PROMOTING THE IMPLEMENTATION OF THE PARIS AGREEMENT IN EAST AFRICA

-PIPA PROJECT-

WITH A FOCUS ON PRO-POOR LOW EMISSIONS DEVELOPMENT

# TANZANIA NATIONAL BASELINE STUDY

**MAY 2017**

Use of Improved Firewood Stove in Rural Household

Production of Improved Charcoal stoves in Urban

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**Supported by Civil Society in Development, Denmark (CISU)**

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## Abbreviations

| | |
|---|---|
| AfDB | African Development Bank |
| AFOLU | Agriculture, Forestry and Other Land Uses |
| BRT | Bus Rapid Transit |
| CAMARTEC | Centre for Agricultural Mechanization and Rural Technology |
| CCFAT | Clean Cook-stoves and Fuels Alliance of Tanzania |
| CIF | Climate Investment Funds |
| COP | Conference of the Parties |
| COSTECH | Tanzania Commission for Science and Technology |
| CSOs | Civil Society Organizations |
| DART | Dar Rapid Transit |
| DfID | Department for International Development for United Kingdom government |
| DNA | Designated National Authority |
| DoE | Division of Environment |
| EAC | East African Community |
| EEP | Energy & Environment Partnership programme |
| EUEI PDF | European Union Energy Initiative Partnership Dialogue Facility |
| FAO | Food and Agriculture Organization of the United Nations |
| FREL | Forest Reference Emission Level |
| GCCA | Global Climate Change Alliance |
| GCF | Green Climate Fund |
| GDP | Gross Domestic Product |
| GEF | Global Environment Facility |
| GHG(s) | Greenhouse Gas (es) |
| GIZ | Gesellschaft für Internationale Zusammenarbeit (German Federal Enterprise for International Cooperation) |
| ICS | Improved Cook Stove |
| IFAD | International Fund for Agricultural Development |
| IFC | International Finance Corporation |
| IIED | International Institute of Environment and Development |
| INDC | Intended Nationally Determined contribution |
| IUCN | International Union for Conservation of Nature |
| LDCF | Least Developed Countries Fund |
| LEDS | Low Emission Development Strategy |
| LGAs | Local Government Authorities |
| LPG | Liquefied Petroleum Gas |
| LULC | Land Use Land Cover |
| MIE | Multilateral Implementing Entity |
| MNRT | Ministry of Natural Resources and Tourism |
| MoFP | Ministry of Finance and Planning |
| MoWI | Ministry of Water and Irrigation |
| MRV | Monitoring, Reporting and Verification |
| $MtCO_2e$ | Million tons of carbon dioxide equivalents |
| NAFORMA | National Forest Resources Monitoring and Assessment |

| | |
|---|---|
| NAMAs | Nationally Appropriate Mitigation Actions |
| NAPA | National Adaptation Programme of Action |
| NAPs | National Adaptation Plans |
| NCCFP | National Climate Change Focal Point |
| NCCS | National Climate Change Strategy |
| NCCSC | National Climate Change Steering Committee |
| NCCTC | National Climate Change Technical Committee |
| NCMC | National Carbon Monitoring Centre |
| NDC | Nationally Determined Contribution on climate mitigation and adaptation to the Paris Agreement of UNFCCC |
| NEMA | National Environmental Management Act |
| NEMC | National Environment Management Council |
| NEP | National Environmental Policy |
| NGO(s) | Non-Governmental Organization(s) |
| NIE | National Implementing Entity |
| PO-RALG | Presidents' Office-Regional Administration and Local Government |
| PS-VPO | Permanent Secretary, Vice President's Office |
| REA | Rural Energy Agency |
| REDD+ | Reduced Emissions from Deforestation and forest Degradation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks |
| REF | Rural Energy Fund |
| RERE | Renewable Energy for Rural Electrification |
| SIDA | Swedish International Development Agency |
| SREP | Scaling up Renewable Energy Programme |
| SUA | Sokoine university of Agriculture |
| TAP | Technology Action Plan |
| TFS | Tanzania Forest Services |
| TNA | Technology Needs Assessment |
| ToR | Terms of Reference |
| TPSF | Tanzania Private Sector Foundation |
| TRA | Tanzania Revenue Authority |
| UGEAP | Universal Green Energy Access Program |
| UN | United Nations |
| UNCCD | United Nations Convention to Combat Desertification |
| UNCDF | United Nations Capita Development Fund |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| URT | United Republic of Tanzania |
| USD/ US $ | United State Dollar |
| VETA | Vocational Education and Training Authority |
| VPO | Vice President's Office |
| WBG | World Bank Group |
| $CO_2$ | Carbon Dioxide |

## Acknowledgement

TaTEDO would like to thank its fellow partners to the Project: Promoting the Implementation of the Paris Agreement (PIPA) in East Africa namely: Sustainable Energy, INFORSE, SusWatch Kenya, and Uganda Coalition for Sustainable Development (UCSD) for the valuable comments and inputs to the preparation of the baseline report.

We are equally indebted to all the Government institutions, development partners and CSOs that in one way or the other provided information that informed this national baseline study report.

Lastly, we thank the Danish Government through the CISU Fund that provided support that has enable this national baseline study to be done as part of the PIPA project

## Executive Summary

Climate change is a global challenge that does not respect national borders. It is affecting every country on every continent by disrupting livelihoods and national economies. The poorest and most vulnerable people are being affected the most. It is an issue that requires solutions that need to be coordinated at the international level.

As a global initiative to address climate change, countries adopted the Paris Agreement at the COP21 in Paris on 12 December 2015. In the agreement, all countries agreed to work to limit global temperature rise to well below 2 degrees Celsius. The Paris Agreement requires all parties to communicate their ambitious efforts through Nationally Determined Contributions (NDCs) and to develop longer-term strategies, the so-called "**Low Emission Development Strategies" (LEDSs)**. Implementation of the Paris Agreement is essential for the achievement of the Sustainable Development Goals, and provides a roadmap for climate actions that will reduce emissions and build climate resilience.

It is against this background the project "**Promoting Implementation of the Paris Agreement (PIPA) in East Africa with a focus on pro-poor low emission development"** was developed. The PIPA project is implemented in three East African countries including Tanzania, Kenya and Uganda. The development objective of the project is to contribute to strengthen the pro-poor focus and climate change ambitions in the implementation of the Paris Agreement in East Africa. The intervention objective is that LEDSs and NDCs in Kenya, Uganda and Tanzania are incorporating civil society viewpoints and recommendations. To ensure CSOs at national level participate actively to influence the NDC and LEDS, one of the initial project activities is to undertake the national baseline study.

The overall objective of the study is to document on implementation status of Paris Agreement at national level and mapping of CSOs to inform on implementation of PIPA project and to establish benchmarks against which achievement will be measured. The methodology of the study included a combination of literature review and stakeholder consultations.

### Findings of the Study

Tanzania is a signatory to the United Nations Framework Convention on Climate Change. There a number of policies, strategies, plans, and guidelines in place that provides specific directives for national and local level climate change mitigation and adaptation activities. Some of these include the National Environmental Policy (NEP) of 1997 which is under review, the National Climate Change Strategy (2012), the National Adaptation Programme of Action (2007), the National REDD+ Strategy and Action Plan (2013). The Tanzania Vision 2025 aims at achieving a high quality livelihood for its people attain good governance through the rule of law and develop a strong and competitive economy.

Tanzania submitted the INDC to UNFCCC secretariat on September 2015. The ratification processes of the Paris Agreement are in progress. As part of this ratification, the INDC will be transferred to the first NDC for Tanzania. Tanzania intends to reduce greenhouse gas emissions economy wide between 10-20% by 2030 relative to the BAU scenario of 138 – 153 $MtCO_2e$ - gross emissions, depending on the baseline efficiency improvements, consistent with its sustainable development agenda. The adaptation contributions will reduce climate related

disasters from 70% to 50% and increase access to clean and safe water from 60% to 75%. The NDC identify the energy, transport, forestry and waste management sectors being among the top contributors towards economic development in Tanzania and priority sectors for mitigation actions. Whereas the Agriculture, Livestock, Coastal and Marine Environment, Fisheries, Water resources, Forestry, Health, Tourism, Human Settlement and Energy are identified as adaptation priority sectors.

Agriculture, Forestry and Other Land Use (AFOLU) accounts for 93.2% of the total emissions in the country. For Tanzania to be effective to address emissions should considered agriculture, forestry and other land uses. The NDC seems to omit the agriculture in priority mitigation sectors. Further the study noted that the national data on greenhouse gas emissions are outdated.

Plans to review the NDC are underway, according to the VPO review process is planned to include all key stakeholders including CSOs. The draft national LEDS has been prepared, stakeholders' workshop will follow to validate the document.

The study also revealed that Tanzania receives funds from a number of global environmental and climate change-related funds. These include the Green Climate Funds, Special Climate Change Fund, the Climate Investment Funds, the Least Developed Countries Fund, the Adaptation Fund, and the Global Environmental Facility. Tanzania is also supported from a diverse number of multilateral and bilateral funding sources, such as the European Union's, Global Climate Change Alliance(GCCA), Norway's International Climate and Forest Initiative, Germany's International Climate Initiative, the UK's International Climate Fund, World bank, Sida, and Japan's Fast Start Finance.

Permanent Secretary, Vice President's Office (PS-VPO) is a National Designated Authority (NDA) for Tanzania. The VPO has nominated PO-RALG as National Implementing Entity (NIE) to undergo accreditation process for the GCF. The Tanzania CRDB bank, the EQUITY Bank and the Ministry of Finance have also shown interest to become NIE for GCF. The existing GCF - Multilateral Implementing Entity (MIE) in Tanzania include KfW- Deutsche Bank, UNDP, UNEP, FAO, IUCN, GIZ and IFAD. Two projects to be implemented in Tanzania have been approved by the GCF board and are about to start. The projects include Simiyu Climate Resilient Development Programme and Universal Green Energy Access Programme - Tanzania side.

Further, the study find that main stakeholders involved in development and implementation of NDCs and LEDSs include; 1) the DoE is both the National Climate Change Focal Point (NCCFP) and the Designated National Authority (DNA); 2)National Climate Change Steering Committee (NCCSC) a lead coordination committee; 3)A National Climate Change Technical Committee (NCCTC) which provide technical advice to the NCCFP; 4)National Environmental Management Council (NEMC) undertakes environmental enforcement and compliance controls; 5)the Prime-Minister's Office-Regional Administration and Local Government (PO-RALG) work in collaboration with sector ministries to implement strategic interventions involving Local

Government Authorities (LGAs); 6) Civil Society Organizations (CSOs) and private sectors cooperate with the Government in implementing climate change strategies through various projects and/or programmes; and 7) Development partners support the government by providing technical, financial, capacity building support and facilitate technology development and transfer to various stakeholders in implementing climate change strategies.

Currently twenty CSOs (fourteen organizations and six networks) are participating in the implementation of the PIPA project in Tanzania. The study revealed existence of different capacities within CSOs in terms of knowledge and experience in the area of climate change. The NDC, LEDS, GCF seem to be new topics to the majority of the CSOs, but of high interest to them. The study also found that there is ineffective involvement of CSOs in the national climate policy development. Poor coordination, limited knowledge on climate change and advocacy approaches, financial constraints, and unclear focus are among the main barriers to effective involvement of CSOs in the development of the national climate policy. Capacity building in terms of knowledge enhancement, advocacy techniques including use of research for evidence based advocacy, knowledge sharing and exchange could be one way to ensure meaningful participation of the CSOs in the PIPA project. Furthermore, the need to address coordination among CSOs is of key importance to sustain the effort. PIPA project should continue strengthening the coalition however, there is a need to chart out and agree on how to address the issue of coordination even after the PIPA project period.

# 1.0 Introduction

## 1.1 Background information

Climate change is a global challenge affecting every country on every continent. The effects of climate change are harming poor and vulnerable people the most[1]. East African (EA) countries, Tanzania included, continue to suffer from the adverse impacts of climate change and related hazards. Climate change poses serious risks to development, poverty reduction efforts and to the economy and social welfare of Tanzanians.

The 2015 Paris Agreement, adopted on 12 December 2015, marks the latest step in the evolution of the UN climate change regime and builds on the work undertaken under the Convention. The Paris Agreement seeks to accelerate and intensify the actions and investment needed for a sustainable low carbon future. Its central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. The Paris Agreement charts a new course in the global effort to combat climate change. The Paris Agreement requires all parties to communicate their ambitious efforts through **Nationally Determined Contributions (NDCs)** and to strengthen these efforts in the years ahead. All Parties report regularly on their emissions and on their NDC implementation efforts to UNFCCC. Furthermore, parties shall also develop longer-term strategies, the so-called "**Low Emission Development Strategies" (LEDSs)**. The NDCs and LEDSs are the cornerstones of international climate policies as they include the targets and measures that each party commits to reduce GHG emissions with the Paris Agreement.

A good NDC should be ambitious, leading to a transformation in carbon-intensive sectors and industry; transparent, so that stakeholders can track progress and ensure countries meet their stated goals; and equitable, so that each country does its fair share to address climate change. It is important that NDCs be clearly communicated so domestic and international stakeholders can anticipate how these actions will contribute to global emissions reductions and climate resilience in the future. It should also consider small scale adaptation and mitigation solutions which are effective and efficient to help lift the most vulnerable out of poverty.

These solutions need to be better understood among decision-makers, integrated in NDCs and LEDSs, and implemented. It is therefore crucial to ensure that these solutions are advocated at national, regional and international levels, in order to influence the NDCs and LEDSs as well as the international support framework that will allow East African countries to implement more ambitious, pro-poor NDCs and longer term LEDSs. It is against this background the project **"Promoting Implementation of the Paris Agreement (PIPA) in East Africa with a**

[1] United Nation (http://www.un.org/sustainabledevelopment/climatechange/ )

**focus on pro-poor low emission development"** was developed. The PIPA project is implemented in three East African countries including Tanzania, Kenya and Uganda. The d**evelopment objective** of the project is to contribute to strengthen the pro-poor focus and climate change ambitions in the implementation of the Paris Agreement in East Africa. The **intervention objective** is that LEDSs and NDCs in Kenya, Uganda and Tanzania are incorporating civil society viewpoints and recommendations. Implementation of the PIPA project commenced on January 2017 and will end up on June 2018. To ensure CSOs at national level participate actively influencing the NDC and LEDS, one of the initial project activities is preparation of the national baseline.

