



## Building resilience through sustainable land management and climate change adaptation in Dodoma

### Part I: Project Information

**GEF ID**

10418

**Project Type**

FSP

**Type of Trust Fund**

MTF

**CBIT/NGI**

CBIT

NGI

**Project Title**

Building resilience through sustainable land management and climate change adaptation in Dodoma

**Countries**

Tanzania

**Agency(ies)**

AfDB

**Other Executing Partner(s)**

**Executing Partner Type**

**Other Executing Partner(s)**

Tanzania National Roads Agency (TANROADS); City Council of Dodoma;

**Executing Partner Type**

Government

**GEF Focal Area**

Multi Focal Area

**Taxonomy**

Focal Areas, Freshwater, International Waters, Aquifer, Forest and Landscape Restoration, Forest, Sustainable Development Goals, Climate Change Adaptation, Climate Change, Disaster risk management, Livelihoods, Climate information, Community-based adaptation, Least Developed Countries, Climate resilience, Land Degradation, Land Degradation Neutrality, Land Cover and Land cover change, Sustainable Land Management, Sustainable Pasture Management, Income Generating Activities, Improved Soil and Water Management Techniques, Restoration and Rehabilitation of Degraded Lands, Integrated and Cross-sectoral approach, Sustainable Livelihoods, Transform policy and regulatory environments, Influencing models, Strengthen institutional capacity and decision-making, Participation, Type of Engagement, Stakeholders, Consultation, Information Dissemination, Non-Governmental Organization, Civil Society, Academia, Community Based Organization, SMEs, Private Sector, Individuals/Entrepreneurs, Awareness Raising, Communications, Public Campaigns, Beneficiaries, Local Communities, Gender Equality, Participation and leadership, Gender results areas, Capacity Development, Access to benefits and services, Gender Mainstreaming, Sex-disaggregated indicators, Gender-sensitive indicators, Women groups, Integrated Programs, Food Systems, Land Use and Restoration, Deforestation-free Sourcing, Integrated Landscapes, Landscape Restoration, Sustainable Commodity Production, Comprehensive Land Use Planning, Adaptive Management, Commodity Supply Chains, Deforestation-free Sourcing, Sustainable Cities, Integrated urban planning, Urban sustainability framework, Buildings, Global Platform for Sustainable Cities, Green space, Urban Resilience, Food Security in Sub-Saharan Africa, Resilience to climate and shocks, Integrated Land and Water Management, Capacity, Knowledge and Research, Training, Knowledge Generation, Knowledge Exchange, Twinning, Adaptive management, Learning

**Rio Markers****Climate Change Mitigation**

Climate Change Mitigation 0

**Climate Change Adaptation**

Climate Change Adaptation 2

**Duration**

48 In Months

**Agency Fee(\$)**

486,124

**Submission Date**

10/11/2019

**A. Indicative Focal/Non-Focal Area Elements**

<b>Programming Directions</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
LD-1-4	GET	1,358,100	70,000,000
CCA-1	LDCF	2,681,267	53,000,000
CCA-2	LDCF	1,077,733	92,218,000
	<b>Total Project Cost (\$)</b>	<b>5,117,100</b>	<b>215,218,000</b>

## B. Indicative Project description summary

### Project Objective

To demonstrate an integrated approach for reducing pressures on the city's critical infrastructure, environmental and urban assets and increasing the city's climate resilience through integrated urban development planning for climate change adaptation and sustainable land management

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Policy and institutional framework for sustainable urban and regional development	Technical Assistance	1. Climate change resilience is integrated into policies, regulations and urban planning and land development	<p>1.1. Climate Risk and vulnerability mapping for Dodoma City and recommendations for re-zoning, where necessary</p> <p>1.2 Supporting the implementation of the 2018 City of Dodoma master plan by developing individual sector plans.</p> <p>1.3 Institutional Capacity developed to adequately address climate vulnerabilities in communities of the DMA</p>	LDC F	1,000,000	49,940,000

<b>Project Component</b>	<b>Financing Type</b>	<b>Project Outcomes</b>	<b>Project Outputs</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
2. Reversing and managing the negative impacts of growth of the urban footprint on land	Technical Assistance	2. Sustainable land management and reversing land degradation through city-level and community based actions	<p>2.1 Sustainable land development and management plans</p> <p>2.2 Demonstration of alternative income generating activities to alleviate pressures on land and adding to the climate resilience of communities the DMA, through community-based entrepreneurship</p> <p>2.3 Rehabilitation of brownfields and degraded land under sustainable land management practices</p>	GET	1,358,100	70,000,000

<b>Project Component</b>	<b>Financing Type</b>	<b>Project Outcomes</b>	<b>Project Outputs</b>	<b>Trust Fund</b>	<b>GEF Amount(\$)</b>	<b>Co-Fin Amount(\$)</b>
3. Urban Resilience to Climate change	Investment	3. Sustainable urban planning and land management to improve urban resilience to climatic change and variability	<p>3.1 Updating building standards and codes to mitigate effects of climate related risks</p> <p>3.2 Flood management plan and recommendations for improved drainage systems</p> <p>3.3 Water management action plan (including integration of best practices for water conservation, re-use, recovery and recycling systems) for the DMA</p> <p>3.4 Early warning system for extreme climatic, weather and other natural disasters</p> <p>3.5 Demonstrate nature based solutions for improved urban resilience and alternative livelihood creation through community based enterprises.</p> <p>3.6 Demonstration of low-cost measures to protect groundwater aquifers from land contamination sources</p>	LDC F	2,121,000	84,218,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
4. Knowledge Management, Monitoring and evaluation (M&E)	Technical Assistance	4.1. Effectiveness of the outputs assessed, experience documented, and knowledge management	<p>4.1 Participation of the DMA in the Global Platform for Sustainable Cities (GPSC) and exchange of experiences with other cities</p> <p>4.2 Strengthening linkages with universities and other research institutions to support sustainability and scale-up research on best practices for resilient urban development</p> <p>4.3 Regular progress, Mid-term Review and Terminal Evaluation reports prepared</p> <p>4.4 Project related publications and information dissemination materials</p> <p>4.5 Baseline and mid-term data collection for efficient M &amp; E.</p>	LDC F	459,000	8,000,000
<b>Sub Total (\$)</b>					<b>4,938,100</b>	<b>212,158,000</b>
<b>Project Management Cost (PMC)</b>						
					LDCF	3,060,000
					<b>Sub Total(\$)</b>	<b>3,060,000</b>



**Project Management Cost (PMC)**

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**Total Project Cost(\$)**

**5,117,100**

**215,218,000**

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

<b>Sources of Co-financing</b>	<b>Name of Co-financier</b>	<b>Type of Co-financing</b>	<b>Investment Mobilized</b>	<b>Amount(\$)</b>
GEF Agency	AfDB	Loans	Investment mobilized	138,000,000
Others	Africa Growing Together Fund	Loans	Investment mobilized	42,000,000
Government	Government of Tanzania	Public Investment	Investment mobilized	34,690,000
Government	Dodoma City Council	In-kind	Recurrent expenditures	528,000
<b>Total Project Cost(\$)</b>				<b>215,218,000</b>

**Describe how any "Investment Mobilized" was identified**

The "Investment Mobilized" was identified from an AfDB-funded project titled "Tanzania: Dodoma City Outer Ring Road Construction Project" which will co-finance the GEF project. The Project has received co-financing in the form of an Africa Growing Together Fund (AGTF) Loan from the People's Bank of China ("PBOC"). Following a request made by the Bank, the AGTF provided a loan of USD42.00 million for the Project and a signed Certificate of Approval of the AGTF Loan was received on 25th March 2019.

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

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
AfDB	GET	Tanzania	Land Degradation	LD STAR Allocation	1,358,100	129,020	1,487,120
AfDB	LDCF	Tanzania	Climate Change	NA	3,759,000	357,104	4,116,104
<b>Total GEF Resources(\$)</b>					<b>5,117,100</b>	<b>486,124</b>	<b>5,603,224</b>

**E. Project Preparation Grant (PPG)**

**PPG Amount (\$)**

150,000

**PPG Agency Fee (\$)**

14,250

<b>Agency</b>	<b>Trust Fund</b>	<b>Country</b>	<b>Focal Area</b>	<b>Programming of Funds</b>	<b>Amount(\$)</b>	<b>Fee(\$)</b>	<b>Total(\$)</b>
AfDB	GET	Tanzania	Land Degradation	LD STAR Allocation	50,000	4,750	<b>54,750</b>
AfDB	LDCF	Tanzania	Climate Change	NA	100,000	9,500	<b>109,500</b>
<b>Total Project Costs(\$)</b>					<b>150,000</b>	<b>14,250</b>	<b>164,250</b>

**Core Indicators****Indicator 3 Area of land restored**

<b>Ha (Expected at PIF)</b>	<b>Ha (Expected at CEO Endorsement)</b>	<b>Ha (Achieved at MTR)</b>	<b>Ha (Achieved at TE)</b>
0.00	0.00	0.00	0.00

**Indicator 3.1 Area of degraded agricultural land restored**

<b>Ha (Expected at PIF)</b>	<b>Ha (Expected at CEO Endorsement)</b>	<b>Ha (Achieved at MTR)</b>	<b>Ha (Achieved at TE)</b>

**Indicator 3.2 Area of Forest and Forest Land restored**

<b>Ha (Expected at PIF)</b>	<b>Ha (Expected at CEO Endorsement)</b>	<b>Ha (Achieved at MTR)</b>	<b>Ha (Achieved at TE)</b>

**Indicator 3.3 Area of natural grass and shrublands restored**

<b>Ha (Expected at PIF)</b>	<b>Ha (Expected at CEO Endorsement)</b>	<b>Ha (Achieved at MTR)</b>	<b>Ha (Achieved at TE)</b>

**Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored**

<b>Ha (Expected at PIF)</b>	<b>Ha (Expected at CEO Endorsement)</b>	<b>Ha (Achieved at MTR)</b>	<b>Ha (Achieved at TE)</b>

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

<b>Ha (Expected at PIF)</b>	<b>Ha (Expected at CEO Endorsement)</b>	<b>Ha (Achieved at MTR)</b>	<b>Ha (Achieved at TE)</b>
75000.00	0.00	0.00	0.00

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

<b>Ha (Expected at PIF)</b>	<b>Ha (Expected at CEO Endorsement)</b>	<b>Ha (Achieved at MTR)</b>	<b>Ha (Achieved at TE)</b>

**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)**

75,000.00

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

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

**Number (Expected at PIF)**

**Number (Expected at CEO Endorsement)**

**Number (Achieved at MTR)**

**Number (Achieved at TE)**

**Female**

0

**Male**

0

**Total**

0

0

0

0

## **Part II. Project Justification**

### **1a. Project Description**

#### **1) Global Environmental Problems, Root Causes and Barriers**

While East Africa is considered a late ‘urbanizer’, it is today the fastest urbanizing region on the continent, with an average urban population growth rate of 4.5% to 5.0% per annum; and far greater than the continental and global growth rates. This urban growth rate would add 70.1 million new inhabitants to East Africa’s cities and towns between 2018 and 2030. Most of the growth in East Africa is taking place in secondary or tertiary cities such as Dodoma which currently have up to 500,000 inhabitants. These cities will host nearly half of all East Africa’s urban residents (47%) by 2030.

Tanzania has one of the highest urban population growth rates in the region, with cities such as Dar es Salaam growing at a rate of more than 5% per year. Urban landscapes in the region face increasing urban sustainability challenges in the sectors transportation, water and sanitation, solid waste management, , energy, and healthcare services, which have not been able to keep up with rapid urbanization and population growth. Historic emissions for Tanzania are low, but like other countries in the region, Tanzania has a vision for rapid industrialization, which will lead to significant increases in emissions. It is of critical importance that all countries adopt circular development pathways, which systematically phase out high-carbon pathways and unlocks opportunities for sustainable and climate resilient development.

The global environmental problems to be addressed through this project concern the systemic degradation of land and water resources in the semi-arid Dodoma region, caused by rapid and unsustainable urban development pathways, as well as, to strengthen the city’s preparedness to increasing climate variability and extreme weather events, such as drought and flooding, thereby protecting some of the city’s critical infrastructure, environment and urban assets.

Target 15.3 of the Sustainable Development Goals (SDGs) sets out a new global ambition: to achieve a Land Degradation Neutral World by the year 2030. LDN aims to maintain and increase the amount of healthy and productive land resources, in line with national development priorities. Tanzania is not exempt from the effects of land degradation. It is estimated that 61 percent of the country is in danger of turning into desert due to ongoing degradation (NAPCD, 2000; URT, 2014). The magnitude, rates and negative impact on people’s livelihoods and environment vary across regions and agro-ecological zones. The impacts of land degradation are numerous including reduced productivity, food

insecurity associated with destruction of important ecosystems and loss of biodiversity and soil fertility. In this regard, the Government has taken a number of initiatives to address land degradation impacts; these include putting in place policies, plans, programmes and its corresponding legislations. Furthermore, projects and programmes that aim to promote Sustainable Land Management (SLM) have been implemented in various areas of the country, including Katavi, Dodoma, Singida, Morogoro, Lindi, Kilimanjaro, Rukwa and Tabora Regions. Some of these projects are ongoing and other transformative projects to be implemented will address LDN in Tanzania by the year 2030.

