusive, equitable and sustainable economic and social development and has in 2014 created a dedicated Ministry of SMEs with a view to strategically support the development of a strong, dynamic, innovative and competitive MSME/SME sector. With a view to develop and implement a long-term strategy for the development of a vibrant MSME/SME sector, the Ministry of SMEs has, in cooperation with development partners, developed and adopted a dedicated National Strategy for the Development of SMEs (May 2016). The Strategy forms part of the Government's overall long-term growth strategy for 2030 and is, among others, in line with the National Strategic Development Programme (PNSD Programme National Stratégique de Développement, 2017-2021).

Therefore, DRC considers MSMES with climate adaptation oriented innovative technologies and solutions as a way to increase climate resilience, but to create home-grown industries that create new jobs and industries that complement its efforts. Like in many Sub-Saharan countries, MSMEs climate adaptation oriented innovative technologies and solutions can deliver a range of services in the off-grid sector, climate-smart agriculture and sustainable water management in a cost-effective way. A recent report by the World Bank on, "Early-Stage Financing in Green Sectors in Sub-Saharan Africa) established that such SMEs face a range of challenges, with access to early-stage financing being key. The report however established that this sector is bound to continue to exponentially grow (see Figure 1 below) if the SMEs are supported and market for their technologies and services are created.

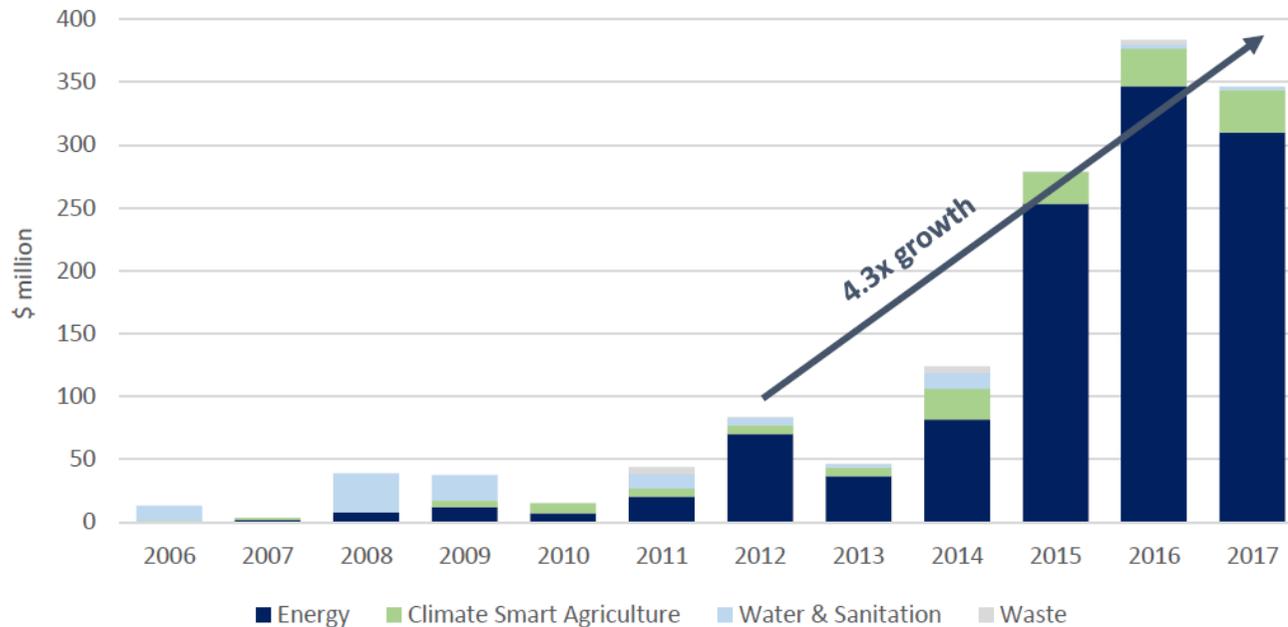


Figure 5: WB Report 2019: Total early- and growth-stage investment into green firms in Sub-Saharan Africa between 2006 and 2017 (\$ million)

In order to increase the availability of early-stage finance for green firms in SSA the WB reports recommends the following interventions: *i)* New types of investment vehicles and instruments, such as specialized sector-focused funds, ‘venture building’ funds, and flexible capital vehicles that reflect green firms’ business lifecycle; *ii)* Engagement of local commercial financial institutions (CFIs) and availability of early-stage financing in local currency through capacity building of and line of credit to local CFIs, locally based funds, and local currency debt fund; *iii)* De-risk mechanisms, such as first-loss capital, partial credit guarantees, and co-investment and matching funding; *iv)* Strategically deployed grants for less developed sectors and geographies, and alongside or preceding investment for early-stage green firms to have a smoother capital curve; and *v)* Stronger pipeline of investable deals through collaboration among investors and business support intermediaries on investment readiness, pre-investment technical assistance (TA) support facilities, and deepening knowledge of investors on green sectors, as well as local entrepreneurs on engaging investors. This project therefore seek to address some of these key recommendations by having a two pronged approach where on one hand, it will invest on developing the MSMEs and on the other hand, it will make funding available to the beneficiaries to acquire the adaptation oriented technologies and solutions.

DRC’s financial sector is very weak and in formative stage. There are 18 banks in DRC, five local ones, four pan-African and nine foreign. Total banking assets are approx. US\$5bn, with the five largest banks holding 60% of these assets. DRC has one of the lowest banking penetrations with only 7% of the population holding a bank account. Given

this low level of financial inclusion together with a huge informal sector, efforts to mobilise financing for MSMEs as well as designing financial products and services adapted to the needs of the target clients of climate adaptation products and services will be at the core of the proposed project. Equity bank is providing a specific credit line to farmers in order to access funding to support agricultural activities. This could potentially be expanded to encompass adaptation oriented financial instruments accessible for targeted populations.

Micro finance institutions - For several years the financial sector in the Democratic Republic of the Congo (DRC) has been expanding. New microfinance institutions and savings and loan associations are being formed, and a number of commercial banks are gradually discovering micro, small and medium-sized enterprises (MSMEs) as a target group. As of 2019, there are more than 120 registered micro-financing institutions. Most of which are already providing services that can be easily adapted to the needs of clients/beneficiaries looking for climate adaptation technologies and services. The main gaps in the current delivery of services are as following:

- Climate adaptation is not mainstreamed across the operations
- Climate risk is not included lending decisions
- The services of these institutions are largely not accessible to the majority who cannot afford the high interests rates.

Although not well defined, the banks in DRC are increasingly realizing climate adaptation as a business opportunity for lending. To date, some of the banks are already active in climate adaptation sectors like agriculture, energy etc. although their operations remains embryonic. In particular, climate risk assessment is not systematically integrated in the lending operations. Furthermore, the specific needs of clients in climate adaptations like longer repayment periods and lower interest rates are not prioritized.

UNIDO and the African Enterprise Challenge Fund (AECF) have established a strategic partnership to support MSMEs, entrepreneurs and start-ups in climate and clean energy innovations and agri-business development in Africa. The joint interventions seek to build capacity of MSMEs, start-up's and entrepreneurs and promote local technology innovation to address the environmental (energy, food, water) and economic challenges of today. AECF - supports businesses to innovate, create jobs, leverage investments and markets in an effort to create resilience and sustainable incomes in rural and marginalized communities in Africa. AECF's primary focus is supporting MSMEs in the agriculture and agribusiness, renewable energy and adaptations to climate change and rural financial services and communications systems that support the two sectors. In particular, they support investees in these sectors and ensure that they rapidly scale and transition to external financing and sustainability. In the process, they prioritize investees with projects that address gender equality, youth and employment for rural development. Some of the examples of successfully supported business models in the climate adaptation space in DRC and across SSA are listed below:

- Future pump Limited, is a renewable energy company dedicated to revolutionize farming for the millions of smallholder famers in rural Africa. The company designs and manufactures solar water pumps, and has distribution partners to deliver service to households.

- Rehabilitation of Arid Environments (RAE) Ltd, is advancing the concept that grass is a crop to pastoralists in Kenya's vast arid and semi-arid areas. The company is developing and managing pasturelands, selling quality dryland grass seed and fattening cattle during drought conditions. The company also provides extension services and consultancies.
- Takaful Insurance of Africa Limited, is a pioneering and dynamic insurer which has introduced a new and exciting ethical perspective to risk management in Kenya. The company created the Index Based Livestock Insurance Takaful (IBLT), the world's first insurance service developed for pastoralist communities in the arid and semi-arid regions of Northern Kenya.
- Maji Milele Limited, is a services company that provides a range of water management services to rural utilities in order to boost revenue collection and efficiency in water management. The company installs prepaid water meters and online monitoring software that makes it easy to keep track of water distribution, consumption and payments.
- AtlanSpace, has developed autonomous aerial vehicles with patented artificial intelligence to enable governments to oversee very large geographical areas, identify risks, and take the necessary steps to protect and enhance ecosystems, forests and wildlife. The technology has been deployed in several locations including Seychelles, Tanzania and Morocco assisting the establishment of national information systems.

The proposed UNIDO project will build upon the experience and partnership with the African Enterprise Challenge Fund (AECF) in DRC and SSA, and will identify and grow MSMEs and start-up's with suitable climate adaptation technologies applicable for large-scale deployment in the DRC. Given the climate adaptation needs in DRC, there is need to expand and scale-up the operations of AECF in DRC so that many MSMEs and beneficiaries benefit from their services.

UNIDO currently hosts the Private Finance Advisory Network (PFAN) jointly with REEEP. PFAN is a global network of climate and clean energy financing experts, which offers business coaching and investment facilitation to entrepreneurs developing climate and clean energy projects in emerging markets. The experts in the PFAN network offer personalized one-on-one coaching and targeted introductions to investors, providing a fast-track to commercial investment. In total PFAN has leveraged over 1.46 billion US\$ in climate investments and has supported over 113 projects in developing and emerging countries, mostly for deployment of sustainable energy infrastructure. As of 2019, PFAN has opened up dedicated funding window for climate adaptation projects. Currently, the volume of projects that need PFAN services in DRC seems suppressed due to poor grade projects, lack of capacity among project developers, and lack of appreciation of the investment opportunities in climate adaptation by financial services providers both local and international. The proposed project will build on this experience and expand activities in DRC on providing investment facilitation services to climate adaptation projects in DRC and mobilizing financing.

The Climate Technology Centre and Network (CTCN) as the operational arm of UNFCCC and hosted under UNEP and UNIDO supports developing countries through technical assistance for the development of climate technology sectors. As such CTCN has developed guidelines providing identification and evaluation assistance when looking for adaptation solutions. More specifically, these guidelines focuses on adaptation technologies for building resilience to climate change induced hazards in various sectors including water, energy and agriculture. As such the proposed project will build upon the services through the CTCN including technology needs assessment, identification of technologies, technology barriers, technology efficiency, as well as piloting and deployment of suitable technologies. Some relevant CTCN projects are added in the table below.

