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# STAKEHOLDER MAPPING AND ANALYSIS FOR CLIMATE CHANGE POLICY IMPLEMENTATION IN TANZANIA

## Prepared by:

Hope Okuthe  
Alfred Nyambane  
Nicholas Ozor

## Design and Layout:


Susan Aquila Mburu



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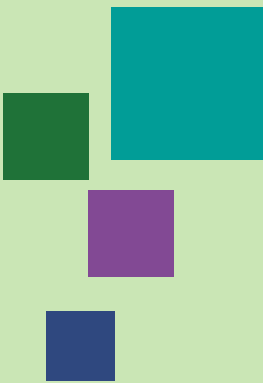
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## ACRONYMS AND ABBREVIATIONS

ARU	Ardhi University Tanzania
CSA	Climate Smart Agriculture
CSO	Civil Society Organisation
CRDB	Cooperative Rural Development Bank
DoE	Department of Environment
EMA	Environmental Management Act
EIAS	Environmental and Social Impact Assessments
ForumCC	Forum for Climate Change
GDP	Gross Domestic Product
GHG	Greenhouse Gas
HNAP	Health National Adaptation Plan
INDC	Intended Nationally Determined Contribution
ITV	Independent Television
LGA	Local Government Authority
MDAs	Ministries, Departments and Agencies
MRV	Measurement, Reporting and Verification
NDC	Nationally Determined Contribution
NCCRS	National Climate Change Response Strategy
NCCTC	National Climate Change Technical Committee
NCMC	National Carbon Monitoring Centre
NDA	National Designated Authority
NEAC	National Environmental Advisory Committee
NEMC	National Environmental Management Council
NEMPSI	National Environmental Master Plan for Strategic Interventions
NEP	National Environment Policy
NMB	National Microfinance Bank
PO-RALG	President's Office-Regional Administration and Local Government
SUA	Sokoine University of Agriculture
TaTEDO	Tanzania Traditional Energy Development Organisation
TANROADS	Tanzania National Roads Agency
TARI	Tanzania Agricultural Research Institute
TBC	Tanzania Broadcasting Corporation
TMA	Tanzania Meteorological Authority
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
USD	United State Dollar
VPO	Vice President's Office – Department of Environment
WB	World Bank
ZCCS	Zanzibar Climate Change Strategy
ZCCTC	Zanzibar Climate Change Technical Committee

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## **EXECUTIVE SUMMARY**

Tanzania has implemented various initiatives to combat climate change, including the development of strategies, policies and programs to reduce greenhouse gas (GHG) emissions, promote sustainable development and enhance resilience to climate impacts. The country's implementation of its Nationally Determined Contributions (NDCs) demonstrates a concerted effort to address climate change through a comprehensive framework that integrates climate goals into national development plans and strategies. The country has made significant strides in mobilising financial resources, establishing governance structures and fostering public-private partnerships, particularly in renewable energy projects. However, challenges remain, including insufficient domestic funding, capacity constraints and data gaps. Financial mobilisation remains well below the estimated USD 19.2 billion required for NDC implementation. Despite the achievements, obstacles remain, including insufficient domestic funding, capacity constraints and gaps in the MRV system. The country can accelerate the deployment of effective climate actions through improved international support, enhanced data systems, and strengthened policy frameworks. Engaging communities and promoting sustainable practices will further bolster resilience.

## **1. INTRODUCTION**

### **1.1 Background**

The United Republic of Tanzania is located at the East Coast of Africa, stretching from Lake Tanganyika in the West to the Indian Ocean in the East, Lake Victoria in the North, Lake Nyasa and River Ruvuma in the South. It shares borders with Kenya and Uganda to the North, Rwanda, Burundi, Democratic Republic of Congo and Zambia to the West, Malawi and Mozambique to the South. The country's total area is 945,087 square kilometres, with the mainland covering 939,702 square kilometres and the islands of Zanzibar, in the Indian Ocean, comprise of 2,654 square kilometres. Tanzania's mainland is dominated by large central plateaus covered with grasslands, plains and rolling hills. The Serengeti Plain is a large geographical area that spans some 30,000 km<sup>2</sup>. The country has some belts of highlands including Mount Meru (4,566 m above mean sea-level), Mount Kilimanjaro (5,895m above mean sea-level)-the highest Mountain in Africa, and other mountain ranges such as Livingstone, Kipengere, Udzungwa, Uluguru, Nguu, Usambara and Pare (NDC, 2021).

Tanzania is endowed with abundant, unique and valuable environmental resources which contribute to more than 70% of the national Gross Domestic Product (GDP) and the livelihoods of the majority of the people. These resources among others include: arable land, forests, marine and freshwater sources, wetlands, wildlife, mountains, natural gas and minerals (National Environmental Policy, 2021). The economy is largely dependent on natural resources including forest, water, marine and freshwater bodies, wetlands, wildlife, land, natural gas and minerals. However, unsustainable utilization practices, driven by over-reliance on natural resources has put additional strain on them. According to the Tanzania Nationally Determined Contribution (NDC) 2021, the Country would require an investment of approximately USD 160 billion for mitigation activities aimed at achieving 100% renewable energy for electricity, buildings, and industry by 2050. Tanzania is experiencing changes in climate in many parts of the country, whereby, temperature increases by 1<sup>0</sup>C have been observed since the 1960s. Both land and sea temperatures in the country have been increasing since 1980 and rainfall shifts and changes are evidenced by increasing and decreasing trends and strong variability since the 1970s.

The country has a population of over 64 million, with a majority residing in rural areas that depend on rain-fed agriculture. However, this livelihood is threatened by rising temperatures, prolonged droughts and intense rainfall patterns. Additionally, these people depend primarily on coastal and inland fisheries, which are vulnerable to sedimentation and warming ocean and freshwater temperatures.

Tanzania has a number of climate-sensitive diseases such as cholera and malaria that become prevalent during droughts and floods. Research shows that the initial risk of cholera increases by 15% to 19% for every 1°C increase in temperature. It has also been projected that the total cost of cholera attributable to climate change variability will be in the range of 0.32% to 1.4% of the national GDP for Tanzania in 2030.

The country is vulnerable to adverse impacts of climate change particularly droughts and floods causing major economic costs, agricultural pests and diseases, reducing long-term growth, and disrupting the livelihoods of both rural and urban communities. Climate change impacts are affecting agricultural production, water resources, marine and coastal zones, public health, energy supply and demand, infrastructure, biodiversity, and ecosystem services (NDC, 2021). Current climate vulnerability and future climate change impacts are significant enough to curtail Tanzania from achieving key economic growth, sustainable development, and poverty reduction targets.

Tanzania has implemented various initiatives to combat climate change, including the development of strategies, policies and programs to reduce GHG emissions, promote sustainable development and enhance resilience to climate impacts. Some key actions include: the development of the National Climate Change Response Strategy (NCCRS, 2021-2026), NDC 2021, the Zanzibar Climate Change Strategy (2014), Health National Adaptation Plan (HNAP, 2018-2023)- under review for 2024-2030, The Environmental Management (Control and Management of Carbon Trading) Regulations, 2022, National Environmental Master Plan for Strategic Interventions (2022 – 2032) and other sectoral Policies, Acts, Guidelines and Strategies. These frameworks also provide guidance to stakeholders to enhance adaptive capacity to climate change in order to support long-term climate resilience of social systems and ecosystems and to facilitate participation in climate change mitigation activities to contribute to international efforts while ensuring sustainable development.

The country has initiated programs to promote the use of energy-efficient appliances and practices. The recently launched *Tanzania Clean Energy Transition Report* provides a mix of modern mini and off-grid solutions that can be used to complement grid expansion, as well as technical and commercial solutions needed to leapfrog fossil fuel technologies and build a resilient and sustainable energy system based on renewable energy. Furthermore, Tanzania launched several initiatives to increase forest cover and reduce deforestation in the country. The National Forest Plantation Development Programme is one of these initiatives, with the goal of planting 300,000 hectares of trees (National Forest Policy Implementation Strategy, 2018-2028). Tanzania has also focused on promoting sustainable agriculture practices in order to reduce greenhouse gas emissions from the agricultural sector. This includes agroforestry, conservation agriculture, and sustainable land management programs.

The Vice President's Office (VPO) serves as Tanzania's national climate change focal point for the UNFCCC but faces resource constraints. Sector ministries and local government authorities (LGAs) are responsible for implementing adaptation and mitigation measures, but often struggle to prioritise climate change among environmental issues. Coordination mechanisms exist but there is a need to strengthen institutional capacity to effectively drive NDC implementation.

## **1.2 Rationale for the study**

Tanzania is highly vulnerable to climate change but less prepared to address its impacts, and needs to put in place adaptation actions to safeguard development gains and achieve its development

targets.<sup>1</sup> The priority sectors for both adaptation and mitigation were identified through a review of national policies, legislations, strategies, programmes, action plans, informative reports, UNFCCC decisions, global goals and other initiatives and concepts that foster development and take into account gender equality and good governance as well as nature-based solutions (NDC, 2021).

There are established policy frameworks to address climate change, however, the institutional infrastructure for systematically addressing climate related issues is somewhat lacking. The Division of Environment in the Vice President's Office (VPO) serves as the focal point for climate change matters, overseeing Tanzania's international climate engagements, and spearheading the formulation and implementation of the NDC. Despite its pivotal role, the VPO has a small climate team as part of the Division of Environment. Environmental units within various line ministries are responsible for addressing climate change alongside other environmental issues, but none is designated solely as climate-change specific (Nachmany, 2018). Within line ministries, climate considerations are viewed as a subset of broader agendas – climate change is often regarded as only one way to consider issues such as development, poverty alleviation, food security and land management. High levels of uncertainty over future projections of rainfall (Pardoe et al, 2017), and the long-term horizons used for predicting climate change, can make the political assessment of climate change a low priority issue. This may in turn result in climate being ignored in planning procedures as it will be viewed as one of several environmental concerns.

Tanzania lacks a centralised monitoring system that will capture data from every entity that is working on climate change. Actions are being taken by different stakeholders around mitigation and adaptation, but data collection and monitoring is a challenge.

### **1.3 Objectives and Scope of Study**

The objectives of the stakeholder mapping and analysis study include:

- i) Identify key stakeholders across the five stakeholder categories/clusters (Government, Non-Governmental Organizations/Civil Society Organisations, Private Sector, Researchers media and International Development Partners).
- ii) Establish the role of the actors, their linkages, power and influence.
- iii) Identify best practices, challenges and possible opportunities for the implementation of NDCs in the country.