### **Adaptation challenges**

The major adaptation challenges are partly related to potential impacts from unpredictable future rainfall patterns. Excessive precipitation and/or lack thereof can lead to detrimental effects on rivers flows and with after-impacts on Dodoma city's domestic water supply sector. It is forecasted that flows from the Rufiji basin will dramatically increase and in parallel, flow originating from the Wami-Ruvu basin will significantly decreasing which in combination will reduce stream flows by 80-100 percent of 1961-1990 flows. For instance, the 2015-2016 drought prevented the much-needed recharge of underground aquifers which, concomitantly with increased demand for potable water, led to a severe decline in groundwater storage. It is reported that climate change is expected to double the risk of such extreme precipitation patterns with the next century.

An additional contributing factor is related to the demand for water from urban dwellers. The approximately 500,000 urban dwellers entirely rely on the Makutapora well as the only source of water for the city of Dodoma and from which around 62 million liters of water is pumped out of the ground every day. A study which looked at the recharge mechanism sustaining this well-field over the past 60 years has shown that the re-provisioning of water happens episodically and is highly dependent on heavy seasonal rainfall provoked by the El Niño Southern Oscillation. Given the fact that the region of Dodoma is semi-arid with an annual rainfall that barely reaches 500 millimeters per year, it is highly critical for urban planners to take into consideration the increasing demand for water in the years to come. Scholars who have examined this issue have noted the demand for water has risen from 25 million liters in the 1970s to the 31 million in the 1980s and to the current 65 million liters per day of water consumption. Since the executive order by President John Pombe Magufuli to effectively relocate all government ministries, institutions from Dar Es Salam to Dodoma along with the emergence of new hotels and the University of Dodoma, the city has attracted (and continues to attract) small businesses, petty shops, and merchants. It has become increasingly critical to ensure that the right infrastructure is in place to accommodate the urban residents of tomorrow. Therefore, the uncertainty of future rainfall patterns and river flows, urban population growth and the rapid urbanization process are expected to drastically impact the domestic water supply sector and, by extension, the Makutapora well-field.

In addition to significant climate risks derived from the lack of rainfall, there are also very tangible adaptation challenges related to urban flooding in Dodoma. Even at an average rainfall of about 560 mm per year, the nature of the terrain (low-lying and flat) easily increases the risk of flash flooding in and around the city of Dodoma, especially during the



rainy season, which often brings heavy storms. These violent storms and floods have been reported to destroy agricultural crops, property and severely damage buildings, which are not up-to-standards in light of climate risks. The last disaster, which affected both the Dodoma Municipality and the Bahi District in the Dodoma region, took place in January 2016 and was due to heavy rains in combination with high-speed winds. A rapid assessment carried out by the Tanzania Red Cross Society (TRCS) based in Dodoma found that because of excessive rainfall and violent gusts of wind, at least 300 families (approximately 1,500 people) were displaced in both locations with critical need for humanitarian assistance.

### **Root causes and systemic drivers of land degradation and linkages with climate change adaptation**

The city of Dodoma is located in a mostly arid to semi-arid area that is characterized by a dry season which extends from late April to early December and a single wet season from late December to early April. With this savannah type of climate, rainfall is the single most determining meteorological factor which, according to fluctuations, can severely impact people and their livelihoods. Average rainfall patterns range from 550 to 600 millimeters per year whereas the temperature averages ranging from as low as 10 degrees Celsius in July to a maximum of 20 degrees Celsius in November. The El Niño-Southern Oscillation (also known as the ENSO phenomenon), which corresponds to the series of ocean-atmospheric interactions taking place along the tropical zone of the Pacific Ocean.

Rainfall patterns notably affect the availability and accessibility of waters resources which have been reported to be highly critical to Tanzania's economy. Moreover, river basins, which contribute to the replenishment of underground aquifers and groundwater resources, provide drinking water for major urban centers in Tanzania, including for Dodoma where there is intense industrial activity. In the region of Dodoma, groundwater is mostly used to meet the requirements of urban households whereas water run-off is left for the adequate growing of grasslands and forests which are critical for the adequate delivery of ecosystem services including fuelwood, timber, climate regulation and water purification. In the specific case of Dodoma, the city is located right between the Rufiji and Wami-Ruvu basins from which water is piped and carried to Dodoma, Dar es Salam, Morogo and Kibaha.

Given its location in a semi-arid agro-ecological zone, Dodoma region (including the capital city of Dodoma) exhibits clear symptoms of land degradation due to a number of biophysical and socioeconomic factors. These drivers significantly affect the social-environmental connections behind the provision of adequate ecosystem services to support communities' livelihoods and, by extension, the country's economy. Systemic drivers thus cause changes that may end up negatively and/or positively pressure the balance by the environment and society. The below table lists both direct and indirect drivers that have been identified as part of the Land Degradation Neutrality Target Setting Programme exercise which took place in 2018.

<b>Direct drivers of land degradation</b>	<b>Indirect drivers of land degradation</b>
Improper management of the soil	Population pressure
Improper management of annual, perennial, scrub and tree crops	Migration
Deforestation and removal of natural vegetation	Poverty/wealth
Over-exploitation of vegetation for domestic use	Education and training
Industrial activities, waste deposition	Access to knowledge and support services
Urbanization and infrastructure development	Governance, institutional settings and policies (including taxes, subsidies, incentives)
Disturbance of the water cycle	Inadequate awareness and lack of appropriate information
Over-abstraction of water	Poor technology
Natural causes (flood, earthquakes, landslides)	Lack of commitment

Source: Adapted from “Land Degradation Neutrality Target Setting Programme Report”, October 2018

As shown in the above table, some of the relevant drivers identified for the Dodoma region include direct drivers such as mismanagement of the soil, activities that remove natural vegetation (including deforestation), urbanization and infrastructure development as well as the disturbance of the water cycle due to climate change related risks (floods, droughts, etc.). Indirect drivers encompass demographic growth, rural exodus of households to cities (including the capital city of Dodoma), institutional challenges and the lack of adequate information and awareness for decision-making. The combination of these factors has led to a significant decline in the productivity of the land, high soil erosion and alarming signs of desertification exemplified by the increasing cover of bare lands in and around Dodoma city and the region.

Regarding more specifically Dodoma city and its peri-urban areas, regional and district level officials have raised among other contributing factors, the speedy urbanization process along with the construction of infrastructure, housing and industrial activities which encroach on the surrounding productive agricultural and/or pastoral lands through the clearing of vegetation. As an after-effect, this may trigger the need to open new areas for agricultural production which will further contribute vegetation clearing. As a result, there a real need to promote an integrated approach taking into account sustainable land management for the improvement and production practices across the rural-urban landscape to contribute to arresting and reversing land degradation, and promote or increase the diversification of the urban food system. In addition, as part of this process,

climate risks will also need to be considered to ensure that urban assets and productive landscapes are well adapted. For instance, similarly to the regions of Singida, Tabora, Shinyanga and Manyara, it is planned that 25% of degraded hotspots in Dodoma will have improved by 2030 as compared to 2010.

Typical barriers preventing the sustainable urban development in Tanzania include[2]<sup>1</sup>:

A series of institutional, technological and information barriers have been identified which may prevent an alternative and more preferable scenario to take place. These barriers are presented here below.

*Inability to adequately predict future climate risk events:*

The lack of infrastructure, equipment, software and technical know-how in the still nascent capital city of Dodoma largely remain insufficient to effectively identify potential hazards (especially meteorological hazards) and forecast their occurrence, intensity, frequency and impact(s) on elements (people, livelihoods and infrastructure) at risk. Given the highly skilled nature of the work, trained forecasters often do not stay long in their positions as their skills are very sought after.

*Weak dissemination channels for warnings:*

Should there be climate information available, an analysis and prediction of potential hazards which may materialize into severe impacts (e.g. disasters) needs to take place prior to notifying the relevant focal points for preventive and/or mitigation actions. This communication should be adapted to the relevant technical sector that might be affected and the information shared should be easily understandable, usable and facilitate decision making processes. Moreover, the information should be as complete as possible. For instance, this implies that climate information on a potential meteorological hazard should be complemented with data on the vulnerability and adaptive capacity of the elements at risk to prioritize and target communities most at risk. In the relatively nascent city of Dodoma, the improvement and strengthening of such systems is need for adequate early warning and action.

*Lack of climate, environmental and vulnerability (including adaptive capacity) databases for historical analysis of risks associated with climate variability and change:*

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The availability of continuous, updated and usable archives of information in the form of historical datasets on a variety of factors contributing to the occurrence of urban disasters is crucial to establish tendencies, patterns and the frequency of certain extreme weather events. In addition, the assessment of potential risks requires archived information about vulnerable elements such as communities, roads, infrastructure (transport, communication, etc.), access to market centers, mapping of flood prone areas and others. Given that the concept of urban resilience often cuts across a variety of technical sectors, all this information is fragmented and/or localized within sectoral ministries and departments that hardly work in unison. All the relevant information would then need to be consolidated and centralized in a repository and/or database from which relevant information could then be easily disseminated to relevant key stakeholders through appropriate distribution channels and networks.

*Policy related barriers:*

- Governance challenges that impede Tanzania's ability to integrate its responses to climate-related issues into national and sectoral policies, and to design, implement and enforce policies; Weak coordination between peers and levels of government, limited scientific and policy information, and insufficient capacity and resources;
- The ability to systematically address climate change to Tanzania's elaborate institutional policy infrastructure (e.g. governance fragmentation, poor coordination, and under-resourcing to fully fulfilling institutional functions for climate change mitigation and adaptation) ;
- A lack of credible, timely information to support decision making is another major limitation for policymakers (e.g. scientific information such as on water levels, rainfall patterns, agricultural output levels) and policy options and recommendations;
- Insufficient capacity and limited resources for collaboration and learning impede all actors' ability to carry out their functions efficiently and effectively. Budgetary constraints impact on the ability to host and participate in meetings and workshops, thereby reducing opportunities for collaboration and learning.

*Environmental / Climate barriers*

- Dodoma region has a semi-arid climate. Historically it has had only one rain season in the year (December – March). With climate change, however, Dodoma is increasingly experiencing unpredictable rains and flush floods leading to soil erosion in many parts of the city;
- A growing industrial sector coupled with a lack of environmental enforcement will decrease air quality and increase GHG emissions;
- An overall weak environmental management system could jeopardize national and city efforts for greening the DMA.

**2) The baseline scenario and any associated baseline projects:**

Coupled with natural population increase and rural to urban migration, the Dodoma Metropolitan Region is projected to grow at an average rate of 5.5% per annum over the next few decades. However, with the right urban policies to promote sustainable urban development, the projected urbanization trend presents an opportunity to transform the city into an engine of economic growth for Tanzania. Evidence in the region suggests a linear relationship, albeit not always causal, between rates of urbanization and average GDP growth. Tanzania, Kenya, Uganda and Rwanda, had average urbanization rates ranging between 3-6% in a five-year period (2014-2018). These countries also recorded some of the highest average GDP growth rates on the continent during this same period: Kenya – 5.9%, Uganda – 5.2%, Rwanda – 6.6%, and Tanzania – 7.0% (AfDB, African Economic Outlook, 2014-2018).

The sustainable growth and development of the city of Dodoma is therefore vitally important not only for Tanzania, but for the East Africa region and the continent. East Africa is on track to becoming home to the newest megacities – notably Kampala, Nairobi, and Dar es Salaam, if no drastic measures are taken by the respective countries to address rapid population growth in these cities. All three cities are growing at more than 5% per annum and will collectively account for 13% of the total urban population of the region by 2030.

Dodoma is strategically situated at the crossroads of two major continental corridors, (i) the Central corridor which connects the port and economic capital of Dar es Salaam to the Tanzania interior including the country's second largest city of Mwanza as well as landlocked Rwanda, Burundi and eastern Democratic Republic of Congo, and (ii) the Trans-African Highway 4 (TAH4) connecting Cape Town in South Africa to Cairo in Egypt via the cities of Gaborone, Lusaka, Nairobi, Addis Ababa and Khartoum.

The Dodoma City Administration in preparation of the new Master Plan recognized the need for a number of vital infrastructure projects to boost the city's economic growth, jobs creation, assure the city's sustainability and resilience and improve service delivery for residents of Dodoma; and to accelerate regional integration and expansion of markets for Tanzanian products.

Tanzania is among other countries in Africa which is endowed with landscape with a number of natural resources, including forest and productive agriculture land (URT, 2014). This landscape is made up of ocean, lakes, arable and non-arable land mass, hills and mountains. Livelihood and the economy of the country depend on natural resources for the

most part. The government has put in place a number of policies and strategies to ensure sustainable management of natural resources, particularly land to address land degradation.

In 2018, the Government of Tanzania commenced the transfer of its core functions from Dar es Salaam to the capital city of Dodoma. The city of Dodoma is situated in the center of the country and national road networks from all four major regions (Dar es Salaam, Iringa, Arusha and Singida) converge in Dodoma thereby improving accessibility to all regions of the country and by a large segment of the Tanzanian population.