## 1.2 Objective of the Baseline Study

The overall objective of the study is to document on the implementation status of Paris Agreement at the national level and mapping of CSOs to inform on the implementation of PIPA project and to establish a bench marks against which achievement will be measured. Specifically, the objectives of the study are:

a) To assess the current situation of the NDCs, LEDSs, and Climate Finance programme areas, including how they are included in national legal and policy instruments
b) To assess the CSO capacity and involvement in implementation of the NDCs, LEDS, and Climate Finance
c) To map out similar/relevant initiatives of different stakeholders, their actions and mechanisms of coordination between key partners.

This study will be a basis for designing effective intervention including development of solid advocacy strategies. In addition, the baseline will be used in the monitoring progress where the national processes will be compared to the baseline.

## 1.3 Study Approach and Methodology

The methodology of the study included a combination of literature review and stakeholder consultations:

a) A desk-study using available written national information (reports, policy, strategies, plans, papers, decision from parliament and government, NGO positions and others) were reviewed. Sources are listed in the reference section of this report

b) Consultations with government officials, development partners, national and international agencies, civil society, and other stakeholders.

Information from literature was cross validated with information collected from officials, civil society, and other stakeholders.

## 1.4 Structure of the report

Section one of this report provides a background information on climate change in relation to development, the global initiative on addressing GHGs emissions and the PIPA project. It also outlines the objectives and methodology of the study. Section two provides summary of the current NDC focusing on mitigation and adaptation targets, measures and brief on implementation status. Section three and four covers the status of the adjustment process of

the NDCs and the development of LEDSs. Section five gives the experiences with international financing mainly the Green Climate Fund (GCF) and Global Environmental Facility (GEF). Section six documents the implementation status of climate technology development and transfer in Tanzania. Section seven document stakeholders involved in NDC and LEDS, institutional framework, their strength and weaknesses. Whereas section eight, informs on CSOs participating in the PIPA project and barriers to their involvement in national climate policy development. It also concludes and recommend on CSOs cooperation in PIPA project implementation.

## 2.0 Summary of the current Tanzania NDC

Although Tanzania has negligible emissions of greenhouse gases (total and per capita), whereby per capita emissions are estimated at 0.2 $tCO_2e$, is experiencing adverse impacts of climate change (URT, 2015[2]a). Current climate variability and change resulting in extreme weather events already lead to major economic costs in Tanzania. Every annual event has economic costs in excess of 1% of GDP, and occurs frequently, reducing long-term growth and affecting millions of people and their livelihoods. The net economic costs of addressing climate change impacts could be equivalent to a further 1 to 2% of GDP per year by 2030. Climate change impacts are affecting coastal zones, public health, energy supply and demand, infrastructure, water resources, agricultural production and availability of ecosystem goods and services. Potentially, there will be high economic costs across these sectors. Current climate vulnerability and future climate change adverse impacts are significant to curtail Tanzania from achieving key economic growth, development and poverty reduction targets for reaching middle income developing country status.

### 2.1 Main targets for greenhouse gas emissions and other mitigation-related targets

*Tanzania intends to reduce greenhouse gas emissions economy wide between **10-20% by 2030** relative to the BAU scenario of 138 - 153 Million tons of carbon dioxide equivalent (MtCO2e) - gross emissions, depending on the baseline efficiency improvements, consistent with its sustainable development agenda (URT, 2015a). The emissions reduction is subject to review after the first Biennial Update Report (BUR).*

The NDC identify the energy, transport, forestry and waste management sectors as the top contributors towards economic development in Tanzania and the priority sectors for mitigation actions. The intended emission reduction contributions from these sectors are expected to enable the country to achieve low emission growth pathway while achieving the desired sustainable development.

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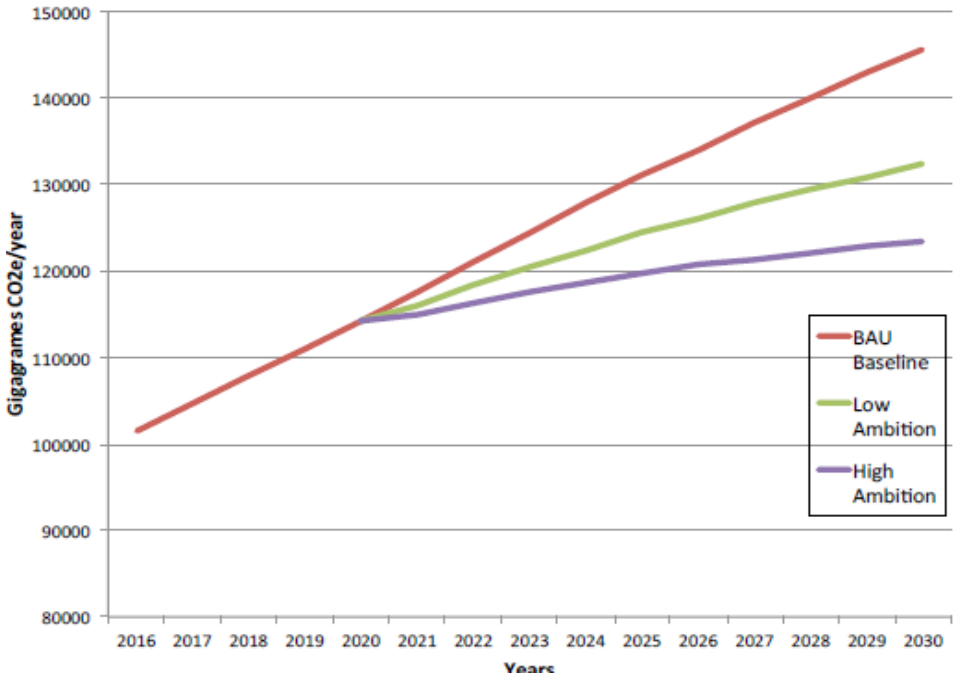
2 http://www4.unfccc.int/submissions/INDC/Published%20Documents/United%20Republic%20of%20Tanzania%E2%80%8B/1/INDCs_The%20United%20Republic%20of%20Tanzania.pdf

## 2.2 Baseline for targets

**Figure 1: Projected emission reduction from BAU with low and high ambition by 2030**




Source: URT, 2015a

## 2.3 Main policies and measures proposed to realize mitigation targets

The Table 1 below shows the mitigation actions proposed in the priority sectors.

**Table 1: Proposed Mitigation Actions in priority sectors**

| No | Sector | Intended Contributions |
|---|---|---|
| 1 | Energy | a) Exploring and investing in the energy diversification system to ensure overall energy security for economic development through enhanced availability, affordability and reliability while contributing towards energy emissions intensity reduction over time.<br>b) Promotion of clean technologies for power generation; and diverse renewable sources such as geothermal, wind, solar and renewable biomass.<br>c) Expanding the use of natural gas for power production, cooking, transport and thermal services through improvement of natural gas supply systems throughout the country.<br>d) Promoting energy efficient technologies for supply, transmission/transportation and demand side as well as behavioral change in energy use.<br>e) Promoting rural electrification. |
| 2 | Transport | Promoting low emission transport systems through deployment of Mass Rapid Transport Systems and investments in air, rail, marine and road infrastructures. |
| 3 | Waste management | a) Application of modern and practical way of managing waste including the enhanced use of engineered/sanitary landfills.<br>b) Promotion of waste to energy programmes. |

| | | |
|---|---|---|
| | | c) Promoting co-generation activities. |
| 4 | Forestry sector | a) Enhancing and up-scaling implementation of participatory forest management programmes.<br>b) Facilitating effective and coordinated implementation of actions<br>that will enhance contribution of the entire forest sector including<br>Forest policies, National Forest Programmes and REDD+ related activities.<br>c) Strengthening national wide tree planting programmes and initiatives.<br>d) Strengthening protection and conservation of natural forests to maintain ecological integrity and continued benefiting from service provisions of the sector.<br>e) Enhancement and conservation of forest carbon stocks. |

Source: URT 2015a, INDC

## 2.4 Gaps between targets and mitigation potential of the proposed actions

According to the URT 2015[3]b Second National Communication report, Agriculture, Forestry and Other Land Uses (AFOLU) accounted for 93.2% of the total emissions followed by the Energy sector at 3.8%, waste management (1.5%) and industrial processes and product use (0.5%). So the key emitting sectors are forestry, due to deforestation and degradation, and agriculture, primarily from livestock and soils. The Tanzania's intended mitigation contribution is focused in the sectors of energy, transport, forestry and waste management. This means some of the key sources of emission are left out e.g. Agriculture. Given that agriculture sector is among the key sources of emission, for Tanzania to be effective to address emissions should considered agriculture sector in the NDC as priority mitigation sector.

Furthermore, in the energy and forestry sector, the proposed mitigation actions seem to be inadequate to address emissions associated with energy for cooking. The key emitting sectors in Tanzania is forestry due to deforestation, forest degradation and agriculture. The NDC propose to expand the use of natural gas to address energy needs for cooking all over the country by improving natural gas supply systems. From an economic perspective this seems not to be feasible either in short, medium or long term strategy. Even if the plan to develop a supply system will succeed, then a substantial amount of subsidies will be required to enable communities' access and use the natural gas for domestic purpose. For instance, Dar es Salaam city where different energy sources are available including liquefied petroleum gas (LPG) and electricity is where more than half of the charcoal produced in the country is consumed. Biomass (charcoal and firewood) has consistently figured around 90% of national energy demand for over 30 years and trend has indicated increase in users. So there is a lot needed to be done to address emissions associated with energy for cooking.

## 2.5 Main adaptation targets, policies and measures

Climate change projections in Tanzania indicate a consistent change in key climate variables, including warming from $0.5^0$C in 2025 up to around $4^0$C in 2100, with more warming over the South Western part of the country. Mean seasonal rainfall is projected to decrease consistently and progressively for the most parts of the country, but more significantly over the North-eastern highlands, where rainfall is projected to decrease by up to 12% in 2100. In this context, the frequency and severity of extreme climate change related events will increase. In the last 40 years Tanzania has experienced severe and recurring droughts with devastating effects to

[3] https://unfccc.int/files/national_reports/non-annex_i_natcom/submitted_natcom/application/pdf/tzanc2.pdf

agriculture, water and energy sectors. Currently more than 70% of all natural disasters in Tanzania are climate change related and are linked to recurrent droughts and floods (URT, 2015a).

*Tanzania will embark on a climate resilient development pathway. In doing so the adaptation contributions will reduce climate related disasters from 70% to 50%. Access to clean and safe water will be increased from 60% to 75% (URT, 2015a).*

The NDC identify the Agriculture, Livestock, Coastal and Marine Environment, Fisheries, Water resources, Forestry, Health, Tourism, Human Settlement and Energy as adaptation priority sectors. Table 2, shows the priority adaptation sectors and the proposed adaptation measures.

**Table 2: Proposed adaptation measures in priority sectors**

| No | Sector | Intended Contributions |
|---|---|---|
| 1 | Agriculture | a) Up-scaling the level of improvement of agricultural land and water management.<br>b) Increasing yields through *inter alia* climate smart agriculture.<br>c) Protecting smallholder farmers against climate related shocks, including through crop insurance.<br>d) Strengthening the capacity of Agricultural research institutions to conduct basic and applied research.<br>e) Strengthening knowledge, extension services and agricultural infrastructures to target climate actions. |
| 2 | Livestock | a) Promoting climate change resilient traditional and modern knowledge on sustainable pasture and range management systems.<br>b) Enhancing development of livestock infrastructures and services.<br>c) Promoting livelihood diversification of livestock keepers.<br>d) Promoting development of livestock insurance strategies. |
| 3 | Forestry | a) Enhancing efficiency in wood fuel utilization,<br>b) Enhancing participatory fire management.<br>c) Enhancing forest governance and protection of forest resources.<br>d) Enhancing Sustainable forest management. |
| 4 | Energy | a) Exploring and investing in energy diversification system.<br>b) Promoting use of energy efficient technologies and behavior.<br>c) Enhancing integrated basin catchment and upstream land management for hydro sources.<br>d) Enhancing the use of renewable energy potential across the country (hydro, solar, wind, biomass and geothermal). |
| 5 | Coastal, Marine Environment and Fisheries | a) Strengthening management of coastal resources and beach erosion/sea level rise control systems.<br>b) Promoting livelihood diversification for coastal communities.<br>c) Improving monitoring and early warning systems of both sea level rise impacts and extreme weather events for building adaptive capacity.<br>d) Enhancing programme for management of saltwater inundation and intrusion.<br>e) Mangrove & shoreline restoration programme.<br>f) Enhancing conservation & fishery resource management.<br>g) Strengthening key fisheries management services for sound development and management of the fishery sector for resilience creation. |
| 6 | Water | a) Promoting integrated water resources development and management practices. |

| | | |
|---|---|---|
| | resources | b) Investment in protection and conservation of water catchments including flood control and rainwater harvesting structures.<br>c) Promoting waste water reuse and recycling technologies;<br>d) Development and exploitation of groundwater resources. |
| 7 | Tourism | a) Promoting sustainable tourism to consolidate growth and ensure climate resilient tourism.<br>b) Promoting diversified tourist attractions (e.g., eco-tourism and cultural tourism). |
| 8 | Human settlements | a) Promoting sustainable land management systems and climate sensitive human settlement developments.<br>b) Facilitating provision of, and access to adequate, affordable and climate sensitive shelter to all income groups.<br>c) Enhancing awareness on the impacts of climate change in the context of human settlements.<br>d) Construction and rehabilitation of drainage systems in respond to frequent and high intensity floods. |
| 9 | Health | a) Promoting sustainable and climate sensitive health and sanitation infrastructure.<br>b) Conducting vulnerability assessment for a comprehensive action plan in health sector.<br>c) Integrating climate change adaptation action into health sector policies plans and programmes. |

Source: URT 2015a

## 2.6 Implementation of NDC by Sector

There are number of on-going initiatives at policy and implementation levels in different sectors in the country which could be considered to contribute to the implementation of the Tanzania INDC of which include:-

**a) Forestry Sector**

**The National REDD+ Strategy and Action Plan (2013)**[4]: The National REDD+ Strategy presents a comprehensive strategy for climate change mitigation in the forest sector and proposes the establishment of robust baseline scenarios and MRV systems, along with governance and coordination systems embedded in the existing climate change structure, and suggests capacity building and social awareness in relation to forests (URT, 2013a). Tanzania has attempted to address some of the drivers of deforestation, mainly due to agricultural expansion, overgrazing and charcoal production, and forest degradation, through the adoption of legal frameworks, including the promotion of Participatory Forest Management approaches. However, with only 12.8% (4.1 million ha) of Tanzania's forests under participatory management, the National REDD+ Strategy recognizes the need for innovative financing mechanisms such as REDD+ payments to support and accelerate processes to reverse degradation and deforestation. It also proposes the establishment of a national REDD+ fund (URT, 2013a; p. 43).