## **2. METHODOLOGY**

The research study used both primary and secondary data. The following approaches were employed to collect data.

### **2.1 Desk studies**

The bulk of the data was collected through desk studies. A review of all grey and published materials from reports and other secondary information (NDCs, Climate change policies etc) was undertaken to collect information already available in the public domain. These documents include (a) National climate change policies and strategies, (b) Reports on climate change projects and initiatives in the

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<sup>1</sup> Tanzania's high climate vulnerability in all parts of the country was confirmed through a stocktaking analysis as part of the NAP process.

country, and (c) various knowledge and research work on climate change on climate change mitigation and adaptation in the country.

## **2.2 Key Informant Interviews and Surveys**

The secondary data was complemented with primary data where quantitative and qualitative surveys were conducted using both structured and open-ended questionnaires. Based on the information obtained from the desk studies, key informants in the country of focus were identified and interviewed to obtain deeper insight.

## **2.3 Focus Group Discussions**

Focus group discussions were conducted to triangulate the data and information obtained from desk studies and KIIs. Some of the participants were drawn from the key informants from the different stakeholder categories (**Government, Private sector, Civil Society/NGOs, Researchers and Media/Development partners**).

## **2.4 Data Analysis**

Each data collection method resulted in various data sets being collated. The desk review resulted in various notes being written. Each interview was transcribed, and detailed notes were written up. The quantitative data was analysed, and results were presented in summary tables, graphs as deemed appropriate. Qualitative data from the desk review notes, reports, virtual interviews were analysed using narrative analysis.

## **3. FINDINGS AND DISCUSSIONS**

Tanzania's updated NDC aims to reduce emissions economy-wide between 30-35%- up from 10-20%, relative to BAU scenario by 2030. The year 2000 was used as a base year for calculating the BAU baseline projection scenario. The NDC provides a set of interventions on adaptation and mitigation, which are expected to build the country's resilience to the impacts of climate change and contribute to the global effort of reducing GHG emissions. The country's NDC estimates a total budget of USD 19,232,170,000 for its implementation but the resources required are beyond domestic capabilities thus the process depends largely on support from the international community. The domestic contribution to adaptation measures is not mentioned.

Some areas for clarification are:

1. What systems are in place to allow the country to access international finance?
2. What efforts have been put in place to engage women, youth and vulnerable communities when incorporating feedback and promoting their engagement? What actions have been outlined to include women and girls in climate action?
3. What support will be provided for inclusion of youth in climate action?
4. What plans are there to establish and centralise the monitoring and evaluation process at national and sub-national levels?
5. What support will be provided for inclusion of youth in climate action?
6. What plans are there to establish and centralise the monitoring and evaluation process at national and sub-national levels?

7. Despite set out governance structures for implementation, are there mechanisms for follow-up procedures and compliance?
8. What arrangements does the country have for an open platform for stakeholders to access relevant climate information?

## **Governance**

While relevant Ministries, Departments and Agencies (MDAs) have been incorporated into the NDC to a considerable extent, the implementation of the guidelines for delivery remains low. For instance, although the Environmental Management Act 2004 stipulates that every ministry, Local Government Authority (LGA) and institution should establish an environmental unit to facilitate the delivery of NDC, this requirement is inadequately enforced. As a result, the effective implementation of NDC-related initiatives faces challenges due to the incomplete adoption of prescribed guidelines across government bodies and institutions.

The implementation plan of the NDC acknowledges the involvement of the private sector and civil society, yet its execution remains inadequate. There is insufficient information regarding implementation of NDC targets by private sector and civil society, leading to limited accountability in reporting mechanisms. Although the private sector contributes technical and financial resources to fulfil the targets, these efforts may be unrecognised and are not systematically documented within the monitoring, reporting and verification (MRV) system.

Gender mainstreaming is evident in the implementation of Tanzania's NDCs, with various initiatives aimed at empowering women, youth and people with disability. For instance, the government allocated over 77,000 ha of land for irrigation for block farming, specifically targeting youth involvement through the project "Building a Better Tomorrow-Youth Initiatives for Agribusiness (BBT-YIA)." Numerous initiatives engage these demographic groups in NDC implementation efforts. However, there is a notable lack of MRV across sectors regarding the extent to which gender mainstreaming has been integrated into NDC implementation processes.

## **Mitigation**

The Tanzanian government has effectively identified four key mitigation sectors: energy, transport, forestry and waste management. To achieve this, they are advocating for the diversification of power generation by promoting clean energy sources like wind, solar, geothermal, and natural gas. Notably, the country is engaged in climate-smart rural electrification initiatives and is investing in flagship projects such as the construction of bus rapid transport networks, electrified standard gauge railway and the Mwalimu Nyerere Hydropower plant. These efforts aim to mitigate emissions, particularly from a significant number of vehicles, and advance sustainable development. The most significant areas for maximising GHG emission mitigating opportunities include reducing deforestation resulting from agricultural activities and livestock keeping, as well as addressing emissions from the transport and industrial sectors.

Various stakeholders play distinct roles in achieving mitigation targets. The government and private sector are tasked with financing, technology transfer, and crafting policies, strategies and plans to meet mitigation targets. Research institutions are responsible for conducting research and fostering innovation, while CSOs, development partners and media focus on capacity building, raising awareness, implementing community-level projects, advocating for policy implementation and

influencing policy change. Each stakeholder group contributes differently to the realisation of mitigation goals, forming a collaborative network to address climate challenges.

The National Climate Change Steering Committee (NCCSC) and National Climate Change Technical Committee (NCCTC) streamline intersectoral collaboration through identified national mitigation potentials. However, sectoral coordination varies, with energy and forestry being relatively well-coordinated due to clear benefits and established frameworks for carbon trading and renewable energy, while sectors like transport and waste management lag due to less direct linkage to mitigation outcomes or less developed policy frameworks.

## **Adaptation**

Tanzania has made significant progress in preparing for climate change impacts through the development of national and sectoral plans. Recent developments include: development of Climate Adaptation Country Compacts (2023) under the Africa Adaptation Acceleration Program (AAAP) and review of the Agriculture Climate Resilience Plan. The country National Adaptation Plan of Action (NAPA) highlights the vulnerability of each sector to climate change impacts in the country. Additionally, it shows adaptation strategies, prioritisation and targets in adaptation in each sector. The NAP process continues but lacks transparency and stakeholder participation, as well as information regarding updates on the process.

In Tanzania, climate change adaptation is financed by international development assistance and by nationally generated revenue. About USD 6.2 billion has been allocated for climate change adaptation from global sources between 2010 to 2018 (Kibona et al.,2021). The allocation of climate change adaptation finance to different adaptation interventions is done through the Tanzanian national budget, within development projects budget.

Efforts to implement resilience and adaptation strategies involve various organisations and initiatives. The Tanzania Agricultural Research Institute (TARI) focuses on researching new and improved crop varieties, reintroducing certain varieties and promoting the cultivation of early maturing crops to enhance agricultural resilience. The Tanzania Meteorological Authority (TMA) is responsible for disseminating weather information and monitoring climate while raising awareness about effective use of climate data. Additionally, the Tanzania Roads Agency (TANROADS) integrates climate information in the designing and construction of roads to enhance infrastructure resilience to climate related challenges. These measures aim to bolster Tanzania's capacity to adapt to changing climate conditions and mitigate potential risks.

Other adaptation strategies encompass a range of approaches across various sectors. These include the adoption climate-smart agriculture (CSA) such as the used of improved seeds varieties and fertilisers, coupled with enhanced extension services to support farmers. Efforts also involve diversifying energy sources to reduce reliance on fossil fuels and enhance energy security. In coastal areas, the construction of sea walls helps to mitigate the impact of rising sea levels, while improved early warning systems aid in forecasting and preparing for extreme weather events. Furthermore, initiatives promoting climate-smart integrated water resources management aim to ensure sustainable water use and resilience to climate change impacts. These strategies collectively contribute to Tanzania's resilience and adaptive capacity in the face of climate variability and change.

## **Financing**

Tanzania has been receiving funds from the UNFCCC financial mechanism and other bilateral and multilateral institutions and private sector. The Action Plans identified in the NCCRS and ZCCS have indicated budgetary requirements for implementing climate actions, but the source of financing required to realise the Paris agreement is dependent on external financing. The country has increasingly aligned its climate strategies with the NDCs under the Paris Agreement, emphasising sustainable development and resilience building in key sectors like agriculture, energy and forestry. Notable incentives include: Tanzania Green Climate Fund (GCF) readiness program, ongoing collaborations with international partners and the private sector and the establishment of innovative financing mechanisms, such as results-based financing and blended finance models.

The Third National Development Plan (FYDPIII) has identified potential opportunities for establishing a Climate Change Fund (CCF) as one of key strategic interventions for enhancing resource availability, and has also realised the need to establish a National Climate Change Financing Mechanism (NCCFM) for coordinated and enhanced mobilisation of these funds (MoFP, 2021). There is need for a comprehensive evaluation of the financial framework for NDC development in Tanzania. Funding can be mobilised by integrating NDC into government budgetary systems and aligning them with stakeholders' budget allocations to implement targets that are not yet captured in the MRV system. The private sector can increase financing through Public Private Partnerships (PPP). The operational financial instruments can be viewed through PPP eg the Cooperative Rural Development Bank (CRDB) bank is accredited to the Green Climate Fund for supporting climate resilient development projects.

Between 2021-2024, Tanzania received climate finance from various institutions, including the GCF, World Bank and AfDB to support projects on climate change adaptation, sustainable energy, transportation and conservation. However, there is limited capacity for many institutions to develop bankable projects, limiting their ability to secure funding and implement impactful mitigation and adaptation projects. Despite these challenges, private sector involvement in climate financing is also growing, with several banks and financial institutions offering green financing products. They include: Cooperative Rural Development Bank (CRDB) supporting climate resilient development projects, NMB offering sustainable finance and various microfinance institutions supporting small-scale renewable energy efforts and sustainable agriculture.