Since then, the Government has embarked on the development of the city based on a new master Plan which aims at transforming Dodoma into a sustainable city, an economic growth pole and a tourist destination. The move to Dodoma is driven by the Government's long-term goal of spreading economic growth and development throughout the country. Dodoma is strategically situated in the center of Tanzania and is at the cross-roads of two major road corridors including the Central corridor which connects the Port City of Dar es Salaam to the interior of Tanzania, including the city of Mwanza as well as neighboring countries such as Uganda, Rwanda, Burundi and the Eastern part of the Democratic Republic of Congo. Dodoma is also situated on the Trans-African Highway connecting Cape town in South Africa to Cairo in Egypt and serves as a busy transit route for traffic coming through from the different directions.

Whilst the Government decision to move its core functions to Dodoma has provided an economic boost to the city, it has also resulted in several challenges that are also commonly found amongst other neighboring countries. The rapid deployment of Government employees has only added to the need for additional housing, public transport, energy, water and sanitation services in the city. In parallel, the Government move has added impetus to the rise of unplanned/informal settlements in and around the city, as City Planners struggle to keep pace with the rapidly expanding need for housing and other services.

As of 2018, Dodoma had a population of 579,590. At an average rate of natural population increase of 5.5%, it is expected to grow to 757,500 inhabitants by 2024, and to 1,691,103 by 2039. Previous estimates for population within Dodoma City had put the figure at above half a million and, if the suburbs and surrounding rural areas are taken into account the figure was estimated to be around 2.4 million. The population of Dodoma Capital City is expected to exceed 8 million inhabitants by 2039. Dodoma is currently hosting an increased number of visitors coming into the city mainly for business and various meetings with the Government

As a result, systemic pressures on the critical infrastructure, environmental and urban assets of DMA, include:

- **Access to potable water** - underground aquifers are the main source of water, and while this is sufficient for now, water availability will be a challenge as residential, institutional and industrial use grows; A serious threat to underground water sources is the increasing risk of contamination from human and industrial activity.
- **Erratic weather events** - underground aquifers are the main source of water, and while this is sufficient for now, water availability will be a challenge as residential, institutional and industrial use grows; With climate change, Dodoma is increasingly experiencing flush floods and long dry spells leading to soil erosion in many parts of the city;
- **Seismic activity** – For example, earthquakes remain a threat to both the environment and the built infrastructure development;
- **Land degradation** – as a consequence of artisanal extraction of construction material and increasing demand, such as aggregates, sand, clay, etc.; Conflicting environmental and mining policies
- **Deforestation** - in and around Dodoma, resulting from the growing population, rapid expansion of informal settlements and the increased demand for agricultural land; it will require incorporation of unplanned settlements into the new master plan and acquisition of land for urban infrastructure development;
- **Contamination of land, water and air** - Open burning of waste; Inappropriate dumping of waste; Inadequate public awareness of best practices for waste disposal. A growing industrial sector coupled with a lack of environmental enforcement will decrease air quality and increase GHG emissions;
- **Drought** – brought about by decreasing rainfall
- **Unplanned/informal settlements** – these need to be incorporated into urban planning (the new master plan) and acquisition of land for urban infrastructure development;

An overall weak environmental management system could jeopardize national and city efforts for greening Dodoma.

#### Climate Profile in Dodoma

Dodoma region has a poor and erratic rainfall distribution. The region is characterized by erratic rainfall with an average annual precipitation level of 570mm, where 85% of the rain falls in the months between December and April<sup>[3]</sup><sup>2</sup>. Such rainfall pattern makes it impossible to maintain productive agricultural activity through unstable and capricious rainfall<sup>[4]</sup><sup>3</sup>,<sup>[5]</sup><sup>4</sup>.

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The DMA is among the top in the list of drought-stricken areas in Tanzania[6]<sup>5</sup>. The area is known to have frequent food insecurity caused by semi-arid natural conditions[7]<sup>6</sup>. Because semi-arid areas are by nature vulnerable to climate change, understanding their adaptation strategies to climate change is of significant importance[8]<sup>7</sup>.

A Survey of 398 households in Dodoma was undertaken to elicit information on the nature and manifestation of climate change driven impacts. The results indicate that climate change in Dodoma region is evident as revealed by steady increase in temperature and wind speed and the general declining rainfall trend overtime. Consequently, such changes in weather parameters over time has severely affected the livelihoods of local communities as manifested through decline in crop production, loss of livelihood sources, shortage of water and pasture for livestock, and difficulties in feeding household members overtime among others. Given the findings, this article concludes that climate change and its impacts in the area are real and hence climate change interventions should focus on increasing agricultural productivity, pasture for livestock through sustainable livestock keeping and land use planning, diversification of socio-economic activities, as well as sustainable utilization and management of natural resources.[9]<sup>8</sup>

As indicated earlier in the section on root causes, given the fact that the entire Dodoma region is semi-arid with an average annual rainfall of 570 mm, the current population of about 579,590 residents entirely rely on groundwater from the Makutapora well-field, from which they pump out 61 million litres of water every day, according to government records[10]<sup>9</sup>. The DMA is highly dependent on these groundwater resources to supply the region with drinking water and water resources for productive uses and industries. It will be critical to gain an understanding for how climate change will impact limited groundwater resources and to develop a sustainable plan of action.

The Initial National Communication for the UNFCCC sees decreases in rain as one of the main impacts of climate change for the country. According to this document, irrigation will be required for those areas getting less rainfall to substitute for moisture losses due to increased evapo-transpiration.[11]<sup>10</sup>

#### Land Degradation in Dodoma

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Tanzania is a party to the United Nations Convention to Combat Desertification (UNCCD). Tanzania signed the Convention in 1992 and ratified it in April 1997. The Vice President's Office is the Focal Point of the Convention on behalf of the Government. Since then the Country has been participating in the implementation of the activities under the Convention including participating at the Conference of Parties (COP); meeting of the Committee to Review the Implementation of the Convention (CRIC); meeting of the Committee for Science and Technology (CST); various trainings; and different projects which are implemented with the aim of promoting Sustainable Land Management (SLM).

Tanzania obtained support from the UNCCD-GM to conduct the LDN target setting process. The process identified DMA as a hotspot for land degradation. The Region faces degradation problems whereby major causes are expansion of farms through cutting of existing forests; and overgrazing due to influx of livestock from other Regions. Inadequate resources of human, finance and equipment are also a reason. Like any other Municipalities in the Country, the city of Dodoma is under speedy development. The construction of road infrastructure, residences, and industries causes much of clearance of vegetation. Agriculture and livestock production in Dodoma are decreasing. Tanzania Forest System (TFS) offers permits to harvest forests which is against conservation. Land productivity in Dodoma is tremendously decreasing due to declining natural soil fertility, population increase and other factors.

The LDN target setting process identified the main direct and indirect drivers of land degradation in Tanzania, summarized in the table below.

<b>Direct drivers of land degradation</b>	<b>Indirect drivers of land degradation</b>
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<ul style="list-style-type: none"> <li>· Improper management of the soil</li> <li>· Improper management of annual, perennial, shrub and tree crops</li> <li>· Deforestation and removal of natural vegetation</li> <li>· Over-exploitation of vegetation for domestic use</li> <li>· Overgrazing and shifting cultivation</li> <li>· Industrial activities, waste deposition</li> <li>· Uncontrolled small-scale mining</li> <li>· Urbanization and infrastructure development</li> <li>· Disturbance of the water cycle</li> <li>· Over-abstraction of water</li> <li>· Natural causes (flood, earthquakes, landslides)</li> <li>· Uncontrolled fires</li> <li>· Continuous mono-cropping</li> </ul>	<ul style="list-style-type: none"> <li>· Population pressure</li> <li>· Migration</li> <li>· Land tenure</li> <li>· Poverty/wealth</li> <li>· Labor availability</li> <li>· Inputs (including access to credit/financing) and infrastructure</li> <li>· Education and training</li> <li>· Access to knowledge and support services</li> <li>· Land use conflict (crop producer and livestock keepers)</li> <li>· Governance, institutional settings and policies (including taxes, subsidies, incentives)</li> <li>· Poor technology</li> <li>· Lack of commitments</li> <li>· Inadequate awareness and lack of appropriate information</li> </ul>
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The total area of the Dodoma region is 4,183,192 ha. To address the drivers of deforestation and forest degradation, there is an urgent need to develop long term integrated solutions involving diverse topics such as land ownership, energy, infrastructure, population growth, poverty, alternative income sources, agriculture, and land use planning to meet sustainable Land Degradation Neutrality Targets.

The GoT has developed a new Dodoma Capital City Master Plan covering an area of over 2,700 sq.km which builds on the 1976 Master Plan and the 2010 review of the 1976 plan. It underscores integrated planning and infrastructure development that takes on board inputs of all actors in the city's development. This will ensure ownership of the city by its residents and long-term sustainability. Dodoma is situated along the Trans Africa Highway connecting Cape Town to Cairo and therefore a gateway to the rest of the region and Africa. This feature will be an important draw for FDI and growth in the domestic private sector development. Dodoma City is the location of the largest University in Eastern and Central Africa (40,000 students)–University of Dodoma (UDOM). The University of Dodoma is also home to the Benjamin Mkapa Hospital, a tertiary hospital specialized in Urologic and Kidney transplant medicine.

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#### A vision for sustainable urban development

The United Republic of Tanzania has been implementing the Local Government Reform Programme since 1998-2008 (LGRP I) aimed at building and strengthening capacities of Local Government Authorities (including cities, municipalities, towns, etc.) to provide improved local public services in an efficient, transparent, accountable and equitable manner. Following achievements of Phase I of LGRP, the Government initiated LGRP II with its focus on Decentralization by Devolution (2009-2014). The main goal of LGRP II is to accelerate decentralization of fiscal and human resources to increase equitable socio-economic development, public service delivery and poverty reduction across the country. The new Dodoma Capital City Master Plan is the first real attempt to develop a new Master Plan aimed at transforming Dodoma into a sustainable city and an economic growth pole. It promotes integrated and sustainable urban planning.

The new capital city vision aims to make Dodoma an eco-friendly, green, smart and an inclusive city to meet expectations of its citizens and to serve the rest of the Republic of Tanzania and the wider region. Integrated land use and transport planning inform the Master Plan through the AfDB baseline investment.

The Government of Tanzania has already reiterated its commitment to build capacity of city and municipal governments through LGRP II with its focus on Decentralization by Devolution (2009-2014). Much progress was made under LGRP I, particularly on the fiscal transfer side of decentralization. Nevertheless, more is needed to be done and, hence LGRP II is focused on accelerating decentralization of fiscal and human resources to increase equitable socio-economic development, public service delivery and poverty reduction across the country.

The city of Dodoma is a member of the United Cities and Local Government of Africa (UCLGA), which is also part of the global network of United Cities and Local Governments (UCLG).

## Baseline projects

A series of baseline interventions are currently addressing the range of root causes and adaptation challenges in the country. This GEF-LDCF project will build on ongoing interventions by exploring potential linkages and coordination with the following projects here below.

- The Agricultural Sector Development Programme (ASDP) is funded by the International Fund for Agricultural Development (IFAD) and co-financed by the Belgium Fund for Food Security (BFFS) and the Government of Tanzania. It is being implemented in the Dodoma region and seeks to improve the provision of water for both human and livestock consumption through the drilling of boreholes, the sound management of spring catchment areas, rainwater harvesting, capacity building of the water committee and through the promotion of sustainable rangeland management practices to support livestock production. In addition to this intervention, the Water Sector Development Programme (WSDP) is another programme which seeks to address challenges linked to the urban and rural water supply infrastructure, ameliorate water resource management and strengthen relevant sector institutions.
- The GEF IAP titled “Fostering sustainability and resilience for food security” under which the Tanzanian child project titled “Reversing Land Degradation trends and increasing Food Security in degraded ecosystems of semi-arid areas of central Tanzania” (7.1 million USD) focuses on severely degraded land in the region of Dodoma (among others). At completion, the project is expected to generate a positive impact on the Rufiji catchment which will indirectly benefit more than 100,000 rural households. Although there may be some similarities between the interventions being proposed (especially with regards to land degradation and climate change adaptation in the water sector, this GEF proposal is going to focus exclusively on the city of Dodoma. In addition, since both projects are to be coordinated by the VPO, options for cost-sharing and joint delivery will be explored through consultation during the PPG phase to avoid any duplication of activities.
- The GEF-LDCF Project titled “Ecosystem-Based Adaptation for Rural Resilience in Tanzania” (7,571,233 USD) implemented by UN Environment seeks to increase resilience to climate change in rural communities of Tanzania by strengthening ecosystem resilience and diversifying livelihoods. This is being done through the introduction of a GIS-based knowledge management system on climate change adaptation that supports planning, the training of local authorities, committees and user groups on adapting communities to climate change using ecosystem-based adaptation and through the identification of locally-specific climate change vulnerability, risks and adaptations options by local stakeholders. This project is aligned with NAPA’s priority project on improving food security in drought-prone areas by promoting drought-tolerant crops, which targeted

Shinyanga and Dodoma regions which pertains more to the agricultural sector in a rural setting. Although this GEF-LDCF PIF will target the water sector in an urban context rather than the agricultural sector, it will still explore potential linkages and opportunities for collaboration, especially based on lessons-learned regarding the management of scarce water resources.