The **National Forest Resources Monitoring and Assessment (NAFORMA)** of Tanzania mainland was conducted over a five-year period (2009-2014) by the Tanzania Forest Services (TFS) Agency under the Ministry of Natural Resources and Tourism (MNRT) with technical support from the Food and Agriculture Organization (FAO) of the United Nations and co-funding from the Finnish and Tanzania Governments. This is the first forest inventory carried

[4] http://theredddesk.org/countries/plans/national-strategy-reduced-emissions-deforestation-and-forest-degradation-redd

out across the whole of Tanzania mainland. NAFORMA had seven immediate objectives including to produce national maps of forests and land uses and to develop tools and methods for measuring, reporting and verification (MRV) of Carbon sequestration.

NAFORMA field inventory determined the area of forest and woodlands of Tanzania mainland to be 48.1 million ha. The total annual supply (growth) of wood at national level is estimated at 83.7 million m3. The consumption exceeds the sustainable supply, causing an annual wood deficit of 19.5 million m3 (URT, 2015c). Comparison of the 2010 NAFORMA Land Use Land Cover (LULC) map with the 1995 LCLU map produces an estimate for forest cover loss of 372,816 ha per year. This means the forest area has decreased from three ha/capita in the early 1980s to 1.1 ha/capita using the 2012 population census data. In addition, the remaining forests are more degraded than they were in the early 1980s[5].

**National Carbon Monitoring Centre (NCMC):** The NCMC is based in Sokoine university of Agriculture (SUA) Morogoro, is the institution that will manage an effective national system of measuring, reporting and verification of carbon in forest ecosystems for the United Nations Framework Convention on Climate Change (UNFCCC) and the international community on behalf of the nation. While initial focus will be on Carbon emission reductions in the forestry Sector. The objective of the Centre is "to build national capacity to measure, verify and report adequately on carbon emissions at national and international level". Tanzania submitted its Forest Reference Emission Level (FREL) on 27th December 2016 to the UNFCCC for technical assessment[6] This was possible through the technical support provided by the National Carbon Monitoring Centre (NCMC).

**b) Agriculture sector**

The **Agriculture Climate Resilience Plan** (URT, 2014a)[7] has been developed to implement strategic adaptation and mitigation actions in the crops sub-sector. It presents a wide range of adaptation options including, but not limited to: improving agricultural land and water management, accelerating uptake of CSA, reducing impacts of climate-related shocks through risk management, and strengthening knowledge and systems to targeted climate action.

The **Climate Smart Agriculture Program for Tanzania** (URT, 2015d)[8] has the Vision to have an "Agricultural sector that sustainably increases productivity, enhances climate resilience and food security for the national economic development". The Climate Smart Agriculture Program aims to build resilience of agricultural farming systems for enhanced food and nutrition security.

The **Climate Smart Agriculture Guideline** (URT, 2016a) has been developed to support the implementation of Tanzania CSA program 2015 – 2025.

[5] NARFOMA Report 2015, http://www.tfs.go.tz/uploads/NAFORMA_REPORT.pdf, Retrieved 27th March 2017
[6] (http://redd.unfccc.int/submissions.html?country=tza).
[7] http://extwprlegs1.fao.org/docs/pdf/tan152483.pdf
[8] http://canafrica.com/wp-content/uploads/2015/08/TANZANIA-CSA-PROGRAM-Final-version-3-August-2015.pdf

### c) Energy Sector

**Feed in Tariffs:** Currently in recognition of the role of the private sector and the opportunities to increase and diversify the energy supply, Tanzania has developed a comprehensive set of policies, supporting acts, and regulations to encourage private actors to develop small-scale, distributed renewable energy resources. The small power producer (SPP) Framework addresses some of the barriers that previously discouraged commercial or quasi-commercial mini-grid development. The aim is to create an enabling environment for project developers. The SPP Framework incorporates feed-in-tariffs (FiTs), or standardized power purchase tariffs (SPPTs) in the Tanzanian context, for renewable SPPs (URT, 2014b). FiTs are tariff-support mechanisms often used to encourage renewable energy development by providing long-term price agreements that can provide a return on investment for developers who sell electricity to a central utility.

**Biomass Energy Strategy (BEST):** At the request of the Ministry of Energy and Minerals (MEM), the European Union Energy Initiative Partnership Dialogue Facility (EUEI PDF) has supported the development of a BEST in Tanzania (URT, 2014c)[9]. The national Biomass Energy Strategy identified means of ensuring a more sustainable supply of biomass energy; raising the efficiency with which biomass energy is produced and utilized; promoting access to alternative energy sources where appropriate and affordable; and ensuring an enabling institutional environment for implementation.

### Rural Energy Master Plan (REMP)

The Rural Energy Agency (REA) has hired a consultant to facilitate preparation of REMP which will cover a period of 2018 to 2030. An overarching REMP objective is to provide the Rural Energy Agency with an up-to-date tool for planning and implementation of rural energy provision meeting target set in the National Energy Policy, National Strategy for Growth and Poverty Alleviation (MKUTUTA) and Sustainable Energy for all (SE4ALL) goals[10]. The plan is also aimed at exploitation and utilization of renewable energy sources for improved energy supplies in the country.

### d) Transport Sector

**Dar Rapid Transit (DART)** is a Bus Rapid Transit (BRT) system that began operations on 10 May 2016 in Dar es Salaam, Tanzania. The BRT system is implemented in phases; first phase construction began in April 2012 and completed in December 2015 with financing from the World Bank (URT, 2017a)[11]. The first phase of the project has a total length of 20.9 kilometers. The entire system is operated by Usafiri Dar es Salaam Rapid Transit (UDA-RT) under the surveillance of the Surface and Marine Transport regulatory authority (Sumatra)[12]. Currently provides express and local service for 18 hours daily from 05:00am to 11:00pm. Phase 2 will

[9] BEST 2014 available at http://www.euei-pdf.org/en/seads/policy-regulation-and-strategy/biomass-energy-strategy-best-tanzania, accessed on 18th March 2017

[10] Personal communication with Emmanuel Yessaya of REA

[11] President Magufuli Inaugurates DART System, http://dart.go.tz/en/wp-content/uploads/2017/02/President-Magufuli-inaugurates-DART-system.pdf, retrieved 27 March 2017

[12] Personal communication with Daniel Werema, Planning Officer, Ministry of Infrastructure, transportation and Communication on 24th March 2017 at Forum CC organized workshop

cover 19.3 km while Phase 3 covers a total length of 23.6 km (URT, 2016b). DART Vision is to have a modern public transport system at reasonable cost to users using high capacity buses that are environmentally friendly[13], operating on exclusive lanes and run on schedule. DART Mission is to provide quality, accessible and affordable mass transport system for the residents of Dar which will subsequently: enable poverty reduction; improve standard of living; lead to sustainable economic growth; and act as a pioneer of private and public investment partnership in public transport. The main objective of the BRT project is to ensure orderly flow of traffic on urban streets and roads by increasing the level of mobility, promoting use of non-motorized transport, and to meet the ever increasing travel demand of the city residents with ultimate aim of increasing comfort and quality of life and urban development. Apart from improving public urban transport in Dar es salaam City, BRT system intends to generate more jobs to residents by involving people to invest in the BRT system bus operation, fund management and fare collection companies[14].

### e) Water Sector

The Ministry of Water and Irrigation (MoWI) is currently implementing the Water Sector Development Programme that aims to improve access to safe water and sanitation facilities in rural and urban areas in Tanzania. Under this programme, MoWI is planning to construct a water supply scheme in Simiyu region from Lake Victoria to the districts of Busega, Maswa, Bariadi, Meatu and Itilima. The project is entitled Climate Resilient Water Supply Project in Busega, Bariadi and Itilima Districts, Simiyu Region; the project is also referred to as the Simiyu Water Supply Project. The project is designed to alleviate the adverse impacts of climate change, which is predicted to worsen the water supply situation in the semi-arid areas of Tanzania (URT, 2017b). Extracting water from Lake Victoria offers the most reliable and robust approach to improving the water supply coverage in Simiyu region.

## 2.6 Main National Strategies and Policies that are basis for the NDC

Tanzania is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) and participates in the annual Conference of the Parties (COPs). Climate change as a policy issue is institutionally situated under the Division of Environment in the Vice President's Office (DoE-VPO), which is the national focal point for climate change under the United Nations Framework Convention on Climate Change (UNFCCC) and the Designated National Authority for climate change in Tanzania. The policy that oversees issues related to environment, including climate change mitigation and adaptation, is the National Environmental Policy (NEP) of 1997[15], which is implemented in conjunction with the National Environmental Management Act (NEMA) of 2004[16]. The NEP of 1997 is currently under revision. There a number of strategies, plans, and guidelines in place that provides specific directives for national and local level climate change mitigation and adaptation activities. These include **the National**

[13] http://tanzania.go.tz/home/pages/2488

[14] http://documents.worldbank.org/curated/en/986731477379535628/pdf/SFG2585-EA-P150937-PUBLIC-Disclosed-10-24-2016.pdf, Retrieved 27th March 2017

[15] http://www.nemc.or.tz/uploads/publications/en1462437949-NEP%201997%20.pdf

[16] http://parliament.go.tz/polis/uploads/bills/acts/1454069944-ActNo-20-2004.pdf

**Climate Change Strategy (2012)**[17] comprehensively elaborate adaptation and mitigation actions. The strategy aim to, among others, enhance adaptive capacity to climate change thereby ensuring long term resilience; resilience of ecosystems to climate change; and enhanced participation in climate change mitigation activities to contribute to international efforts while ensuring sustainable development. The National Climate Change Strategy represents a significant milestone, but it needs to be strengthened to include the identification of priority programmes, their budgeted costs, and the expected sources of funding if implementation is to be secured (Yanda, *et al.,* 2013). Others include National Climate Change Communication Strategy (NCCCS) of 2012[18], the National Communications (2003[19] and 2015[20]); the National Adaptation Programme of Action (2007)[21]; Natural Gas Policy (2013)[22]; the Zanzibar Environmental Policy (2014)[23]; the National Forestry Policy (1998); the National Environmental Action Plan (2012 – 2017)[24]; and the National REDD+ Strategy and Action Plan (2013a).

Additionally, in line with the NCCS, the government of Tanzania has developed several specific documents to support policy makers and government ministries, departments, and agencies to mainstream climate change within sectorial activities and national planning. These documents include the Guidelines for Integrating Climate Change Adaptation into National Sectorial Policies, Plans, and Programmes (2012)[25] and the Process and Roadmap for Formulating National Adaptation Plans in Tanzania (2013)[26]. Notably, there are current and ongoing activities aimed at conducting analysis and review of policy documents with relation to climate change in Tanzania

Tanzania's long-term development goal is set out in the **National Vision 2025**[27], which was launched in 1999. The Tanzania Vision 2025 aims at achieving a high quality livelihood for its people attain good governance through the rule of law and develop a strong and competitive economy. Specifically, the Tanzania Development Vision 2025 outlined the country's social, economic and political aspirations for the first quarter of the 21st century with an underlying drive to reaching the middle-income country status, with a per capita income of USD 3,000 (in nominal terms) by 2025[28]. According to Tanzania Human Development report of 2015[29], Over the past decade, Tanzania has experienced an impressive average annual GDP growth

[17] URT. (2012) http://www.taccire.suanet.ac.tz/xmlui/bitstream/handle/123456789/141/CLIMATE_CHANGE_STRATEGY.pdf?sequence=1
[18] https://www.undp-aap.org/sites/undp-aap.org/files/National_CC_Communication_Strategy_2012_2017.pdf
[19] http://unfccc.int/resource/docs/natc/tannc1.pdf
[20] https://unfccc.int/files/national_reports/non-annex_i_natcom/submitted_natcom/application/pdf/tzanc2.pdf
[21] http://unfccc.int/resource/docs/napa/tza01.pdf Retrieved on 29th March 2017
[22] https://mem.go.tz/wp-content/uploads/2014/02/THE_NATIONAL_NATURAL_GAS_POLICY_OF_TANZANIA_-_20131.pdf
[23] http://www.zalis.or.tz/smole/doc/ENVIRONMENTAL-POLICY-2013.pdf retrieved on 15th March 2017
[24] https://www.undp-aap.org/sites/undp-aap.org/files/National_Environmental_Action_Plan_2012_2017.pdf
[25] https://www.undp-aap.org/sites/undp-aap.org/files/Guidelines_Integrating_CCA_National_Sectoral_Policies_Plans_Programmes_sept%202012.pdf
[26] https://unfccc.int/files/documentation/submissions_from_parties/application/pdf/tanzania_naps_rev.pdf
[27] http://www.mof.go.tz/mofdocs/overarch/vision2025.htm
[28] http://tanzania.go.tz/home/pages/364
[29] http://hdr.undp.org/sites/default/files/thdr2014-main.pdf

rate of 7 percent, 2-3 percent points below the envisaged rate of growth of 8-10 percent per annum. Contrary to the widespread expectations of many, the high growth rate did not result in commensurate poverty reduction (ESRF, 2015). With exception of some notable progress in areas such as child survival (reduction of child mortality rates) and school enrolment, improvements in the overall status of human development in Tanzania are only marginal (UNDP, 2015 p. xi). ODI's Supporting Economic Transformation (SET)[30] report of 2016 produced under support of DfID summarizes constraints that require urgent and robust solutions as prerequisites for rapid industrialization include the following:

- Low levels of availability and reliability of low-cost energy and transport infrastructure;
- Lack of innovation and access to information;
- Lack of skills;
- Lack of policy coherence and predictability, which is a serious impediment to capital formation and industrialization;
- Many uncoordinated policies, legislations and taxes, hindering competitiveness;
- Limited and extremely expensive land for industrial projects;
- Low levels of productivity and fragmentation in agriculture.

## 3.0 Current plans for revision of NDC

Tanzania submitted the INDC to UNFCCC secretariat on September 2015. The ratification processes[31] of the Paris Agreement are in progress. As part of this ratification, the INDC will be transferred to the first NDC for Tanzania.

Tanzania is on the planning stage of reviewing the submitted INDC. UNDP has a plan to support Vice President's Office – Division of Environment (VPO-DoE) in the process of NDC review[32]. The Tanzania INDCs state that review of the document will be undertaken in a participatory manner to reflect the emerging needs, changes and decisions (URT, 2015). According to personal consultation with the VPO, NDC review process is planned to include all key stakeholders including CSOs.