## **Measuring, Reporting and Verification**

The MRV system is still under development through integrated GHG-NDC MRV portal where all the information needed for transparency, traceability and accountability will be available. However, the current system mainly archives GHG emissions from forest degradation and deforestation, lacking innovative approaches to gather NDC implementation data from sector ministries and LGAs. There is a proposal to introduce simplified reporting forms for sector ministries, encouraging them to provide impactful information on the NDC implementation progress. The form could generate information that could translate to multiple achievements of the NDC commitments. Stakeholders, including CSOs are tasked with raising awareness about NDCs and facilitating the integration of mitigation and adaptation initiatives into the MRV system. Additionally, the private

sector is expected to offer relevant technologies like energy-efficient appliances, while the financial institutions provide funding for investments including start-ups with CSOs focusing on capacity development.

While data on GHG emissions is available it lacks organisation to offer insights into the achievement of the implementation of the NDCs at sectoral levels. There is adequate capacity to obtain reliable data regularly to monitor progress towards NDC implementation. To achieve this, each sector ministry needs a dedicated section to communicate and monitor NDC targets within their respective sectors, providing quarterly implementation reports to the MRV system. This structured approach aims to enhance data organisation and enable meaningful assessment of NDC implementation progress across sectors.

While the country has established several data management protocols and frameworks, including collaboration with the National Bureau of Statistics (NBS), poor coordination systems and tools hinder regular updates for mitigation and adaptation actions and financial flows. The MRV system could be configured such that every report (the five-year cycles, the biannual updates and the annual national communication) can be downloaded from a central point then submitted to the UNFCCC.

### 3.1 Review of National climate change Policies in Tanzania

Tanzania has developed a range of national policies, strategies and plans to address climate change and promote sustainable development. These policy frameworks provide guidance for stakeholders to enhance adaptive capacity, build resilience and contribute to global efforts to reduce GHG gas emissions.

Some of the National Frameworks and Plans developed by Tanzania include:

Policy	Year of Enactment	Mandate of the policy
Environmental Management (Control and Management of Carbon Trading) Regulations	2022	Provides the legal framework for ensuring sustainable development by enhancing environmental conservation and country's contribution towards global efforts on GHG emission reduction
National Environmental Master Plan for Strategic Interventions (2022-2032)	2022	Guides strategic and coordinated environmental interventions at all levels, based on spatial variation of environmental challenges and intervention options.
National Climate Change Response Strategy 2021-2026	2021	Replaced the 2012 version aimed at enabling the country to effectively adapt to climate change and participate in global efforts to mitigate climate change, whilst also

		achieving sustainable development
National Environmental Policy	2021	Revises the NEP of 1997 aiming for environmental integrity, assurance of food security, poverty alleviation and increased contribution of environmental resources to the national economy
National Climate Change and Health Adaptation Plan (2018-2023)	2018	Builds a foundation for a climate-resilient health system and mainstreams climate change into existing health policies, strategies, plans and programmes
Agriculture Climate Resilience Plan Climate Resilience Plan (2014-2019)	2014	Presents a wide range of adaptation options including but not limited to improving agricultural land and water management, accelerating uptake of climate smart agriculture, reducing impacts of climate-related shocks through risk management, and strengthening knowledge and systems to target climate action
National Environmental Action Plan (2013-2018)	2013	Elaborates the implementation of the National Policy Agenda. Forms the basis for integrating environmental concerns in formulation and implementation of development plans and programmes and outlines the process for governments to set priority actions to improve environmental conditions
National Climate Change Strategy	2012	Developed in response to the growing concerns of the negative impacts of climate change and climate variability on the country's social, economic and physical environment
National Adaptation Programme of Action	2007	Informed by the aspirations of National Development Vision 2025 for high and shared growth, quality livelihood, peace, stability and unity,

		good governance, high quality education and global competitiveness
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*Table 1: Strategies and policies in Tanzania's NDC implementation*

### **3.2 Review of National climate change institutional landscape in Tanzania**

The implementation of climate change initiatives in Tanzania operates under the framework of the NEP (2021), the Environmental Management Act (EMA) 2004 and associated sector strategies, guidelines, plans and legislations. At the national level, the VPO-DoE serves as the custodian of Climate Change activities and is the National Climate Change Focal Point for the UNFCCC, supported by a well-defined NDC implementation Coordination team comprising key institutions. The VPO empowers and supports sector Ministries and LGAs to integrate climate change issues into their planning processes for effective resource allocation and implementation. The VPO oversees the implementation of the NCCRS, NDC and NEP. The VPO-DoE is responsible for Monitoring and Evaluation (M&E) of the overall implementation of the NDC. They provide general policy guidance and advice on formulating, analysing and evaluating comprehensive environmental policies and formulating and reviewing comprehensive environmental goals.

The implementation of the National Strategy for Response to Climate Change (2021-2026) is facilitated at the sector level through sector policies, strategies, guidelines and plans. The President's Office-Regional Administration and Local Government (PO-RALG), in collaborates with the MDAs, coordinates and works closely with the LGAs in the implementation of Climate Change strategies, plans and guidelines. Sector ministries, in cooperation with the LGAs, are responsible for the implementation of the adaptation and mitigation measures. Line ministries and coordinating bodies are responsible for engaging stakeholders appropriately to ensure smooth implementation of the NDC commitments and its outcomes.

The ministry overseeing Local Government and the Regional Secretariat provides a link between the Regional Secretariat and the ministry responsible for the environment on environmental matters. LGAs are responsible for implementing environmental initiatives within their respective localities; integrating environmental considerations into their development strategies, plans, programs and projects. They are also responsible for advocating for the protection and conservation of the environment; and raising awareness of environmental management issues within their jurisdictions.

The National Climate Change Steering Committee (NCCSC) and National Climate Change Technical Committee (NCCTC) facilitate articulation and provide technical advice and policy guidance to ensure coordinated action and multi-stakeholder participation in addressing Climate Change in the country. The Permanent Secretary -VPO chairs the National Climate Change Steering Committee (NCCSC) and the Environmental Director chairs the National Climate Change Technical Committee (NCCTC). The National Climate Change Steering Committee (NCCSC) and the Zanzibar Climate Change Steering Committee (ZCCSC) are responsible for leading the coordination and implementation of the NDC, providing policy guidance and ensuring coordination of actions and cross-sectoral participation. The National Climate Change Technical Committee (NCCTC) and the Zanzibar Climate Change Technical Committee (ZCCTC) are responsible for

providing technical advice to the Office of the National Designated Authority (NDA) after receiving and reading the information from the National Carbon Monitoring Centre (NCCMC).

The NCCMC hosted at Sokoine University of Agriculture (SUA), was established to enhance national capacity to measure and verify data on the sector's greenhouse gas emissions and ensure effective management and appropriate reporting of the sector's CO<sub>2</sub> emissions at national and international levels. The NCCMC is responsible for the overall planning, coordination and management of the MRV system. To achieve the goals of Tanzania's NDCs, each sector ministry is required to designate a technical expert team responsible for collecting, processing and tracking the necessary data related to mitigation and adaptation actions as well as associated financial flows. These sector ministries, in collaboration with the LGAs, are tasked with gathering data and producing reports essential to monitoring the progress of mitigation and adaptation actions. However, challenges still persist in terms of expertise, resources, and circumstances to support the process effectively.

The Development Partners (DPs), play an important role in Tanzania's efforts to address climate change. Through bilateral and multilateral agreements, they provide capacity building, facilitate technology development/transfer, financial support, and resource mobilization to assist the Government in implementing its Climate Change Strategy. They work to complement Government initiatives related to environmental management by providing technical and financial support and participating in the integration processes.

CSOs play a vital role in climate change and grassroots development, addressing capacity gaps that ministries and their sub-national structures may face. With a strong grassroots presence, CSOs facilitate information flow, community mobilisation, complementing government initiatives. They contribute to environmental conservation, education, public awareness, capacity building, empowerment and implementation of alternative livelihood activities. They serve as crucial intermediaries between communities and government entities, fostering collaboration and sustainable environmental management.

The private sector has a role to play in implementing innovative initiatives to address the climate crisis, in collaboration with the Government through PPP, corporate social responsibility (CSR) and resource mobilization mechanisms. They support environmental management initiatives and invest in environmentally friendly technologies. The National Climate Change Response Strategy encourages NGOs, CSOs, Faith-Based Organizations, Educational Institutions and other stakeholders to facilitate community-level adaptation and mitigation initiatives. The Department of Finance and Planning, along with other stakeholders, is working to ensure the availability of financial resources for environmental management.

The National Environmental Management Council (NEMC) is responsible for enforcement and compliance with environmental management laws. It also reviews and monitors Environmental and Social Impact Assessments (ESIAs) to enhance environmental communication, education, public awareness and research on sound environmental management.

The National Environmental Advisory Committee (NEAC) advises the Minister and line departments on matters concerning environmental protection and management (Management Act). It is tasked with resolving environmental disputes to uphold environmental justice.

Academic and research institutions are responsible for conducting research, disseminating research results and developing human capital.

Local communities play a large role in environmental protection and management in their respective geographic areas as well as demand action and hold their local leaders to account.

The media has a role to solicit and disseminate researched information, prepare communication materials, disseminate guidelines and strategies through various media platforms, raise public awareness and provide timely and accurate information.

### **Priority sectors for Adaptation**

#### **Agriculture**

The agriculture sector is the main source of livelihood, accounting for about 28.7% of GDP and employing about 65.5% of the total population (MoA, 2020). The constraints to agricultural growth are largely related to low productivity of land, labour and production inputs, underdeveloped irrigation potential, limited capital and access to financial services, inadequate agricultural technical support services, poor rural infrastructure; infestations and outbreaks of crop pests and diseases; erosion of natural resource base and environmental degradation (MoA, 2013).

#### **Objectives relating to NDC implementation**

The National agriculture policy prioritizes strengthening the sector for increasing productivity and competitiveness through strategic efforts such as research, technical support and services (research, resources & allocation) and accelerating the development of specific climate response in the sector. For Tanzania, the ministry of agriculture is leading in terms of the development and implementation of climate-related plans and guidelines as pathways to implement the policy and build its resilience to climate change. Altogether, the efforts complement adaptation priorities outlined by the National Climate Smart Agriculture guidelines (2017) and the National Climate Smart Agriculture Programme (2015-2025).

In reference to the CSA, the objective creates a strong alignment with the broad national objectives of the agricultural sector of contributing towards the attainment and maintenance of a domestic supply of main food items, production of raw materials for industries and creation of gainful employment of men, women and the youth. Similarly, the CSA Programme is aligned with the Water Resources Management Strategic Interventions and Action Plan for Climate Change Adaptation.