- The Global Climate Change Alliance Program (second phase, 2015–2020), supported by the EU (2.2 million Euro) seeks to increase local capacity to adapt to climate change. It is supporting the establishment of a number of ecovillages where adaptation measures are tested in sectors such as agriculture, rangeland management, water management, sanitation and biomass energy including in Chololo village near Dodoma (Eco Act) with national organizations such as the Tanzanian Organic Agriculture Movement (TOAM). The main activities of these projects include climate smart agriculture, water use efficiency, diversification and renewable energies. The activities currently under implemented are thus not taking place in the city of Dodoma which implies that there is no overlap here. However, given that the project is soon to be completed next year, consultations with execution entities of the local project in Dodoma region will take place during the PPG phase with local NGOs such as TOAM. In particular, local NGOs' experience may benefit key interventions envisaged as part of this GEF-LDCF project proposal. Additionally, those involved in the execution could help coordinate with civil society organizations and support the development of an appropriate knowledge management system, including through the creation of a website and promoting the use of innovative information technology. Other avenues for cooperation and collaboration will be explored during the PPG phase.
- The GEF-LDCF project titled “Strengthening climate information and early warning systems in Tanzania for climate resilient development and adaptation to climate change” (4.4 million USD) is currently being implemented by UNDP. The project seeks to strengthen the government’s capacity to monitor the climate, improve early warning systems and available information to respond and plan in the face of climate shocks. It therefore includes substantive investments in the agro and hydro meteorological capacity of the country, both in terms of observation infrastructure and in terms of scientific and technical capacity although essentially benefiting smallholder farmers in rural areas outside Dodoma. Given the similarity of some activities regarding the improvement of climate related data for more accurate risk mapping, monitoring, and forecasting, coordination with this project will be sought to build on the technology used for agro-meteorological forecasts and information communities’ livelihoods.

### **The Baseline Project for the GEF-LDCF Proposal**

In April 2019, the Board of Directors of the African Development Bank approved a loan of USD 180 million for the construction of the baseline project: a new dual-carriage way, the Dodoma City Outer Ring Road of 110.2 km around the capital city. The project is planned to be implemented over a four-year period. This coincides with the proposed GEF project and its implementation. The project was developed in response to the city’s needs assessment.

The project will provide vital infrastructure necessary for the more efficient development of a fast growing Dodoma metropolitan area. It is a direct response to the need for improved logistics services to cope with the expected population boom and expansion of economic activities in the capital city, to which all central government ministries and key government agencies have relocated in recent years. In particular, the baseline project will improve the mobility of goods and services within Dodoma as well as in the Eastern and Southern Africa regional economic blocs by providing key road transportation links transiting through and around Dodoma. In so doing, the baseline project will foster regional co-operation and integration within the Eastern and Southern Africa regions and beyond. The heavy vehicles entering Dodoma City from the four main trunk roads will be diverted into the Outer Ring Road either to bypass Dodoma City completely or to transfer to another radial route to avoid the City center.

The project has been prioritized by the Government of Tanzania as the baseline and will serve the current and future increased mobility and accessibility needs arising out of Dodoma. The overall goal of the road investment is to support Tanzania's economic growth through development of transport infrastructure that contributes to its poverty reduction strategy; and to provide efficient road transport access to Dodoma City and by extension to the rest of the country and other countries in the EAC Region.

The project will support integrated urban planning in the DMA to foster sustainable socio-economic growth and development of Dodoma city and the surrounding regions, improve accessibility and mobility to a growing and strategically located city in the center of the country. It will improve food security within the DMA. It will also contribute to reduction of Greenhouse Gas (GHG) emissions within the Dodoma

city center as heavy traffic would bypass the city.

The baseline project is aligned with the AfDB's corporate objectives of assisting Regional Member Countries transition towards more inclusive and green growth. Similarly, the project is aligned to the new Dodoma City Master Plan aimed at improving urban mobility while reducing GHG emissions in the city. The baseline project includes several complementary interventions, notably: (i) consulting services related to the road construction and road safety; (ii) various specially tailored social infrastructure benefitting women and youth; (iii) institutional capacity building; (iv) urban development related activities and (v) compensation for Project Affected People (PAPs). The components of the project are laid out here below:

### **Component 1: Road Construction Civil Works**

1.1 Road Construction of: (i) Nala – Veyula - Ihumwa (50.2km) (ii) Ihumwa-Matumbulu-Nala (60.0km) and Works Supervision services for (i) and ii. (iii) Community awareness-raising (iv) Sensitization environment protection HIV, Road Safety, Gender ) (v) ESMP and RAP implementation.

## **Component 2: Related Facilities**

- 2.1 Development of related urban/rural roads leading to key social services
- 2.2 Markets, Road-Side Stops; Community Water Sources, Strengthening of health Centers
- 2.3 Provide Enterprise Development Assistance to women and youth

## **Component 3: Institutional Support and Capacity Building**

- 3.1 Training of TANROADS and TARURA Staff, Studies for Pipeline Development

## **Component 4: Project Management**

- 4.1 Socio-economic impact monitoring/evaluation of the Project
- 4.2 Financial and accounting audit of the Project.
- 4.3 Technical and Road Safety audit of the Project.

The ring-road project will contribute to the economic and social resilience of millions of beneficiaries, especially women and vulnerable groups, for many decades. The tree-planting component of the GEF-LDCF proposal will further contribute to climate change mitigation as well as the greening of the urban environment. In particular, the list of climate change and green growth related activities have been included as a sub-component under the Urban Development component of the ring-road project and is expected to be supported with GEF-LDCF funding.

The immediate beneficiaries of the project include the residents in Dodoma City, its suburbs and the surrounding rural areas with a population of approximately 2.4 million people (2018), of which about a third (0.8 million people) live in the City. More efficient transit times as a result of bypassing the City center and associated traffic congestion will enhance the project's regional impacts. The Project will also contribute to easier and faster transportation of tourists and agricultural produce within and outside Dodoma City/Region. Under the Social Infrastructure component, the project will provide water, schools, health centers, markets and upgrade of selected access roads to production centers and social amenities. The Urban Development component will contribute to greening Dodoma as well as improved urban planning and urban management, improved provision of basic services, development of roadside resting places and the provision of dedicated amenities for truck drivers and other travelers.

It is also noted that JICA is currently designing an Inner Ring Road (whose length and cost are yet to be determined) in Dodoma City with the same objective of addressing congestion challenges and improvement of mobility in the Dodoma City.

### **3) The proposed alternative scenario with a brief description of expected outcomes and components of the project**

The objective of the project is to demonstrate an integrated approach for reducing pressures on the city's critical infrastructure, environmental and urban assets and increasing the city's climate resilience through integrated urban development planning for climate change adaptation and sustainable land management. In this regard, the GEF project will contribute to delivering efficient, integrated and sustainable development solutions all the while strengthening urban resilience (in particular infrastructure and livelihoods) in the face of climate change and variability. This will be supported through integrated urban management and by improving local urban planning for the municipality of Dodoma and the region. Given the land degradation and climate related challenges which characterize Dodoma city and its region, there is a need for an integrated approach that takes into account the nexus between land degradation drivers and climate risks.

In this regard, the LDCF resources of this project will contribute to supporting adaptation to climate change, along with improved resilience in the face of climate variability and long-term change in climatic means during the urbanization process of the city of Dodoma. Such support includes a better early warning system, measures to reduce flood impacts, increasing the availability of safe and accessible groundwater for the water supply in the city. The climate risk mapping will notably be important especially for parts of the inner city and its peri-urban areas that are heavily inhabited in flood-prone zones. Land degradation on the other hand will target systemic drivers that contribute to the lack of resilience in the face of climate change. This includes non-climatic stressors and shocks that contribute to vulnerability to climate change such as the mainstreaming of sustainable land management measures in urban planning, tree planting, and the preservation of green spaces as well as vegetation.

The GEF project will seek to reduce the pressures of rapid urbanization on the vital systems of the ecosystem that the city depends on, through efficient land use planning and integration of all informal settlements within the city of Dodoma through the following four components.



## **Component 1. Policy and institutional framework for sustainable urban and regional development**

*Outcome 1: Climate change resilience is integrated into policies, regulations and urban planning and land development*

Under this component the project will address the policy and institutional framework for sustainable urban and regional development. The project will support development of a Water and Sanitation Master Plan for the City of Dodoma and strengthen the capacity in the water and sanitation sectors in Dodoma in order to increase revenue generation for the DUWASA – the Water Supply and Sanitation Authority. It will employ a gender lens to implement initiatives to strengthen the resilience of communities' livelihoods while enhancing community engagement and support for and use of emission reduction approaches and low-carbon technologies.

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### Output 1.1. Climate Risk and vulnerability mapping for Dodoma City and recommendations for re-zoning, where necessary

- A holistic climate risk and vulnerability mapping for the city will be undertaken in the very early stages of project implementation. The vulnerability mapping will include flood plains, settlements, green spaces, water bodies, etc.).
- The results from the mapping will help to identify the vulnerabilities to critical infrastructure, environmental and urban assets of the city and produce an integrated perspective for identifying urban development policies and areas for future investments to strengthen the sustainability and climate resilience of the DMA. As per the recommendations of the GEF, the project will undertake a geo-spatial mapping of the city using GIS or drones (the selection of technology will be determined during the PPG), upon which the vulnerabilities will be assessed and information used to inform zoning policies and climate resilient investments.
- This output will identify areas that are not suitable for development such as flood plain, seismic fault lines and other vulnerable locations. If there are already informal settlements in such locations, then it would enable to integrate those locations into the master plan. This would enable the DMA to rezone where needed.

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### Output 1.2: Strengthen the implementation of the new Dodoma City Master Plan by developing integrated sectors plans

- Within the context of the new Dodoma City Master Plan the project will tackle the systemic challenges facing Dodoma. It will support the development of integrated sector plans for urban mobility, water, sanitation, drainage, waste management, energy and communication.

- The development of integrated sector plans will be adjusted to the already experienced and predicted impacts from climate change, for water, sanitation (including waste), drainage, electricity, roads, public transport, housing (including planning of unplanned and informal settlements), green spaces and biodiversity conservation (through integrating biodiversity and ecosystem values into urban planning). This output will guide future planning and enable the prioritization of investments in the DMA.

- The project will develop integrated plans and strategies to tackle rapid urbanization and the corresponding socio-economic and environmental problems in the DMA. Taking into account the rapidly changing demographics of the DMA, the project will promote inclusive and sustainable urban development, through activities such as development of strategies and action plans for water management, affordable housing, green space restoration, public transport management, waste management, energy efficient building construction, street lighting, and sustainable industrial development among others. The plans will aim to strengthen economic growth, promote entrepreneurship, job creation and community development; rehabilitation of the physical environment including construction of climate resilient infrastructure, restoration of degraded land, support design of energy efficient buildings, brownfield redevelopment, preservation and development of natural and cultural heritage, and improved provision of services to the residents of the DMA.

#### Output 1.3 Institutional capacity developed to adequately address climate vulnerabilities in communities of the DMA

- The project will aim to strengthen the city's capacity to become more competitive in order to attract new investments including FDI. The project will build the city's capacity for effective institutional coordination with the key stakeholders – particularly with the relevant government ministries and departments (water, natural resources and tourism, works, transport, TANROADS, education, health, housing, University of Dodoma and other academic institutions, NGOs, and various development partners, etc.). It will promote skills development for effective climate risk assessment, urban planning, land management, financial management and reporting, procurement, and improved decision-making processes. In collaboration with regional partners such as the United Cities and Local Governments of Africa (UCLGA) the project will promote innovative methods to improve Dodoma municipal financing. This will benefit not only Dodoma but all other cities and towns across Tanzania and Zanzibar.

- This output will address key barriers to the government's ability to integrate climate-related issues into national and sectoral policies, and to design, implement and enforce policies. This will also strengthen the ability of government institutions to systematically address climate change and land degradation within Tanzania's elaborate institutional policy framework.

## **Component 2. Reversing and managing the negative impacts of the urban footprint on land**

*Outcome 2. Sustainable land management and reversing land degradation through city-level and community based actions*

### Output 2.1 Sustainable land development and management plan

- This output will map the extent of the urban footprint on land, the existing status and conditions of the built environment and the urban-rural interface of the DMA. This output will lead to the development of a land development and management plan. With this plan, key approaches for best practices in sustainable land development and management will be outlined for the DMA.
- The same amount of degraded land to be restored under output 2.5 will be placed under sustainable land practices, which is approximately 50% of the estimated hectares of degraded land in the DMA. Included in the sustainable land development and management plan will be a plan for placing the additional 50% of degraded land in DMA under sustainable land management practices.
- Support will also be provided to the city to update its cadastral and allocation of land for their most suitable uses.