## 4.0 LEDS and long-term targets

### 4.1 Development of Low Emission Development Strategies/LCDS.

According to the VPO the draft national LEDS has been prepared but is yet to be shared in public. Preparation of the draft LEDS was facilitated by a consultant. Thereafter, the VPO will organize a stakeholders' validation workshop for the draft LEDS in which CSOs will also be invited.

#### 4.1.1 Nationally Appropriate Mitigation Actions (NAMA)

In connection to section 4.1 above, Tanzania is among 25 countries which are implementing Low Emission Capacity Building (LECB) Programme. The programme is managed by UNDP and it aims at building capacities to design and implement low emission development through

[30] http://www.mipango.go.tz/index.php?option=com_docman&task=cat_view&gid=38&Itemid=0

31 personal communication with Ms. Tillya A., of VPO on 7th March 2017

[32] personal communication, Abbas Kitogo & Getrude Lyatuu of UNDP on 21st February 2017

nationally appropriate mitigation actions in the public and/or private sectors. In Tanzania, the LECB programme focuses on three major activities:

- Establishment of a robust national system for preparation of GHG database;
- Formulation of two NAMA[33] concepts for energy and transport sectors within the context of sustainable development; and
- Establishment/strengthening of national legal and institutional framework for Low Emission Development Strategy (LEDS).

On 6-8th January 2015 the stakeholders' workshop was organized by VPO to review Term of Reference (ToR) for establishment of GHGs inventories, NAMA, MRV and assessment of Low Emission Development and economic growth. In this workshop TaTEDO was also represented.

Further to that, UNDP has supported VPO-DoE to develop two NAMA for Energy and Transport sector under facilitation of the consultant. According to VPO, the prepared NAMA are still in draft form and are yet to be released for public[34]. Plans to conduct stakeholders' workshop to validate the drafted NAMA are underway. Furthermore, UNDP has a plan to support VPO-DoE to develop inventory for GHGs since there is no updated data. The GHGs inventory will cover all sectors. ToR for the consultant is being developed; the inventory is anticipated to be ready by June 2017.

## 4.2 Long-Term Targets on Climate - Energy and Deforestation

### a) Tanzania's Sustainable Energy for All (SE4ALL) Targets for 2030

Tanzania opted-in and became one of the fourteen early movers for Africa in 2012 for SE4All. Tanzania's SE4ALL's Action Agenda seeks to integrate the multi-tier efforts that the country is implementing towards providing universal access to energy, increased energy efficiency, and an increase in the use of renewable energy. To implement SE4ALL Tanzania has prepared an Action Agenda and Investment Prospectus with targets for its various goals as summarised in Table 3.

**Table 3: Tanzania's SE4ALL targets by 2030 under each goal**

| Universal access to modern energy services | | Doubling global rate of improvement of energy efficiency | Doubling share of renewable energy in global energy mix | |
|---|---|---|---|---|
| Percentage of population with electricity access | Percentage of population with access to modern cooking solutions | Rate of improvement in energy intensity | Renewable energy share in Total Final Energy Consumption | |
| | | | Power | Heat |
| >75% | >75% | -2.6% per year[35] | >50% | >10% |

Source: SE4ALL Action Agenda (2015e)

[33] According to UNFCCC, NAMAs refer to any action that reduces emissions in developing countries and is prepared under the umbrella of a national governmental initiative. They can be policies directed at transformational change within an economic sector, or actions across sectors for a broader national focus.
http://unfccc.int/focus/mitigation/items/7172.php

[34] personal interview with Manyika, F. of VPO on January 2017; Kitogo, A. of UNDP on February 2017

[35] This represents the average for the period 2001 – 2010; this target will reduce energy intensity by 41% in 2030.

### b) Scaling up Renewable Energy Programme (SREP)

The goal of the SREP renewable energy for rural electrification project is to build an efficient and responsive project development infrastructure, and demonstrate its effectiveness by supporting a time-slice of investments towards achieving the 2025 national rural electricity access goal in areas delineated for mini-grid and stand-alone electricity service in the Rural Electrification Master Plan. The SREP project objective is to bring electricity services using renewable energy to benefit about 400,000 households and other consumers (approximately 2 million rural off-grid electrification customers) using renewable energy mini-grids, micro-grids, and SSMP projects to benefit both women and men in rural areas (URT,2013b). Table 4 summarizes the targets.

### Table 4: Renewable Energy for Rural Electrification Targets

| **SREP Off-grid Electrification Project Targets** | | | |
|---|---|---|---|
| **Investments Unit kW Number Total MW** | **Unit kW** | **Number** | **Total MW** |
| Renewable Energy Mini-grids | 1,800 | 25 | 45.0 |
| Renewable Energy Micro-grids | 6 | 50 | 0.3 |
| Mini/Micro grids total | | | |
| Sustainable Solar Market packages (SSMP) | | 10 | |
| - Public facilities | 0.18 | 4,400 | 0.8 |
| - Solar Home systems (SHS) | 0.02 | 70,000 | 1.4 |
| Sustainable Solar Market packages (SSMP) total | | | |
| **Total** | | | **47.5** |
| | | | |
| **Project Beneficiaries** | | | |
| **SREP Investment** | **Projects** | | **(Customers households and others)** |
| Mini-grid | 25 | to benefit | 37,500 |
| Micro-grid | 50 | to benefit | 10,000 |
| SSMP | 10 | to benefit | 70,000 |
| **Project Pipeline** | | | |
| Mini-grids | 50 | to benefit | 75,000 |
| Micro-grids | 200 | to benefit | 40,000 |
| Sustainable Solar Market packages (SSMP) | 30 | to benefit | 210,000 |
| **Total** | **280** | | **442,500** |
| Number of beneficiaries (based on Investment Prospectus assumption of 4.9 persons per household) | | millions of persons | **2.2** |
| Share of Off-grid Electrification Goal in Prospectus, including pipeline project Beneficiaries | | | **12%** |

Source: SREP Investment Plan for Tanzania, 2013 p.49

## 4.3 LEDS/LCDS available from academia, CSO or international institutions

There is no LEDS existing in academia, CSOs or international institution.

## 5.0 Climate Financing

Tanzania being a non-Annex I Party to the UNFCCC, as well as a Kyoto Protocol Party and a Least Developed Country, Tanzania meets the eligibility requirements and receives funds from a number of global environmental and climate change-related funds. These include the Green Climate Funds, Special Climate Change Fund, the Climate Investment Funds, the Least Developed Countries Fund, the Adaptation Fund, and the Global Environmental Facility. Tanzania is also supported from a diverse number of multilateral and bilateral funding sources, such as the European Union's, Global Climate Change Alliance(GCCA), Norway's International Climate and Forest Initiative, Germany's International Climate Initiative, the UK's International Climate Fund, World bank, Sida, and Japan's Fast Start Finance.

## 5.1 Status of GCF funding in the country

Permanent Secretary, Vice President's Office (PS-VPO) is a National Designated Authority (NDA) for Tanzania. The VPO has nominated PO-RALG as National Implementing Entity (NIE) to undergo accreditation process for the GCF. The Tanzania CRDB bank, the EQUITY Bank and the Ministry of Finance has also shown interest to become NIE for GCF. The existing GCF - Multilateral Implementing Entity (MIE) in Tanzania include KfW-Deutsche Bank, UNDP, UNEP, FAO, IUCN, GIZ and International Fund for Agriculture Development (IFAD). GIZ is preparing a project on green mini-grids to be submitted to GCF for financing.

Two projects have been submitted to the GCF Secretariat and are on advanced stage. The projects have been approved by the GCF board and are about to start. The projects include Simiyu Climate Resilient Development Programme and Universal Green Energy Access Programme - Tanzania side.

### a) Simiyu Climate Resilient Development Programme

The objective of the programme is to increase the climate resilience of rural and urban households, particularly small scale farmers and women living in the Simiyu Region and to improve the framework for cross-sectoral actions towards climate adaptation. The programme is primarily meant to help residents of the region overcome challenges caused by the climate change including drought. The programme activities include:-

- establishing and improving institutional mechanisms towards cross sectoral planning and implementation of climate adaptation projects by including various stakeholders
- ensuring secure and climate resilient water supply through treated drinking water from Lake Victoria
- provisioning of preventive public sanitation and hygiene measures
- protection of soil and water sources through climate smart agriculture investments

The programme aims to improve access to safe water and sanitation facilities in rural and urban areas in Tanzania. It is funded by the Green Climate Fund in collaboration with the government of Germany (KfW) with total funds of 100 million US Dollars. The implementing agent is the Ministry of Water and Irrigation (MoWI). Under this programme, MoWI is planning to

construct a water supply scheme in Simiyu region from Lake Victoria to the districts of Busega, Maswa, Bariadi, Meatu and Itilima. The project will be financed and built in two phases and is planned to eventually cover about 20 % of Simiyu's total area including the five district centres and about 250 villages with up to 55% of the region's total population. Phase 1 will bring piped water to the towns of Bariadi and Lagangabilili as well as to villages located up to a distance of 12 km from the water supply mains, while Phase 2 will extend the water supply to Mwanhuzi and Maswa (URT, 2017b).

**b) Universal Green Energy Access Program ("UGEAP")**

Sub-Saharan Africa programme with first projects located in Benin, Kenya, Namibia, Nigeria and Tanzania. The overall program development objective is to contribute to universal access to electricity in Sub-Saharan Africa by scaling up investments in renewable energy from local financial markets and the international private sector. More specifically, the program targets are to:

- reduce the emission of $CO_2$ through increased access to clean electrical energy for predominantly rural population in the Target Region of UGEAP;
- reduce the emission of $CO_2$ by replacing fossil fuel based energy production (on- or off-grid) with renewables, supplying clean energy for expanding energy demand and/or contributing to the stabilization of the national grid with additional capacity;
- work with and through local financial institutions in an innovative structure to enable local banks to provide long term loans in local currency or USD for businesses that provide clean electricity solutions;
- As a public-private partnership instrument multiply the amount of public capital through private investment by at least 2 times, thereby significantly increasing impact.
  Programme is expected to start 30/06/2017and end 30/09/2032. Total project budget USD 500 million. The Universal Green Energy Access Program is to be managed by Deutsche Bank group entities in line with DB's accreditation status with the GCF. Beneficiaries are Small and medium entrepreneurs (SMEs) and households[36].

Deutsche Bank AG received Green Climate Fund (GCF) financial support and plans to launch a $3.5 billion debt fund for decentralized renewable energy[37]. UGEAP is expected to last 15 years.

UGEAP in Tanzania is a two year programme. Total programme cost is US $ 20 million out of which US $ 7 million is for Tanzania. Implementing entity is Tanzania Private Sector Foundation. GCF has already disbursed the funds.

## 5.2 Climate Financing (mitigation and adaptation) from other external sources

**a) Decentralized Climate Finance Project (DCF)[38]**

The Decentralized Climate Finance project is a 5 year project aiming at facilitating investments in improving responses to climate change across 15 test districts (Monduli, Ngorongoro, Longido, Kondoa, Manyoni, Bahi, Mpwapwa, Kiteto, Same, Simanjiro, Kilwa, Siha, Mbulu, Iramba

[36] UGEAP programme (https://www.greenclimate.fund/documents/20182/409835/GCF_B.14_07_Add.10_-_Consideration_of_funding_proposals___Addendum_X.pdf/d9f23b32-a202-40d2-8e41-2b77d83bd7a5)

[37] http://www.powerforall.org/blog/2017/1/18/news-release-deutsche-bank-joins-power-for-all-campaign

[38] http://www.dcfp.go.tz/

and Pangani) in mainland Tanzania and 3 districts in Zanzibar (Mcheweni, Unguja Kaskazini, Unguja Kusini). The project was officially launched on 25th of June, 2016 in Dodoma, Tanzania. The President's Office – Regional Administration and Local Government (PO-RALG) is the National Coordinator of the Decentralized Climate Finance Project and work in collaboration with Vice President's Office, Ministry of Finance and Planning, Institute of Rural Development Planning, Local Government Training Institute (Hombolo), Tanzania Meteorological Agency, Hakikazi and Tanzania Natural Resources Forum. This project is funded by UKAID with technical support by the International Institute of Environment and Development (IIED) and United Nations Capital Development Fund (UNCDF).

The objectives of the project are to provide technical and financial support to the Government to build its capacities to mainstream climate change into local government planning and financial systems and to prepare PO-RALG to be accredited as a National Implementing Entity (NIE) to the Green Climate Fund (GCF). PO-RALG will use the continuous learning and evidence generated from the project experience to facilitate dialogue at local, national and international level. The Program will facilitate this process through capacity building with the PO-RALG, creating pilot funding programs, and conducting monitoring and evaluation activities. The main goals of the project include:

- Establishing a Performance-based Climate Resilience Grant system in Tanzania
- Establishing decentralized district climate finance and planning mechanisms in 15 district councils in mainland Tanzania and 3 districts in Zanzibar to finance community prioritized investments in public goods that build climate resilience.
- Ensuring that investments that build climate resilience are effectively and efficiently implemented and managed by the districts, and that their performance transparently assessed as part of the grant mechanism.
- Building the capacity of PO-RALG to develop the necessary competencies to scale-up decentralized climate finance in support of community-driven adaptation across Tanzania.
- Generate evidence and learning on the effectiveness of decentralized climate finance investments to improve community resilience, differentiated by gender, which can be used to inform policy.

Through this project a number of capacity building training workshops has been conducted to PO-RALG. The National Designated Authority (NDA) which is the Vice President's Office (VPO) has nominated PO-RALG as National Implementing Entity (NIE) to undergo GCF accreditation processes[39].

**b) Integrated approaches for climate change adaptation Project**

**Partner:** Ministry of Finance; Vice-President's Office, Division of Environment
**Budget:** Total value: €8 million from Global Climate Change Alliance (GCCA)
**Duration:** 2013-2018
**Overall objective:** Increase the capacity of vulnerable Tanzanian communities to adapt to the adverse effects of climate change and contribute to poverty reduction in rural areas.
**Specific objective:** Enhance environmental sustainability and food security by strengthening the management of natural resources at the local level. In so doing, the project will seek to

[39] Personal communication with Dr. Lucy Ssendi, Senior Climate Change Advisor, PO-RALG, 24th March 2017.

contribute to gender equality and good governance by actively promoting transparency and accountability.

**Main expected results:**

- The piloted integrated eco-village approach is extended and implemented in the most climate change vulnerable agro-ecological zones of Tanzania.
- Institutional capability to assess, plan and implement climate change strategies is enhanced in selected ward, division and district levels of local government.
- Knowledge management is improved to facilitate the exchange of experience and lessons learned under the eco-village approach and the communication of results to key stakeholders, policy makers and the public at large.