#### **Objectives relating to Environmental management**

In the Ministry of agriculture, there is a section dedicated to work on environmental issues linking their interventions with responses to climate change. In the ministry, the environmental related undertakings include monitoring compliance with the requirement of the EMA within the Ministry,

advising on policy and legal reviews on environment management and climate change in the Agriculture sector in collaboration with the VPO-DoE, In this area, the ministry also monitors environmental protection compliance in the Agricultural sector; oversee the implementation of policies, strategies, programs and plans to minimize adverse social-economic impacts due to agricultural activities, as well as preparing and coordinate the implementation of Agricultural sector environmental and climate resilience action plans across levels as required under the EMA (2004) and the National Climate Change Response Strategy (2021).

### **Objectives relating to Climate change adaptation & mitigation**

Policy actions in the implementation of the agriculture policy in Tanzania have strong Synergies in adaptation and mitigation efforts to enhance resilience building and reducing GHG emissions from agriculture activities and products. For instance, in the CSA practices.

The focus insists on agricultural activities and practices that help to reduce the vulnerability of Tanzania's agriculture sector by increasing productivity, enhancing adaptation and resilience of the farming systems and reducing emissions intensity in the context of achieving food and nutrition security, sustainable development and poverty reduction. This is done with the recognition that the agriculture sector is the source of GHG emissions, therefore most of the adaptation actions have mitigation co-benefits. For instance, most of the options put in place to accelerate adaptation actions that increase soil carbon have beneficial effects on soil fertility but as the same time reduce GHG emissions from agricultural practices.

Among many other actions, implementation of the agriculture policy prioritizes the promotion of the adoption of low-cost climate-smart technologies that minimize the emission of carbon dioxide and enhance soil carbon sequestration, and developing a national carbon accounting and measurement, reporting and verification system which informs the National Carbon Monitoring Centre (NCCM), CSA, (2017); National Climate Smart Agriculture Programme (2015-2025).

### **Livestock**

#### **Objectives relating to NDC implementation**

The Livestock Industry has an important role to play in building a strong national economy and in the process, reducing inequalities among Tanzanians by increasing their incomes and employment opportunities, while nurturing natural resources. It is among the priority sectors outlined in the NDC. In the policy, there is no explicit statements, issues or action related to climate change. However, this does not imply that nothing is done in response to climate change in the livestock sector, but through other plans and strategies, promotion and implemented activities in the livestock sectors are entirely climate-related responses. For instance, through multisectoral engagement as stipulated in the national Environmental Management Master plan (2022-2032), the government has put in place some initiatives to address the environment and climate change challenges in sensitive plain wetlands caused by mobile livestock keepers who are moving to find green pastures. The government, therefore, has been developing and implementing the Urgent Actions on the Conservation and Management of Land and Water Sources, Conservation and Management of the Great water sources such as Ruaha River Sub Basin.

### **Environmental management**

Implementation of the Livestock policy recognizes that increased livestock populations and human activities related to livestock production in some areas of the country have resulted in the over-exploitation of natural resources. This has led to overgrazing, soil erosion, deforestation, destruction of water sources and environmental pollution. Also, the policy is aware that constraints to environmental conservation in livestock production include low awareness among stakeholders, low priority accorded to the allocation of land for livestock use, inadequate expertise, and inter-sectoral coordination.

With this situation in mind, the policy has a specific objective (section 2.3 (iv) focusing on promoting integrated and sustainable use and management of natural resources related to livestock production in order to achieve environmental sustainability. Some of the actions and activities implemented to conserve the environment include livestock development, particularly in the provision of knowledge, information, capacity building and mobilization of resources at the grass-root level (Livestock Development Policy, 2006).

### **Climate Change adaptation & mitigation**

Climate change and mitigation efforts in the livestock sector are spearheaded in the CSA based on the indicators that is contributes the most to agricultural GHG emissions. This is because, in practice, the livestock sector is embedded in a wider agriculture definition which is comprised of the crops, livestock, fisheries, forestry and hunting subsectors (Agriculture policy, 2013). In this regard, an increased focus on the development and scale-out of livestock-based CSA programs such as improved fodder production, grazing management, water harvesting, intensive and semi-intensive systems as well as improved crossed or pure livestock breeding is key climate action to build the sector's resilience to different climate shocks and threats (CSA, 2017). Thus, an increased focus on the climate actions in the livestock sector and scale-out of livestock-based CSA programs are increasingly implemented in order to support the country along a low emissions development pathway

### **Forestry**

#### **Objectives relating to NDC implementation**

Tanzania is one of the fourteen biodiversity hotspots in the world, and the National Forest Policy has been implemented in recognition of this uniqueness and emphasizes implementing programs and conservation initiatives and utilization of biodiversity while complying to prevent and control the pressure contributed by climate change. Referring to the way forest policy and relevant guidelines are implemented, and the fact that it is both an adaptation and mitigation priority sector in the NDC, it has the objectives such as Ensuring ecosystem stability through the conservation of forests biodiversity, water catchments and soil fertility which contributes to the NDC implementation across sectors and independently as a forest-protection led activities (National Forest policy 1998).

#### **Objectives relating to Environmental management**

The specific objective is set in the policy to implement environmental management in line with other priority actions in other sectors such as land. Among the policy action initiatives which contribute to environmental conservation are institutions such as Central & Local governance of forest reserves and administrative collaboration of environmental protection programs across sectors related to land use. But importantly, the policy actions contributing to environmental management are linked with collaborative actions in agriculture, wildlife, environment, land development, water, energy and mineral (National Forest policy 1998).

### **Objectives relating to Climate Change adaptation & mitigation**

Implementation of the Forest policy recognizes climate change mitigation and adaptation, and therefore the role of institutional framework and arrangements of necessary resources to finance inputs that meet pre-conditions for proper adaptation and mitigation to the adverse effects of climate change have been key. However, the policy does not explicitly mention direct actions that will be implemented to curb the ever-increasing climate change effects and challenges, despite several climate-compatible actions taken in different aspects of sustainable forests management, biodiversity conservation, employment creation and water catchment protection (National Forest policy 1998).

### **Energy**

#### **Objectives relating NDC implementation**

In 2015, the National energy policy was revised and a of the areas emphasized was to increase the contribution of Renewable energy into the national energy mix. Up to 50%., In this regard, and in line with a contribution to the NDC implementation, the energy policy is implemented in a way that improves the security of supply to meet the demand of the community, facilitates local capacity building for manufacture, installation, maintenance and operation of rural energy systems and ensure effective use of energy resources; which are key areas the NDC activities are striving to achieve in the coming 5-10 years based on its quest and targets to promoting climate resilient energy systems, exploring options for energy diversification and. Promoting climate-smart rural electrification (NDC 2021; National Energy Policy 2015).

#### **Objectives relating to Environmental management**

The energy policy implementation focuses on improving the security of supply to meet the Energy demand. This being the case, it has specific environmental management initiatives and activities guidelines which among other areas target to have sustainable and reliable energy access emanating from the natural environment. This is because, it recognizes the dominance of biomass use in the form of charcoal and firewood and its contribution to the total national energy consumption, and abundance of renewable energy sources, particularly solar, wind, geothermal, tidal and wave. This is clearly presented in the policy Mission which envisions *providing reliable, affordable, safe, efficient and environment-friendly modern energy services to all while ensuring the effective participation of Tanzanians in the sector.*

The Government is also promoting the extraction of unconventional sources of energy such as natural gas including in an environmentally friendly manner, using different mechanisms and

implementation approaches that altogether promote compliance with environmental management, as well as health and safety standards in the Energy Sector (National Energy Policy 2015).

### **Objectives relating to Climate Change adaptation & mitigation**

Objectively, the energy sector policy recognizes the fact that climate change effect and is a source of challenges in managing and sustaining different energy sources and technologies such as hydro systems, a situation which necessitates a shift to more reliable and resilient sources of energy in the changing climate. In this situation, there have been initiatives such as Sustainable Energy for All (2016), and the inclusion of more renewable energy sources in the National Power Master plan (2019) for the purpose of increasing the contribution of renewable energy in the country's energy mix.

### **Coastal, Marine and Fisheries**

#### **Objectives relating NDC implementation**

Implementation of policy guidelines for sustainable marine resource utilization and fisheries is subject to the fact that if actions are not taken, the resources will undergo depletion if not properly managed and conserved in a sustainable manner. In view of this, the government has initiated various interventions in the policy such as the: establishment of Marine Protected Areas under the Marine Parks and Reserve Unit (MPRU), Surveillance Centres and reintroduction of resource co-management.

Also, the policy is facilitating research in aquatic ecosystems and biodiversity; stock and catch assessment; aquaculture technologies and fish farming systems; fish and fishery products quality, standards and marketing focusing on how emerging issues particularly climate change, environmental challenges; and socio-economics activities can affect the desirable conditions. As far as Coastal, Marine Environment and Fisheries are among the priority sectors in the NDC, the above actions complement much of its actions and increase informed calls for review of the current policy to support fisheries, coastal and marine environmental conservation for climate resilience (NDC, 2021; National Fisheries Policy, 2015).

#### **Objectives relating to Environmental management**

The policy recognizes that marine resources and fisheries production depends on environmental resources such as land, water, air and other resources. The sustainable utilization of these resources is important for the growth and sustainability of the sector. In this situation, environment management guidelines and initiatives directions in the policy are clearly explained including the promotion of public awareness on environmentally friendly fisheries and aquaculture practices, responses to climate change issues and sustainable environmental conservation, strengthening capacity to ensure compliance to fisheries-related environmental laws and regulations while striving to improve adaptation measures to climate change effects and deal with all the risks involved.

#### **Objectives relating to Climate Change adaptation & mitigation**

Activities implementation as guided by the policy on marine and coastal resource management including fisheries recognizes that there are climate change-related effects such as changes in

rainfall patterns and increase in temperatures which affect water levels, aquatic ecosystems, fish breeding sites and species diversity; and fish performance which leads to low fisheries production. In response to this, activities are put in place in the policy and are implemented in different relevant sectors and departments for appropriate fishing and aquaculture practices to conserve the environment and therefore reduce the negative impacts of climate change.

### **3.3 Status of implementation of NDC in Tanzania**

The government submitted its INDC to the UNFCCC in 2015, and an updated version of its NDC in 2021. The updated NDC committed to reducing emissions by between 30-35% by 2030 (including mainland Tanzania and Zanzibar) relative to business-as-usual projections. The low ambition scenario, 30% reduction would result in approximately 138 MtCO<sub>2</sub>e lower the BAU scenario by 2030, whereas the high ambition scenario, 35% reduction, would result in approximately 153MtCO<sub>2</sub>e lower than the BAU scenario by 2030 (NDC, 2021).