Further, the proposed project will build on the following baseline projects that support development of agricultural value chains, water supply, and energy infrastructure through transfer of technologies, innovations and good practices and development of youth entrepreneurship, biodiversity and sustainable management, summarized in the table below:

<i>Project</i>	<i>Key objectives</i>
MSME Development and Growth Project	The project is funded by \$100 million from the World Bank and implemented by the CFEF (PPA). The Small Medium Enterprise Development and Growth Project of the Democratic Republic of Congo has the objective to support the growth of Micro, Small, and Medium-sized Enterprises (MMSMEs) and increase employment and entrepreneurship opportunities for youth and women in select areas. The synergies and complementarities of funding could be catalyzed for entrepreneurs, MSMEs in climate adaptation technologies in the selected areas where the World Bank project intervenes.
The Youth Entrepreneurship in Agriculture and Agri-Business Project (PEJAB)	The project is funded with a budget of \$50 million by the African Development Bank and implementing by the Ministry of Finances and Ministry of Agriculture from March 2017 to December 2022. The project aim is to improve the value added of the agricultural sector and the access to finance in the agricultural sector by young people through the creation of 2,000 companies lead by 6000 young graduates, the establishment of a risk-sharing mechanism for youth loans and a fund to cover potential climate risks. The project activities are targeted to benefit 6 000 young graduates directly as well as producer organizations and other suppliers of input for young “agripreneurs”. As such the UNIDO project will leverage on the activities on creating agripreneurs and youth entrepreneurs and link them with further business growth and financial support to grow their businesses.
Urban Water Supply Project	The project is funded by \$ 166 million of the World Bank and under implementation by the Ministry of Finances, started in 2016. The development objective of the Urban Water Supply Project for Democratic Republic of Congo is to increase sustainable access to water in selected urban areas and the efficiency of the state water utility (régie de distribution d’eau de la République Démocratique du Congo) (REGIDESO). The additional financing (AF) will help finance the costs associated with scaled-up activities to enhance the impact of a well-performing project. The AF will enhance the impact of the original project by improving the governance and operational performances of REGIDESO through the extension of the ongoing arrangements for private sector participation (PSP) in the delivery of services, the improvement of maintenance and staff productivity, and effective and proactive monitoring of the quality of water services. It also includes a level one restructuring, which will involve an extension of the project closing date and a revision of the project development objective (PDO) and the results framework. The proposed UNIDO project seeks to build synergies with regarding private sector participation in providing water services in urban areas.
Green Mini-Grid Program	The project is funded by Green Climate Fund (GCF) and the African Development Bank (AfDB), pilots an innovative mini-grid model powered by solar, bringing clean and modern energy to sizeable towns. The Program’s climate additionally is significant as it will ensure that the major portion of future electricity demands are met by a clean source as opposed to a business-as-usual 100% diesel scenario. It is envisaged to integrate mobile prepayment and smart metering technologies to ensure that consumptions are effectively monitored and controlled, while preventing potential fraud and non-technical losses. The proposed UNIDO project will build on the activities to increase access to clean energy of vulnerable houses in order to build their resilience to climate change and variability and the introduction of innovative solutions to ensure energy access, smart metering and mobile applications.

<i>Project</i>	<i>Key objectives</i>
Development of Agricultural Value Chains in six Provinces in Democratic Republic of Congo (PADCA-6P)	The project is funded by the African Development Bank and implementing by the Ministry of Finances started in June 2019 and expected to end in December 2024 with a total budget of \$30 million. The PADACA-6P project aims to sustainably improve food and nutrition security and increase the incomes of the target population in the provinces of Kwilu, Kasai, Haut Iomami, Iomami, Maniema, and Tshopo. The project design is based on the value chain approach and takes into account the Technologies for African Agricultural Transformation (TAAT) programme initiative which aims to contribute significantly to increasing agricultural productivity and production by identifying and disseminating appropriate farming technologies; and conducting training and extension campaigns for the adoption of good farming practices through the effective provision of technologies to farmers. The proposed UNIDO project will be complementary and build upon the PADCA-6P. The selection process will be coordinated with PADCA-6P project coordination. Key synergies will be created through promoting adequate innovative technologies that will build resilience in the priority value chains including those identified by the PADCA-6P.
Biodiversity conservation and sustainable forest management,	The project is funded under the German Federal Ministry of Economic Cooperation and Development (BMZ) with Euro 24 million and is implemented by GIZ and the Ministry of Environment and Sustainable Development between 2016 and 2020. The project's objective is to improve the sustainable management of natural resources and the conservation of biodiversity in and around protected areas and hence increase the value for the local population and private owners of forest smallholdings through the development of income-generating activities from sustainable forest management. The project seeks to achieve its objective by strengthening the skills and capacities of the local population and the private owners of forest smallholdings, as well as those of the relevant ministries, service providers and decentralized state structures. The project seeks to involve the people in environmentally sound, economically sustainable resource management as sources of income-generating activities. The proposed UNIDO project will build upon activities, especially on capacity building and skills training in sustainable natural resource management implemented with 7 universities. Furthermore the proposed UNIDO project will leverage on the development of innovative financing mechanism and seek to create close linkages with the follow up project seeks to include activities to improve financial inclusion of the local communities by supporting financial institutions with developing financial products adapted to the needs of the vulnerable populations in the target areas.
Medium term investment planning for adaptation in climate sensitive sectors in the Democratic Republic of Congo :	The project is funded by the Green Climate Fund and will be implemented by the United Nations Development Programme. The project will support DRC in integrating climate change adaptation requirements into developmental planning and processes. The project will advance the adaptation planning process for priority climate sensitive sectors and regional in DRC. This will be achieved through 3 outcomes as follows: <ol style="list-style-type: none"> 1. Facilitating the 2016-2020 PSPA-CC implementation through the reinforcement of the legal and institutional framework and capacity building for climate change adaptation planning; 2. Climate change adaptation and development priorities are aligned and reflected in the PNSD and PNIA and PDPs of priority provinces; and

<i>Project</i>	<i>Key objectives</i>
<p>CTCN supported projects</p>	<p>CTCN promotes the accelerated transfer of environmentally sound technologies for low carbon and climate resilient development at the request of developing countries. In DRC, CTCN has provided several technical assistance services whose experiences and lessons will be instrumental in the design of this project. These include:</p> <p>- Restoring biodiversity in community forest by planting caterpillar trees: The Batwa Pygmies are discriminated against in DRC, particularly in their access to traditional forests, often overexploited. The project was aimed at restoring forest ownership by Pygmy populations (1,600 beneficiaries) and biodiversity in the Equator province by planting trees that host edible caterpillars in two forest areas of 100 ha each. Caterpillars used as food produce can mitigate food insecurity due to the loss of crops and generate a source of income for indigenous women. They are trained to rehabilitate damaged ecosystems and manage forests rationally and sustainably. The engagement with indigenous communities under the project will be important model for this project.</p> <p>- Women's formal access to land rights DRC The project sought to improve the recognition of women's land and forest rights in the provinces of Equateur and Maindombe of the DRC, with the aim to strengthen their effective participation in reducing deforestation. The project also build and used an advocacy tool in dialogues between local and indigenous women, customary chiefs and provincial authorities. Recommendations resulting from these dialogues have led to the adoption of 2 provincial edicts that guarantee land and forest rights for women. This transforms the country's patriarchal framework, while strengthening the role and decision-making power of women in DRC's forest management policies for climate action. The engagement of women and their access to assets such as land will be critical for the project as the project will also seek to ensure that women a direct beneficiaries of climate change adaptation interventions.</p> <p>- Advocacy for women's right to land ownership through DRC's land : The project advocated in 4 regions of DRC for national authorities and customary leaders to acknowledge the rights of women on lands and forests and strengthen their participation in climate action. Based on an assessment of women's legal land tenure rights and local practices, an advocacy tool was created and used for meetings organized between women in these provinces and ministerial authorities or local decision-makers. This led to the recognition of women's role in forest management and community development, and the allocation of land for agroforestry projects. The experiences and achievement of this project will also be central in ensuring that the interventions by the proposed project will reinforce women's right to land ownership.</p>
<p>Integrated Solutions for Water, Energy, and Land under GEF 6</p>	<p>The GEF funded project (GEF ID 6993), implemented by UNIDO, has the objective to establish a long-term systems approach to developing, refining and applying the tools, and skills essential for identifying integrated approaches to energy, water, food, and ecosystem security in selected regions in line with the GEF 2020 strategy. In close collaboration with IIASA, the project is currently finalizing the development of a global vulnerability hotspot explorer looking multi-sectorial vulnerability hotspots under different socioeconomic and climatic scenarios. As such the proposed project will</p>

Table 3: Baseline projects

Following baseline investments have been identified for the proposed project:

The African Development Bank, is implementing the following, large-scale projects. “*Development of Agricultural Value Chains in six Provinces in Democratic Republic of Congo*” (PADCA-6P) with total project volume of US\$ 20 million US\$ and “*The Youth Entrepreneurship in Agriculture and Agri-Business Project*” (PEJAB) with total project volume of US\$ 35 million. The African Development Bank Office in DRC has confirmed interest in in-kind cofinancing from these project to this proposed project estimated at US\$ 8 million. The accounted in-kind contribution are derived from shared resources and building upon existing networks, trainings and supported campaigns primarily for interventions in the agricultural sector.

Private Sector partners including Equity Bank will provide contribution estimated at US\$ 15 million to the proposed project. The estimated contributions include provision of long-term funding through line(s) of credit as well as additional equity funding through supported MSMEs who are expected to raise additional capital into their businesses and projects. Further the Ministry of Finance is developing a guarantee fund for MSMEs which is expected to generate additional co-financing.

The regional partner African Enterprise Challenge Fund as well as UNIDO hosted PFAN is expected to contribute to the project. AECF is expected to work with MSMEs supported by the project and help them mobilize additional funding in form of catalytic grant and early stage seed funding investments through their extensive networks. In particular, AECF will help MSMEs supported by the project in leveraging matching capital to expand and grow their businesses and hence reach out to more beneficiaries. PFAN will work with MSMEs supported by the project and provide them with investment facilitation services so that they can leverage investments to expand their projects(grants, debt, equity) from their global and regional networks.

1.A.3 THE PROPOSED ALTERNATIVE SCENARIO WITH A BRIEF DESCRIPTION OF EXPECTED OUTCOMES AND COMPONENTS OF THE PROJECT

In order to address the above mentioned adaptation problems, root causes and barriers, the project seeks to deliver innovation, transfer and large-scale deployment of adaptation-oriented technologies and services as well as boost job creation in order to reduce vulnerability, enhance resilience and the adaptive capacity of the vulnerable segments of the population including women, youth, smallholder farmers, small entrepreneurs and micro, small and medium enterprises, in rural and urban areas of the Democratic Republic of Congo (DRC).

This will be achieved through a two-fold approach including transformation of innovative climate adaptation technologies and business models through catalyzing private sector (MSME) engagement, and development of innovative financing mechanism for large-scale deployment of climate adaptation-oriented technologies and solutions to build resilience of vulnerable groups.

The project will deliver suitable solutions to address key priority areas as identified in the National Adaptation Plan of Action (NAPA) for DRC, including i) access to reliable and sustainable energy supply in rural and urban environments as energy insecurity is a key barrier for vulnerable populations to adapt to the adverse effects of climate change; ii)

water infrastructure and management; iii) improved natural resource management iv) climate resilient agriculture supply chains, and v) availability of climate data services for improved planning and monitoring.

As such the project seeks to address the key climate vulnerabilities in the priority sectors, including energy, water and agriculture. Through a detailed needs assessment along the selected supply/value-chains, as exemplified on the figure 3 below for the agriculture sectors, the project will identify demand-driven solutions addressing key climate vulnerability areas i.e. agriculture, water and energy. As such the project will identify and address high vulnerability areas and identify and promote adaptation-oriented technology and business innovations to deliver specific solutions along the identified supply chains and priority sectors.