### Output 2.2 Demonstration of alternative income generating activities to alleviate pressures on land and adding to the climate resilience of communities the DMA, through community-based entrepreneurship

- As the project is based around efforts to reduce, and where possible eliminate, the drivers of land degradation, communities need to be provided with alternative income generating opportunities, if the results of the project and the global environmental benefits are to be sustained. Community consultations undertaken during the AfDB baseline project preparation have noted that communities require support to establish alternative income generating activities. Beekeeping was one of the areas identified by communities in the DMA as a potential source of livelihood, which is also aligned with the global agenda for the protection of bees and their critical function in the ecosystem. Another preliminary identified idea is to support the establishment of community-based enterprises for handwoven bag (as Tanzania has banned the use and production of plastic bags). Community consultations will be undertaken during the PPG and possible business opportunities assessed to determine the most suitable activities for community-based enterprise to engage in activities that will support the objectives of the LD targets of the project.
- *Sustainable excavation* of building materials and construction practices - This activity will work with the artisanal small-scale mining sector, which is informal, to demonstrate alternative and sustainable approaches to excavate building materials and construction practices. The project will work with the city council and the communities practicing the artisanal small-scale mining for building and construction material, to formalize these livelihood activities in the excavation of building materials and construction. Support will be provided by the project on how to create sustainable small businesses.

Particularly woman and youths will be encouraged to engaged in these community-based entrepreneurship initiatives. Efforts will be undertaken by the project to support the commercialization of these initiatives in the form of community-led enterprises to offer the communities sustainable and alternative income-generating opportunities.

#### Output 2.3 Rehabilitation of brownfields and degraded land under sustainable land management practices

- This output will work with the national government, the DMA and other national stakeholders to rehabilitate brownfields and restore 75,000 ha of degraded land caused by artisanal small-scale mining (for construction material) and other unsustainable land-use practices that have negatively affected the DMA. Brownfield will be regarded as being an integral part of the overall landscape and as such, the ecological and social functions of the land will be valued and improved to complement parks and natural reserves. The mapping exercise from Output 2.1 will identify the right brownfield sites to be rehabilitated for their potential to support natural fauna and flora. The activities envisaged can include site cleanup, planting of some sparse vegetation in a way that contributes also to decreasing the risk of flooding and other climate-related risks.

### **Component 3. Urban Resilience to Climate change**

#### *Outcome 3. Sustainable urban planning and land management to improve urban resilience to climatic change and variability*

##### Output 3.1 Updating building standards and codes to mitigate effects of climate related risks

- This output will review existing building standards and codes to ensure that they are in line with the natural risks posed by the geographic location of the DMA.
- The output will strengthen the capacity of the DMA in the area of defining appropriate building standards and codes

Buildings not meant to withstand severe climate related events often endanger urban dwellers and their livelihoods by making them more exposed, vulnerable and at risk. It is therefore crucial to mainstream and integrate climate change adaptation as part of relevant policies, strategies and action plans in the urban development process. The implementation and enforcing of such climate sensitive standards will ensure that future constructions (including housing) have integrated design standards and codes that factor in climate risks.

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##### Output 3.2 Flood management plan and recommendations for improved drainage systems

- This output will produce a flood management plan for the DMA to mitigate the effects of flooding, drainage issues, potential landslides and other flooding related events, such naturally occurring land degradation.
- The output will also support the DMA in identifying financing for implementing the recommendations and upgrading the existing drainage systems, where necessary.

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Concrete adaptation actions to be considered as part of the designs can be either nature-based or engineering based. For instance, in light of the ring-road project to be implemented by the AfDB, it could be envisaged to increase the roadside drainage capacity as well as culvert dimensions and road surface management. In addition, the planting of trees along road slopes and other ecosystem-based land management techniques will be explored during the PPG phase.

#### Output 3.3 Water management action plan (including integration of best practices for water conservation, re-use, recovery and recycling systems) for Dodoma city.

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- This output will focus on the conservation of DMA's limited water resources. The output will improve the readiness and adaptive capacities of the DMA and surrounding communities by strengthening the resilience of water resources and use. Activities will include the channeling and capture of water runoff from intense rainfall events to more quickly and efficiently replenish groundwater and provide recycled water for irrigation (e.g. from treated liquid waste).
  - This output will also support water harvesting and other water conservation methods.
  - This output will also explore other possible sources of water for the DMA such as liquid wastewater treatment for irrigation for reuse
  - The water management action plan will be used for investment prioritization in the water sector for the DMA.

Given the challenges faced by the capital city of Dodoma in the water sector at such an early development stage, it is critical for the municipality to have the climate-sensitive management of groundwater resources integrated within its urban development plan which aims at supplying the city with drinking water. The implementation of these plans by urban planners and water managers who adequately understand the impacts of climate change on water resources will determine the sustainable management of underground aquifers. Possible techniques to be examined during the PPG phase include the "managed aquifer recharge" methods (also called groundwater replenishment, water banking or artificial recharge) which can channel and capture water runoff in times of heavy rainfall during the rainy season to efficiently replenish groundwater and strengthen water supply in the face of climate change. These techniques can include injection wells, riverbank filtration and infiltration ponds among others. These can be further complemented with the use of natural water sources and treated urban storm water, sewage and waste waters to improve groundwater storage and thus secure emergency water supplies in the case of a drought.

#### Output 3.4 Early warning system for extreme climatic, weather and other natural disasters

- This output will build on and improve the existing early warning system (EWS) for the DMA to predict extreme weather events with more certainty and with seasonal lead times to help communities and industries to better cope with related climate threats. This will include addressing gaps for effective operationalization of the EWS including usable and interactive information on predicted risks, the setting-up of adequate communication channels to key decision-makers. Combined with efficient resource use and safe wastewater reuse, communities and industries of the DMA can better adapt to the more severe and frequent droughts, floods, heatwaves, earthquakes and other threats.

The adequate management of severe weather-related disasters which after impacts on agricultural production, water resources and ultimately on food security in the face of climate risks, it is critical to strengthen the capacity of hydro-meteorological services and networks in Dodoma to adequately predict extreme climate events. Moreover, it should be complemented with actions to put in place and/or improve communication channels for early warning information to eventually support well-informed preparedness and response measures in light of forecasted climate risks and identified vulnerability profiles. In combination with water resource use efficiency and safe wastewater reuse, urban communities of Dodoma city will be in a better position to adapt to severe droughts and floods.

#### Output 3.5 Demonstrate nature based solutions for improved urban resilience and alternative livelihood creation through community based enterprises

- *Green spaces, tree growing and planting on hill ranges, around the city of Dodoma* - This output will roll-out community—based entrepreneurship programmes for greening the DMA (with focus on restoration and conservation of indigenous biodiversity). These opportunities created for the communities will cover the full life cycle for greening spaces (e.g. seedlings, nurseries, managing and maintaining green spaces). This activity will aim to increase per capita green space.
- The direct resilience benefit linked to the generation of alternative livelihoods is linked to the fact that the diversification of sources of income will diminish climate related risks to households' financial, physical and natural capital by spreading it over a wider range of sources of livelihood. This activity will therefore lessen the possible impacts from climate change and increase the capacity of households to rebound. All in all, it will increase their adaptive capacity and decrease their vulnerability to climate risks.

#### Output 3.6 Demonstration of low-cost measures to protect groundwater aquifers from land contamination sources

- The DMA fully relies on groundwater aquifers to meet its water resource needs. Therefore, there is need to understand the short, medium- and long-term risks to these resources, as well as, measures in place to mitigate these risks,
- Examples of risks could include: i) nitrate pollution caused by growing population and agricultural activity in the catchment, increasing the potential human and animal waste loading to the aquifer; ii) wastewater or chemical spills from industrial and commercial activities; iii) poorly managed landfills and waste disposal practices (e.g. dumping of hazardous waste)

- Following the identification of the water resources in the DMA (output 1.2), this output will identify likely groundwater contamination and pollution sources and demonstrate alternative practices that would prevent groundwater contamination. The output will also develop policy measures to discontinue practices with the DMA that risk groundwater contamination and pollution

- Examples of activities that the project and the DMA can engage in to minimize groundwater contamination and pollution could include: i) ensuring that land use plans and regulations protect important water supply aquifers and well fields; ii) support protection legislation and programs; iii) inform and educate residents and businesses about groundwater; iv) consider important aquifers when acquiring open space; v) monitor and inspect important well fields and recharge areas; vi) conduct household hazardous waste collections, and vii) ensure that town facilities practice good pollution prevention. These activities will further be defined during the PPG phase

#### **4. Knowledge Management, Monitoring and evaluation (M&E)**

*Outcome 4.1. Effectiveness of the outputs assessed, experience documented, and knowledge management*

##### Output 4.1 Participation of the Dodoma Metropolitan City area in the Global Platform for Sustainable Cities (GPSC) and exchange of experiences with other cities

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- The project will promote approaches to integrated sustainability planning to encourage and (hopefully influence) a wider array of cities in their respective countries to follow suit, but also to strengthen the exchange of experiences. To ensure that there is exchange of lessons learnt, targeted capacity building, knowledge sharing tools along with global outreach at the program level notably through the GPSC will ensure that results from this project will be of benefit to a much broader audience of cities in Africa and beyond.

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##### Output 4.2 Strengthening linkages with universities and other resource institutions to support sustainability and scale-up research on best practices for resilient urban development

- This output will strengthen the information, knowledge base and M&E system. for all relevant stakeholders. Opportunities will be explored and pursued to strengthen accessibility to and use of information, and to identify research gaps, and possibly creating an open database or using other tools. This would include available research and information on climate-related issues into which academics, policy researchers and CSOs (local and international) could feed relevant research. Policymakers could use this platform to publish their information needs. This could potentially be led by one of the leading universities in Tanzania in collaboration with the VPO. Tanzania would also benefit from: creating regular, topical, cross-ministerial forums; strengthening formal and informal 'low cost' channels of communication; strengthening flows of information upwards, potentially facilitated by civil society organizations; and creating an open database of available research and experts, mapping responsibilities and expertise

Output 4.3 Regular progress, Mid-term Review and Terminal Evaluation reports prepared

- Regular progress reports and M&E reports will be prepared under this output, in compliance with GEF and AfDB project management and M&E requirements

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Output 4.4 Project related publications and information dissemination materials

- This output will support the preparation and dissemination of project results, experiences gained and lessons learnt

Output 4.5 Baseline and mid-term data collection

- Baseline and mid-term data will be collected on how the city has been expanding over the years to inform implementation, monitoring and the subsequent impact evaluation of the project.

**4) Alignment with GEF focal area and/or Impact Program strategies;**

Land Degradation Focal Area– Restoration of degraded urban land and sustainable land management:

There is alignment with the land degradation focal area since the project will contribute to:

- Sustainable land management in the rural-urban interface
- Restoration of degraded production landscapes in the rural-urban interface

LDCE-Objective 1: Reduce Vulnerability and Increase Resilience through Innovation and Technology Transfer for Climate Change Adaptation

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Given the multi-focal nature of the project, its activities will contribute to both improved climate change adaptation and land degradation neutrality co-benefits through sustainable land management and the integration of climate change aspects into urban planning in Dodoma. The project aligns with CCA Objective 1 through the implementation of nature based solutions to improve the drainage capacity of the ring-road thus reducing the risk of flooding, strengthening the early warning system. It will contribute to increased knowledge and understanding of climate variability and change-induced risks at country level and in targeted vulnerable areas, strengthen adaptive capacity to reduce risks to climate-induced economic losses, successful demonstration, deployment, and transfer of relevant adaptation technology in targeted areas and enhanced enabling environment to support adaptation related technology transfer.

#### LDCF - Objective 2: Mainstream Climate Change Adaptation and Resilience for Systemic Impact

Mainstreaming Adaptation across GEF Themes:

The project demonstrates an approach for achieving integrated benefits:

- Cities that deliver efficient, integrated and sustainable development solutions while also building resilience of populations and infrastructure to climate change and variability through integrated urban management, local physical planning for municipalities and regions, and support for decentralized decision-making;
  
- The project is aligned with Objective 2: Mainstream Climate Change Adaptation and Resilience for Systemic Impact
- The project is country-driven and focusing on initiatives with potential to make transformational contributions for adaptation
- Under component 3, the LDCF resources will be geared towards supporting adaptation to climate change, including enhanced climatic variability and long-term change in climatic means. The project will undertake activities to improve the reliable water supply in Dodoma, which is facing increasing drought; and enabling a community livelihood shift to an income source that is less affected by the vagaries of climate; or establishing improved early warning systems in heavily inhabited areas that are currently flood-prone and are expected to face greater rainfall intensity in the future.
- The project will strengthen resilience and reduce vulnerability to the adverse impacts of climate change, and support Tanzania's efforts to enhance adaptive capacity, and thereby address one of the LDCF strategy highlights, which is to mainstream adaptation and enhancing resilience
- Ability to offer integrated solutions
- Multiple benefits, MEA-relevant, alignment of relevant SDGs
- The project will focus on water resource management

- o Disaster risk management
- o Infrastructural development
- o Natural Resource Management – land degradation and management
- o Institutional capacity building
- o Climate smart urban areas

#### Global Platform for Sustainable Cities - Sustainable Cities Impact Program

The project will participate in the global platform created under GEF Sustainable Cities IP and utilize the platform to learn best practices and share experiences with other peer cities. . As Tanzania continues to face challenges on limited access to affordable housing finance, land and basic services as well as having informal settlements, Tanzania perceives the Global Platform for Sustainable Cities as an opportunity to make progress on SDG 11, to advance the New Urban Agenda." And looks forward to promoting experiences gained through this project on addressing urban-related global environmental degradation challenges related to land and climate resilience, in an integrated manner.

The Government of Tanzania with AfDB support has already invested in sustainable urban transport networks (BRT, railway) improving commuting time and reducing GHG emissions.