The updated NDC covers mitigation actions related to energy, transport, forestry, waste management as well as adaptive actions related to agriculture, livestock, forestry, energy, coastal, marine environments and fisheries, water sanitation and hygiene, tourism, land use and human settlements development, health, infrastructure, disaster risk reduction and other cross-cutting areas. these interventions are expected to build the country's resilience to the impacts of climate change and contribute to the global effort of reducing GHG emissions.

The government also phased out the temporary fuel subsidy in January 2023, which could help reduce GHG emissions. Overall, the updated NDC estimates that the total funding required to support the implementation of climate adaptation and mitigation activities would amount to USD 19.2 billion until 2030. The NDC notes that the country needs international support beyond domestic resources for NDC implementation. Tanzanian authorities have expressed interest in the Resilience and Sustainability Trust (RST) to support its efforts to tackle climate change challenges.

Tanzania has established a comprehensive institutional framework for NDC implementation that includes an MRV system to transparently track progress on mitigation and adaptation actions, regular vulnerability assessments and updates to the GHG inventory, and robust governance structures. The country has also developed a costed NDC implementation plan and is in the process of finalising

The Tanzania National Climate Change Response Strategy (NCCRS) 2021-26, the Third National Development Plan (FYDPIII) and the National Environmental Master Plan for Strategic Interventions (NEMPSI) 2022-2023 specify policy actions for addressing climate change. They are big-picture strategies that need to be supplemented by actionable, fundable and well prioritised implementation plans. The authorities have started to identify, plan and implement actions in the following areas: Increasing food security, flood prevention and resilience, reducing charcoal dependence and containing deforestation, preserving ecosystems and other adaptive projects (IMF, 2023). The country is currently working towards developing NDC 3.0 with the aim of streamlining the submission process to the UNFCCC Secretariat ahead of COP30.

Tanzania has made progress in implementing some of the actions that directly support the implementation of NDC, including through improvement of agricultural land and water resources management, strengthening extension services, adopting modern rangeland management practices and systems, facilitating the use of Clean cooking energy aligned with the 2033 National Vision for the Transition to the use of Clean Cooking Energy and the 2033 National Vision for Clean Cooking Energy Implementation Strategic Plan, which will be launched in June 2023.

Although the government has made efforts in the implementation of NDC and other climate change-related strategies, plans and policies; There are still some issues that need to be addressed to strengthen its implementation and achieve its goals. This includes the establishment of local financing mechanisms to improve national climate adaptation and mitigation capacity, and technical assistance to prepare bankable climate change projects in order to be able to raise more finance for mitigation and adaptation measures. Tanzania needs to adopt a national climate change financing mechanism that provides strategic direction for climate action and facilitates the mobilization of resources from multiple sources and encourages private sector investment.

The country needs to strengthen the coordination of institutional and legal frameworks to support climate mainstreaming as well as to improve accountability and transparency. Gaps in technical capacity and financial resources in the governance structure should be addressed to facilitate the smooth implementation of the NDCs.

There is still a very large group of people, including CSOs, decision-makers and the private sector, who have inadequate knowledge of how the NDC was prepared, and its progress, challenges and opportunities. The Tanzanian government must strengthen its ability to anticipate, plan for and respond to the impacts of climate change in order to minimize the vulnerability of its infrastructure, ecosystems and natural resources.

Development plans should integrate climate change aspects in all key economic & productive sectors because the integration of climate-related issues into national and sectoral policies can strengthen, the implementation of NDC and other related policies and strategies. There is a need to support the efforts of CSOs that advocate/influence the integration of climate change into plans and budgets. The role of civil society organizations in monitoring implementation, collecting data and providing input for progress should be explicitly recognized.

The government should strengthen domestic resource mobilization and the expansion of public financing to attract climate-resilient private sector investment in mitigation through an improved political and regulatory/business environment. Not only that, this should go hand in hand with the establishment of an effective national funding mechanism to channel climate funds (development of the Climate Change Budget Code) into the national budget.

Multistakeholder dialogues need to be established/strengthened to improve the exchange of knowledge, information and methods within and between countries.

### 3.4 Stakeholder list with roles and contact persons

	Actor/ Stakeholder	Role in climate change and NDC implementation	Contact information
	<b>Government Institutions</b>		
1.	Vice President's Office	<ul style="list-style-type: none"> <li>- Takes lead at union level and Tanzania mainland</li> <li>Custodian of Climate Change activities</li> <li>-National Climate Change Focal Point for the UNFCCC.</li> <li>-Environment monitoring and evaluation of the overall implementation of the NDC</li> <li>- Oversee the implementation of the National Climate Change Response Strategy, NDC and National Environmental Policy.</li> </ul>	Dr Andrew Komba Permanent Secretary, The Office of Vice President, Government City, S.L.P. 2502, DODOMA <a href="mailto:info@vpo.go.tz">info@vpo.go.tz</a>
2.	First Vice-President's Office – Department of Environment	<ul style="list-style-type: none"> <li>-Takes lead in Zanzibar</li> <li>Custodian of Climate Change activities</li> <li>-National Climate Change Focal Point for the UNFCCC.</li> <li>-Environment monitoring and evaluation of the overall implementation of the NDC</li> <li>- Oversee the implementation of the National Climate Change Response Strategy, NDC and National Environmental Policy.</li> </ul>	Dr Salim Ahmed Principal Secretary, First Vice-President's Office – Department of Environment, P.O. Box 2808, ZANZIBAR. <a href="mailto:salimbkr@yahoo.co.uk">salimbkr@yahoo.co.uk</a>
3.	National Climate Change Steering Committee (NCCSC) and Zanzibar Climate Change Steering Committee (ZCCSC)	-Guiding the coordination and implementation of the NDC and providing policy guidance and ensure coordination of actions as well as cross sectoral participation	Dr. Andrew Komba The Office of Vice President, Government City, S.L.P. 2502, DODOMA <a href="mailto:info@vpo.go.tz">info@vpo.go.tz</a>
4.	National Climate Change Technical Committee (NCCTC) and Zanzibar Climate Change Technical Committee (ZCC)	- Providing technical advice to the National Designated Authority (NDA) office after receiving and perusal of the information from National Carbon 4Monitoring Centre (NCMC).	Dr. Andrew Komba The Office of Vice President Division of Environment, Government City, S.L.P. 2502, DODOMA <a href="mailto:info@vpo.go.tz">info@vpo.go.tz</a>
5.	President's Office, Regional Government and Local Government Ministry.	<ul style="list-style-type: none"> <li>- Implementing the adaptation and mitigation interventions, in collaboration with LGAs.</li> <li>- In cooperation with the MDAs, coordinates and works closely with the Local Government Authorities (LGAs) in the implementation of Climate Change strategies, plans and guidelines.</li> </ul>	Linus Kahendaguza Permanent Secretary, President's Office Regional Administration and Local Authority (PO-RALG), P.O. Box 1923, Dodoma – Tanzania. <a href="mailto:ps@tamisemi.go.tz">ps@tamisemi.go.tz</a>

	<b>Actor/ Stakeholder</b>	<b>Role in climate change and NDC implementation</b>	<b>Contact information</b>
6.	Prime Minister's Office, Regional Administration and Local Authority (PMO-RALG),	<ul style="list-style-type: none"> <li>- Implementing the adaptation and mitigation interventions, in collaboration with LGAs.</li> <li>- In cooperation with the MDAs, coordinates and works closely with the Local Government Authorities (LGAs) in the implementation of Climate Change strategies, plans and guidelines.</li> </ul>	Prime Minister's Office, Labour, Youth, Employment & Persons with Disability P.O Box 2890, Dodoma, Tanzania. <a href="mailto:ps@kazi.go.tz">ps@kazi.go.tz</a>
7.	National Carbon Monitoring Centre at the SUA	<ul style="list-style-type: none"> <li>- Overall planning, coordination, and management of MRV system, which includes adaptation information</li> <li>-Build national capacity to measure and verify data on the sector's greenhouse gas emissions and ensure effective management and appropriate reporting of the Report the sector's CO2 emissions at national and international levels</li> </ul>	Coordinator Prof. Eliakimu M. Zahabu (NCCM), Sokoine University of Agriculture, P.O. Box 3009, Morogoro, Tanzania. <a href="mailto:nccmtanzania@sua.ac.tz">nccmtanzania@sua.ac.tz</a>
8.	The National Environmental Management Council (NEMC)	-Enforcing and ensuring compliance with environmental management laws; reviewing and monitoring Environmental and Social Impact Assessments (EIAS) to improve environmental communication, education, public awareness and research on sound environmental management.	Fredrick Mulinda Director General, P.O. Box 63154, Dar es Salaam, Tanzania <a href="mailto:dg@nemc.or.tz">dg@nemc.or.tz</a>
9.	Ministry of Finance and Planning	<ul style="list-style-type: none"> <li>-Facilitate the availability of financial resources for climate action</li> <li>-Mainstream climate into public financial management and fiscal policies</li> <li>-enhance enabling environment for public and private investment</li> </ul>	Permanent Secretary, Ministry of Finance and Planning, P.O. Box 2802, 40468 Dodoma <a href="mailto:info@hazina.go.tz">info@hazina.go.tz</a>
10.	Ministry of Energy	<ul style="list-style-type: none"> <li>- Collect and process the required data, track and quantify the mitigation and adaptation actions and the associated financial flows.</li> <li>-Develop and implement energy policies, strategies and plans that align with NDC targets</li> <li>-Promote adoption of renewable energy and energy efficiency and conservation</li> </ul>	Mussa Abbas Permanent Secretary, Ministry of Energy P.O Box 2494, Dodoma, Tanzania. <a href="mailto:mussaabbasi@gmail.com">mussaabbasi@gmail.com</a>
11.	Tanzania Meteorological Authority (TMA)	<ul style="list-style-type: none"> <li>-Climate data collection and analysis to understand trends and impacts</li> <li>-Monitor climate change patterns and provide early warning systems</li> <li>-Develop climate change projections and scenarios</li> </ul>	Dr. Ladislaus Chang'a Tanzania Meteorological Agency (TMA) P.O. Box 3056, Dar es Salaam, Tanzania. <a href="mailto:met@meteo.go.tz">met@meteo.go.tz</a>
12.	Ministry of Agriculture	<ul style="list-style-type: none"> <li>-Develop and implement agricultural policies, strategies and plans that align with NDC objectives</li> <li>--Cooperate with the LGAs to provide reports that facilitate the tracking of progress of mitigation and adaptation actions</li> </ul>	Mr. Makundi Ministry of Agriculture, P.O. Box. 2182, Dodoma, Tanzania. <a href="mailto:ps@kilimo.go.tz">ps@kilimo.go.tz</a>