### c) Testing innovative adaptation measures Project[40]

**Partner:** Ministry of Finance; Vice-President's Office, Division of Environment; Community Forests Pemba; Institute of Rural Development Planning; Sokoine University of Agriculture (SUA). **Budget:** Total value: €2.2 million from Global Climate Change Alliance (GCCA)

**Duration:** 2010-2013. **Overall objective:** Increase the capacity of the most vulnerable Tanzanian communities to adapt to the adverse effects of climate change through sustainable use of their natural resources.

**Specific objectives:**

- Support the setting up of a limited number of eco-villages where innovative adaptation measures can be tested in the field of agriculture, rangeland management, water management, sanitation and biomass energy.
- Address energy (biomass) issues through sustainable natural resources management practices (e.g. participatory forest management).

**Main expected results and activities:** Holistic, innovative and integrated approaches are tested, adopted and shared in a limited number of areas affected by climate change ('eco-villages'). Under this result, three projects are implemented in three types of ecosystems (coastal zones and islands, drylands, and highlands) deemed particularly vulnerable to climate change.

The first project was implemented on **Pemba Island** by the local NGO Community Forests Pemba (CFP), in collaboration with Zanzibar government authorities. Six communities are involved, in Fundo, Uvinje, Kokota, Uwandani, Vitongoji and Pujini. Main activities include the transfer of land ownership from government to communities under secure tenure arrangements; the development of agroforestry and community-based afforestation and reforestation; the implementation of kitchen gardens and resilient agricultural systems supporting diversified fruit, vegetable and nut production; livelihood diversification through activities such as the production of fuel briquettes, fuel-efficient stoves and compressed earth blocks, beekeeping and composting; investment in rainwater harvesting and seed storage facilities; and the development of alternative energy systems.

The second is being implemented in **Chololo village**, near Dodoma, by the Institute of Rural Development Planning in partnership with local government authorities and other organizations. Main activities include awareness raising and improved natural resources

[40] http://www.gcca.eu/national-programmes/africa/global-climate-change-alliance-in-tanzania

management at the community level; the promotion of "climate-smart" agricultural innovations (in areas such as the use of improved seed varieties, improved post-harvest handling and storage, soil erosion control, soil fertility and moisture management, improved livestock breeding practices); diversification into new activities such as aquaculture, beekeeping and leather making; tree planting; improvements in water supply for human and livestock use, notably through water harvesting and improved storage; the building of energy-efficient stoves with local materials and the construction of domestic biogas plants; the installation of a local weather station; the construction of an eco-village centre; and a range of activities aimed at sharing results and disseminating innovation.

The third project is located in the Uluguru Mountains. It involves 7 villages across the Morogoro and Mvomero districts. It is implemented by the Sokoine University of Agriculture. Main activities include the promotion and development of sustainable, climate-resilient agricultural practices supporting higher incomes for the population; the enhancement of water use efficiency in agricultural production; the promotion of reforestation and fuel-efficient stoves; the creation of enabling conditions to finance the adoption of new agricultural practices and investments; the establishment of community-managed organizations with adequate capacities for ensuring sustainable, fair and gender-inclusive use of natural resources; and the development of guidelines and best practices for scaling up at the national level.
Some of the Lessons learned include:

- Local government capacity to effectively manage climate change planning and implementation must be addressed, and this capacity sustained in the longer term.
- Demonstrating the technical and economic feasibility of the proposed measures and interventions is essential. The proposed adaptation measures must be seen to generate income and result in improved livelihoods. To ensure technological sustainability,
- A range of skills and experience (in areas such as water, energy, livestock, forestry, cultivation, etc.) should be available in the implementation team, to enable rapid responses to the wide spectrum of community adaptation needs.

**d) Implementation of Concrete Adaptation Measures to Reduce Vulnerability of Livelihoods and Economy of Coastal Communities of Tanzania**[41]
**Header/Implementing Entity: UNEP** Adaptation Fund Projects/Programmes
**Executing agency:** Vice Presidents Office/Division of Environment
**Project duration:** 5years; Approval date: 14/12/2011; Start date: 29/10/2012
**Financing:** $5M from Adaptation Fund
This Project is managed by UNEP and financed through the Adaptation Fund.
The project intends to lessen the negative impacts of sea level rise and changes in precipitation patterns in the Ilala and Temeke Districts of Dar es Salaam. The project aims to reduce the adverse impacts of sea level rise and floods on coastal infrastructures and settlements; rehabilitate coastal ecosystems to enhance ecological resistance to flooding; conduct a baseline study based on coastal vulnerability and an assessment of the economic viability and practical feasibility of adaptation measures; creating and operating a climate change observatory

41 http://www.unep.org/climatechange/adaptation/AccessToAdaptationFinance/AdaptationFundProjects/Tanzania, retrieved on 14th March 2017

for Tanzania; documenting lessons learned, building district level administration capacity; and producing an Ecosystem-based Integrated Coastal Area Management Plan.The overall objective will be achieved through three components:

- Addressing climate change impacts on key infrastructure and settlements ;
- Ecosystem-Based Integrated Coastal Area Management ; and
- Knowledge, coastal monitoring and policy linkages

**e) Scaling-Up Renewable Energy Programing Low Income Countries (SREP)**

Tanzania is one of the pilot countries selected to benefit from the Scaling-Up Renewable Energy Program in Low Income Countries (SREP)[42]. SREP operates under the Strategic Climate Fund (SCF), which is part of the **Climate Investment Funds (CIF)**. Tanzania was selected because of (i) the critical issues facing the country (energy crisis, climate change impacts and land degradation, high population growth and therefore energy demand steadily increasing, rising prices of fossil fuels which increases the level of poverty of the people, etc.) and (ii) the efforts already made by the Government to create an adequate legislative and institutional framework, strong commitment to further develop its Renewable Energy resources and generating investments interest in the private sector, etc.

The SREP was established to scale up the deployment of renewable energy solutions and expand renewables markets in the world's poorest countries. SREP financing supports technologies such as solar, wind, bio-energy, geothermal, and small hydro technologies. It stimulates economic growth by working with governments to build renewable energy markets, engage the private sector, and explore productive energy use[43]. The objective of the SREP is to pilot and demonstrate the economic, social and environmental viability of low carbon development pathways in the energy sector by creating new economic opportunities and increasing energy access through the use of renewable energy. Multilateral Development Banks (MDBs) provide support to Governments in preparing and implementing their SREP Investment Plan. In the case of the SREP Tanzania, the African Development Bank (AfDB) and the World Bank Group (WBG)[44], including the International Finance Corporation (IFC), jointly provide support to the Government, with the African Development Bank (AfDB) acting as the lead institution. The following are the projects supported under the programme:-

**i) Renewable Energy for Rural Electrification**

Approved April 14, 2016
Approved amount(s): USD 9.0 million (grant funding)
USD 10.0 million (concessional loans)
USD 214,000 (MPIS Final tranche)

**ii) Mini Grids Project[45]**

Approved on April 13, 2015
Approved amount(s): USD 4.75 million (grant funding for Advisory Services)

[42] https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/The%20CIF%20in%20Action.pdf
[43] http://tanzania.go.tz/home/pages/924
[44] https://www-cif.climateinvestmentfunds.org/country/tanzania/tanzania-srep-programming
[45] https://www-cif.climateinvestmentfunds.org/country/tanzania/tanzania-srep-programming

**iii) Geothermal Power Development (AfDB)**
Project Preparation Grant
Approved July 25, 2013
Approved amount(s): USD 700,000 (project preparation grant)
USD 250,000 (First tranche)

**iv) Renewable Energy for Rural Electrification (IFC)**
Project Preparation Grant
Approved July 25, 2013
Approved amounts: USD 1.0 million (project preparation grant).
USD 214,000 (First tranche)

**f) Developing Core Capacity to Address Adaptation to Climate Change in Productive Coastal Zones of Tanzania project**
The **Least Developed Countries Fund (LDCF)** project working to address the impacts of climate change in coastal zones, especially sea-level rise and changes in precipitation patterns that affects livelihoods, coastal assets and water availability. Thus, the project is improving the adaptive capacity of local communities and administrations, who have limited access to technologies, human capacity, and financial resources. In order to reduce coastal vulnerability, the additional LDCF-funded adaptation investments aim at the most visible climate impacts and adaptation gaps. Measures include the restoration of both man-made and natural coastal protections, as well as the rehabilitation of vital infrastructure such as damaged water extraction or conservation structures. In addition, some of the systemic barriers will be removed, including the low capacity at district level and the lack of engagement of civil society in adaptation initiatives.

**g) Strengthening Climate Information and Early Warning Systems in Tanzania**[46]
This project is also LDCF funded project aim to responds to priorities and actions identified in the NAPA of Tanzania which articulate the need for securing, transferring and installing critical technologies, as well as developing the necessary systems for climate change-related information to permeate into decision-making processes. The technologies required to achieve these aims will increase the capacity of the national early warning network to forewarn and rapidly respond to extreme climate events.

The project is focused on strengthening the capacity of national and sub-national entities to monitor climate change, generate reliable hydro-meteorological information (including forecasts) and to be able to combine this information with other environmental and socio-economic data to improve evidence-based decision-making for early warning and adaptation responses as well as planning.
Implementing Agencies & Partnering Organizations: Ministry of Water, Government of Tanzania, Tanzania Meteorological Agency, Tanzania Prime Minister's Office-Disaster Management Department, United Nations Development Programme (UNDP)[47], GEF.

[46] UNDP - http://adaptation-undp.org/projects/sccf-ews-tanzania, accessed on 26th February 2017
[47] http://adaptation-undp.org/projects/ldcf-ews-tanzania

**h) Lake Victoria Environmental Management Project (LVEMP II)**
LVEMP II is regionally coordinated by the Lake Victoria Basin Commission (LVBC) through its Regional Project Coordination Team (RPCT) based in Kisumu, Kenya. In Tanzania, the project became effective on 20th August 2009, and its implementation covers Mara, Simiyu, Mwanza, Geita and Kagera Regions, with a total number of 23 districts. The Project is funded by the World Bank, Global Environmental Facility (GEF), Swedish International Development Agency (SIDA), Government of Tanzania and Communities. The project, which is a multi sectoral and coordinated by the Ministry of Water and Irrigation (MoWI)[48], covers a period of 8 years in two phases, from 2009-2013 and 2014-2018.
The objectives of the Project are to contribute to: (i) the improvement of the collaborative management of the trans-boundary natural resources of the Lake Victoria Basin (LVB) among the Partner States; and (ii) the improvement of environmental management of targeted pollution hotspots and selected degraded sub-catchments for the benefit of communities who depend on the natural resources of LVB.

**i) Lighting Africa is a joint World Bank/IFC program** aimed at helping people in Sub-Saharan Africa gain access to non–fossil fuel-based, low-cost, high-quality, safe, and reliable lighting products. Lighting Africa piloted its programme in Kenya and Ghana, and is now working in Tanzania, Ethiopia, and Senegal. The program addresses the lighting needs of rural, urban, and sub-urban consumers without electricity access—predominantly low-income households and businesses. It seeks to offer an alternative to currently available lighting options for these consumers, who rely predominantly on fuel-based kerosene lamps and candles.
The overall approach of the program is to accelerate the development of off-grid lighting markets by:

1. Mitigating market spoilage by developing a quality assurance market infrastructure and integrating it into the country's regulatory framework.
2. Supporting the scale up and replication of high potential businesses by providing targeted business development services and facilitating access to finance for local distributors/stakeholders to support their growth.
3. Generating demand and addressing market development bottlenecks through a dedicated consumer awareness and education campaign and supporting the supply chain and business models.
4. Improving the enabling environment for the sector by addressing policy barriers that impede the development of the off-grid lighting market.

Lighting Africa is technology neutral and open to a range of modern energy options for delivering low-cost, clean, high-quality lighting services. It works with public and private sector stakeholders across a variety of sectors to reduce transaction costs, mitigate market risks, and promote commercial discipline.

**j) Renewable Energy for Rural Electrification (RERE) Program** is a pilot rollout program funded under SREP, with one component for Geothermal and the other for renewable energy and rural electrification. There are three programs under RERE: 1. Risk Mitigation Facility; 2. Credit-line Facility and; 3. Transaction Advisory Service Facility (TASF). More specifically, the project aims to: a) Continue with public sector engagement by building a

[48] https://www.maji.go.tz/?q=en/lake-victoria-environment-management-project

responsive and effective structure b) Engage private sector on the large scale through supporting PPPs in establishing off-grid and mini-grids enterprise. The proposed RERE approach to implementation is through: a) mini-grid 1000 kW to 10 MW; b) micro-grid decentralized for remote population; and c) promoting SSMP for social institutions. The World Bank is to support a USD 200 million renewable energy project and rural electrification (RERE) project, which tentatively includes a USD 75 million credit line; a Risk Mitigation Facility; a Project Preparation Facility; Technical Assistance; as well as SREP funds for SPPs.

### k) Bilateral Funding

It should be noted that these list of projects supported under bilateral arrangement is not exhaustive due to limited time and uneasy availability of information. Some of these projects/programmes include:-

- **Assisting Institutions and Markets for Resilience (AIM 4 Resilience)**

The purpose of the project is to strengthened institutions and more efficient markets for climate resilience and low carbon growth in Tanzania. The project intends to enable the poorest and most vulnerable in Tanzanian society to become more resilient to climate change and to benefit from low carbon growth through the strengthening of the United Republic of Tanzania Public sector institutions to implement the national climate change strategy and adaptation plans. The programme will also support relevant sector Ministries to implement their sector resilience plans; support to building the capacity of the Tanzania Meteorological Agency to provide meteorological data management and providing efficient services to its customers; and seek to develop sustainable private sector markets. This programme is a central element of the UK International Climate Fund portfolio in Tanzania and will help maximize the return from the wider investments.

Implementing organization is the UK government, International Institute for Environment and Development (IIED), United Nations Development Programme. The programme started in 10th September 2015 and is planned to end 31st July 2020. The total project budget is Euro 13,109,311[49].

- **Energy & Environment Partnership programme (EEP)**

The overall objective of the EEP S&EA is to contribute to the reduction of poverty by promoting inclusive and job-creating green economy and by improving energy security in the Southern and East Africa regions while mitigating global climate change. The EEP S&EA is jointly funded by the Ministry of Foreign Affairs of Finland, the UK's Department for International Development and The Austrian Development Agency. The Energy and Environment Partnership Programme of Southern and East Africa is funding projects in all fields of renewable energy and energy efficiency, bridging the gap between a good idea and a bankable project. EEP S&EA has funded over 200 projects in all partnership countries of which 39 projects are from Tanzania.