#### **5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing;**

Incremental support activities proposed in the project include: (a) The AfDB will execute the city diagnostic program in Dodoma. The city diagnostics methodology will involve a rapid assessment of challenges and opportunities in the city of Dodoma, the prioritization of strategic interventions, and implementation of the pre-investment for at least one Bank intervention in the city; (b)the Dodoma city scan - a rapid assessment of urban resilience challenges that the city faces using publicly available global geospatial datasets and open-source tools, integrating natural and built environments. This component will be done by the AfDB in collaboration with the World Bank.

This GEF co-financing and the related activities have been agreed to with the Government of Tanzania and the City of Dodoma. There are no legal obligations on the part of the City of Dodoma nor the Government of Tanzania. As shown in the below table, the GEF financing will complement the AfDB baseline project by supporting the city of Dodoma with the restoration of degraded urban land, sustainable land management that is climate-sensitive. This will include reforestation of the Dodoma city hill ranges, along the City Outer Ring Road, and other city roads, avenues and major highways, strengthening the capacity of the City to develop alternative or sustainable income generating activities for artisanal miners, developing an integrated water supply and sanitation master plan, and undertaking drainage system improvements to control rain water runoff and soil erosion.

Project Outcomes	Baseline and Gaps	GEF Alternative Scenario	Additional adaptation cost (US\$)
<p>1. Climate change resilience is integrated into policies, regulations and urban planning and land development</p>	<p>There is weak institutional and technical capacity to plan and implement informed climate change adaptation (CCA) actions at the local level in Dodoma. In addition to the severe lack of climate sensitive urban plans and policies, there is not enough coordination and integration between various sectoral policies and adaptation initiatives which undermines sound urban planning.</p> <p>At this stage, there are no baseline programs specifically targeting climate change resilience mainstreaming, improve technical knowledge about climate risks and possible actions in the urban context of Dodoma. In addition, as nascent capital, there is a need for better coordination and strengthening of urban adaptation planning at municipal level and in line with national initiatives.</p>	<p>The LDCF financing will support the identification of relevant technical knowledge about climate change and resilience in the urban context of Dodoma through climate risk and vulnerability mapping. In addition, this work will support the sound implementation of the 2018 City of Dodoma master plan while taking into account climate change related considerations across various relevant sectors.</p> <p>In addition, the LDCF financing will help incorporate climate considerations into policies and regulations therefore reinforcing the institutional capacity of the City of Dodoma in identifying and addressing vulnerability to climate risks targeting people, public service infrastructure and urban transport systems.</p>	<p>1,000,000</p>

<p>2. Sustainable land management and reversing land degradation through city-level and community based actions</p>	<p>Tanzania (both in rural and peri-urban areas) suffers from increasing pressures on biodiversity and natural ecosystems mostly due to side effects of demographic growth and uncontrolled and/or unsustainable urbanization. In addition, although there is some data about environmental degradation from a variety of sources, there is a need to integrate this information to form a basis for sound and resilient urban development planning at the local and national levels.</p> <p>Although there are water projects that promote water resources management in Tanzania, there is a need to invest in the protection and conservation of water, including flood control and rainwater harvesting structures. This also includes the sustainable use of groundwater resources taking into account the annual recharge rates and the evolving consumption needs of urban dwellers.</p>	<p>The Land Degradation STAR allocation resources will contribute rendering land use plans more resilience oriented with support for the implementation of sustainable land and water management priorities, water conservation measures (including the protection of groundwater aquifers from possible contamination sources).</p> <p>GEF funds will also contribute to fostering the greening of the City of Dodoma by restoring and conserving indigenous biodiversity within and around the City of Dodoma. It also includes the rehabilitation of brownfields and beyond the mere building of transport infrastructure as financed by the baseline project, the GEF financing will restore degraded land, notably from informal mining.</p>	<p>1,358,100</p>
<p>3. Sustainable urban planning and land management to improve urban resilience to climatic change and variability</p>	<p>Although there are projects that are currently under implementation which foster sustainable land management, these mostly take place in rural areas and do not adequately take into consideration the peculiarities of the urban context.</p> <p>The projected growth of the City of Dodoma also needs to provide for climate-sensitive human settlements development. Firstly, the city needs to be equipped with the means to monitor and predict potential heavy rainfall which might result in flash floods that can impact city dwellers (and especially the poor who are often the most vulnerable). It also includes the need for appropriate drainage systems in light of historical rainfall extremes and frequent and high intensity floods.</p>	<p>Given that the City of Dodoma is still relatively young and is projected to grow in the near future, the LDCF financing will ensure that construction and building standards and codes are up-to-date and adequate to mitigate climate related impacts on urban livelihoods and infrastructure.</p> <p>This also includes the production of an appropriate water management action plan and an improved drainage system which can lessen and/or buffer the potential effects extreme rainfall patterns vis-à-vis the historical average. Lastly, the GEF financing will improve and/or strengthen the early warning system of the City to better monitor and predict meteorological risks which might materialize into disasters.</p>	<p>2,121,000</p>

4. Effectiveness of the outputs assessed, experience documented, and knowledge management

There is substantial lack of coordination and communication between sectoral ministries and agencies for adequate knowledge generation and management.

TANROADS will be responsible for the overall implementation, administration, and enforcement of the recommendations of the ESIA. An assessment of their capacity revealed that most safeguard staff have considerable exposure to the Bank Group's Safeguard Requirements. However, for the daily monitoring aspects, the project design has allowed for training and capacity enhancement for staff in Dodoma to ensure that: (a) effective coordinating and implementation of the ESMP is done; and (b) ensure that performance of environmental controls and proposed mitigation measures are implemented.

At national level, the National Environment Management Council (NEMC) is the main agency responsible for oversight and ensuring that development projects carried out in Tanzania adequately address environmental and social issues during the lifetime of the project. TANROADS will continue to engage with NEMC to ensure that there will be an independent evaluator to carry out compliance monitoring to address any claims raised by members of the community, Community Based Organizations, or Non-Governmental Organizations on the negative aspects of the project.

The monitoring and evaluation framework of the Dodoma ring-road project will monitor and evaluate among other, the socio-economic impact of the project. However, it does not include a tailored and effective M&E system to adequately monitor and evaluate achieved sustainable land, climate change adaptation and resilience benefits by the project, as well as, negative impacts as a result of the influx in populations expected, due to better

Linkages will be created between the GEF-LDCF Project and the Global Platform for Sustainable Cities (GPSC) by ensuring that Dodoma City officials benefit from relevant technical trainings offered by the GPSC and from exchanges with other cities facing similar challenges. In addition, the GEF financing will foster collaboration and linkages between universities and policy and/or development oriented national agencies. Finally, the LDCF financing will serve to create a monitoring and evaluation system for the project which will include the documentation of best practices, strategies and potential replication/upscaling plan.

459,000

<b>Total</b>	<b>4,938,100 USD</b>
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**6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)**

The map of the project area also illustrates the hotspot areas for Tanzania with different levels of land degradation. Dodoma along with Tabora, have the largest area of severely degraded land (mainly caused due to inappropriate agricultural land practices). It is estimated that approximately 150,000 ha of the DMA land is degraded and that this land requires improved practices that benefit the physical improvements in soil, nutrients, diversity and functionality of vegetation cover. Based on preliminary discussion with national stakeholders (including stakeholders involved in the Land Degradation Neutrality Target Setting) an initial estimate is made to place 50% of the degraded agricultural land area under sustainable land management practices, which will include improved practices that benefit physical improvements in the environment (e.g., soil and soil carbon, nutrient recycling, diversity and functionality of vegetation cover, micro-climates, and water). The project will implement and sustainable land management action plan, which includes the prioritization of investment areas for the DMA in order to facilitate scale-up for SLM for the entire DMA. During the PPG a more detailed assessment of the GEBs of the project will be undertaken, which will include a more detailed cost estimate of costs per hectare. Subjecting degraded land under sustainable land management practices will contribute to the reversal of land degradation through the introduction of innovative methods for land management and urban farming, thereby improving food security and inclusive economic growth for the DMA.

The introduction of the various urban CCA interventions are estimated to directly benefit at least 408,000 residents of the DMA (equally split between women and men). The immediate beneficiaries of the project include the residents in Dodoma City, its suburbs and the surrounding rural areas with a population of approximately 2.4 million people (2018), of which about a quarter (0.55 million people) live in the City. An estimated 408,000 people of which 50% are women will directly benefit from the project.

The integrated urban development interventions will mitigate uncontrolled sprawling of informal settlements, improve urban planning and land management, and ease the city's capacity to provide services such as public transport, electricity, water, sanitation and waste management. The project will also increase per capita green spaces within the city of Dodoma.

The proposed project will strengthen the institutional capacities to mainstream climate resilient and sustainable land measures into urban development plans; preserving Dodoma's natural environment, history, and critical agriculture; improve drainage, rainwater runoff systems and soil erosion management; harness waste resources such as wastewater for reuse in households, industry and irrigation, and support groundwater resources.

The project will achieve to global environmental benefits towards reversing land degradation and placing urban landscapes under sustainable land management practices. The project will also achieve results towards building the resilience of urban landscapes by protecting critical infrastructure (such as transportation, water supply systems, emergency services and continuity of government), environmental assets (such as the quality of land, water and biodiversity) and urban assets (such as innovative people and businesses, productivity and green spaces) and by understanding and preparing for expected climate threats.

The baseline project is expected to significantly reduce GHG emissions in the center city of Dodoma as heavy diesel trucks would be diverted to the outskirts of the city. Both the baseline and GEF projects will contribute to improved urban and land use planning, land management and transport planning.

During the PPG, when the project activities, results and theory of change are assessed more comprehensively, the estimation of Global Environmental Benefits will be revised and strengthened.

## **7) Innovation, sustainability and potential for scaling up**

### **Innovation**

The integrated approach taken by this project is innovative to the region and would not be taking place at this stage without the initiatives by the GEF and GEF resources. The proposed project is multi-focal and will identify and implement integrated solutions to mainstream adaptation with land degradation and urban development policies. The project is demonstrating nature-based solutions and integration approach for urban planning and urban resilience, such as GIS and drones for holistic climate vulnerability mapping. The project is also developing multiple plans (inclusive of financial strategies) to support the greening, sustainability and resilience of the DMA.

The project will introduce innovative alternative livelihoods for communities as described in output 2.3. as a strategy to support the sustainability and climate resilience of the DMA. Additional innovative alternative livelihoods will be identified during the PPG (and their feasibility assessed). As Tanzania has banned the use of plastic bags, the production of alternatives (such as hand-woven bags) might have commercial relevance and could be demonstrated during the project.

### **Sustainability**

There is enough national and local political commitment to maximize the project's impact and replication potential within the country. The National Government's commitment to decentralization of political and fiscal governance ensures greater independence of local governments, particularly in the new capital city, but also in other regional municipalities. To further strengthen decentralization efforts, the GoT has embarked on construction of regional airports, expansion of the road and railway network to improve transport mobility not only within cities but also across the regions and the country. This project has strong national and local government support as its key objective has already been integrated in the new Dodoma city master plan.

The Government of Tanzania is already committed to developing Dodoma as an inclusive and sustainable city. Thus, the project will support Dodoma city management by strengthening its capacity to effectively deliver on its mandate to implement the new City Master Plan. The project will provide technical assistance for innovative planning of the Central Business District (CBD) and the Government City, and existing informal and unplanned neighbourhoods within the DMA, with the aim of managing urban growth, improving service delivery and reducing environmental vulnerability of the city. City authorities have emphasized the need for integrated land use planning, and zoning to mitigate sprawling of informal settlements; and redevelopment of brownfields in the city for sustainable uses.

To further support the sustainability of the project, the project will execute a public awareness campaigns with different stakeholders (e.g. communities, household, street vendors, sub-ward and ward levels).

The community-based enterprises will be supported in terms of market entry for their alternative services and products. Alternative income generating activities, we will support the micro enterprises to achieve entry to markets

Another aspect to ensure the sustainability is to maximize the national ownership of the project. Examples include, awareness raising among government, update existing city bylaws, laws on environmental conservation activities and strongly involve the city in the project formulation and development phase. Involvement of local communities is also critical, as is the provision some of incentives (e.g. recognitions) for the different community groups that perform well within the project, e.g. bee keeping activities and alternative bags weaving.

## **Scale-up**



The project is currently only addressing 50% of the degraded land in the Dodoma region. The project will develop an action and financing plan for addressing the other 50%. The project is only targeting the same hectares of land to be placed under sustainable land management practices. During the project development as well as project implementation, information on the need for additional SLM will be identified. The project will also develop an action financing plan for the additional SLM needs for the Dodoma region.

The region of Tabora is very similar to Dodoma, in terms of climate. It is also semi-arid and experiencing high levels of land degradation due to intensive water requirements and land clearing for cotton production. The project will develop an exchange program, learning by doing exercise, for the municipal council of Tabora. The action and financing plan will be developed to be applicable to the Tabora municipality. During the PPG phase some activities will be undertaken to outline how the project outputs and results can be scaled-up to the Tabora municipality (without GEF resources) will be undertaking some activities that involve Tabora.