	<b>Actor/ Stakeholder</b>	<b>Role in climate change and NDC implementation</b>	<b>Contact information</b>
		-Promote adoption of climate-smart agriculture -Support research and innovation in climate-resilient and low-carbon agricultural technologies	
13.	Ministry of Livestock and Fisheries – Livestock Sector	-Promote climate-smart livestock management practices -Support research and development of climate-resilient livestock breeds - Cooperate with the LGAs to provide reports that facilitate the tracking of progress of mitigation and adaptation actions	Imelda N. Kashiya Permanent Secretary, Ministry of Livestock and Fisheries Livestock Sector, P.O. Box 2870, Dodoma, Tanzania <a href="mailto:ps@mifugo.go.tz">ps@mifugo.go.tz</a>
14.	Ministry of Agriculture, Irrigation, Natural Resources and Livestock	- Promote adoption of climate-smart agricultural practices in Zanzibar -Promote sustainable management of Zanzibar’s natural resources Promote sustainable livestock management -Cooperate with the LGAs to provide reports that facilitate the tracking of progress of mitigation and adaptation actions	Makame Kitwana Ministry of Agriculture, Irrigation, Natural Resources and Livestock P.O. Box 159, Maruhubi, Zanzibar <a href="mailto:ps@kilimoznz.go.tz">ps@kilimoznz.go.tz</a>
15.	Ministry of Natural Resources and Tourism	-Promotes sustainable forest management practices -Enhances the management and conservation of wildlife and protected areas - Promotes sustainable tourism practices and development of eco-tourism initiatives - Cooperate with the LGAs to provide reports that facilitate the tracking of progress of mitigation and adaptation actions	Zuwena Zaharan Permanent Secretary, Ministry of Natural Resources and Tourism, P.O. Box. 1351, Dodoma, Tanzania. <a href="mailto:ps@maliasili.go.tz">ps@maliasili.go.tz</a> <a href="mailto:zuwena.zaharan@maliasili.go.tz">zuwena.zaharan@maliasili.go.tz</a>
<b>Private Sector</b>			
16	CRDB Bank Plc	-Implementing innovative initiatives to address the climate crisis, in collaboration with the Government through public-private partnership (PPP), corporate social responsibility (CSR) and through various resource mobilization mechanisms	Hailo Kibiki CRDB Bank Plc P.O. Box 268, 255 Dar es Salaam <a href="mailto:hailo.kibiki@crdbbank.co.tz">hailo.kibiki@crdbbank.co.tz</a>
17	National Microfinance Bank (NMB)	-Provide support through environmental management initiatives; Promotion and investment in environmentally friendly technologies	Hellen Dalali National Microfinance Bank P.O. Box 9213 Dar-es-salaam, <a href="mailto:hellen.dalali@nmbbank.co.tz">hellen.dalali@nmbbank.co.tz</a>
<b>Non-Governmental Organisation/Civil Society Organisations</b>			
18	Forum on Climate Change (Forumcc)	- Influence policies and accelerate adaption and mitigation actions - Implementation of climate actions at the community level	Dr. Sarah Ngoy 12 Magwaza Street, P. O. Box 75370 Dar es Salaam

	<b>Actor/ Stakeholder</b>	<b>Role in climate change and NDC implementation</b>	<b>Contact information</b>
		<ul style="list-style-type: none"> <li>- Information generation, demystification, and dissemination (facilitate the flow of information because they have a strong local (grassroots) presence)</li> <li>-Mobilize communities and resources critical to complement Government initiatives towards climate action</li> </ul>	<a href="mailto:admin@forumcc.or.tz">admin@forumcc.or.tz</a> <a href="mailto:s.ngoy@forumcc.or.tz">s.ngoy@forumcc.or.tz</a>
19	Climate Action Network	<ul style="list-style-type: none"> <li>-Advocacy and policy engagement to promote NDC implementation</li> <li>-Awareness raising and public mobilization on climate change</li> <li>-Capacity building and training on climate change</li> <li>-Collaboration and partnerships with various stakeholders</li> </ul>	Sixbert Mwangi Climate Action Network Tanzania, P.O. Box 32900, Dar es Salaam <a href="mailto:sixbert@cantz.or.tz">sixbert@cantz.or.tz</a>
<b>Research Institutions</b>			
20	Muhimbili University	<ul style="list-style-type: none"> <li>-Conduct research on climate change and health</li> <li>-Provide capacity building and training programs</li> <li>-Policy engagement for the integration of health considerations into NDC plans</li> </ul>	Dr. Hussein Mohamed Vice Chancellor, Muhimbili University of Health and Allied Sciences (MUHAS), P.O. Box 65001. Dar es Salaam <a href="mailto:hmohameds1@gmail.com">hmohameds1@gmail.com</a>
21	Ardhi University (ARU)	<ul style="list-style-type: none"> <li>-Conduct research on climate change impacts and adaptation</li> <li>-Support Climate-resilient urban planning and development</li> <li>-Development of sustainable land use planning and management practices</li> </ul>	Dr. Elinorata Mbuya Ardhi University P. O. Box 35176 Observation Hill Plot No. 3, Block L University Road <a href="mailto:aru@aru.ac.tz">aru@aru.ac.tz</a> <a href="mailto:mbuyaangela@gmail.com">mbuyaangela@gmail.com</a>
22	University of Dar es Salaam (UDSM)	<ul style="list-style-type: none"> <li>-Conduct research on climate change</li> <li>-Support the development and deployment of low-carbon technologies and climate-resilient innovations</li> <li>-Provide policy analysis and support to agencies involved in NDC implementation</li> </ul>	Dr. Makungu M. Madirisha P.O. Box 35097 University of Dar es Salaam Mobile: +255 784 283 631 <a href="mailto:makungumarco@gmail.com">makungumarco@gmail.com</a>
<b>International Development Partners and Media</b>			
23	Development Partners Group on Environment (DPGE)	<ul style="list-style-type: none"> <li>-Providing technical and financial support, as well as facilitating resource mobilization</li> <li>- Provide capacity building and facilitate technology development and transfer</li> </ul>	Faustine Ninga <a href="mailto:faustine.ninga@undp.org">faustine.ninga@undp.org</a>

Table 2: Stakeholders in Tanzania's NDC implementation

### 3.5 Analysis of stakeholders' power and influence

#### *Government/Policymakers-Ministries, Departments and Agencies*

Figure 1 shows different government stakeholders according to their levels of power and influence. The Vice President's Office-environment division, Ministry of Education, Science and Technology, Ministry of Finance and Planning, Local Government Authority, Policy and Planning Department and the Ministry of Energy have the highest level of both power and influence. They are the most critical in driving policy decisions and strategic direction. The National Climate Change Technical Committee, Ministries Departments and Agencies and the Tanzania Meteorological Department have moderate power and influence. Their technical expertise and operational roles make them key partners in execution and advisory functions. The Local Government Authorities, and research institutes have relatively low power but moderate influence. They are influential at local levels and contribute valuable on-the-ground knowledge and data. The Agricultural Research Institutes and the others have low power and low influence. Although their direct impact on broad policy frameworks is limited, they play supportive roles, particularly in technical research, community engagement and local capacity building.

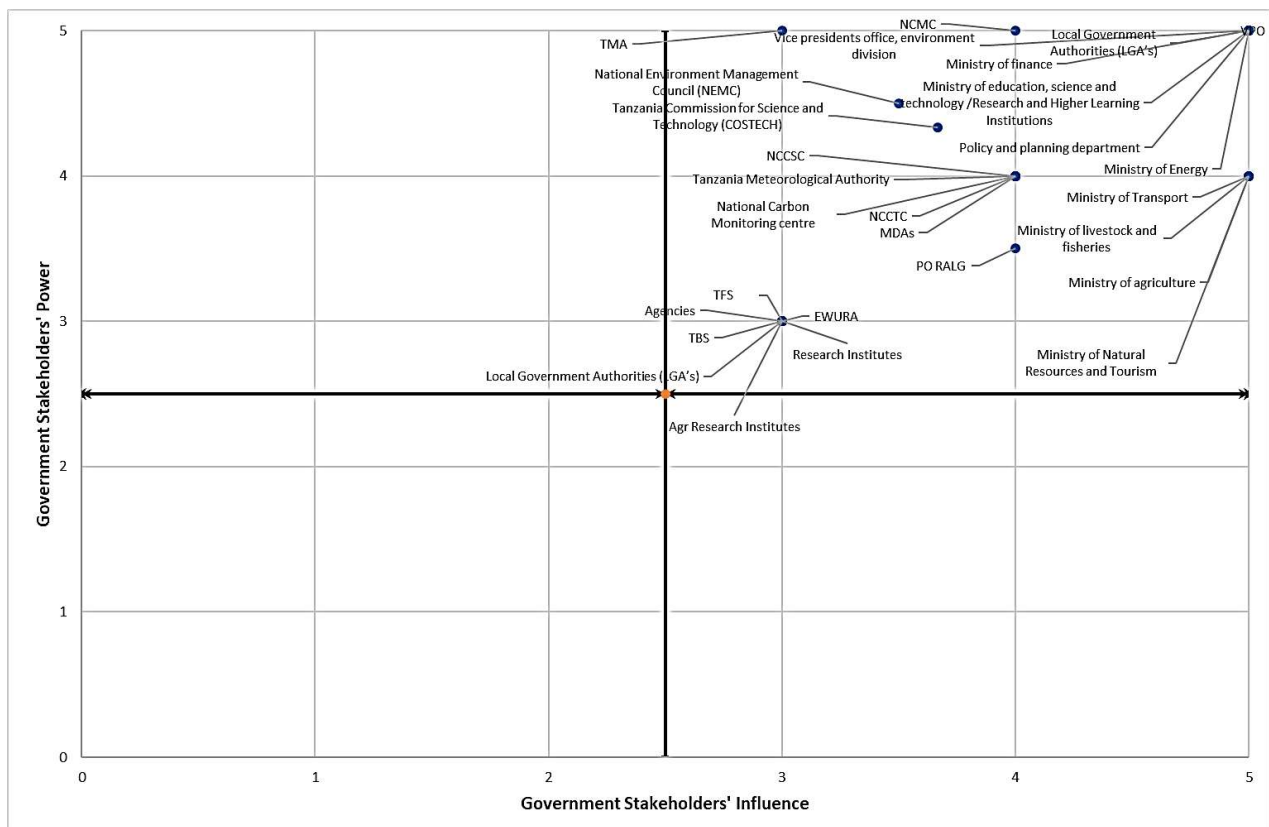


Figure 1: Government Stakeholders' level of power and influence in Tanzania's NDC implementation

#### *Private Sector*

Figure 2 shows the power and influence grid among the private sector stakeholders in Tanzania. The Mwananchi Communication Ltd has the highest level of power but moderate influence. Their direct influence over policy implementation indicates a potential underutilization in shaping policy discourse. The Tanzania Land Alliance, CRDB Bank and Carbon Tanzania have relatively high

levels of power and influence. They are well-positioned to drive both investment and policy dialogue. ForumCC and the Universities have moderate levels of influence but lower power. Their technical expertise and advocacy capacity contribute to discussions and innovation but are limited to lower authority or resource control. The broader group of financial institutions have very low influence and low to moderate power in NDC policy implementation. This implies that while they possess financial resources, their low influence suggests limited engagement or prioritization of climate-related policy actions.