- **Green mini-grids and micro-grids**

The Swedish International Development Agency (Sida) and the UK Department for International Development (DfID) have committed financial support to REA through Rural

[49] https://devtracker.dfid.gov.uk/projects/GB-1-204364

Energy Fund (REF) for implementation of the Sustainable Energy for All (SE4ALL) action agenda, in the amount of SEK600 million (approximately US$12 million) and GB£30 million (approximately US$39 million), respectively, for green mini-grids in Tanzania. Sweden has agreed to administer the funds on behalf of the British government for the period 2015–2019. Sida/DfiD funding seeks to provide electricity access for at least 700,000 people (140,000 households), of whom 400,000 people (80,000 households) will be reached through green mini- and micro-grids; and increase private-sector investments in renewable off-grid systems and mini-grids by use of various financial instruments. Of the Swedish funding, US$10 million will be used primarily for on-grid electrification while the remaining US$2 million and the US$39 million from the UK will focus on support to private sector-led renewable energy investments (REA 2015)[50]. The distribution of these funds to off-grid investments will be under a "results based financing" facility, wherein the number of connections and quality of service will be considered when determining grants to projects (REA 2016).

The overall objective of the programme is to contribute to the Tanzanian Government's aim to reach the UN initiative *Sustainable Energy for All* (SE4ALL) ambition of universal (100%) access by 2030. Specific objectives of the Programme include:

- Electricity access for at least 700,000 people (140,000 households), of which 400,000 people (80,000 households) through green mini and micro grids (URT, 2015)
- Increase of private sector investments in renewable off-grid and mini-grids by use of various financial instruments

## 5.3 Internal climate financing

Availability of information on internal climate financing was a challenge. Yanda, *et al.* 2013 observed a significant increase in the national budget allocation for climate change-relevant activities in 2009/10 to 2012/13. The growth in budget for climate change-relevant activities was driven by an increase in on-budget donor funding (Table 5), domestically financed climate change-relevant budget declined by 4% over that period while foreign-financing grew by 61%. Foreign financing comprised approximately 28% of all climate change-relevant budgeted funds in 2009/10 but increased to account for more than half in 2011/12, before falling again in 2012/13 to 39%.

**Table 5: Climate Change Finance by Source of Funds**

| | 2009/10 (09/10 TZS bn) | 2010/11 (09/10 TZS bn) | 2011/12 (09/10 TZS bn) | 2012/13 (09/10 TZS bn) |
|---|---|---|---|---|
| Total budget for climate-related activities, adjusted for inflation | 392 | 459 | 656 | 617 |
| **Domestically financed** | **281** | **226** | **219** | **266** |
| Foreign financed | 111 | 233 | 437 | 351 |
| Domestic financing as share of total | 72% | 55% | 46% | 61% |

Source: Adapted from Yanda, *et al.* 2013

[50] Program Document, Sida and DfID Financial Support to the Rural Energy Fund (REF), Tanzania

## 6.0 Implementation of National Climate Technology Development and Transfer

### 6.1 Technology Need Assessment (TNA)

The Coordination of Technology Need Assessment (TNA) is under VPO and the TNA team is the umbrella body. The National Steering Committee is composed of following members: Permanent Secretary Vice Presidents Office, Permanent Secretary Ministry of Water and Irrigation, Permanent Secretary Ministry of Energy and Minerals, Permanent Secretary Ministry Natural Resources and Tourism, Permanent Secretary Ministry of Agriculture, livestock and Fisheries, Director General, Commission for Science and Technology, Director, Institute of Natural Resource Assessment, University of Dar es Salaam. National TNA Committee has eight members from different sectors as follows: Energy, Water, Agriculture, Forest, Environment, University of Dar es Salaam, Commission for Science and Technology and The First Vice President Office – Zanzibar. The Steering Committee is responsible for guiding the National TNA team and providing political acceptance for the Technology Action Plan. The National TNA team comprises: National TNA Committee, National Consultants /experts, Workgroups, and TNA coordinator.

The Vice President Office (VPO), Division of Environment (DoE) spearheaded the TNA project in Tanzania with the support from UNEP DTU. The TNA Process began with a National Inception Workshop which was held on 29th – 30th September, 2015. A stakeholder consultation for prioritization of sectors was done on 20th November 2015 for Energy sector, 23rd November 2015 for Water and Agriculture sectors, 25th November 2015 for Forest sectors and 24th November 2015 for the Zanzibar Stakeholders. The final refinement of the prioritization was done on 3-4$^{th}$ March 2016. The Selection of Sectors for TNA was based on the extent of GHG emission as per existing studies. Land use changes and Forestry sector made the largest contribution i.e. 53%, followed by agriculture (33%) and energy (13%). Thus forestry and energy were selected for TNA for climate change mitigation (URT, 2016c)[51]. The technologies prioritized for energy sector include (i) Mini and Micro Hydro (ii) Sustainable use of biomass fuel (iii) Solar PV whereas for forest sector were (i) Sustainable Forest Management (ii) Agroforestry (iii) Mangrove Conservation Rehabilitation and Restoration.

There have been several studies in Tanzania focusing on climate change mitigation and technologies in the energy sector. These include: (i) Identification of technologies that are associated with GHG emissions (ii) Identification of the technical possibilities of minimizing GHG emissions (iii) Identification of the appropriate environmentally benign technologies available for Tanzania, including its specific reduction potential and associated costs (iv) Investigation of various options for GHG abatement including retrofitting of emissions reduction equipment (v) Exploration of the link between energy efficiency, mitigation of GHG emissions and associated costs (vi) Proposal of technological strategies and policy options to mitigate GHG emissions based on an abatement cost curve (vii) Recommendation of possible targets for GHG mitigation or stabilization particularly in the national energy policy, and (viii) Building an indigenous capacity in the assessment of climate issues (URT, 2016a).

[51] www.tech-action.org/-/...Reports.../Africa.../Tanzania-TNA-report_aug2016-Mitigatio...

In addition to TNA for climate change mitigation, Technology Needs Assessment for the Climate Change Adaptation in the Agriculture and Water Sectors was also conducted (URT, 2016d)[52], The technologies with the highest scores are water harvesting from roof top, leakage reduction programme and water recycling and re-use with score of 87.5%, 76.7% and 74.2% respectively. These were selected for further analysis, development and adoption. Table 6 Summarize the technologies that were given priority for developing the Technology Action Plan (TAP) each sector.

**Table 6: Summary of selected and prioritized technologies for TAP**

| Sector | Technologies retained for TAP |
|---|---|
| Agriculture | Improved variety seeds |
| | System of Rice Intensification |
| | Drip irrigation |
| Water | Rain water Harvesting from roof tops |
| | Water Leakage reduction programme |

Source: URT, 2016 TNA report

The Tanzania Commission for Science and Technology (COSTECH) is a driver for conducting research and technology innovation in Tanzania. COSTECH is a government institution established in the early 1990s for research in agriculture, energy, water and transport. There are a number of universities and training institutions that build the human capacity required for the energy sector: these include the University of Dar-es-Salaam, the Department of Engineering, the University of Dodoma, the Dar-es-Salaam Institute of Technology, the Mbeya Institute of Science and Technology, Arusha Technical College, Saint Joseph College of Engineering and the Vocational Education Training Authority (VETA). Others include; the Tanzanian Traditional Energy Development Organization (TaTEDO) and the Centre for Agricultural Mechanization and Rural Technology (CAMARTEC).

## 6.2 Technology Action Plan (TAP)

There is no much information available on TAP. The information below refers to the country action plan for clean cookstove and fuels.

### Country Action Plan for Clean Cook Stoves and Fuels

Most rural households use the three stone fire place to cook their meals, whereas low quality charcoal cookstoves are used in urban and peri-urban households (SNV, et al. 2014)[53]. Needless to say the uptake of improved cookstoves and fuels is limited to a small percentage. Low use of clean cookstoves and fuels has numerous consequences, including deaths due to indoor air pollution, deforestation and environmental degradation, and economic burden.

In 2012 stakeholders initiated the formation of organizations and task groups related to improved and clean cookstoves and fuels including the Clean Cookstoves and Fuels Alliance of Tanzania (CCFAT) and the Improved Cook Stove (ICS) Taskforce with the goals of mobilizing stakeholders, securing resources and championing the sector. Members to the two platforms

[52] www.tech-action.org/-/...Reports.../Africa.../Tanzania_TNA-report-Aug-2016_adaptat...

[53] https://www.tarea-tz.org/storage/app/media/Blog/ICS%20Country%20Action%20Plan.pdf retrieved 28th March 2017

are from public and private companies, NGOs, Government Institutions and individuals with interest to clean cookstoves and fuels. Stakeholders noted that while there are numerous interventions required before the clean cookstoves and fuels sector can be considered to have reached a stage of maturity, they identified key interventions that need to be addressed immediately which serve as the corner stone, or foundation, of all future interventions which include:

- Supporting and lobbying government through the Ministry of Energy and Minerals (MEM) for the development and implementation of the biomass energy policy & strategy through stakeholder involvement.
- Strengthening an agreed coordinating entity/ platform (chapter or working group) to enhance collaborative efforts among stakeholders thereby creating an enabling environment for market growth, and securing funding for its operations.
- Establish Standards working group with the Tanzania Bureau of Standards (TBS) through the abovementioned acceptable platform/ chapter or working group and, supporting TBS to develop clean cook stoves and fuels standards based on ISO standard.
- Advocating for policy frameworks that support tax relief and incentives for clean cookstoves and fuels producers in Tanzania.
- Conduct a baseline survey to support the call for intervention with facts.
- Carry out action research (value chain analysis) to identify existing stove producers, their products and their clientele with a focus to identify enterprises and gaps in the market and building linkages for the expansion of the clean cookstove market.
- Commission a study into the challenges and opportunities for women in the sector.
- Undertake a baseline market demand assessment study at district and regional levels. Special focus on usage and preference of women.
- Develop appropriate strategies, mediums, tools and messages for awareness rising.
- Establish M&E data collection systems.
- Support the expansion of the charcoal briquette and biomass briquettes and pellet industries.
- Support training for entrepreneurs on how to access funding programs.
- Support the development of clean cookstoves and fuels market networks.

## 7.0 NDC and LEDS stakeholders and institutional arrangements

### 7.1 NDC and LEDS stakeholders, their roles and institutional framework

The INDC was prepared in a consultative and inclusive manner through technical and policy dialogue. A national technical team was established with representatives from various sectors and relevant institutions. The national and sub-national stakeholders' consultative workshop were conducted which brought together CSOs, Academia, Research Institutions, the Private sector and government institutions (URT, 2015a). TaTEDO was invited and also participated in national stakeholders' consultative workshop for the preparation of INDC. Regarding LEDS also see section 4.1.

**Institutional Arrangement and Roles for the Response to Climate Change**

Implementation of climate change actions in Tanzania is carried out within the context of the National Environmental Policy and the 2004 National Environmental Management Act (NEMA), as described in the previous chapter. The Act mandates the Vice President's Office (VPO) –

Division of Environment (DoE) – to be the designated lead agency for environment and climate change-related activities in the country. The DoE is both the National Climate Change Focal Point (NCCFP) and the Designated National Authority (DNA) for the Clean Development Mechanism under the Kyoto Protocol and GCF.

The EMA also provides for the establishment of various committees at both national and local levels see Figure 2. With regard to responding to climate change, the lead coordination committee is intended to be the National Climate Change Steering Committee (NCCSC), chaired by the Permanent Secretary in the VPO. The NCCSC is an inter-ministerial committee comprised of the Permanent Secretaries from sector ministries responsible for Energy, Finance, Industry, Natural Resources, Justice and Constitutional Affairs, Land, Agriculture, Livestock Development, Foreign Affairs, and International Cooperation. This model developed from an earlier 12–member National Climate Change Committee that oversaw the 2003 Initial National Communication under the UNFCCC. The NCCSC has the role of providing policy guidance to the NCCFP to ensure coordinated actions and participation within various sectors and institutions.

A National Climate Change Technical Committee (NCCTC) has also been created by the government, chaired by the Director of Environment (VPO), to provide technical advice to the NCCFP. The NCCTC is made up of Directors of the various Ministries comprising the NCCSC. Its function is to oversee all technical issues related to the implementation of climate change actions and to stimulate coordinated action and broaden participation to address climate change.

Climate change issues are addressed using environmental management institutional framework, following the mandate provided by the EMA. At the sub-national level, the Prime-Minister‘s Office-Regional Administration and Local Government (PMO-RALG) is expected to work in collaboration with sector ministries to implement strategic interventions involving Local Government Authorities (LGAs).

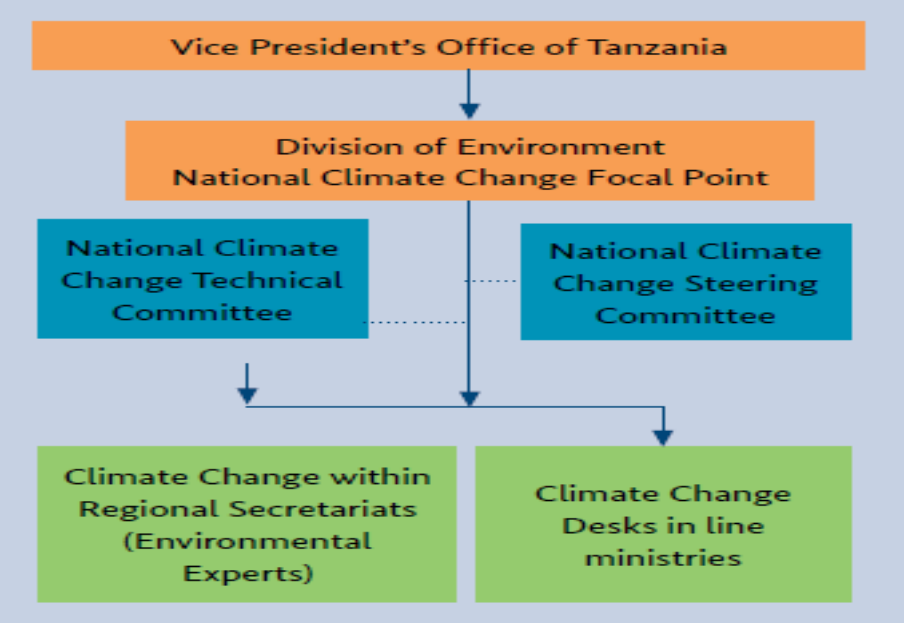
Another relevant national institution is the National Environmental Management Council (NEMC), which was created under the earlier National Environment Management Act of 1983. The NEMC was established to undertake environmental enforcement and compliance controls, and to review and monitor environmental impact statements, as well as carrying out research and awareness rising. The NEMC is therefore an important actor in the implementation of strategic actions as stipulated in the 2012 National Climate Change Strategy.