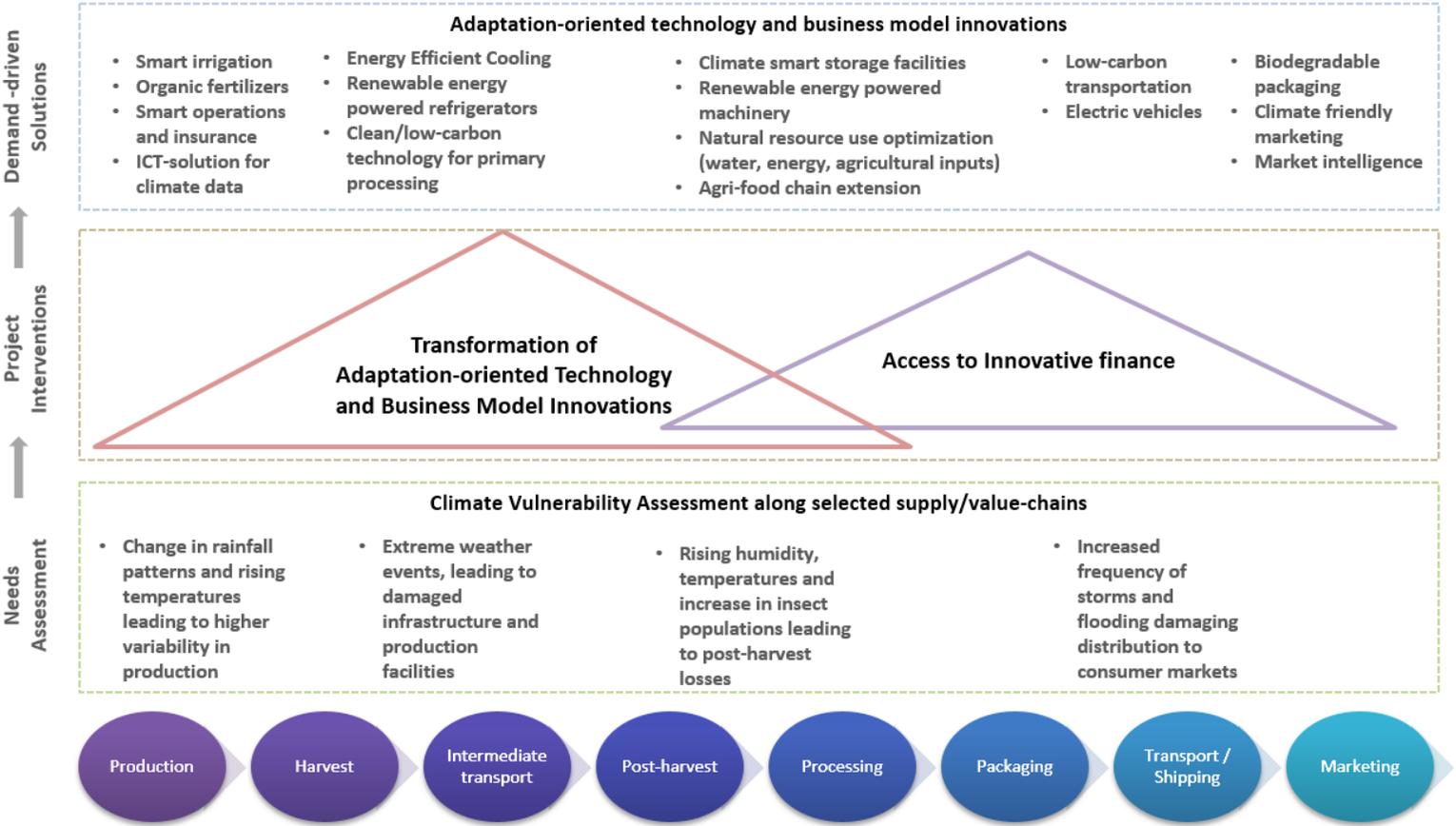


Figure 6: Demonstration of Project Intervention Strategy for agro-value chains

Through supporting local micro, small and medium-scale enterprises (MSMEs), start-ups and entrepreneurs to provide innovative business models and suitable technologies, to accelerated delivery of solutions with pertinent adaptation and resilience benefits. Engaging and supporting the formation and strengthening the operations of local MSMEs, start-up and entrepreneurs will contribute to delivery of localized solutions as we creation of new employment opportunities, thereby offering economic diversification options, further strengthening resilience to climatic and socio-economic shocks.

In business as usual (BAU) scenarios the above mentioned barriers will not be adequately addressed which will hamper the identification of appropriate climate-technology solutions and the deployment in the priority sectors as identified in the NAPA for DRC. Consequently there are missed opportunities for unlocking local innovation potential for addressing required climate adaptation and resilience needs and priorities. Further, the creation of effective market linkages between private sector and vulnerable populations will remain underdeveloped. Hence, access to climate technologies and services for vulnerable population remains limited, and their adaptive capacities stay low.

In line with the updated GEF-LDCF programming strategy (2018-2022) which highlights the importance of *i*) private sector engagement for climate adaptation action and *ii*) supporting LDCs with deployment of adaptation technologies, the proposed project aims to address the above listed barriers by engaging the private sector and tap into the innovation potential by supporting the development of entrepreneurs, start-ups and SMEs and facilitate the transformation of innovative and entrepreneurial ideas into market ready products for large-scale deployment of adaptation-oriented technologies and solutions in the following priority areas as identified in the DRC's NAPA:

- access to climate resilient energy supply in rural and urban environments
- sustainable and resilient water management
- improved natural resource management including forests and water bodies
- resilient agriculture supply chains
- improved access to climate data for monitoring and planning

The proposed project seeks to catalyze the formation of a localized market providing affordable and reliable climate adaptation solutions to vulnerable populations through:

- promoting the development of a conducive ecosystem supporting the adoption of climate adaptation solutions in the priority areas as identified in the NAPA for DRC,
- fostering entrepreneurship, MSME development and employment creation,
- awareness raising, capacity building and improved knowledge and access to climate adaptation technologies and solutions for vulnerable populations.
- improved access to funding for the development and adoption of appropriate adaptation-oriented solutions.

Through its activities the project will address the main barriers for the scaled deployment of climate adaptation-oriented products and services in the country. The proposed project has a national scope, and will implement project activities around existing aggregator platforms, distribution networks, incubation and training centers around regional hubs and will build on the achieved results from the listed baseline projects. During the PPG, the project will identify and validate the specific regions and hubs and determine the proposed project activities around these regional hubs. The project will be implemented through following proposed project components (detailed overview of expected project outcomes, outputs and indicative activities are attached as Annex D).

Component 1: Transforming early-stage climate adaptation –oriented technology and service innovations into commercial enterprises

Component 1 aims to foster innovations in climate adaptation technologies by supporting entrepreneurs, start-ups and MSMEs with delivery of innovative products and services delivering climate change adaptation benefits.

Based on the specific needs and vulnerability assessment of priority sectors, technology innovations with high-impact potential in the area of climate change adaptation will be admitted into competition based accelerator programme. During PPG, selection criteria will be further elaborated and direct climate adaptation impacts in short-term, medium and long term will be determined based on a thorough environmental and social impact assessment. The selection criteria will be based around key measures including: innovative climate adaptation solutions with strong catalytic and multiplier effects; substantial potential for scaling-up and hence maximizing impact for resilience building, business models with potential for replication and hence further increase the cost-effectiveness of the project interventions. In addition, applications will be screened considering their contribution to employment creation, empowerment of women and the youth, and to social and economic development in general, which, in turn, will also strengthen the resilience of the population. Sector specific selection criteria will be defined, according to sectoral adaptation needs and technology requirements. It should be noted that some of these interventions are cross-sectoral since they provide multiple adaptation benefits. Please see table 4 below for draft selection criteria, to be expanded and validated during PPG.

Sector specific criteria for identified adaptation-oriented technologies and service innovations	
Energy	<ul style="list-style-type: none"> - Reduces pressure on natural resources based energy sources such as charcoal and firewood, - improved energy access in rural and decentralized areas, - enabling income diversification for improved resilience building, - supports climate proofing of energy infrastructure including: <ul style="list-style-type: none"> • Energy storage systems • interconnected RE systems (solar, wind, hydro-) • shortened and independent recovery of vulnerable communities thus enabling provision of other basic services • backup power supply for individual rescue/service centers and homes, also enabling transportation of basic supply and first aid when event of climate hazards
Water	<ul style="list-style-type: none"> - Saves costs related to (waste-) water management and energy. - promoted efficient utilization of water across various economic sectors - Increases access to water during drought periods. - Reduces energy requirements for treatment, thus minimizing carbon footprint and costs - Reduces pressures on freshwater ecosystems. - Reduces polluted wastewater discharge into local freshwater ecosystems, e.g. by on-site water recycling and reduced water use - Reduces maintenance requirements and promotes state of art production facilities through installation of new, water efficient technology
Agriculture	<ul style="list-style-type: none"> - improved and efficient irrigation systems - reduction in post-harvest losses - promoting sustainable land and resource management - climate data services for agriculture planning, production and processing - early-warning systems - climate insurance - crop drying, agro-processing and storage technologies - models that seek to scale new, in-demand publicly-bred varieties of climate-smart and traditional food crops - strong models promoting women and youth engagement in income diversification along the agriculture value-chain

Table 4: Sector specific criteria for identification and evaluation of innovative technologies and services Table will be updated according to expected short-term, medium-term and long-term impact during PPG).

The programme will provide rigorous and competitive curriculum training, mentors and connects entrepreneurs to key strategic partners. The trainings will include several business training modules including marketing, technology and market validation as well as legal aspects including IP. The goal of the accelerator programme is to enhance the talent in the country (particularly among the young and women) in order to create a pipeline of successful entrepreneurs and MSMEs providing local solutions with adaptation benefits. The envisaged executing partner are incubation centers, such as the national incubator OPEC in Kinshasa. During the PPG the project will assess capacities of national and regional institutions and seeks to determine the executing partners. The project seeks to identify at least 3 regional hubs to run the annual competition based accelerator. It is expected that the project will conduct 5 cycles of annual competitions in the identified 3 regions. During the project the identified executing entities will be capacitated to host and run the annual competition-based accelerator programme through a regional approach. This process is expected to create a pipeline of entrepreneurs and MSMEs in the provinces that provide suitable and localized adaptation-oriented technology solutions and services. Chosen technologies and innovative ideas must demonstrate that they can improve productivity and boost employment opportunities in the key sectors. These top innovators will be showcased at national and regional forums and participate at roadshow demonstration to communities across DRC in Component 2.

The proposed project will also have a strong focus on catalyzing additional public and private financing for the development and distribution of climate adaptation-oriented technologies and services, by crowding in (long-term) private sector finance for innovative MSMEs for business expansion and growth.

In order to ensure that successfully accelerated MSMEs and start-up's will be nurtured to commercial businesses, the project seeks to provide technical assistance and business development support services through mentorship. This service is expected to enable enterprises to maximize the quality and outcomes of project implementation, business sustainability and impact by supporting investees in areas of low capacity. This will increase chances of programme success while minimizing substantial investment risks and ensure the delivery of strong programme results. Actual funding level to companies and the combination of repayable and non-repayable, level of matching ratio will be determined based on the business capacity absorb funds and business plan requirements. This model will be used as an incentive to push existing companies to develop/source products and develop distribution networks that are more capable of reaching target urban and rural markets.

To ensure the full growth of start-ups into commercial businesses with mature products, ready for large scale deployment of adaptation-oriented technologies and ability to access and absorb commercial finance, it is envisaged to further link enterprises successfully transitioned through the development and business growth phase to the Private Financing Advisory Network (PFAN).

During PPG, the project will assess the feasibility and viability of establishing a financial mechanism in collaboration with NFIs, commercial lenders and micro-finance institutions that will prioritize climate adaptation and resilience actions. This feasibility study will also assess the potential of using funds from this project to adapting existing financing tools so that they can be adjusted to support climate adaptation and resilience operations. Innovative financing mechanisms including guarantee funds and suitable line(s) of credit that help MSMEs to leverage financing to de-risk and scale-up operations will be explored. As part of this feasibility study, a detailed mapping of the existing local financial service providers (FSPs) – both private and public - and their products and services will be conducted. This will include microfinance institutions, commercial

banks, incubators, VC/equity funds, national and international / bilateral and multilateral finance institutions and programmes etc. The objective will be to identify potential partners that will provide additional early-stage capital as well as long-term financing for high-potential adaptation and resilience related MSMEs to access funding for business expansion and scaling up.

The activities under Component 1 will build upon the achieved results, experience and seeks to leverage on build capacities of the SME Development and Growth Project funded by the World bank, as well as the AfDB funded project on youth entrepreneurship in agriculture and agri-business.

Expected outputs:

· MSMEs have increased capacity to assess climate risks and vulnerabilities and to identify business opportunities related to promoting innovative technologies for climate change adaptation

· Existing incubators and professional training institutions trained to run 5 cycles of annual climate adaptation technology innovation and entrepreneurship competition-based accelerators across at least 3 identified regions

· More than 1000 MSMEs with high-impact innovative climate adaptation-oriented technologies and solutions are trained and coached through competition based accelerators to transform and improve their businesses

· More than 500 successful MSMEs receive business growth support and seed funding to deliver suitable solutions and grow their climate adaptation businesses

· At least 200 MSMEs receive investment facilitation support for projects that deliver climate adaptation technologies and solutions at scale

· Support mechanism to help MSMEs to leverage financing to de-risk and scale-up operations established

Component 2: Innovative financing for large-scale deployment of climate adaptation-oriented technologies and solutions to build resilience of vulnerable groups

Component 2 focuses on the demand side of the project and seeks to improve and facilitate accessibility for vulnerable groups to the identified and nurtured technologies and services through the development of an innovative financing. This will be achieved through developing and conducting awareness raising and information programmes for the target groups on climate change impacts and suitable adaptation technologies, tools and services appropriate to the priority sectors. To reach higher number of beneficiaries and building the sustainability of the training within local organizations, a training-to-trainers approach is prioritized. The project will work with existing national and regional institutions to develop training materials and conduct workshops in the specific areas of intervention. Demonstrations and training will spur greater understanding and interest in using and disseminating appropriate technologies and services in the priority sectors. The project seeks to leverage on existing aggregator platforms around the identified regional hubs, including women and youth groups, farmer and business associations and vocational training centers to showcase most suitable technologies and climate smart practices applicable in the selected region and create the required market linkages to vulnerable groups. As such the project seeks to organize demonstration and information events, exhibitions and roadshows and foster partnerships between MSMEs and regional distribution networks and aggregator platforms to stimulate the distribution of climate adaptation products, tools and services to the target groups.