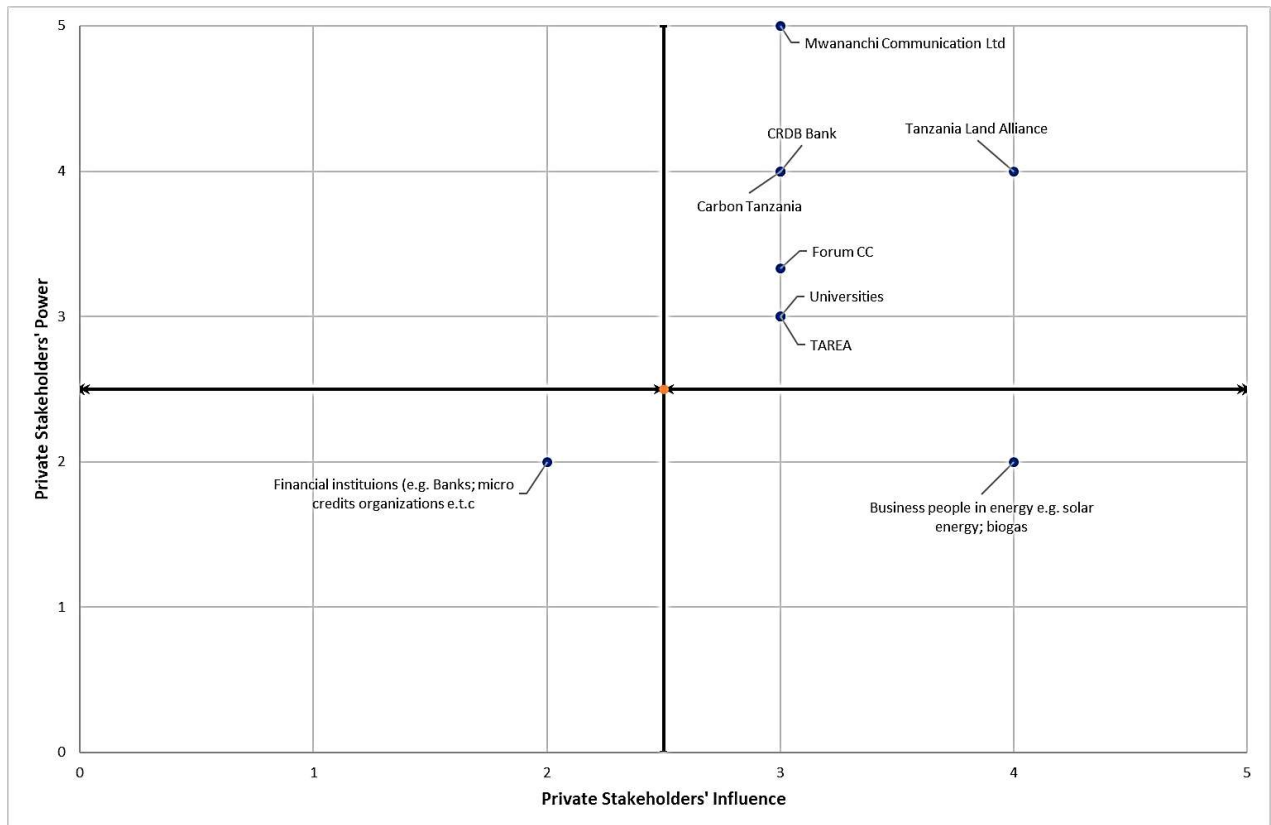


Figure 2: Private Stakeholders level of power and influence in Tanzania NDC implementation

### CSOs/NGOs

Figure 3 shows the power and influence grid among CSOs/NGOs in Tanzania. It shows that Mwananchi Communication Ltd, CRDB Bank, Carbon Tanzania, Business people in energy, financial institutions and universities equally yield high levels of influence and power. This indicates that they play a critical role in shaping climate initiatives. Their high power suggests strong resource base and access to decision-makers, while the high influence shows ability to affect public opinion, market trends and policy development.

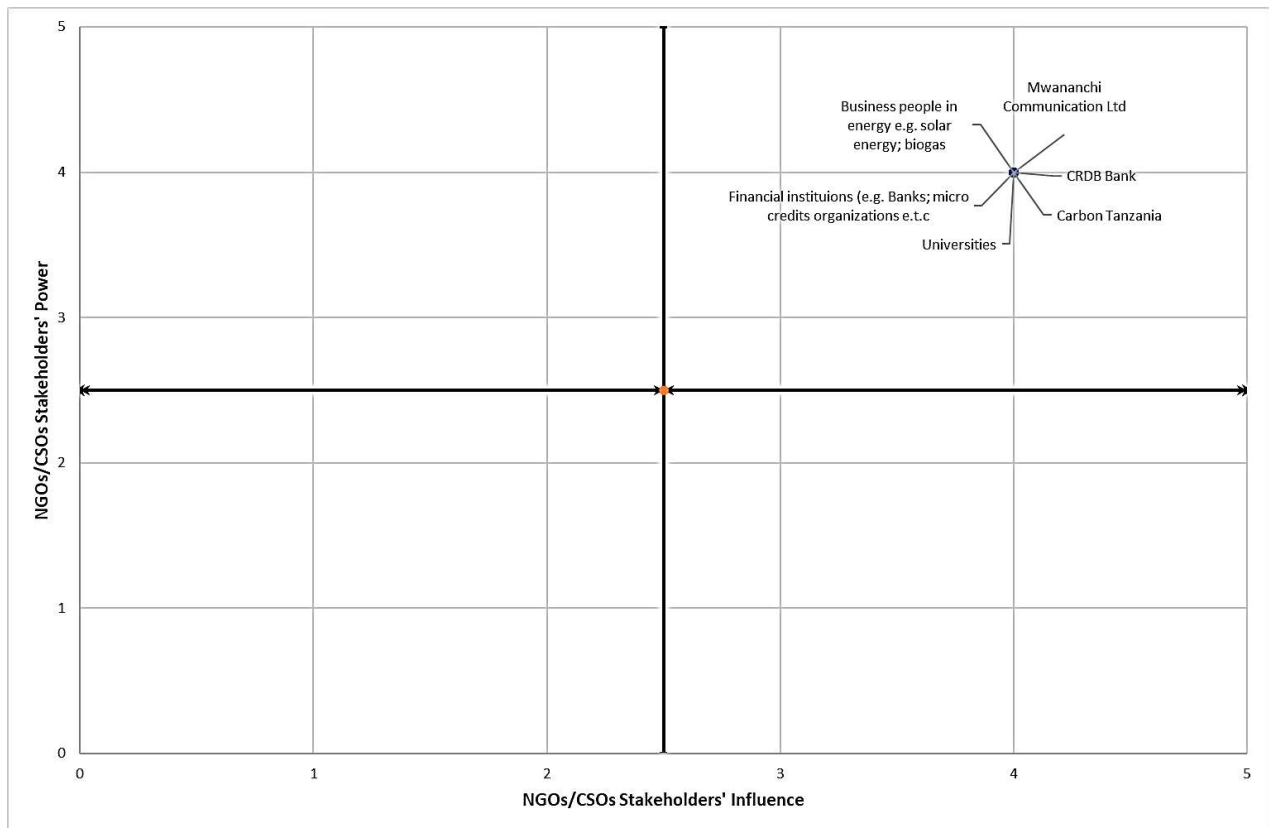


Figure 3: NGOs/CSOs stakeholders' level of power and influence in Tanzania NDC implementation

### Research Institutions

Figure 4 shows the power and influence grid among research institutions. USAID yields the highest level of power and influence in NDC implementation, reflecting its significant funding capacity, technical support and strategic influence on policy formulation and implementation. GIZ follows closely, leveraging strong development cooperation frameworks to support climate and environmental initiatives. The ESRF holds high level of power with moderate levels of influence. This shows that they provide critical policy research and advisory services and likely reflect a more specialised or technical audience reach. The universities also hold a moderate level of power and influence. The Foundation for Energy, Climate and Environment, TANGSEN, CAN Tanzania, LEAT, SESO and TaTEDO have moderate power. They play important roles in technical research, community-based interventions and advocacy but have comparatively less authority in direct decision making. The National Carbon Monitoring Centre holds the least level of influence in the group despite its important technical role in carbon data monitoring, suggesting a need for greater engagement and visibility in policy spaces.