Civil Society Organizations (CSOs) are encouraged to cooperate with the Government in mobilizing resources and implementing climate change strategies through various projects and/or programmes. The private sector, either individually or in collaboration with the Government under Public-Private Partnership (PPP) arrangements, are also encouraged to implement innovative projects to address climate change related issues.

Development partners either bilaterally or through multilateral arrangements and are encouraged to support the government in implementing climate change initiatives by providing technical and financial support, as well as facilitating resource mobilization. They are also

encouraged to provide capacity building and facilitate technology development and transfer to various stakeholders in implementing climate change strategies. In Tanzania the development partners have organized themselves into group named "Development Partners Group (DPG)". The DPG comprise of 17 bilateral and 5 multilateral (UN counted as one) development agencies providing assistance to Tanzania[54]. The group was established to promote principles of Aid Effectiveness in development assistance to Tanzania. This involves structured dialogue and engagement between Development Partners (DPs) and the government in high-level forums, through different sector and thematic groups and core reforms with a view of achieving harmonization, promoting coordinated policy dialogue and reducing transaction costs in the management and administration of aid to Tanzania. The DPG meets on a monthly basis to address policy as well as harmonization and alignment issues, and its work is supplemented by more technical dialogue at sector and thematic areas with relevant ministries. DPG is chaired by two Co-Facilitators; the UN Resident Coordinator /UNDP Representative hold a permanent seat, while the other Co-Facilitator is selected on an annual basis among the Bilateral Development Partners.

**Figure 2: Institutional Arrangement for Climate Change Management**




Source: GIZ, 2014

### 7.1.1 Strength and Weaknesses of the institutional Arrangement

Tanzania's institutions are still at an early stage in responding to climate change challenges. The lack of delineation between climate change and environmental-related issues has brought about some confusion, as they tend to be treated as one and the same thing. This is reflected in the current institutional framework, which has been inherited from one that was designed to address environmental issues. This may not be sufficiently robust to allow for the integration of climate change into the plans, programmes, and projects of all relevant sectors of the economy.

[54] Development Partner group in Tanzania, accessed at http://www.tzdpg.or.tz/dpg-website/dpg-tanzania.html#uid1110, Retrieved 27th March 2017

The institutional arrangements provided by the Environmental Management Act underpin the implementation of all public climate change initiatives. The overall coordination of climate change actions is the responsibility of the NCCFP. The NCCFP is also tasked with preparing national climate change frameworks such as National Adaptation Plans (NAPs), Nationally Appropriate Mitigation Actions (NAMAs), guidelines and other relevant national documents, and for monitoring and evaluating the implementation of climate change-related strategies. This represents a very heavy workload for a small unit within the VPO-DoE.

The NCCSC and the NCCTC are intended to be important forums to facilitate the implementation of cross-sector climate change interventions. In principle, both committees have been established and are functioning, albeit in limited ways. For example, the 2012 National Climate Change Strategy and the 2013 National REDD+ Strategy had to be endorsed first by the NCCTC and then tabled at the NCCSC for approval. Likewise, National Position Papers for submission to the UNFCCC COP meetings are first tabled at the NCCTC and the NCCSC for endorsement and onward submission to the inter-ministerial steering committee, chaired by the Chief Secretary. However, both committees do not appear to meet on a regular basis, and lack a functioning secretariat beyond the NCCFP. In addition, their mandates are not in the public domain and so the extent of their role in coordinating the country's response to climate change remains unclear. One possible reason for the present low profile of both committees may be that insufficient human resource, capacity and funds allocated to prepare for and host their meetings.

The National Climate Change Strategy of 2012 recognizes this limited institutional capacity as one of the major hindrances to addressing the impacts of climate change in Tanzania. It is on these grounds that institutional capacity strengthening at all levels is emphasized in the strategy, recognizing that national efforts towards climate change adaptation and mitigation need to be addressed across a range of sectors in a coordinated manner. Among the activities or programmes that the national strategy states require support and need to be implemented include:

- The establishment and implementation of awareness programmes to sensitize the public on climate change impacts as well as adaptation and mitigation options;
- The establishment of adequate research capacity for various R&D and training institutions to address issues related to climate change;
- Building sufficient capacities of marginalized groups, including women, to address climate change related disaster risks;
- Supporting the acquisition of appropriate technologies, for example, for enhancing early warning systems and weather forecasting; and
- Documenting and promoting indigenous knowledge on climate change adaptation in various socio-economic sectors.

These specific initiatives are supposed to be complemented by the integration of climate change adaptation and mitigation actions in all sectors so as to build the capacity of relevant institutions to address climate change challenges at different levels.

Of particular significance in the current institutional architecture is the absence of the Planning Commission. The Planning Commission was established in 2008 as an agency for strategic

thinking on the national economy and to provide advice to government on medium and long-term strategies for socio-economic development. The Commission is mandated to monitor, analyze and provide advice on long-term sector policies and socio-economic developmental issues. Therefore, as the country's national planning agency, one would expect to find it embedded in the institutional structure for addressing climate change, as without the involvement of the Planning Commission the mainstreaming of climate change into national strategic plans is made difficult.

Examining the structure of the Planning Commission itself, issues of climate change do not feature in its component clusters and their related sectors. One could argue that since the environment is reflected in the Planning Commission's structure then climate change is assumed to be taken on-board. However, the consideration of issues related to climate change as environmental concerns is an oversimplification, as it is now recognized that the challenges brought about by climate change are much broader than environmental concerns. Hence, the reliance on an institutional architecture that was developed to address environmental issues may not be sufficient to integrate climate change issues in the plans, programs, projects and activities of all the relevant sectors of the economy (Yanda, *et al*., 2013).

In reality, the process of coordinating climate change actions across sectors and levels of government remains a challenge. The NCCTC that is supposed to provide technical guidance on climate change related issues at the national level is composed of members who do not necessarily have the required understanding of climate change. This tends to limit their contributions. In addition, representatives on the technical committee from sector ministries all come from one directorate, which in most cases is not representative of the entire sector or in some cases has little relevance to climate change. As a result, environmental management units in various ministries are responsible for climate change by default even when climate change is not in their area of expertise (Yanda, *et al.,* 2013).

## 8.0 CSO involvement

### 8.1 Current membership of organizations and networks participating in the PIPA project in the country.

**Table 7: Organizations and networks participating in PIPA project**

| No | Name | Membership |
|---|---|---|
| 1 | Tanzania Civil Society Forum on Climate Change (FORUM CC) | Has 70 members all over the country including Pan Africa Climate Justice Network, NGO AF Network, CAN International, 350.org, Tanzania Sustainable Development Platform. TaTEDO do collaborates with FORUM CC especial in climate change related advocacy issues |
| 2 | Tanzania Forest Conservation Group (TFCG) | Non-government organization and a founder of MJUMITA. TFCG and TaTEDO are working in partnership in Sustainable Charcoal project |
| 3 | National Gender and Sustainable Energy Network (NGSEN) | 26 Members, TaTEDO is a founder member working closely in sustainable energy interventions |
| 4 | Climate Action Network Tanzania (CAN-TZ) | Has more than 100 members - CSOs working on climate related activities in different parts of the country. TaTEDO also a member |
| 5 | Lawyer's Environmental Action | LEAT collaborates with organizations based in Tanzania Mainland such as Journalists |

| | | |
|---|---|---|
| | Team (LEAT) | Environmental Association of Tanzania (JET), Tanzania Natural Resources Forum (TNRF), Legal and Human Rights Centre (LHRC), AGENDA, HAKIARDHI, ENVIROCARE, Policy Forum, HAKIMADINI, Coalition for Human Right Defenders (CHRD), FORDIA and other organizations. |
| 6 | Mtandao wa Jamii wa Usimamizi wa Misitu Tanzania (MJUMITA) | A network of thousands of community members from over 400 villages across Tanzania providing technical assistance regarding forest management, governance and advocacy to members, TaTEDO is a member |
| 7 | WWF-Tanzania | International NGO, TaTEDO is a member of Mazingira Network (MANET) of which it's establishment was facilitated by WWF. This network is not included in PIPA project because is operating from up country - Morogoro. |
| 8 | Tanzania Renewable Energy Association (TAREA) | Is an association with focus on renewable energy with members all over the country, TaTEDO is a founder member |
| 9 | Women Research Development Group (WRDG) | A group of women committed to support local community through undertaking of social and environmental research. |
| 10 | Journalist' Environmental association of Tanzania (JET) | Association of journalist committed to promote good governance and climate change mitigation interventions, in environmental management for sustainable management development in Tanzania through capacity building, advocacy, and networking. More information: http://www.jettanz.org/ |
| 11 | AGENDA for Environment and Responsible Development | Non-governmental, non-profit sharing organization promoting environmentally responsible, transparent and accountable business practices in the country. |
| 12 | Tanzania Environmental Friendly Association (TEFA) | Non-profitable organization with the mission to conserve the environment through research, policy analysis, advocacy and capacitate the community to collectively participate to address their critical environment problems. |
| 13 | Eastern and Southern African University Research Programme (ESAURP) | Carry out research in human resources development and usage within the 15 countries in the Eastern and Southern African region. UDSM, Apart from its Institutional links , |
| 14 | Clean Cookstoves and Fuels Alliance of Tanzania (CCFAT) | The alliance aim to strengthen local actors and stakeholders working in the cookstove and fuels sector to influence the government to facilitate the increased innovation in designing, producing, marketing and use of clean cook stoves and fuel through better government policies, information sharing, training and campaigning. TaTEDO a founder member |
| 15 | Sustainable Energy Service Company (SESCOM) | SESCOM is an energy services enterprise whose mission is to enhance the quality of life of marginalized households and communities through sustainable energy solutions and services. Is focusing on renewable energy and environmental friendly innovations |
| 16 | Environment, Human Rights Care and Gender organization (Envirocare) | Envirocare is non-governmental organization conserving the environment and improving livehood in local communities with a gender, human rights focus through advocacy, capacity building and action research thus contributing to poverty alleviation initiatives. |
| 17 | Environment Protection and Management Service (EPMS) | Is a firm which offers services related to Environmental research, Environmental impacts assessment, Environmental crimes, Resources Assessment, Policy Analysis, International Environmental Policy Analysis, Strategic Environmental Assessment, Carbon Trade and Climate Mitigation Project vulnerability assessments and climate change adaptations and mitigation opportunities particularly carbon markets in the energy sector. |
| 18 | Tanzania Specialists Organization on Community Natural Resources and Biodiversity Conservation | Non-governmental organization with mission to contribute and participate in national efforts to eradicate poverty in Tanzania by enhancing the sustainable management and conservation of shared natural resources and biodiversity. TaTEDO collaborates with TASONABI in areas of Biomass development |

| | | |
|---|---|---|
| | (TASONABI) | |
| 19 | Appropriate Rural Technology Institute (ARTI), Tanzania | Is an organization promoting appropriate renewable energy technologies in Tanzania, TaTEDO do collaborates with ARTI on promotion of clean cook stove and fuels |
| 20 | The Green Icon | The Green Icon is non-profit organization working on Sustainable Development Goals (SDGs) particularly Goal 7 (Clean Energy), Goal 11 (Resilient Cities and Communities), Goal 13 (Climate Action), Goal 14 (Life under Water) and Goal 15 (Life on Land). |

The organizations and networks presented in the Table 7 have been earmarked and informed on partnering with TaTEDO in implementation of the PIPA project. Most of them participated in the national inception workshop for the PIPA project and also were involved in the previous project named "Promoting pro poor Low Carbon Development Strategies" which was concluded in March 2016.

## 8.2 CSO-networks and main CSOs involved in climate policy in the country, their past, ongoing or planned activities/initiatives in relation to NDC, LEDS, and climate financing

### i) Tanzania Civil Society Forum on Climate Change (FORUM CC)[55]

**Vision** strives to see Tanzania that is a resilient nation ensuring sustainable economic growth, dignified futures for its people in the face of increasing impacts of climatic change.

**Mission:** To enhance effectiveness of Tanzanian CSOs to promote low carbon and adaptive sectors' growth for the benefit of vulnerable people and ecosystems.

**Strategic area 2016-2020:** Five (5) sectors; Energy; Water; Agriculture and Livestock; Infrastructure, Coastal and Urban Resilience. The main focus of the above strategic areas:

- Information and Knowledge generation and dissemination.
- Policy engagement and Advocacy; and
- Learning, networking, and institutional strengthening.

**Past and ongoing/planned projects**

- Accountable Climate Action Initiative (ACAI)
- Responsible Action Finance for Climate Change (RAFIC)
- Accountable Climate Actions and Finance Transparency Initiative (ACATI)
- Renewable energy budget tracking and advocacy
- Building climate change resilience for enhanced food security in Pastoralist communities in Eastern Africa
- Making 2015 Paris Climate Agreement work for the poor

### ii) Tanzania Forest Conservation Group (TFCG)[56]

**Vision:** We envisage a world in which Tanzanians and the rest of humanity enjoy the diverse benefits from well conserved, high biodiversity forests.

[55] More information visit: http://www.forumcc.org/

[56] For more information visit: http://www.tfcg.org/forestJusticeTanzania.html

**Focus:** We focus on Tanzania's most important forests: the Eastern Arc Mountains and Coastal Forests. The forests and the plants and animals that they support provide many ecological services including capturing and storing greenhouse gases that might otherwise contribute to climate change; water catchment; biodiversity; pollination; and soil protection.

**Mission/ strategy:** capacity building, advocacy, research, community development and protected area management, in ways that are sustainable and foster participation, co-operation and partnership.

**Past and ongoing/planned projects**

- Climate Change, Agriculture and Poverty Alleviation
- Transforming Tanzania's Charcoal Sector
- Improving governance in Tanzania's forestry sector
- Making REDD work for communities and forest conservation in Tanzania

### iii) National Gender and Sustainable Energy Network (NGSEN)[57]

NGSEN is a professional network advocating for women empowerment and increased access to modern energy technologies and services in Tanzania.

**Vision:** Men and women are accessing sustainable energy through equitable social, economic and cultural power relations in communities.

**Mission:** To engender energy through advocacy, capacity building, awareness raising, information sharing and increase women's participation, control, ownership and benefits on sustainable energy technologies and services.

**Goals:** To empower both women and men in order to actively participate in engendering energy for sustainable development.

**Focus Area:** Capacity development, Action research, Communication and information sharing, Lobbying and advocacy, Network strengthening and sustainability.