Further, Component 2 seeks to support the development and strengthening of funding schemes to improve access to funding for vulnerable groups in order to ensure access to appropriate adaptation-oriented technologies and services and to ensure sustainability beyond project intervention. All these interventions seek to build on the existing baselines of the DRC, in particular to the PADCA-6P and create synergies by promoting climate adaptation technologies, practices and services to build resilience in the priority value chains. Furthermore, the project will build on the Biodiversity Conservation and Sustainable Forest Management project, especially in terms of capacity building and skills training in sustainable management of natural resources and will leverage on the development of innovative financing mechanism and improve the inclusion of local vulnerable communities.

During PPG, the project will explore opportunities to work with first and second tier National Financial Institutions and commercial banks, including Equity Bank and micro-finance institutions active in the country, to develop lending products and establish line(s) of credit for suitable financing adaptation.

To ensure increased access to finance, as well as market creation for adaptation goods and services, the project will conduct trainings for financial service providers and their staff ideally through “train-the-trainer approach”. The trainings will encompass key aspects including viability, financial impact, and adaption impact of available climate adaptation solutions to specific climate hazards. During the PPG, a detailed assessment and guideline will be developed to ensure the development of innovative financial products and services adapted to the needs of the most vulnerable populations to ensure adequate adaptation and resilience impact.

Appropriate risk mitigation instruments and climate smart investment planning tools will be jointly developed for FSPs. These instruments and tools seek to assist FSP to assess the increasing climate induced risks to business environment, and assess business-as-usual development with fossil fuels and opportunistic land use patterns, versus appropriate business mitigation efforts and efficient green, low carbon solutions, with selections of sites and designs that are robust in the face of emerging climate hazards. This will enable FSPs in the investment decision making process to improve planning and identification of business opportunities in order to prioritize possible measures to improve resilience along their supply chains and distribution networks.

Expected outputs

- Information programmes for the target groups are developed and awareness raising activities conducted
- Capacity building and training workshops for FSPs on viability, financial and adaptation impact of suitable technology solutions and services to address increased climate vulnerability
- Joint activities linking technology suppliers and the vulnerable population carried out to create demand for the climate adaptation oriented technology by the target populations
- Innovative financial products and services adapted to the needs of the most vulnerable populations (to reach at least 100,000 beneficiaries), including digitally-enabled solutions, through partner financial services providers (FSPs)
- Risk mitigation instruments and climate smart investment planning tools for FSPs engaged in lending to vulnerable populations developed and adopted

Component 3: Establish linkages with national adaptation planning process for improved climate resilience planning in priority sectors **focused on technology innovation and innovative finance**

This component 3 will ensure the establishment of proposed project interventions are closely linked with the National Adaptation process and coordinated closely with other implementing agencies. As such the proposed project seeks to contribute to the on-going planning process with integrating specific elements into developmental planning and processes. As such will provide strong contribution to the development of and integrated and sustainable mechanisms supporting entrepreneurial activities, MSME development and setting up of financial instruments thriving the delivery of climate adaptation solutions. Ultimately this component aims at improving the institutional and regulatory framework and the business environment for innovations in climate adaptation-oriented technologies by entrepreneurs, start-ups and MSMEs in DRC, with a view to develop a thriving and conducive innovation ecosystem for climate resilient technologies as well as ensure the mainstreaming of these adaptation solutions across the priority sectors. A mapping of policy instruments and investment strategies available for innovation in general will take place. This will create the base for recommendations for additions to the national adaptation planning process and required national institutional capacity building.

To ensure national coordination, the project seeks to establish strong linkages with on-going activities through stakeholder meetings and forum, to enhance the coordination between relevant international and national stakeholders, including national institutions and lead ministries, international development institutions, private sector and financial institutions, and other key stakeholders involved in the priority sectors. Furthermore, component 3 aims at conducting sensitization activities, awareness raising and trainings at the government and institutional level to increase understanding of availability of appropriate climate adaptation solutions, the benefits and associated risks in general and on the most vulnerable populations in particular.

All these interventions under Component 3, seek to build on the existing baselines of the DRC, in particular to the on-going GCF readiness project with the title: “Medium term investment planning for adaptation in climate sensitive sectors in the Democratic Republic of Congo : Advancing the NAP process” implemented by UNDP.

Expected outputs

- Strong linkages with national adaptation planning and relevant partners created
- Integrated mechanism to promote adaptation, innovation and entrepreneurship established
- Improved tools for assessing climate vulnerability and appropriate solutions for improved monitoring and planning in priority sectors provided
- Specialized education, training on climate change and climate adaptation technologies for policy makers and national stakeholders developed
- Policy instruments to incentivize green investments for innovation and deployment of climate adaptation solutions are strengthened
- Organize national forums for national policy makers on development of entrepreneurship ecosystem and sustainable financial mechanisms for climate adaptation
- Linkages to global events and platforms for networking and knowledge sharing

Component 4: Project Monitoring and Learning

The monitoring and learning system will allow monitoring and impact tracking to ensure quality outputs and achieving expected project outcomes. The proposed project will follow UNIDO standards for monitoring and reporting of processes and procedures and in consistency with the GEF Monitoring Policy. Further, Component 4 envisages the development of supporting documentation and knowledge materials on best-practices for integration of suitable technologies into priority sectors. **The knowledge products will have a specific focus on capacitating national stakeholder to provide business acceleration and incubation services as well as investment assessment tools for FSPs to support decision making for supporting the delivery of appropriate adaptation solutions.** This will further strengthen the enabling environment to address medium- and long-term adaptation needs by providing options for a wide range of adaptation modalities, measures and tools. Environmental, social, project and gender-disaggregated indicators and decision metrics will be chosen in a participatory manner with stakeholder involvement. Process indicators will be used to identify if project interventions are effective in achieving progress towards impact. The project tracking will have a vital focus on gender, in particular on the empowerment of women. A dedicated project website will be established to communicate and share knowledge and information products with a wide range of stakeholders.

Expected outputs

- Regular project monitoring and data collection for impact tracking conducted
- Knowledge materials and documentation on best-practices developed and disseminated widely

Component 5: Project Evaluation

Under Component 5, the project will conduct independent project mid-term and terminal evaluation, whereas the mid-term evaluation will be use as a tool to assess project progress and propose necessary revisions of project activities in the project framework if required, to ensure the implementation of project results.

Expected outputs

- Project mid-term review and Independent terminal evaluation conducted

1.A.4 ALIGNMENT WITH GEF FOCAL AREAS AND/OR IMPACT PROGRAM STRATEGIES

The proposed project responds to priorities and actions identified in the NAPA of the Democratic Republic of Congo which articulates the urgency for deployment of critical measures and technologies to address pressing adaptation needs in the key priority sectors including mainly agriculture, water, and energy. In compliance with the objective of the GEF LDCF programmatic direction, project interventions are tailored to enable private sector engagement for climate adaptation action and provision of localized and suitable solutions for vulnerable segments of the population with increased exposure to the consequences of climate change in the country.

The LDCF is designed in consistency with the GEF/LDCF Climate Change Adaptation Focal Area 1: *Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation.* The project will focus on fostering innovation and investments for scaled dissemination of adaptation-oriented technologies

and services related technologies with significant adaptation benefits ultimately contributing to reducing the vulnerability and increasing climate resilience in the priority keys areas as identified in the NAPA for DRC: i) access to climate resilient energy supply in rural and urban environments; ii) sustainable and resilient water management, iii) improved natural resource management including forests and water bodies, iv) resilient agriculture supply chains and v) improved access to climate data for monitoring and planning.

Through promotion of innovation and entrepreneurship and targeted private sectors engagement, the project seeks to engage youth through green jobs creation and alternate income generation activities among various stakeholders, further contributing to resilience building in vulnerable communities. Through the initial GEF funding, the project seeks to establish the required mechanism in DRC to catalyze large-scale deployment of climate adaptation oriented technologies and reduce systemic risk across the adaptation finance landscape. The proposed set of interventions under the project, are fully aligned with the GEF's comparative advantage and updated LDCF Programming Strategy (2018-2022).

1.A.5 INCREMENTAL/ADDITIONAL COST REASONING AND EXPECTED CONTRIBUTIONS FROM THE BASELINE, THE GEFTF, LDCF, SCCF AND CO-FINANCING

Total GEF contributions to the project amount to USD 10,000,000 to finance activities and provide strategic inputs to achieve global adaptation benefits in terms of improving climate change adaptation in the DRC. The additional cost of this project will be to address climate change adaptation through transfer and large-scale deployment of adaptation-oriented technologies in priority sectors.

While adopting an integrated multiple-sectoral approach supporting the delivery of climate adaptation solutions that can create multiple adaptation benefits across sectors, can deliver clear cost benefits as following:

Enabling a global shift in investment and in operational decision making across sectors, therefore targeted policies considering the integrated water-energy-food perspective have to be deployed;

Transition to achievable resource consumption intensities combined with re-allocation of water across sectors (from irrigation to urban areas) can largely offset trade-offs between water efficiency and decarbonization;

Investing in multiple SDGs in an integrated approach, is the most cost-effective way in the long term due to synergies in the energy, water and food sectors;

These synergies (in Water, Energy and Food) are paramount for minimizing joint implementation costs.

Due to identified needs, the Democratic Republic of Congo is requesting technical and financial assistance from GEF through the Least Developed Countries Fund (LDCF) in promoting innovation, transfer and large-scale deployment of adaptation-oriented technologies in priority areas and creating jobs. This will be achieved through providing complementary technical assistance to build national institutional capacities and a supportive ecosystem to accelerate and grow promising MSMEs, entrepreneurs to deliver climate adaptation solutions across DRC.

The LDCF funding will be utilized to provide the necessary early-stage and business growth support matched with initial grant support to transform proof of concept climate change adaptation innovations into marketable products for large-scale deployment. The project will expand the catalytic grant investments through the LDCF to establish an enabling environments and reduce systemic risk across the adaptation finance landscape in order to enable the private sector to act as an agent for market transformation as well as leveraging other partner contributions to deliver greater impact and scaled-up finance. The initial LDCF contribution will pave the way for enhanced efficiency and effectiveness in tackling climate change adaptation in alignment with and pooling of other streams of finance.

The proposed project has been designed with a view to maximise the positive impact on the most vulnerable population groups, i.e. to substantially reduce vulnerability and strengthen resilience and climate change adaptation. The proposed project seeks to achieve maximum impact by adopting a strong private sector-driven market approach and by addressing both the supply side of climate adaptation-oriented technologies and services (through innovating MSMEs) as well as the demand side (by improving financial mechanism to enable the target groups (vulnerable people) to acquire and use climate adaptation-oriented technologies and services). The proposed interventions focus on developing a conducive market for climate adaptation-oriented solutions in DRC by providing support to the suppliers and customers of climate adaptation-oriented technologies and services and by improving the policy and regulatory framework as well as the capacity of government and other public institutions.

Supporting private-sector MSMEs with their climate adaptation innovations has strong catalytic and multiplier effects: assisting MSMEs with transforming their early-stage ideas into viable businesses, and subsequently supporting commercialization and large-scale deployment of their climate adaptation solutions has substantial potential for scaling-up and hence maximising impact. Furthermore, successful market-driven business models have potential for replication and hence further increase the cost-effectiveness of the initial interventions. In addition to the expected improvement to climate change adaptation, supporting the development of the MSME sector in DRC will also contribute to employment creation, empowerment of women and the youth, and to social and economic development in general, which, in turn, will also strengthen the resilience of the population.

The proposed project will also have a strong focus on catalyzing additional public and private financing for the development and distribution of climate adaptation-oriented technologies and services, both by crowding in (long-term) private sector finance for innovative MSMEs for business expansion and growth as well as by developing adequate financial products and services for the target populations that will enable them to adopt climate adaptation products and services.