Scale-up for climate resilience and sustainability will also need to be extended to other areas such as towards an integrated public transit strategy and action plan that would link the bus rapid transit system with the Standard Gauge Railway (SGR) to further improve transportation within and out of the city of Dodoma; innovative programs that encourage use of non-motorized transport modes beginning in the Government city and the Central Business District, to reduce the carbon footprint in Dodoma. Such programs have a high potential to be replicated in other cities in Tanzania and elsewhere in East Africa. The project will engage with the private sector where feasible to increase investments in energy efficient and climate resilient infrastructure, renewable energy for use on street lighting and in office and public buildings and initiate discussions around innovative hazardous waste management measures with the aim of reducing waste generated at the household, institutional and industry levels and waste disposed in landfills.

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[1] GEF Programming Directions,

[2] <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2018/10/Climate-change-governance-in-Tanzania-challenges-and-opportunities.pdf>

[3] Sakai, M., 2012. Famine and moral economy in pastoralist society; 60 years of rainfall data analysis. Rural development policy and agro-pastoralism in East Africa; In proceeding of 4th International Conference on Moral Economy of Africa. Fukui Prefectural University.

[4] Ndaga, J.P., 2012. Household economy of the wagogo; In proceeding of 4th International Conference on Moral Economy of Africa. Fukui Prefectural University.

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[6] Tanzania NAPA final report,2007- <https://unfccc.int/resource/docs/napa/tza01.pdf>

[7] Ndaga, J.P., 2012. Household economy of the Wagogo; In proceedings of the 4th International Conference on Moral Economy of Africa. Fukui Prefectural University.

[8] CLIMATE CHANGE ADAPTATION IN SEMI-ARID DODOMA: AN EXPERIENCE FROM ECO-VILLAGE

Kalumanga Venance Ephrahim, Bwagalilo Fadhilim, Journal of Challenges, 2015 Vol.2, No.2, pp.30-42, 2015 - [http://www.conscientiabeam.com/pdf-files/eco/85/JC-2015-2\(2\)-30-42.pdf](http://www.conscientiabeam.com/pdf-files/eco/85/JC-2015-2(2)-30-42.pdf)

[9] Mayaya, Hozen & G.P., Opata & Kipkorir, Emmanuel. (2015). Understanding Climate Change and Manifestation of its Driven Impacts in Semi-Arid Area of Dodoma Region, Tanzania. Ethiopian Journal of Environmental Studies & Management. 8. 364-376. 10.4314/ejesm.v8i4.2.

[10] <https://upgro.org/category/consortium-project-news/grofutures-groundwater-futures-in-sub-saharan-africa/>

[11] [https://www.iisd.org/pdf/2006/security\\_field\\_test\\_tanzania.pdf](https://www.iisd.org/pdf/2006/security_field_test_tanzania.pdf)

#### 1b. Project Map and Coordinates

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



Geo-referenced coordinates for Dodoma: s: 6°10'20.0"S 35°44'22.1"E

**MAP OF CURRENT LAND USE IN DODOMA CAPITAL CITY SHOWING PLANNED AND UNPLANNED AREAS AND THE GEF 7 BASELINE PROJECT: THE DODOMA CITY OUTER RING ROAD CONSTRUCTION PROJECT.**



#### 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.**

<b>Stakeholder group</b>	<b>Relevance to the project</b>
Project executing agency(ies)	<ul style="list-style-type: none"><li>· The Tanzania National Roads Agency (TANROADS) will be the key Executing Agency of the sections in Dodoma City. TANROADS has acquired substantial experience in managing AfDB-funded Projects and produced satisfactory results. Two ongoing country and multinational projects in the transport sector and the Bus Rapid Transit (BRT) Phase 2 in Dar es Salaam are being executed by TANROADS. TANROADS will work closely with the City Council of Dodoma, the Ministry of Water (supported by DUWASA-Dodoma City Water &amp; Sewerage Authority)</li><li>· The Vice President's Office, as Tanzania's climate focal point, represents the country in international climate negotiations, and coordinates country reporting in line with the requirements of Multilateral Environmental Agreements (MEAs).</li></ul>

<ul style="list-style-type: none"> <li>· Government</li> </ul>	<ul style="list-style-type: none"> <li>· Regional Administration and Local Government, The Presidency;</li> <li>· Department of Environment, Vice President's Office;</li> <li>· Ministry of Natural Resources and Tourism (Tanzania Forest Service);</li> <li>· Ministry of Health, Community Development, Gender, Elderly and Children;</li> <li>· Labour, Employment, Youth &amp; Disabled, Office of the Prime Minister;</li> <li>· Ministry of Water</li> <li>· Ministry of Lands and Human Settlements</li> <li>· Tanzania Social Action Fund (TSAF)</li> <li>· Dodoma City Council</li> <li>· Dodoma Water Supply and Sanitation Authority (DUWASA)</li> </ul>
<ul style="list-style-type: none"> <li>· Civil Society/Non- Government Organizations</li> </ul>	<ul style="list-style-type: none"> <li>· TaGEDO - Tanzania Gender Entrepreneurship Development Organization</li> </ul>
<ul style="list-style-type: none"> <li>· Research institutions</li> </ul>	<ul style="list-style-type: none"> <li>· University of Dodoma (UDOM), the largest institution of higher learning in Eastern and Central Africa</li> <li>· Institute for Rural Development Planning</li> <li>· St John University of Tanzania</li> <li>· University of Dar es Salaam (various disciplines)</li> </ul>
<ul style="list-style-type: none"> <li>· Private sector</li> </ul>	<ul style="list-style-type: none"> <li>· Green Waste Pro Ltd.</li> <li>· Industries (formal and informal) polluting groundwater resources DUWASA - Dodoma Urban Water Supply Authority</li> <li>· Commercial banks and other financial institutions</li> <li>· Inner City transport service providers.</li> </ul>

Stakeholders key to the success of individual outputs will be identified during the PPG phase and will be involved in the preparation and implementation of the activities of the project. Bilateral and national stakeholder consultation meetings will be held to solicit their views on the appropriateness and design of the project and its activities, how these affect them, and how they can contribute to project implementation. Consultations with actors such as research and training institutions, SMEs, associations, community and

informal sector groups will generate information on the opportunities and constraints facing each of these actors. This information will feed into the final full project document. The private sector will especially be targeted because of the significant role they play as drivers for degradation in the urban landscape and also, as enablers for moving towards more sustainable and climate resilient urban development pathways.

### **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).**

Climate change affects men and women differently because men and women play different roles and have different responsibilities in societies. Inequality is one of the three concepts of well-being along with poverty and vulnerability<sup>[1]<sup>11</sup>. Urban planning, governance systems, and services—including water, sanitation, transport and land markets—need to address gender and promote equal opportunities to achieve greater social, economic, and environment benefits.</sup>

The majority of those involved in the informal mining activities in Dodoma are woman and youths, but mainly woman. These informal mining activities are ongoing this will not be stopped until these groups have alternative income generating opportunities. By addressing these problems, we are also helping these women. The project will support the establishment of community-based enterprises as a strategy to minimize land degradation, restore degraded land and contribution to strengthening the resilience of the land.

The strong baseline project and its components will also complement the project, in particular with its targeted focus on improving welfare of women and youth. The baseline project is expected to increase number of women and men employed in the road sector from 0 at the start of the project to about 500 of which 30% would be women. Among women , men and youth affected by the baseline project, 40% would engage in other income generating activities linked to the project.

The project interventions will be designed to promote gender equality throughout the scope of the project. Woman and youth will be promoted to strongly benefit from integrated land use planning and the nature-based solutions promoted by this project. This includes the involvement of woman in decision-making and planning, as well as, any other capacity building activities of the project. During the PPG a detailed gender assessment will be carried out to determine how best the project can promote gender equality. The full project document will contain a comprehensive action plan to promote gender equality within integrated land-use planning and the identified opportunities for nature-based solutions to strengthen the DMA's sustainability and resilience to climate change.

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Equal opportunity to participate in project activities (including as members of the National Project Coordination) and decision-making at all levels will be ensured. For project-based recruitments, the project will also encourage female applicants.

The gender element of the project will be very significant since several associations and other community-based enterprises in the field often include women. For the PPG, women's groups and associations will be consulted in order to gather their opinions and take into account their concerns in the preparation of the full project proposal. During the implementation, programmes to strengthen capacities and mechanisms for support to community-based enterprises will particularly target women.

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[1] Msaki, M.M., B.M.L. Namwata and T.D. Semuguruka, 2011. Shifting from pastoralism. How safe is the livelihood of the Maasai?. International Journal of Development and Social Research, 2(1).

**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; Yes**

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

**generating socio-economic benefits or services for women.**

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

Yes

**4. Private sector engagement**

**Will there be private sector engagement in the project?**

Yes

**Please briefly explain the rationale behind your answer.**

The project is going to work with community-based enterprises to establish alternative livelihood activities that will alleviate pressures on land and increase climate resilience of communities in the DMA. Successful ventures will be documented and publicized to the communities of Dodoma and Tabora. Access to finance is a major barrier to investments in greener practices, which is why this project will support national stakeholders, particularly community-led enterprises and SMEs in their efforts to make the business case and create the opportunity for sustainable and climate resilient investments for community-led enterprises and SME's, with the aspirations to overcome the barriers to investment in sustainable and climate resilient initiatives that support the sustainable development objectives of the DMA.

in addition to working with community-based enterprises and SME's, the most relevant private sector for this project is the building and construction sector. The artisanal small-scale mining activities that are contributing to the degradation of the agricultural land in the DMA are responding to the growing city's demand for building and construction material (e.g. aggregates, sand, clay, etc). Furthermore, the project focuses on building standards, which is relevant to the building and construction center. There are numerous projects underway to expand the DMA's road network and infrastructure assets. During the PPG the project will undertake a detailed stakeholder analysis to determine the relevant stakeholders, including, private sector entities in relation to the objectives and scope of the project. The project will seek to engage all relevant private sector entities to leverage existing resources and support the impact potential, sustainability and scale-up potential of the project

**5. Risks**

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

Risk	Rating	Mitigation
The possibility of limited capacity to implement the project due to the lack of financial and adequately skilled human resources	L	The size of the baseline investment is substantial and will address some of the capacity issues within the executing agencies.
The inability of the executing agencies to properly monitor progress of the project	L	The AfDB has overall oversight of the project and will undertake supervision missions to the project throughout the project lifecycle
Delays in implementation start	M	The project will set implementation benchmarks in addition to the ones provided by the GEF. Furthermore, the AfDB baseline investment has already been approved and the loan agreement signed by the Government. During the PPG phase the project team will work closer with the baseline project to allow an early approval of GEF resources by the AfDB's Board of Directors.

Delays during the implementation of the project	L	Climate driven possible impacts on households and infrastructure might undermine the smooth implementation of the project. The high probability of extreme weather related events such as floods and/or droughts could activate some unexpected contingencies and emergencies, thus delaying some project activities.
Lack of engagement of sub-national stakeholders in the project activities	M	Given that this project will focus on the capital city of Dodoma with the involvement of both national and sub-national (e.g. municipal, local authorities), the design phase of the project will involve a stakeholder analysis and participatory approach for multi-stakeholder engagement including local government authorities and CSOs.
Political willingness	M	Willingness of political leaders may not want to accept the project when they feel that their ward (there are 41) may not profit as much from the project as other wards. Each leader wants the project in their ward. The project will provide sufficient awareness to the leaders and explain why the project will be more active in some wards than others. The project will clearly communicate the selection of the areas where the interventions will take place (e.g. where severe degradation is taking place and climate related risks. Additionally, the project will clearly communicate the benefits for the whole city.

Limited ownership in the city to sustain project results and to implement a sustainability strategy	M	The project will utilize its resources strategically to the build the capacities and plan a roadmap for how the city can take on the challenges after project completion. In order to ensure the sustainability, the project will ensure that stakeholders take ownership from the beginning, including the PPG phase. The roles and responsibilities for all stakeholders will be clearly identified and confirmed from the beginning so that all stakeholders are operating within their function in relation to the project and then follow a natural continuation of their functions, post project implementation.
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During the PPG phase, further project risks will be assessed.



## 6. Coordination

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

The implementation of this project over a 48 month-period will require the set-up of an effective multi-sectoral approach in close collaboration and coordination with relevant sectoral government ministries and departments both at national and sub-national levels. In addition, interventions and actions will be coordinated in cooperation between government and development partners, the private sector and civil society organizations (CSOs). It is expected that this coordination will be led by the Vice President's Office as the entity which could co-execute the GEF-LDCF project in close collaboration with the Tanzania Roads Authority (TANROADS) as the executing agency for the AfDB ring-road baseline project with close support from the City Council of Dodoma.

The executing agency is therefore the Tanzania Roads Authority (TANROADS) with everyday support of the City Council of Dodoma. TANROADS is also the lead executing agency on the baseline project and the upcoming Msalato International Airport project financed by the African Development Bank. The AfDB through its country office in Tanzania will have overall oversight of the project. The initial phase of the project implementation will involve baseline data collection to inform the project implementation and monitoring. Other possible co-executing agencies include Local Government Authorities of the City of Dodoma with collaboration from partners such as the private sector and CSOs. To ensure that there is broad participation from a variety of actors, a Project Steering Committee and Technical Committee could be set up to advise on the implementation of project activities to guarantee the sustainability and resilience of implemented actions during and beyond the life of the project.