**Past and ongoing/planned projects**

- Capacity building training of energy practitioners to integrate gender in the energy programmes and projects.
- Mainstreaming Gender in the up scaling access to Integrated Modern Energy and Poverty Reduction.
- Gender Mainstreaming Capacity Building Workshop.
- Increase women and men access to modern energy through good governance and management programme.

### iv) World Wildlife Fund (WWF) Tanzania Country Office[58]

**Vision:** Ensuring people live sustainably in harmony with nature.

**Mission:** To stop the degradation of the planet's natural environment and build a future in which humans live in harmony with nature by conserving the world's biological diversity, ensuring that the use of renewable natural resource is sustainable and Promoting the reduction of pollution and wasteful consumption of natural resources

**Goals:** Conserving the world's biological diversity, Ensuring that the use of renewable natural resources is sustainable, Promoting the reduction of pollution and wasteful consumption

[57] For more information: http://www.ngsen.org/news.php

[58] More information: http://wwf.panda.org/who_we_are/wwf_offices/tanzania/

**Area of focus/Activities:** Climate Change (Renewable Energy), Food, Forestry, Oceans, Fresh water and Wildlife

**Past and ongoing/planned projects**

- National REDD+ pilot project, entitled Enhancing Tanzanian Capacity to Deliver Short and Long Term on Forest Carbon Stocks Across the Country.
- Environment and Poverty Policy Programme (EPPP)
- Earth Hours (Energy and Climate) Project - On the 25th of March 2017, the entire world will be commemorating Earth Hour from 8.30pm – 21:30pm (Local time). This year's event will focus on alternative sources of energy given the impact climate change has had on our traditional sources of power. For this reason "Switching to Renewable, Sustainable and Clean Energy" this year's theme "Shine a Light on Climate Action".
- Energy Programme (with 15 CSOs in Tanzania)
- SE4ALL Advocacy Project
- Climate Witness Programme
- East Usambara Forest, Tanzania

**v) Tanzania Renewable Energy Association (TAREA)[59],** formerly TASEA (Tanzania Solar Energy Association) is a non-profit making, non-governmental Organization that brings together actors in the renewable energy sectors to promote the accessibility and use of renewable energy technologies in Tanzania. It was established in 2000 and registered by Ministry of Home Affairs on 7th May, 2001 with registration number SA10900.

**Mission & Objective**

The mission of TAREA is to promote and advocate the increased use of Renewable Energy by developing an effective network of members and stakeholders, emphasizing the need for quality and best practice throughout the sector.

**Area of focus:** Education and Research, Information and Knowledge, Networking, project implementation, lobbying and advocacy

**Past and ongoing/planned projects**

- Promote the access to the renewable energy in Tanzania.
- Promote use of solar photovoltaic technology for the remote rural area of Malinyi.
- Assess the effect of the EIA Audit Regulations of 2005 Part II on the solar mini-grids, producing less than 1 MW, in Tanzania.
- Implement activities that aim at promoting access to the renewable energy technologies and protect environment.

**vi) Tanzania Specialists Organisation on Community Natural Resources and Biodiversity Conservation (TASONABI)**

Organization **Vision:** To enhance sustainable management of natural resources and adaptation to climate change

The **mission** of the organization is to contribute and participate in national efforts to eradicate poverty in Tanzania by enhancing the sustainable management and conservation of shared natural resources and biodiversity. The **goal** of TASONABI is to provide technical assistance to

[59] More information: https://www.tarea-tz.org/

the implementation of government development policies—either directly or in partnership with collaborating organizations.

**Area of focus/Activities:** Climate change, biomass energy, natural resources management, biodiversity, gender and policy analysis.

**Past and ongoing/planned projects/programmes**

- Dar es Salaam urban forestry for sustainable biomass energy production income generation creation of employment and environmental conservation (Ongoing)
- Energy Components for Implementation of Concrete Adaptation Measures to Reduce Vulnerability of Livelihood and Economy of Coastal Communities of Tanzania (Vice Presidents' Office/UNEP – 2016).
- Charcoal Production and Consumption Value Chain in Western Tanzania –Policy and legal analysis (UNDP Tanzania -2015).
- Restraining Deforestation and its impact on climate change in Tanzania "Annotated study of ELCT's Intentions and possibilities" (Norwegian Church Aid -2014).
- Biofuel Production and Utilization in East Africa covering Burundi, Ethiopia, Kenya, Rwanda, Tanzania and Uganda (African Forest Forum -2014).

### vii) Climate Action Network Tanzania (CAN Tanzania)[60]

**Organization Vision:** To be a progressive and forward-looking national node in East African Region promoting actions against climate change and strategies for a low-carbon development.

**Mission:** To provide access to scientific research on climate change and to motivate and empower Tanzanian population taking informed, self- initiative action. Actions that will mitigate climate change and help to adapt to its impacts promote low-carbon development and preserve the environment.

**Goal:** To capitalize on ecological and environmental intervention to enhance protection of endangered surviving entities, to contribute to the reduction of experienced global climate change

**Area of focus/Activities:** Raising awareness, advocacy work, Developing climate adaptation and mitigation programmes, Promoting Renewable energy and energy efficiency, Support agriculture to become more climate resilient, REDD+ programme, Promoting sustainable use of water resources, Fostering Low Carbon Development through collaborative work with the Tanzania government and partners

**Past and ongoing/planned projects**

- 100% Renewable Energy, Low Carbon Development and Poverty reduction in Tanzania
- Strengthening and Improving the Contribution and Efficiency of Environmental Civil Society Organisations for National Climate Resilience and Poverty Reduction in Tanzania

### viii) Lawyers' Environmental Action Team (LEAT)[61]

LEAT was founded in 1994 and it is a premier non- governmental and non-profit making environmental management and protection organization in Tanzania. It is registered under the Companies Act Cap 212 R.E 2002 as a company limited by guarantee without a share capital.

[60] http://www.climatenetwork.org

[61] More information: http://www.leat.or.tz/#

**Vision:** "Africa with sustainable and well managed environment and natural resources for current and future generations"
**Mission:** To contribute towards good governance in the use and sustainable management of the environment and natural resources through public interest litigation, advocacy, strategic research, capacity building, and networking.
**Goal:** Contribute towards increased citizens' participation in East Africa and Southern Africa countries in general and Tanzania in particular in sustainable environmental and natural resources management and protection, by building their capacities and strategies and partner with them to bring about sustainable environmental and natural resources management.
**Past and ongoing/planned projects**
With the funding support from USAID/Tanzania, LEAT, through CEGO-NRM project, is providing training and building capacity in areas of natural resources management, governance and social accountability monitoring (SAM) to ordinary citizens in Iringa Rural and Mufindi districts at the district and ward level (involving district natural resources committees, village environmental and natural resources committees, village land use management committees, village land councils.

### viii) Tanzania Youth Environmental Network (TAYEN)[62]

**Organization Vision:** An environmentally sustainable Tanzania through youth-led conservation and development programs.
**Mission:** Inspiring youth to conserve and protect the environment for a better tomorrow.
**Area of focus/Activities:** Environmental Education & Conservation, Climate Change (Adaptation & Mitigation), Social Entrepreneurship (Livelihood, Agriculture & Renewable Energy) and Youth Development
**Past and ongoing/planned projects/programmes**

- Since its founding in 2008, TAYEN has implemented several projects, below are some of most recent projects implemented by TAYEN.
- Sustainable Conservation of Marine Resources – 2015, Temeke District (Chambewa and Pemba Mnazi Villages).
- Providing Off - Grid Services to Vulnerable Households and Improving Community Livelihoods - 2015/206, Malolo village, Kilosa Dsitrict.
- Urban School Greening Project - 2016, Dar es Salaam
- Youth Livelihood Development ( COCOBA) - Coast and Morogoro, 2017
- Youth Professional Exchange Programme, Tanzania and Uganda, 2017

### ix) Tanzania Environmental Friendly Association (TEFA)[63]

**Organization Vision:** To be excellent agent that contributes to the clean and conserved environment and its assets.
**Mission:** To conserve the environment through research, policy analysis, advocacy and capacitate the community to collectively participate to address their critical environment problems
**Goal:** To be excellent agent that contributes to the clean and conserved environment and its assets.

[62] http://tayen.or.tz/index.html
[63] http://www.tefatz.org/index.php/who-we-are

**Area of focus/Activities:** Climate change, Forest Conservation, Water Resources Management, Livelihoods and sustainability, Environmental Education and capacity building.

**Past and ongoing/planned projects/programmes**

- Strengthen the adaptive capacity of communities along the Great Ruaha Basin
- Improving Forest Governance through promoting effective participation of Local community in managing Vikindu Forest Reserve
- Mitigation and Adaptation of Climate Change Impacts through Environmental Entrepreneurship and Indigenous Knowledge Handeni District, Tanga Region.

### x) Mtandao wa Jamii wa Usimamizi wa Misitu Tanzania (MJUMITA)

**Vision:** MJUMITA's vision is to see Society that cares, manages, and utilizes forests and forest products sustainably.

**Mission:** to provide knowledge, build capacity and link communities with local networks (CBOs) for increased participation of stakeholders in advocacy and decision-making in ownership, management and utilization of forests.

Area of focus/Activities: Advocacy and communication, Capacity building, Networking and information sharing, Promote good governance, Promote sustainable forest management Climate change mitigation and adaptation

**Past and ongoing/planned projects/programmes**

- Transforming Tanzania charcoal sector project (TTCS)
- Forest Justice in Tanzania (FJT)
- Reducing Emissions of greenhouse gases from Deforestation and forest Degradation (REDD+).
- Climate change, Agriculture and poverty alleviation
- Mama Misitu Campaign

### xi) Eastern & Southern African Universities Research Programme (ESAURP)

**Vision:** ESAURP approach provides a vision endow with complete spectrum from initial research, policy formulation, mass media publication, to public involvement through seminars and workshops.

**Mission**: ESAURP mission is to provide practical solutions to issues concerning human resources, capacity building, sustainable growth and good governance using universities' resources and capabilities.

**Area of focus/Activities:** Research, Publication, Consultancy, Training and Seminars.

**Past and ongoing/planned projects/programmes**

- University and tertiary education capacity in eastern and southern Africa,
- Policy Orientated Research on challenges to national economies,
- Education for Democracy,
- Enhancing Governance.
- Formalization of Informal Sector to Access Financial Services
- Economic Opportunities for the Magufuli Years "Shoots of New Growth"
- Skills Development
- Economic Inclusion of Marginalized Groups

## 8.3 Main Barriers for CSO Involvement in National Climate Policy

- Poor coordination among CSOs/NGOs involved in Climate change area, working in isolation. Lack of a strong and long-lasting platform to bring CSOs together and actively participate in policy development.
- Limited knowledge on climate change policies related issues among CSOs/NGOs. Insufficient information by CSOs to support voices calling for climate change policy
- Financial constraints, government and CSOs/NGOs overdependence on donor/grants to implement climate change interventions. Lack of enough resources to bring CSOs to come together.
- Weak sharing of best field experiences and in some cases low technical capacity, limited knowledge and poor advocacy approaches. Poor Timing- Most CSO's are engaged in the process during the last time as the results most of their views are not reflected in the final policies. There is a need to find the best way to push/lobby the government to consider CSO's comments in the final policy documents
- Unclear focus and priority of government towards climate change policies. Low political to prioritize climate change issues
- Poor communication strategy, e.g. few members can access their emails regularly.
- Fear of the NGOs to be critical of the government (threatened freedom of speech)
- Low commitment among CSOs, less focus on climate change (very few CSOs have climate change agenda in their plans)
- Low awareness on Climate change in general at different levels.
- There is poor coordination and cooperation among various government sectors on issues related to climate.
- High cost in consultation of various stakeholders in policy development is a barrier for poor stakeholders' engagement.
- Poor enhancement of multi-stakeholder participation in the process.
- Some CSOs cannot enable the public to follow the negotiations by translating science into simple language.

## 8.5 Possible role of capacity building and other support to increase CSO-involvement in climate policies.

- Undertake researches for evidence based advocacy works. Build capacity of CSOs to be able to design and undertake appropriate advocacy work (communication approaches, timing, target, authority,
- Analytical skills in support of pro-poor development in general. Analytical information about a concept of "Pro-poor" in bases of the activities undertaken by the poor. For instance, if we promote pro-poor low emission in implementing the PA, then what should be done on sectors like agriculture where the poor depends for income and livelihood, etc.
- Research and development on climate change policy development in agriculture and renewable energy sectors. Apply pro-poor approach, establish link between climate change and livelihoods.
- Enhance advocacy capacity of CSOs to amplifying community views and voices

- CSOs need to organize themselves and establish clear mechanism for the government to involve CSOs in policy issues.
- Strengthen the coalition and establish strong coordination for CSOs working in climate change sector.
- Build alliances, coalitions, networks at local and global level where CSOs could share and exchange knowledge and come up with solutions to influence climate change policies.
- Build capacity of CSOs on climate finance and its landscape (Multilateral and Bilateral) to tap the existing opportunities.
- Capacity Building of CSOs on climate change technical related matters. Raise awareness and disseminate information on the Paris Agreement (PA) in general and the associated opportunities for the country.
- Enhance technical capacity of CSOs to be able to identify gap in national policies and priorities in relation to global agreements e.g. SDGs, Paris Agreement
- Enhance capacity of CSOs to push for harmonization of policies and legal instruments.
- Articulation of climate change into plans, projects and programs of the partners/CSOs
- Build the capacity of Youth and Women on climate change policy related issues.
- Enhance capacity of CSOs to develop technical project proposals and reports
- Empower CSOs to undertake Result Based Monitoring and Evaluation.

### 8.6 Recommendations and Conclusion regarding CSO Cooperation for PIPA project

Currently twenty CSOs (fourteen organizations and six networks) are participating in the implementation of the PIPA project in Tanzania. There exist different capacities within CSOs in terms of knowledge and experience in the area of climate change. The NDC, LEDS, GCF seem to be new topics to the majority of the CSOs, but of high interest to them. The study findings indicate that there is ineffective involvement of CSOs in climate policy development. Poor coordination, limited knowledge on climate change and advocacy approaches, financial constraints, and unclear focus are among the main barrier to effective involvement of CSOs in the development of the national climate policy. Capacity building in terms of knowledge enhancement, advocacy techniques including use of research for evidence based advocacy, knowledge sharing and exchange could be one way to ensure meaningful participation of the CSOs in the PIPA project. Furthermore, the need to address coordination among CSOs is of key importance to sustain the effort. There is a need to chart out and agree on how to address the issue of coordination even after the PIPA project period. PIPA project should continue strengthening the coalition and its members.

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## Annex 1: Key Informants

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Leonard Pesambili, National Energy Efficiency Expert, Energy Efficiency Component, GiZ, Tanzania.

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