Without the LDCF funding, the deployment of technologies and innovative solutions for reducing climate-related risks to improve adaptation to climate change will be largely limited in the country, due to the presence of main constraining barriers such as the limited knowledge, technical know-how and managerial skills among MSMEs and entrepreneurs current opportunities remain untapped. Through a systematic approach the project will address the main barriers for achieving adaptation targets and simultaneously support green jobs creation, income generation and multiple sectoral objective to ensure food, water and energy security.

To ensure that these solutions with adaptation benefits effectively reach the most vulnerable populations, the project will raises awareness, know-how and improve available funding mechanisms to ensure access to suitable and localized climate adaptation technologies for vulnerable communities, smallholders, rural and peri-urban poor households. Through the provision of multidisciplinary services, vocational technical training in applying appropriate technologies including the demonstration of equipment and services, the project will create the required market linkages between vulnerable populations and the private sector.

The proposed project has a strong focus on enhancing access to finance, both for the innovating MSMEs with climate adaptation innovations as well as the target groups (vulnerable populations). Access to finance is one of the key obstacles to private sector innovation activity as well as business expansion and growth; and a lack of access to financial products and services adapted to the needs of vulnerable populations impedes them to adopt climate adaptation products and services. Hence the proposed project will have a strong focus on catalysing additional public and private financing for the development and distribution of climate adaptation-oriented technologies and services, both by crowding in (long-term) private sector finance for innovative MSMEs for business expansion and growth as well as by developing adequate financial products and services for the target populations.

During the PPG phase, a detailed mapping of the existing local financial service providers (FSPs) – both private and public - and their products and services will be conducted. This will include microfinance institutions, commercial banks, incubators, VC/equity funds, national and international / bilateral and multilateral finance institutions and programmes etc. The objective will be to identify potential partners that will provide additional early-stage capital as well as long-term financing for high-potential MSMEs for business expansion and scaling up; as well as adapted financial products and services for the target customers of climate adaptation products and services.

With a view to catalyze additional financing and maximize additional private sector capital, the proposed interventions will include:

- targeted training and capacity building of FSPs, especially related to technologies and services that address the effects of climate change and offer solutions for climate adaptation; assessment of the climate adaptation potential of different technologies and solutions, including, for instance, (digitally-enabled) climate information tools; evaluation of MSMEs with climate adaptation innovations and new business models; risk assessment of innovative technologies and business models; adequate financial instruments etc. The training programmes will target management as well as loan officers and credit officers at HQ as well as regional level;

- the development of appropriate risk mitigation instruments to mobilise increased private sector financing, such as guarantee instruments, catalytic grants etc; the development of blended finance mechanisms with a potential of enhancing private sector engagement will be explored.

The LDCF project will mobilize additional co-financing from national and regional stakeholders including: Government ministries line, baseline projects funded under the African Development Bank, Private Sector entities and National Financial institutions such as Equity Bank, through mobilizing co-financing to match grant allocations, and African Enterprise Challenge Fund, and directly through UNIDO and its hosted programmes including the Private Financing Advisory Network. Exact amounts will be re-confirmed during PPG.

- *Private Sector partners* will provide contribution estimated at US\$ 15 million to the proposed project. The estimated contributions include provision of long-term funding through line(s) of credit through *Equity Bank/Raw Bank and other national FSPs*, as well as additional equity funding through supported MSMEs who are expected to raise additional capital into their businesses and projects. Through linking the project to the PFAN network – MSMEs will leverage additional investments (grants, debt, equity) from their global private financing partners.

African Enterprise Challenge Fund will co-finance in cash this project for an estimated amount of US\$ 4,000,000 in grant that will be raised through their donor contributions and additional US\$ 500,000 in in-kind contribution. This in-kind contribution includes human resources, training materials, events and workshops, communication channels and campaigns to assist with the achievement of the proposed project outcomes.

African Development Bank - DRC office, has confirmed in-kind contribution estimated at 8,000,000 to the proposed project. This in-kind contribution is linked to following two large-scale projects (detailed description in baseline section): Development of Agricultural Value Chains in six Provinces in Democratic Republic of Congo (PADCA-6P) with total project volume of US\$ 20 million US\$ and The Youth Entrepreneurship in Agriculture and Agri-Business Project (PEJAB) with total project volume of US\$ 35 million (please see correspondence attached). The accounted in-kind contribution are derived from shared resources and building upon existing networks, trainings and supported campaigns primarily for interventions in the agricultural sector.

1.A.6 GLOBAL ENVIRONMENTAL BENEFITS (GEFTF) AND/OR ADAPTATION BENEFITS (LDCF/SCCF)

The project will support the development of clean and climate smart technologies in the following areas: i) rural and urban energy supply; ii) water management; natural resource management including forests and water bodies; agricultural value chains and v) climate data. The project will therefore ultimately build and increase the resilience of urban and rural communities to climate change. This will be achieved by empowering MSMEs, and expand markets for climate adaptation products and services, generating jobs and supporting overall economic growth. At least 3 regions will be selected to work with existing national/regional institutions that will be supported by the project to strengthening their capacity to run the annual competition based accelerator. It is expected that the project will conduct 5 cycles of annual competitions in the identified 3 regions. An expected number of 67 MSMEs will be admitted into the competition each year per each region. This will result to at least 200 identified and accelerated MSMEs annually. Conducting 5 cycles, will result in a total of about 1000 MSMEs that have been identified and accelerated over the project lifetime. About 500 of these, are expected to receive further enterprise growth support. Through linking these MSMEs to further investment facilitation services, it is expected that at least 200 MSMEs will reach maturity and large-scale deployment of climate adaptations technologies and services across the priority sectors in DRC. The large scale deployment of these technologies is expected to reach at least 25,000 households of targeted vulnerable populations. According to UN statistics on Household Size and Composition around the World in 2017, average household in DRC consists of 4-5 people. This translated to at least 100,000 direct beneficiaries. Further, the project seeks to provide sensitization trainings for at least 8000 people, including the train-the-trainer programmes which will create a pool of at least 100 coaches, as well as at least 60 trained staff of FSPs.

Through the operation of an adaptation oriented accelerator providing the delivery of adaptation solutions at multiple scales, and the promotion of improved climate smart practices, particularly for vulnerable populations including farmer communities, the project supports the creation of climate-resilient food systems that generate climate adaptation, sustainable land management and biodiversity benefits while addressing the root causes of degradation and vulnerability. The project is expected to generate benefits for at least 25,000 vulnerable families, with 60 percent (15,000 households) in the agriculture sector. In DRC, 10 million hectares are used for cultivation and pasture land, which amounts to approximately 1.5 hectares per agricultural household^[1]. This translates to 22,500 ha of land that is directly impacted through sustainable and resilient land management. Along

[1]

the agricultural value chains, the project would provide climate smart technologies which would will reduce post-harvest losses and improve processing and storage techniques as well as raise awareness and improve education on environmental issues and climate risk reduction.

Additionally, through promoting scaled adoption of climate-adaptation oriented technologies for the priority energy sector targeting to rural and urban households, contributing to significant reduction in the use of fuelwood by households and reduced pressure on forest ecosystem. As such the project is expected to contribute to the sustainable land management of additional 15,000 ha in the country. In total his translates to a total of 37,500 ha of land that is impacted through sustainable and resilient land management. Innovative financial instruments and investments models would be enabled to enhance climate resilience. Additionally through promoting entrepreneurship including for youth, women in vulnerable communities, will create additional income diversification effects and off-farm employment opportunities especially important among rural communities.

[1] EU Global growing report

1.A.7 INNOVATION, SUSTAINABILITY AND POTENTIAL FOR SCALING UP

Innovation

The proposed project offers an innovative approach in unlocking private sector activities to tackle the increased risks due to climate change and provision of adaptation solutions applicable to local needs and priorities. Through the establishment of a national platform and competition based accelerator, the project supports the formation of an conducive national ecosystem that can identify MSMEs and start-up's with innovative products, services and business models for generating climate adaptation benefits and nurture these start-ups into viable business delivering large-scale deployment across the priority sector and simultaneously ensuring availability and affordability for vulnerable populations.

Thus, the MSMEs with their innovation power becomes the motor of mainstreaming climate adaptation solutions supporting the resilience strengthening of priority sectors. Through specifically engaging youth in entrepreneurial activities, the project seeks to unlock the innovation potential of local talent. Additionally, the project provides an effective and innovative tool to address youth unemployment and poverty eradication.

Sustainability

The existing innovation ecosystem in DRC as well as the MSME sector and its institutional framework and support mechanisms are still at a low level of development. However, the government has already set up key institutions and programmes for the incubation and promotion of SMEs, including training, entrepreneurial skills training and business development support. Such institutions include OPEC, the national incubator; INPP, the national professional training institution; or ANAPI, the national investment promotion agency. There exist also a number of business associations, such as FEC, COPEMECO and FENAPEC that provide extensive training, capacity building and business development support to MSMEs on the national and local level. The project aims to partner with these institutions and provide extensive capacity building with a view that they can guide and support adaptation-focused entrepreneurs through intensive mentoring programmes to ensure that their innovative development concepts have viable business models. The project has been devised so that entrepreneurs/MSMEs can be supported throughout the innovation cycle technically and financially. Youth and women will be encouraged to submit adaptation ideas. In this way, the government who has highlighted tackling youth unemployment and women poverty and who will receive capacity reinforcement for this project across sectors will be in alignment with the project's activities and will be more likely and capable to scale-up support after project completion.

Additionally, the project will closely engage with aggregator platforms and community-based organizations, such as women groups or cooperatives, that will conduct awareness raising and education activities for the target groups, the vulnerable populations, in order to create demand for and ensure adoption of, climate adaptation products and services. Special support will be provided to women through working and capacitating women association since women are most impacted by climate change and require means to stop spiraling into poverty.

The project will cooperate with existing institutions including incubator centers, professional training organizations, aggregator platform, associations and private sector entities to ensure project activities are implemented with a view to achieve maximum outreach and sustainability beyond project duration as the partner institutions will continue the programme activities after the end of the project.

In general, MSME development, accelerator and incubator centers are funded by government entities and other public funders and typically hosted by academic institutes and funded by respective government departments. With a view to ensure the sustainability of operations, the project will assess potential strategies to sustain project activities beyond project lifetime. Private sector engagement is crucial, this could be through angel investors, VC firms, major corporations/industries, mobile network operators etc. Further, opportunities for linking the established national innovation platform to international accelerator and incubator platforms and foundations will be explored. Replication potential of existing platforms, including the IITA - International Institute of Tropical Agriculture- model in Nigeria – which works with partners across sub-Saharan Africa will be analyzed. IITA has a wide range of investors/donors, including multilateral development banks, bilateral donors, research institutes, universities and industry associations.

Scaling up

In order to support scaling up of the market for climate adaptation solutions, the project will work with private sector financial institutions, and identified development partners to strengthen financial instruments to increase access to finance of both the target clients (vulnerable groups – on the demand side) as well as SMEs for scaled deployment of adaptation solutions (supply side). Additionally the projects seeks to support the creation of market linkages and spur the deployment of suitable technologies and services through cooperating with existing aggregator platforms to boost technology dissemination and deployment. Through establishing the required mechanism and an enabling environment, as well as link with national and regional partners the project seeks to reduce the barriers and systemic risk across the adaptation finance landscape in order to enable the private sector to deliver scaled deployment and greater impact in the DRC and potentially across the region.

The proposed project will focus on a set of interventions to ensure sustainability of the programme and the scaling up of the development and distribution of climate adaptation products and services by MSMEs, with a view to maximize the adaptation impact on the target groups. With respect to scaling up the project activities and impact, a set of very specific and targeted interventions will be designed with a view to mobilise additional public and private capital for climate adaptation innovation and large-scale deployment by MSMEs. Such interventions will comprise intensive work with local and international financial service providers in the following areas:

- targeted training and capacity building for FSPs on financing climate adaptation innovation and deployment by MSMEs,
- designing specific financial instruments adapted to the needs of MSMEs at different development stages of their businesses (early stage seed capital, working capital, long-term financing for business expansion and scaling up etc),

- development of risk mitigation instruments to mobilize increased private sector financing for MSMEs distributing climate adaptation products and service
- development of blended finance mechanisms that will provide risk sharing structures and hence catalyze increased private sector investment,
- provide a wide range of networking, matchmaking and investment facilitation services to MSMEs.