Upon approval of the GEFTF/LCDF grant both by the GEF and the AfDB Board, the AfDB will launch the project and subsequently organize regular supervision missions in coordination with TANROADS and the Dodoma City Council. As the GEF Implementing Agency, the AfDB will conduct a mid-term review to assess the progress towards achieving Project objectives.

**Monitoring:** This will be carried out by both the GEF Agency and the executing agencies. The Bank will undertake at least two supervision missions every year during the implementation phase. The project has included a budget for monitoring and evaluation, which will cover collection of baseline data on project indicators, follow-up surveys and project completion surveys. The results from the baseline surveys will be used to refine the Project baseline indicators.

The institutional coordination will be further developed in the project document to be prepared during the PPG phase, which will include the participation of key stakeholders such as the GEF and UNFCCC focal points, key government officials, the private sector, CSO and donor representatives. The Project Implementation Monitoring Schedule will also be provided during the PPG phase.

## **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**

Tanzania is a party to the United Nations Convention to Combat Desertification (UNCCD). UNCCD is among the sister Conventions formulated during the Conference on Environment and Development (UNCED) held in Rio de Janeiro Brazil 1992. Tanzania signed the Convention in the same year 1992 and ratified it in April 1997. The Vice President's Office is the Focal Point of the Convention on behalf of the Government.

The political commitment is significant. It is demonstrated through the Government's decision to develop a new Master Plan for the City of Dodoma. The Government constituted a National Master Plan Taskforce that is multidisciplinary comprising City/Town and Regional Planners, Architects, Environmental Engineers, Economists, Sociologists, Seismic Risk Engineers, and Structural Engineers among others. This would ensure a comprehensive analysis of the needs of the present and future Dodoma. The Master Plan is forward looking and a live document that allows periodic reviews to accommodate future environmental and socio-economic changes in the Dodoma region.

Furthermore, national and local environmental markers are situated in the Office of the Vice President for the United Republic of Tanzania - Department of Environment. Similarly, all local government administrations including Dodoma have a division of environment, headed by a senior civil servant.

The United Republic of Tanzania has been implementing the Local Government Reform Programme (LGRP I - 1998-2008). The programme aims building and strengthening capacities of Local Government Authorities (including cities, municipalities, towns, etc.) to provide improved local public services in an efficient, transparent, accountable and equitable manner. Following successful implementation of LGRP I, the Government initiated LGRP II with its focus on Decentralization by Devolution (2009-2014). The main goal of LGRP II is to accelerate decentralization of fiscal and human resources to increase equitable socio-economic development, public service delivery and poverty reduction across the country. Specifically, LGRP II addresses the following key areas:

- i. Institutionalization of decentralization in Government Operations;
- ii. Human Resource Decentralization;
- iii. Fiscal Decentralization;
- iv. LGA Service Delivery Capacity and Effectiveness;
- v. Citizen's Understanding of Reforms Process and Assessment;
- vi. Management and Accountability Capacity.

Major cities in Tanzania have committed to incorporate the outcomes of LGRP II as well as taking into account stakeholders' inputs for every outcome area. Dodoma Capital City is determined to implement the LGRP II through the new Master Plan and the Dodoma Municipal Council Strategic Plan II for 2017/2018.

The Environmental Management Act (2004) was finalized and enacted by Parliament in November 2004 for use to address land degradation challenges. EMA established the National Environment Trust Fund (NETF) of which the National Development Fund (NDF) is a sub-set. Once the Act became law, the NETF-NDF was registered and used to implement activities to combat land degradation and desertification.

Since Tanzania ratified the UNCCD in 1997, several initiatives have been undertaken to implement the Convention. Political will and commitment by the government has increased, policies and strategies for socio-economic transformation of the economy have mainstreamed in environmental issues. The first and second national reports on the implementation of the UNCCD have outlined the process of reviewing and updating the policies and action programs to include environmental and land degradation issues, including the Poverty Reduction Strategy Papers (PRSP), Agriculture Sector Development Support (ASDS), Agriculture Sector Development Program II (ASDP II), Regional Development Support (RDS) and key sectoral policies such as agriculture and national tourism, water resource, land resource as well as forests.

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Adaptation Priorities identified by Tanzania in NAPAs, NAPs, and/or NDCs include:

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Since the ratification of the UNFCCC and the Kyoto Protocol in 1996, respectively, by the United Republic of Tanzania, a number of initiatives have been undertaken by the country to address its vulnerability and adaptive capacity in the face of climate related events in collaboration with national and international development partners. These initiatives include the development of the National Adaptation Programme of Action (NAPA) in 2007, the National Adaptation Strategy and Action Plan in 2009, the National Strategy for Growth and Reduction of Poverty, the National Development Vision 2025, the National Climate Change Strategy (NCCS) and the National Strategy/Framework for Reducing Emissions from Deforestation and Forest degradation (also known as the National REDD Strategy of 2009).

This GEF Sustainable Land Climate Resilience Project (SLCR) Project for Dodoma is aligned with the country's NAPA which lays out a series of activities addressing the adaptive capacity of the country to climate risks, including risks associated with extreme rainfall and flooding. In particular, it alludes to the risks posed by unplanned settlements, especially in low lying flood prone areas, wetlands and hilly areas such as in certain parts of the city of Dodoma and its surroundings. This includes strategies to reduce the country's vulnerability to meteorological hazards in various productive sectors such as the agricultural, energy, health, forestry and water sectors[1]. Furthermore, the activities proposed also align with the NCCS priorities regarding the impact of floods on people, livelihoods and infrastructure, often due to prolonged heavy rainfall which can lead to water erosion and waterborne diseases often affecting the most vulnerable sections of the population including the elderly, pregnant women and children.

The SLCR shall therefore contribute accordingly and as relevant to building on the outcomes obtained from the implementation of a number of past land and city related plans and policies such as the National Land Policy (1995), the National Human Settlements Development Policy (2000), the Land Acts No.4 and 5 (1999) and the Town and Country Planning Act (2004). All in all, the project will contribute to attaining the objectives laid out in Tanzania's NDC by embarking on a development pathway that is climate resilient by reducing climate related disasters from 70% to 50% on productive sectors and ecosystems. In addition, the project will contribute to the goal of increasing access to clean and safe water from 60% to 75% based on conservative estimates as laid out in the NDC.

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[1] Vice President's Office, Division of Environment, National Adaptation Programme of Action (NAPA), January 2007

## **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.**

Lack of information and sharing of knowledge, especially information and knowledge that can easily translate into policy action was flagged as a barrier to sustainable and resilient urban development for Dodoma, and Tanzania more generally. Component 4 of the project is designed to address this barrier. Through the various outputs, the project will strengthen the integration between various stakeholder groups at the national and local levels to inform urban development policies. Opportunities will be explored and pursued to strengthen accessibility to and use of information, and to identify research gaps, and possibly creating an open database or using other tools. This would include available research and information on climate-related issues into which academics, policy researchers and CSOs (local and international) could feed relevant research. Policymakers could use this platform to publish their information needs. This could potentially be led by one of the leading universities in Tanzania in collaboration with the VPO[1]. Tanzania would also benefit from: creating regular, topical, cross-ministerial forums; strengthening formal and informal 'low cost' channels of communication; strengthening flows of information upwards, potentially facilitated by civil society organizations; and creating an open database of available research and experts, mapping responsibilities and expertise.[2]

Component 4 will help the learning process by drawing lessons and making them available for future use. Knowledge and experience of the technologies and approaches applied in the project will help the country better cope with similar urbanization challenges in the future.

The green city objectives of Dodoma will not only benefit from the GPSC but also inform and enrich the platform with on-the-ground results and exchange of experiences with other cities. The project will promote experiences and lessons learnt on approaches to integrated sustainability planning that will influence a much wider array of cities in their respective countries. To ensure that there is exchange of lessons learnt, targeted capacity building, knowledge sharing tools along with global outreach at the program level notably through the GPSC will ensure that results from this project will be of benefit to a much broader audience of cities in Africa and beyond.

The core mandate of Bank is to finance development projects in its Regional Member Countries, including Tanzania. In line with this goal, operations knowledge forms the base and backbone of the Bank Group's knowledge resources. Operations knowledge that will be captured from this Project will be shared and reused, thereby greatly improving the design and implementation of future Bank Group projects. This Project includes planned interventions specifically related to the green urban development agenda in partnership with the GEF – something new for this type of project and which will facilitate knowledge building, management and transfer across the Bank Group. Part of the PPG activities, opportunities for strengthening the gaps in information and knowledge management to support the resilience of DMA's urban development pathway, will be explored with all stakeholders, to further inform the project design.

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[1] Policy brief Climate change governance in Tanzania: challenges and opportunities, Michal Nachman, Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, 2018

[2] Policy brief Climate change governance in Tanzania: challenges and opportunities, Michal Nachman, Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, 2018

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

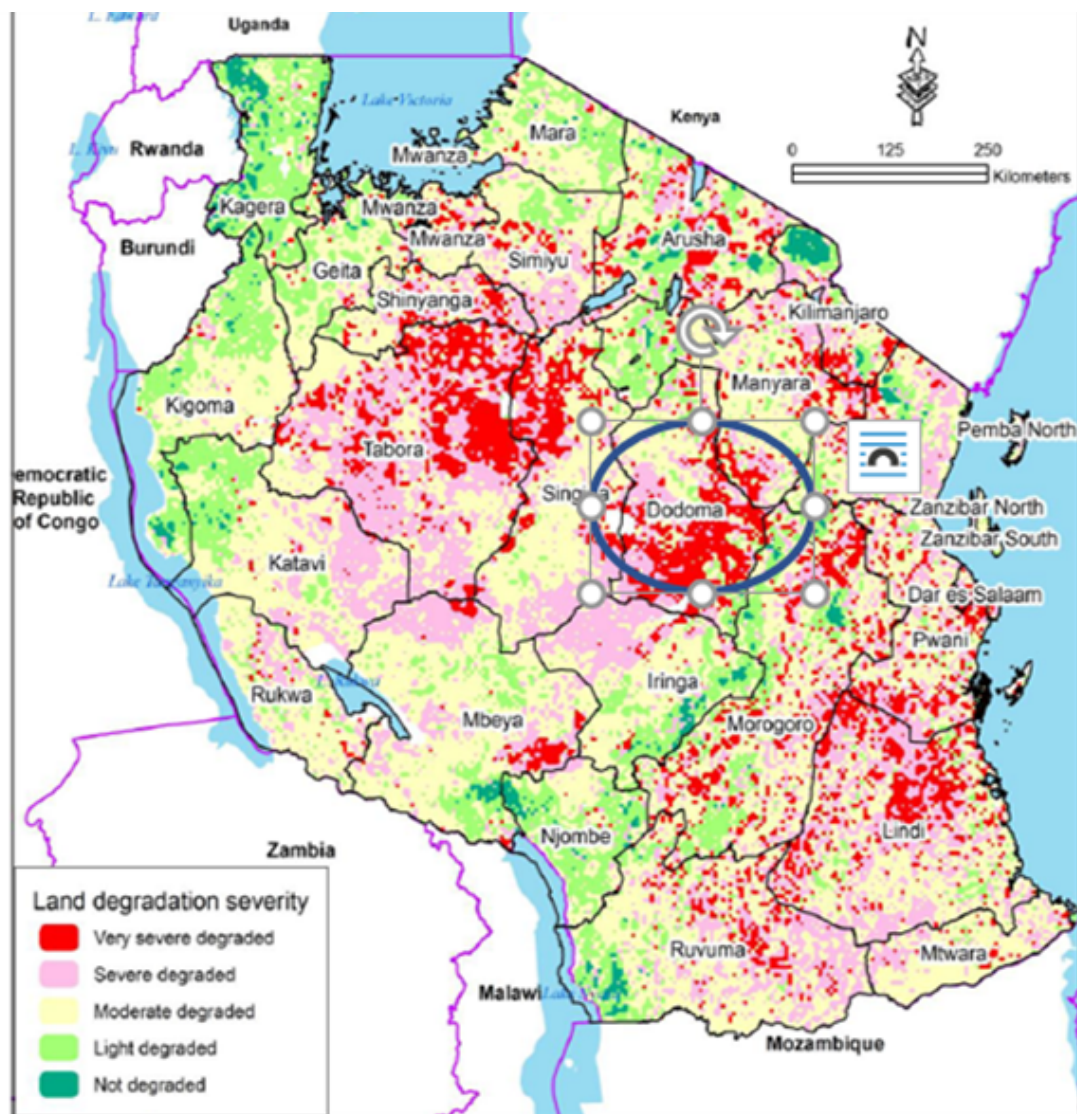
**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).**

<b>Name</b>	<b>Position</b>	<b>Ministry</b>	<b>Date</b>
Faraja Ngerageza	GEF Operational Focal Point	Vice President's Office	10/31/2019
CCA core indicators and metadata Excel sheet			11/5/2019
GEF-7 Core Indicator Worksheet			11/8/2019

**ANNEX A: Project Map and Geographic Coordinates**

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





**Figure 1: Hotspot areas for Tanzania with different levels of land degradation**

Source: Local LUC overlaid with Global Default Data on LP and SOC (URT, 2018)

Geo-referenced coordinates for Dodoma: s: 6°10'20.0"S 35°44'22.1"E