In addition to mobilizing financing for innovating MSMEs, the proposed project will include specific activities to increase access to finance for the target groups (the vulnerable populations). This will include:

- training and capacity building for FSPs on designing and deploying financial products and services adapted to the needs of the vulnerable populations in order to be able to access climate adaptation products and services,
- development of innovative financial products and services for target customers of climate adaptation, products and services, including digitally-enabled solutions,
- development of innovative financing structures, eg credit lines to aggregators.

1b. Project Map and Coordinates

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

The LDCF project has a national scope – see Map in Annex A. During the PPG, the specific provincial hubs that will anchor project activities around existing platforms and networks will be identified.

2. Stakeholders

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

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

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.

This LDCF project will develop cooperation with Government and non-government institutions, academia, private sector entities, civil society organizations, research centers, development partners.

A list of identified stakeholders were consulted during the period 9-18 September 2019 to determine the priorities and project contributions. Furthermore the Draft design PIF was presented to a stakeholder consultation workshop to provide national stakeholders inputs on 16 September 2019 (Workshop Report presented in Annex 1). The feedback generated from these consultations were incorporated into the present document. In addition, during the Project Preparation Grant (PPG) phase, the activities will be further developed through additional and extensive stakeholder consultation at local and national levels. Stakeholder collaboration will incorporate private sectors, academics, community-based organizations (CBOs), non-governmental organizations (NGOs), local and national government, and civil society. In particular, NGOs and CBOs with experience in working with gender issues will be targeted in order to ensure inclusion of gender aspects into this project design.

The stakeholders for the project include I) private sectors; with financial organizations (commercial banks and micro finance institutions); ii) ministries, local governments and other public institutions implementing the project and/or benefiting from it, academia, research institutes (INERA, industrial associations, vocational training and tertiary training centers (IITA); iii) cooperating partners, NGOs, and Civil Society Organizations (CSOs) involved in direct support (OPEC, ANAPI, INPP, ONEM, COPEMENCO, FENAPEC); and (iv) communities that are living in the targeted rural areas and urban areas, including the participation of potentially vulnerable groups such as women.

In order to facilitate access to seed-funding and patient growth capital for MSMEs, entrepreneurs and start-ups, the project will cooperate with the African Enterprise Challenge Fund (AECF), as well as local commercial Bank such as Equity Bank and other major finance institutions.

During the PPG phase, a detailed mapping of existing local, regional and international/ multinational financial service providers (FSPs) – both private and public – that could potentially provide financing, both for the innovator MSMEs as well as the target groups, will be conducted. These will include microfinance institutions, commercial banks, incubators, VC/equity funds, national and international / bilateral and multilateral finance institutions and programmes etc. The objective will be to identify potential partners that will provide additional early-stage capital as well as long-term financing for high-potential MSMEs for business expansion and scaling up; as well as adapted financial products and services for the target customers of climate adaptation products and services.

The Government estimates that about 600,000 people (1%) of the population in DRC is considered indigenous. However, the civil society estimates that actual estimates is about 2 million or 3% of the total population. This mainly refers to the following groups, the Mbuti (Bambuti), Baka (Bacwa), Batwa of the west and of the east. The indigenous peoples live in nomadic or semi-nomadic groups in ten of the country's eleven provinces. The life of indigenous peoples in the DRC is closely linked to the forest and its resources: they live from hunting, gathering, collecting and fishing and they treat their illnesses with the help of their pharmacopeia and medicinal plants. The forest forms the heart of their culture and their living environment. 65% of the DRC is covered in forest. However, as a direct result of historical and ongoing expropriation of indigenous lands for conservation

and logging, many have been forced to abandon their traditional way of life and culture based on hunting and gathering and become landless squatters living on the fringes of settled society in extreme poverty.

The Indigenous peoples' overall situation is considerably worse than the national population: they experience inferior living conditions and poor access to services such as health and education. Their participation in the DRC's social and political affairs is low, and they encounter discrimination in various forms, including racial stereotyping, social exclusion and systematic violations of their rights.

Unless their rights, as guaranteed under international standards, are duly protected, indigenous peoples living spaces will shrink yet further, depriving them of the resources on which they depend for their survival and resulting in the disappearance of their culture and traditional knowledge. As such indigenous communities typically directly depend on ecosystem services provided by their immediate environment. Although DRC does not have a law or policy for the promotion of and protection of indigenous peoples rights, the country's climate change related programmes refers to indigenous peoples' rights.

In line with this, this project will seek to systematically protect the rights of indigenous people. In particular, project interventions will be carefully assessed against potential threat to the rights of indigenous people. Especially regarding use of land and forests. Furthermore, special provisions will be made in the project to ensure that indigenous people will benefits from the project by consulting them and ensure that the project builds on, not destroy, their ways of life and their knowledge systems. As such, using indigenous knowledge about local biodiversity and ecosystem functioning can be applied successfully within the project when identifying suitable adaptation measures. A consultative process will be ensured through engagement of local community development organisations. As such the project seeks to conduct an Environmental and Social Impact Assessment during PPG, and will therefore thoroughly assess possible impacts on indigenous communities and their lands, as well as, ensure the engagement of appropriate community development organisation leading the design of appropriate consultative processes in case of multi-landuser scenarios and ensuring co-benefits for all stakeholders (this could be achieved through well defined land use plans in order to manage the utilization of the lands by the different users/communities within the area). Nevertheless, the project seeks to refrain from potential high conflict area, as resolution of conflict over land is not within the scope of this project.

During the PIF mission to DR Congo, some FSPs had already been identified and initial discussions have been held, however, a more detailed market scoping and consultation process will be conducted during the PPG phase.

Key stakeholders of the Incubation/SME Promotion/Finance Ecosystem

Table 5: Stakeholders

Stakeholder name - institution	Institutional Mandate	Participation in the project
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Ministries- Government

Ministry of Environment and Sustainable Development National GEF Focal Point	<p>Lead executing partner</p> In charge of overall coordination of activities; Ensure coordination among ministries and stakeholders involved in the project
The Ministry of Industry	<p><u>Steering Committee Member</u></p> Assistance in providing licenses and other permits to the private entrepreneurs involved Involved in updating/revision of regulatory frameworks
The Ministry of SMEs	<p><u>Steering Committee Member</u></p> Assistance in providing licenses and other permits to the private entrepreneurs involved Involved in updating/revision of regulatory frameworks
Fond de Promotion de l'Industrie (FPI)	Can provide finance for investments needed for products developments/markets
The Ministry of Agriculture	<p><u>Steering Committee Member</u></p> Provide assistance in matters related to the development technologies in the agricultural value chains
The Ministry of Energy and Water resources	<p><u>Steering committee member</u></p> Provide assistance in activities related to the development of technologies in the energy and water sector Regulatory framework for MSMEs development Public private partnerships
Ministry of Rural Development	<p><u>Steering committee member</u></p> Provide assistance for engaging with rural population under component 2

METTELSAT (National meteorological institution)	Meteorological, agrometeorological observation Climate and weather forecasting Remote sensing	Potential execution partner to support training on climate information Support the development of technologies/business models in delivery of climate information
Regional Partners		
African Enterprise Challenge Fund (AECF)	Pan-African development institution with the mandate to support businesses to innovate, create jobs, leverage investments and markets in an effort to create resilience and sustainable incomes in rural and marginalized communities in Africa	Identified executing partner to support targeted activities under component 1 Responsible for the provision of post-acceleration services to successfully identified and accelerated MSMEs and start-ups. Range of services include targeted business growth support, mentoring and provision of matching seed funding including repayable and non-repayable grants
Private Financing Advisory Network (PFAN)	Programme hosted under UNIDO and REEEP Initiated by the UNFCCC and the Climate Technology Initiative (CTI) in 2006, PFAN is hosted jointly by the United Nations Industrial Development Organization (UNIDO) and the Renewable Energy and Energy Efficiency Partnership (REEEP)	UNIDO internal coordination and REEEP MSMEs with a strong growth trajectory will be connected to PFAN for advanced business growth support, investment and deal facilitation services for scaled deployment
National Incubators/Professional Training Institutions		
OPEC – Office de Promotion des Petites et Moyennes Entreprises Congolaise	National incubator and MSME promotion agency under Ministry of MSMEs offers incubation/acceleration, training and business development services to MSMEs Staff of about 600 Represented throughout all provinces of the country	Identified executing partner to support targeted activities under component 1 Responsible for the establishment of competition-based accelerator for start-ups and MSMEs Will provide business development support and trainings to the MSMEs

<p>Institut National de Préparation Professionnelle (INPP)</p> <p>www.inpp.cd</p>	<p>National professional training institute with training centres all over the country</p>	<p>Identified executing partner to support targeted activities under component 1</p> <p>Collaborate in providing entrepreneurship skills training including to youth across various regions in the DRC</p>
<p>Élan RDC</p> <p>www.elanrdc.com</p>	<p>UKAid (DFID)-funded economic development and incubation programme (2015-2020), implemented by Adam Smith International</p>	<p>Identified executing partner to support targeted activities under component 1</p> <p>Potential partner to provide additional incubation and business development support, entrepreneurial skills training, mentoring</p>
<p>International Institute of Tropical Agriculture (IITA)</p> <p>www.iita.org</p>	<p>Research and incubator/ professional training organisation in agriculture sector</p> <p>Cooperates with INERA, AfDB and others</p>	<p>Identified executing partner to support targeted activities under component 1 and 2</p> <p>Capacity building and trainings for entrepreneurs in the agriculture sector</p>
<p>Ingenious City</p>	<p>Private incubation platform</p> <p>5 local start-up incubators</p> <p>Partnership between DRC's Sycomore Ventures and Elan RDC</p>	<p>Potential partner to provide incubation and business development support, entrepreneurial skills training, mentoring</p>
<p>MSME Promotion Agencies/Business Associations</p>		
<p>Fédération des Entreprises du Congo (FEC)</p> <p>www.fec-rdc.com</p>	<p>Federation of Congolese Enterprises with dedicated support programmes for MSME development and local representations throughout the country</p>	<p><u>Steering Committee Member</u></p> <p>Supports MSMEs with training, capacity building, equipment, market development and distribution services</p>
<p>ANAPI – Agence Nationale pour la Promotion des Investissement</p> <p>www.investindrc.com</p>	<p>National investment promotion agency focus on supporting and promoting MSMEs along the entire business development cycle, from creation to expansion</p> <p>focus on improvement of the business environment and development of a conducive regulatory framework (legal, fiscal, administrative)</p>	<p><u>Steering Committee Member</u></p> <p>Provides support development of a conducive business environment that facilitates and incentivises investments in DRC, including active advocacy work</p>

Confédération des Petites et Moyennes Entreprises Congolaises (COPEMECO)	Federation of Congolese SMEs	<p>Identified executing partner to support targeted activities under component 1</p> <p>Deliver of training in business development for MSMEs as well as workshop for climate change awareness and potential for developing new business models and suitable technologies and services</p>
Fédération Nationale des Artisans et Petites et Moyennes Entreprises du Congo (FENAPEC)	National Federation of Congolese Craft and SMEs	<p>Identified executing partner to support targeted activities under component 1</p> <p>Deliver of training in business development for MSMEs as well as workshop for climate change awareness and potential for developing new business models and suitable technologies and services</p>
Association des Femmes Commerçantes (AFEC)	Association of Women Merchants	<p>Identified potential executing partner to support targeted activities under component 1 and 2</p> <p>Promoting climate change awareness</p> <p>Delivery of workshop for climate change awareness and potential for developing new business models and suitable technologies and services</p>
Association des Femmes Entrepreneurs (ASSOFE)	Association of Women Entrepreneurs	<p>Identified potential executing partner to support targeted activities under component 1</p> <p>Workshops to promote female entrepreneurship</p>
Financial Service Providers		
Equity Bank	<p>Pan-African commercial bank</p> <p>Very active in MSME finance as well as in agriculture sector</p> <p>Develops and implements innovative financial products and services, including digital finance instruments (mobile banking; electronic wallet; electronic savings accounts; apps for data collection)</p>	<p>Identified executing partner to support targeted activities under component 1</p> <p>Potential provider of financial instruments – development of innovative financial products for MSMEs and target beneficiaries and communities of climate adaptation technologies</p>

Raw Bank	<p>Well-established local commercial bank in DCR with a market share of c. 18% and total assets of approx. US\$ 1.68bn in 2018.</p> <p>The Bank has also a strong strategic focus on micro, small and medium-size enterprises and is very active in developing new products and services adapted to the needs of MSMEs. In this regard, Raw Bank receives training, capacity building and financial support from the Frankfurt School of Finance & Management as well as from IFC, AFD and EIB.</p>	<p>Identified executing partner to support targeted activities under component 1</p> <p>Raw Bank provides a broad range of financial products and services to retail, commercial and corporate customers. Another example of Raw Bank's commitment to work with MSMEs is its partnership with Élan RDC to develop leasing products that will enable small entrepreneurs and MSMEs to acquire productive equipment with a view to increase their productivity and revenues.</p> <p>Thus, Raw Bank is another interesting potential partner to develop adapted financial instruments for the innovator MSMEs supported by the proposed programme.</p>
Finca	Financial institution	<p>Identified executing partner to support targeted activities under component 1 and 2</p> <p>Potential provider of finance – development of innovative financial products for MSMEs and beneficiaries and communities of climate adaptation technologies</p>
SME Guarantee Fund	In line with the National Strategy for the Development of MSMEs and its efforts to increase access to finance for MSMEs, the Government is developing a guarantee fund for MSMEs	<p>Identified executing partner to support targeted activities under component 1</p> <p>Fund providing additional catalytic finance</p>

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).

Women represent a large labor force in the rural, informal and semi informal sector. In agriculture, they produce 80% of the food-producing crops. In rural settings, women are saddled with the bulk of agricultural work, firewood gathering, water hauling, and child care. They have generally seen an increase in their labor burdens as the economy has deteriorated. For example, in the DRC's eastern highlands, conditions have grown particularly severe. The state promoted expansion of cash crops for export, particularly coffee, has reduced the amount and quality of land available for peasant household food-crop production. Thus, women are often the victims of unequal rights, resources, speech and responsibilities within the household, which are related to gender.

Climate change is likely to exacerbate the current vulnerability of women since they have more limited capacities to adapt. This is partly because women lack access to new technology. Moreover, they have limited access to energy and the policies of the energy sector do not address the barriers that women and youth face to access credit and training to develop and use energy based technologies solutions, especially for climate change adaptation. Women and youth can play a crucial role in energy production, distribution and use if they are given technical assistance, and an enabling environment to participate in the sector. An increased participation of women and youth in the energy sector of the DRC, in particular renewable energy, will contribute to sustainable climate adaptation results.

Women's formal ownership of SMEs currently stands at around a third of all registered SMEs in Africa, and women-owned SMEs are more likely to have lower sales and annual turnover, less employees, and are of smaller size than those enterprises owned by men[1]. Various constraints, ranging from financing, regulatory to cultural norms, affect the development of women-owned SMEs. Education, networking and managerial experience all play a vital role in business operations and while the gender gap in terms of formal education is narrowing, women still lag behind in certain areas such as IT literacy, financial literacy and management skills. Many aspiring female entrepreneurs lack access to supportive networks, mentors and negotiating power within their households and local communities. In addition, lack of proper access to credit usually prevents women-owned SMEs from growing, given the small size of women-owned SMEs. A literature review highlighted that female entrepreneurs are more likely to use non-bank financial institutions which includes: i) microfinance organizations; ii) their own savings, or rely on funding from family, friends or community groups to fund their start-ups. Female SME owners received less funding from state-owned banks or government agencies than their male counterparts[2]. Previous studies have identified various regulatory constraints, which discourage female SME owners from formalizing their businesses. For instance, running a legally registered firm might have higher associated entry costs, requires more procedures and need to deal with more cumbersome tax matters. Female SME owners will likely be affected by these regulations since they tend to own smaller SMEs, and have fewer resources to deal with formal procedures.

Furthermore, according to Atela et al. 2018, strong socio-cultural orientations around gender roles and use and access to resources, not only confine female-led MSMEs to sectors that experience higher exposure to climate risk – most notably agriculture – but also trigger more pronounced barriers to building resilience within their businesses, including reduced access to land, capital, markets, new technology and educational opportunities. Faced by these barriers, female entrepreneurs may pursue unsustainable forms to cope which leads to business activity to be scaled back, through reduced profits, loss of business and sale of valuable business assets. This may help enterprises to cope in the short term but may undermine longer term MSME adaptive capacity. Therefore, social networks, such as women's groups and table banking initiatives, appear to be crucial adaptation tools. In addition, a strong dependency exists between household resilience and business resilience, implying that building resilience at the household level could support adaptive capacity among female-led MSMEs[3].

UNIDO recognizes that gender equality and the empowerment of women have a significant positive impact on sustained economic growth and inclusive and sustainable industrial development (ISID), which are drivers of poverty reduction, social integration and environmental sustainability. Therefore, the project will mainstream gender dimensions across all project activities, in order to address the importance and high gender differentiated roles in the targeted sectors.

During the PPG phase, a number of activities will be undertaken to ensure that gender concerns are efficiently taken into account as part of the project design. This will include, but are not limited to, the consideration of (i) the institutional capacity of national counterparts for gender mainstreaming; ii) stakeholder mapping (iii) the application of gender elements in the project design and implementation; (iv) undertaking a project gender analysis; (v) measures to be taken to minimize/mitigate adverse gender impacts; (vi) integration of gender sensitive activities; vii) collection of sex-disaggregated data in baseline; (viii) monitoring and evaluation of gender mainstreaming progress and (ix) inclusion of a gender specialist to help identify gaps and change.

Given the existing gender gaps in employment, wages and access to resources and energy, the project interventions will address the distinct needs and vulnerabilities of women and men in order to utilize their capacities and skills in different ways and to varying degrees. It will also facilitate the integration of women in project activities, promote their representation in governing bodies supported by the project and in national consultation frameworks.

[1] IFC and G-20 Global Partnership for Financial Inclusion (GPFI), “Strengthening Access to Finance for Women-Owned Small and Medium-sized Enterprises (SMEs) in Developing Countries,” October 2011.

[2] Huani Zhu and Carlos Kuriyama, 2016. Gender-related Constraints Faced by Women-owned SMEs. APEC Policy Support Unit POLICY BRIEF No.15 June 2016.

[3] Atela J., Gannon K.E. and Crick F., 2018. Climate change adaptation among female-led micro, small and medium enterprises in semi-arid areas: a case study from Kenya. Grantham Research Institute on Climate Change and the Environment Working Paper No. 304 ISSN 2515-5717 (Online) <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2018/10/working-paper-338-Atela-et-al.pdf>

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 Yes

generating socio-economic benefits or services for women. Yes

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.

The LDCF project's catalytic grant funding and training and capacity building will create an enabling environment for private sector entrepreneurs, start-ups and SMEs to become the motor for market transformation in the field of adaptation innovation. The private sector is considered to be the driving force for technology innovation in climate change adaptation and its large-scale deployment. It thus plays a pivotal role in the transformation to an alternative economic growth model based on climate-friendly and resource-efficient approaches that protect the environment but at the same time foster social and economic development and job creation.

The project will establish partnerships with private sector financial institutions, mainly microfinance institutions and banks, to mobilize financial resources to support adaptation innovation. Financial support by various private sector parties will be provided at different stages of the innovation cycle. For instance, regional partners such as AECF can support entrepreneurs/SMEs to have viable business models and their products commercially-ready and provide financing for business growth and expansion. The project will also actively engage with private sector financiers and investors to develop innovative blended finance structures that will unlock private sector capital for large-scale deployment of climate adaptation-oriented technologies and services. On the local level, the project will also work with local finance institutions to develop financial products adapted to the needs of rural populations that enable them to access climate adaptation products.

The NAPA report underscores the need for adaptation measures, including the use of appropriate technologies to address climate risks, including soil improvement and moisture storage technologies, promotion of technology sustainable and resilient water management and the efficient use of water resources, improved planning and management technology of agriculture, promotion of renewable energy technology, improved management of natural resources, supply chains for resilient agriculture and improved access to climate data. By promoting, innovation, transfer and wide-scale dissemination of adaptive technologies five keys areas identified in the NAPA, the project is in consistency with the NAPA.

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)

Identified Risks	Risk rating	Mitigation Measures
Development risk due to insufficient synergy of action between project partners	Medium	Ensuring that the project is designed and implemented in a participatory and inclusive manner, regular stakeholder consultation and involvement will be done to strengthen awareness capacity and to ensure ownership.
Political and Security Risk	Medium	Establishment of coordination branches in the provinces Coordination of security information with the United Nations system Facilitating social cohesion
Institutional risk due to weak capacities and coordination in providing effective solutions	Medium	Project design will include the development of institutional capacity for MSMEs, entrepreneurs, communities and government institutions. This will ultimately support the strengthening of the required institutional capacity and framework for implementing the projects interventions.
Lack of commitment/buy-in from local communities	Medium	<ul style="list-style-type: none"> • A stakeholder engagement plan will be drawn up during the PPG phase and onwards. • Community stakeholders will be engaged with during the PPG phase to ensure their buy-in into the LDCF project. • Local communities will be actively engaged during implementation of interventions. • Awareness will be raised through campaigns via radio and television programmes. • A bottom-up grassroots approach will be fostered throughout the project's development and implementation phases.
Climate change risk	Medium	Exposure to climate change related risks will be continuously monitored and reported and assessed for each intervention area
Environmental and Social Risk	Low	The project will conduct an environmental and social assessment of intended project activities to ensure no or minimum risk on environmental and social risks. Further identified technology innovations and services will be assess according to their anticipated impact on environmental and social indicators, to ensure no objections according to sustainable and inclusive development objectives.
Financial risk including <i>Risk</i> that insufficient financing from commercial and other FSPs will be mobilised <i>Risk</i> of unfavourable terms & conditions of commercial financing for MSMEs (high interest rates, collateral requirements etc) Repayment risk of MSMEs <i>Risk</i> that access to finance	Medium	<p>The project seeks to strengthen the provision of appropriate funding instruments and mechanisms to enable the deployment of adaptation technologies and services.</p> <p>Training and capacity building programmes for FSPs will focus on risk assessment of climate adaptation technologies and on MSMEs active in this sector.</p> <p>The project will provide specific technical assistance with designing financial products & services adapted to the needs of MSMEs including training to FSPs on risk assessment and structuring and on adequate risk mitigation measures.</p> <p>The project will provide extensive business development support to MSMEs including business plan development, financial forecast</p>

Table 6: Identified Risks and defined risk mitigation measures

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.

UNIDO, as GEF implementing Agency for the Project, will play an overarching coordination and liaison role with the executing partners, and with the GEF Secretariat. UNIDO will also be responsible for all enquiries regarding the Project implementation progress, mid-term review with the executing partner as well as terminal evaluation and, final Project completion and the achievement of higher level of the project's impacts on the global environment.

The Ministry of Environment and Sustainable Development, has been identified as the lead executing partner and will be in charge of coordinating the execution of the activities under the project and ensure synergy and collaboration with relevant stakeholders and on-going GEF programme and projects related to the scope of this project and initiatives funded by other donors/institutions in the DRC.

Further, following executing partners have been identified to run specific activities under the project. Exact executing modalities will be assessed and determined during PPG.

The national incubator and MSME promotion agency *OPEC* operating under the Ministry of MSMEs has been identified as a potential executing partner under Component 1. As such the project seeks to build *OPEC*'s institutional capacity to establish and run the competition-based accelerator programme.

AECF will allocate through component 1 financial and technical resources and execute specific activities related to the provision of post-acceleration support services and access to seed funding to MSMEs.

Equity bank has been identified as a potential executing partner for the development of innovative financial products for MSMEs (component 1) and target beneficiaries and communities of climate adaptation technologies (component 2)

Finca has been identified as a potential executing partner for the development of innovative financial products for MSMEs (component 1) and target beneficiaries and communities of climate adaptation technologies (component 2)

SME Guarantee Fund under Ministry of Industry and SMEs has been identified as a potential executing partner to provide additional catalytic financial product for MSMEs (component 1)

Further, during PPG, *trainings institutions* will be assessed to provide targeted trainings to key beneficiaries / vulnerable communities as well as Financial Service Providers (FSPs) under component 2 – please see detailed list under stakeholder section.

A Project Steering Committee (PSC) will be comprised of representatives from Ministry of Environment and Sustainable Development, Ministry of Industry, Ministry of MSMEs, Ministry of Energy and Water resources, Ministry of Rural Development, Ministry of Finances, ANAPI, METTELSAT, UNIDO and provincial authorities. At the discretion of the PSC, relevant national stakeholder such as Incubators/Professional Training Institutions, MSME Promotion Agencies/Business Associations will be invited to participate to the

PSC to ensure local ownership and guidance for the project. The PSC will act as an advisory mechanism to maximize synergies and ensure the successful design and implementation of the project.

The main role of the PSC is to provide operational guidance as well as overall, high-level coordination and project validation forum during the implementation of the project. The PSC will meet regularly at least biannually to track progress and provide opportunities for identifying potential synergies, as well as to increase uptake of lessons and build synergies.

A Project Management Unit (PMU) will be established under the project consisting of a National Project Coordinator and National Project Assistant and will ensure regular project monitoring and evaluation, as described in the above section on alternative scenario. It is proposed that the PMU will be hosted at the Ministry of Environment and Sustainable Development.

The project will strongly link with the National adaptation planning process and will link with on-going GCF funded projects and assess the gap for the intervention of private sector MSMEs. The harmonization of climate change responses within implementation objectives can help achieve multiple ends. Increased awareness of how to actively engage the local private sector in the the adaptation space will reduce the likelihood of mal-adaptation if efforts are harmonized.

There are a number of planned activities and GEF-financed projects in DRC that present potentials for synergies and collaboration with the proposed UNIDO project. Particularly the project will collaborate with all LDCF funded adaptation projects, build on the awareness campaigns of climate change already done. A brief overview is provided below:

1. UNDP/GEF-LDCF "Climate resilient growth and adaptation in Democratic Republic of Congo" with the objective to develop adaptation-enabling environment and improve agro-ecological production practices to prepare for and respond to the immediate and potential impacts of climate change in the forest and mountainous agro-ecological zones - Democratic Republic of Congo. The project objective is sought to be achieved through improving existing policies and budgets for the integration of medium- and long-term climate change risks and adaptation measures. Further the project seeks to promote tested and adapted agro-ecological production practices to address the impact of climate change risks and advance the NAP process on the ground. The target regions include the forest and mountainous agroecological zones of Democratic Republic of Congo. The project intends to support women and young entrepreneurs to develop marketable and investable business models on transformation, conservation and commercialization of agricultural products. Total approved project budget by the GEF is US\$ 8,242,500. The project will learn lessons and best practices of and closely coordinate with the UNDP GEF LDCF project to avoid duplication of resources and will seek to create synergies, particularly in the area of adaptation and policy planning and promotion of improved practises in the agricultural sector.

2. UNDP/GEF-LDCF: "Building Adaptive Capacity and Resilience of Women and Children in the Democratic Republic of the Congo". The impact of climate change on rainfall patterns and the temperatures are aggravating the vulnerability of rural communities in DRC, especially women who represent 60% of agricultural labors and who produce the majority of food crops for household consumption. This GEF-LDFC funded project seeks to support women and children through a community-centered approach to adopt livelihood strategies that include the development of profitable climate resilient alternatives involving aquaculture, livestock and agriculture products by women groups to increase sources of revenues and improve family nutrition; and training and engagement of women's groups in food processing, maintenance of units, rural finance, marketing and

organization strategies. The overall budget of the project amounts to a level of investment of US\$ 20,225,000, of which US\$ 4,725,000 is funded by the GEF-LDCF. The project will learn lessons and best practices of the UNDP GEF LDCF project, particularly in the area of livelihoods diversification, rural finance and gender analysis and targeting.

3. *World Bank /GEF-LDCF: “Strengthening Hydro-Meteorological and Climate Services project”* has for objective to improve the quality of the Government of the DRC’s hydro-meteorological and climate services in selected sectors.”_US\$5,329,452 provided by the Global Environment Facility (GEF) Least Developed Country Fund (LDCF) and US\$2,700,000 provided by the Global Facility for Disaster Reduction and Recovery (GFDRR). The total estimated project cost is US\$8,029,452. The implementation period is five years and started in 2016. It has three main components: i) Institutional and regulatory strengthening, capacity building and implementation support; ii) Modernization of equipment, facilities and infrastructure for basic observation and forecasting and iii) Improvement of hydrological information service delivery. The project will seek coordination with the World Bank LDCF project to assess the current capacity of the Meteorological Services in terms of data collection. Also to discuss the possibility of developing public private sector partnership in the delivery of climate information.

4. *UNDP/ GEF-LDCF: Resilience of Muanda’s communities from coastal erosion, Democratic Republic of Congo*, This project will help increase the capacity of local communities to cope with climate risks in coastal areas and their awareness of the vulnerability of coastal zones in the context of climate change in the DRC. Through a participatory and systemic approach, the project will revolve around the integration of information on climate risks in the relevant planning policies and investment in the protection and surveillance of the coastal zone against climate risks. The expected results include: • Strengthening the capacity of climate risk management authorities of central and provincial government and all stakeholders to integrate climate information in policy and investment planning; • Measures of urgent and immediate adaptation are implemented in favor of the most vulnerable coastal communities to reduce the simultaneous effects of several climatic risks while developing capacities weather forecasting and climate monitoring, including the establishment of an Early Warning System (EWS)

5. *Green Climate Fund – African Development Bank FP096: Democratic Republic of Congo (DRC) Green Mini-Grid Program (February 2019 – December 2023)*. Targeting mini-grid projects selected under the DFID-Essor A2E initiative, the AfDB-GCF Green Mini-Grid Program for the DRC (the Program) will pilot an innovative mini-grid model powered by solar, bringing clean and modern energy to sizeable towns. The Program will finance three solar hybrid mini-grid projects procured through a competitive tendering process in the towns of Isiro, Bumba and Genema (with 487,500 inhabitants altogether), each consisting of a hybrid PV power plant of 5-10 MW, battery storage, and associated distribution networks to reach consumers. The Program’s climate additionally is significant as it will ensure that the major portion of future electricity demands are met by a clean source as opposed to a business-as-usual 100% diesel scenario. Mobile prepayment and smart metering technologies will ensure that consumptions are effectively monitored and controlled, while preventing potential fraud and non-technical losses. The overall number of connections (domestic and commercial) is expected to reach approximately 12,400 connections in Year 1 and 23,300 connections in Year 5 with a 24 hours-a-day service.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assesments 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

- National Adaptation Programme of Action (NAPA)

- Third National Communication to UNFCCC

- National strategic development plan (PNSD)

The NAPA report underscores the need for adaptation measures, including the use of appropriate technologies to address climate risks, including soil improvement and moisture storage technologies, promotion of technology sustainable and resilient water management and the efficient use of water resources, improved planning and management technology of agriculture, promotion of renewable energy technology, improved management of natural resources , supply chains for resilient agriculture and improved access to climate data. By promoting, innovation, transfer and wide-scale dissemination of adaptive technologies five keys areas identified in the NAPA, the project is in consistency with the NAPA.

Further, the project is consistent with the Third National Communication to United Nations Framework Convention on Climate Change (UNFCCC) (2015). The report identified energy, agriculture and industrial sectors as the main sources of human induced GHG emissions and contributing to environmental depletion in the DRC. The development of sustainable and resilient energy infrastructure is highlighted as priority actions. The proposed project will promote the development of suitable technologies for the use of rural and urban communities that will likely reduce the consumption of fuelwood.

The proposed project is aligned with the two key priorities of the country's Nationally Determined Contribution (NDC, 2015). The NDC (2015) includes adaptation commitments in three key priority sectors: i) protection of rural and urban communities' livelihoods; ii) improved forest resource management and iii) protection and preservation of ecosystems in coastal areas. The project intends to make climate resilient technologies readily available in the market, across key priority agricultural value chains, in order to secure the livelihoods of rural and urban communities. Furthermore, the project is expected to create new market hubs and jobs for the urban and rural communities. The project will also contribute to the conservation and improvement of forest resource management by reducing the drivers of deforestation through alternative renewable energy sources to rural and urban communities.

Since October 2014, the country has been engaged in its National Adaptation Plan (NAP) process, which is supported by a wide range of partners, including the GEF-funded joint UNDP-UN Environment National Adaptation Plan Global Support Programme (NAP-GSP), the Green Climate Fund (GCF), the REDD+ support projects, the NDC Partnership and the World Bank. The Readiness and Preparatory Support Proposal was approved by the GCF in February 2018, and the project now "National Adaptation Plans Readiness in Democratic Republic of the Congo" aims to advance the adaptation planning process for priority climate sensitive sectors and regions in the DRC. One of the main outcomes of the GCF readiness programme aims to foster private sector engagement and promote the attractiveness of the DRC to investors and companies in several climate-sensitive economic sectors and services (e.g. agriculture and rural development, health, land use planning and energy). This proposed project is therefore, directly aligned with the NAP

process as it aims to catalytic grant funding, training and capacity building that will create an enabling environment for private sector entrepreneurs, start-ups and SMEs to become the motor for market transformation in the field of adaptation innovation.

The project is fully aligned with the national development priorities of the DRC as defined in the National Strategic Development Plan (PNSD) and Second Poverty Reduction and growth Strategy Paper (PRSP) (2011-2015): An emphasis is placed on growth, employment creation and the impact of climate change. Both documents also focuses on the strengthening of good governance, the achievement of the MDGs by 2020 and the elimination of gender-based poverty. The Government of DRC recognizes the importance of the MSME sector as the backbone of the economic development of the country and has elaborated and adopted a dedicated National Strategy for the Development of MSMEs. The strategy comprises of five areas of interventions: (i) Strengthening the overall institutional framework for MSME promotion; support and capacity building for professional organisations and business associations; and improvement of business environment for MSMEs; (ii) Access to support and promotion services for MSMEs; (iii) Improved access to finance; (iv) Education, training and research & development (human resource development, improvement of entrepreneurial education and training, innovation & technology); and (v) Market development. Hence innovation is recognized as a crucial force for development and for providing solutions for the most pressing problems of the country.

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 project design has envisaged for a dedicated component on knowledge sharing and learning (component 4). The focus on learning takes on added significance in the context that the ecosystem of MSMEs in climate adaptation innovation in DRC is very much limited. Learning in fact underpins adaptation and innovation; thus, designing for adaptation requires designing for learning[1]. The project will initiate and set up a working groups of the key stakeholders of the climate change, climate adaptation technology, innovation as well as the MSME sectors and develop and share knowledge and lessons-learned for continuous capacity building . As such component 4 will create a system for continuous learning and knowledge sharing throughout the project implementation cycle. This will be documented through creating knowledge product for dissemination and sharing with national stakeholders as well as with international forums. As such component 4 seeks identify best-practice examples to address key barriers/challenges to unlocking the climate adaptation market and provide the technical guidance for the project implementation. All the lessons learnt from the project implementation will be properly documented through periodic reviews and sharing. During the project execution, three / four rounds of selected MSMEs, start-ups and entrepreneurs will go through incubation and acceleration process. The project intends to gather all knowledge products to serve as a capacity building for the subsequent and future selected MSMEs. A dedicated website will be created for the project, with user-friendly interface consolidating all lessons learned or any information for the project. Further the project will organize networking and matchmaking events with a view to facilitate partnerships (e.g. with investors/financiers, distributors) as well as link to global forums. The proposed project intends to share the results and knowledge and to disseminate through participation in regional meetings, conferences and other events. The proposed project will consult and collaborate with key stakeholders in the region for effective knowledge sharing. Under Component 4, the project will further seek to share knowledge and experience with other programmes and initiatives providing MSME finance for climate adaptation, such as the UNEP MEBA project in Peru and Colombia (www.unepmeba.org) that aims to strengthen the capacities of microfinance institutions and small-scale agricultural producers to adapt to climate change through an ecosystem-based approach.

[1] STAP (2017). Strengthening Monitoring and Evaluation of Climate Change Adaptation: A STAP Advisory Document. Global Environment Facility, Washington, D.C.

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
Mr. Godefroid Ndaukila Muhinya	Directeur-Chef de Service	MINISTRY OF ENVIRONMENT AND SUSTAINABLE DEVELOPMENT	6/25/2019

ANNEX A: Project Map and Geographic Coordinates

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