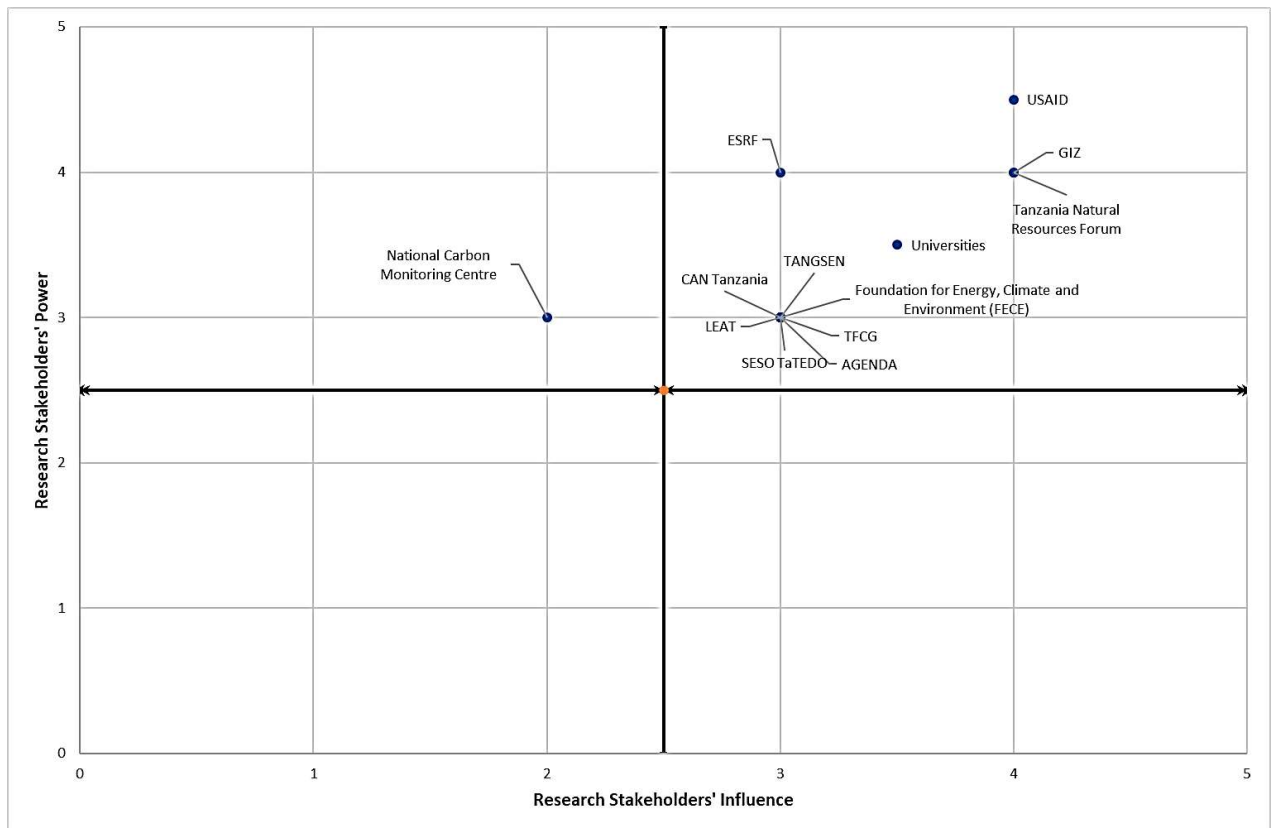


Figure 4: Research stakeholders' level of power and influence in Tanzania NDC implementation

### ***Media/Development Partners***

Figure 5 shows the power and influence grid among media and development partners. SESO TaTEDO, CAN Tanzania, Tanzania Natural Resources Forum and the universities hold the highest levels of power and influence. They are critical drivers of climate action, possessing strong technical knowledge, active networks, and the ability to influence both community-level initiatives and policy frameworks. TANGSEN holds the lowest level of power and influence among the groups in stakeholder NDC implementation. This suggests that while they may have sector-specific expertise its overall authority and impact on shaping NDC related decisions or broad climate action are currently limited

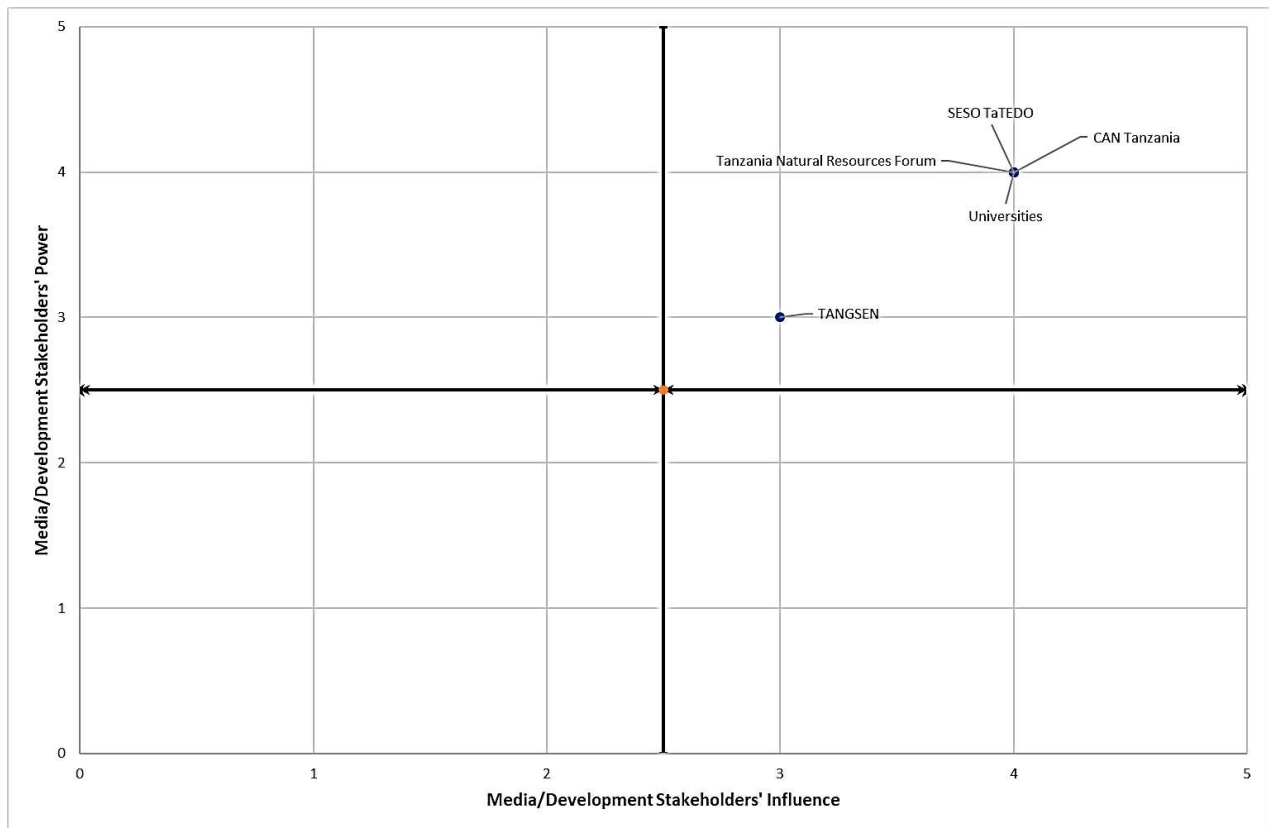


Figure 5: Media/Development Stakeholders' level of power and influence in Tanzania NDC implementation

### 3.6 Best Practices and Impact of NDC implementation in Tanzania

Tanzania has committed to reducing its GHG emissions and enhancing its resilience to climate change through its NDCs. The country's policies and institutional frameworks have been key in driving successful NDC implementation. Some of the best practices include:

- Strong institutional framework and coordination:** Tanzania has established the NCCSC which plays a pivotal role in coordinating climate actions across different sectors and levels of government. This body ensures that climate policies are integrated into national development plans. Each sectoral ministry has designated climate change focal points responsible for mainstreaming climate actions within their respective sectors in a decentralised approach that ensures comprehensive integration of climate policies. This has led to a more cohesive and unified approach to implementing NDCs, reducing overlap and ensuring efficient resource utilisation.
- Policy and legislation support:** Tanzania's NCCS outlines clear objectives, strategies and actions for both mitigation and adaptation. It provides a roadmap for achieving the country's NDC targets. The Environmental Management Act includes provisions that support the enforcement of climate-related regulations and promote sustainable practices across various sectors. The alignment of NDCs with existing national strategies and laws has provided a clear framework for action, facilitating easier implementation and compliance.

- **Public-Private Partnerships:** Tanzania has successfully engaged the private sector in renewable energy projects, such as solar and wind farms. Public private partnerships have been instrumental in scaling up renewable energy capacity. In addition, the introduction of green bonds and other sustainable finance mechanisms has attracted private investment in climate projects, enhancing financial resources for NDC implementation. The partnerships have mobilised significant financial and technical resources, accelerating the deployment of clean energy technologies and other climate actions.
- **Strengthened internal funding capacities:** With support from international development partners, the government established the NAP secretariat, hosted by the VPO. The secretariat has capacitated key sectors and agencies as well as the NAP team to enhance ownership and a clear implementation process. Another significant development is the establishment of a National Climate Change Financing Mechanism (NCCFM) and the Climate Change Fund (CCF) which help integrate climate change into national planning and budgeting processes and manage climate finance more effectively.
- **Use of climate relevant data in decision making:** International donors have provided support to institutions for collecting and utilising climate relevant data in decision-making. Academic institutions also run research programs that generate a variety of data sets, some of which are made available to the public.
- **Stakeholder engagement in NDC implementation:** CSOs actively participate in raising awareness, capacity building and monitoring climate actions, their involvement ensures transparency and accountability. When there's inclusive stakeholder engagement then there will be local ownership of climate initiatives, leading to more sustainable and effective outcomes.

These actions in NDC implementation in Tanzania have resulted in positive impact in some of the following ways:

1. **Enhanced efficiency and resource utilisation within institutions:** This has led to a more cohesive and unified approach to implementing NDCs, reducing overlap and ensuring efficient resource utilisation. The roles and collaborative efforts of the NCCSC, climate change focal points in sectoral ministries, the LGAs, NEMC and TMA ensure that climate actions are well integrated, resource efficient and effectively monitored.
2. **Improved policy coherence and integration:** The alignment of NDCs with existing national strategies and laws have provided a clear framework for action, facilitating easier implementation and compliance. The integration of climate goals in to the National Climate Change Strategy, Environmental Management Act, sectoral plans, financial mechanisms and MRV systems provides a comprehensive and coherent approach to address climate change.
3. **Accelerated deployment of climate actions:** There has been accelerated deployment of clean energy technologies and other climate actions including the Singida Wind Farm contributing to

energy security. Renewable energy projects have also created jobs and stimulated economic growth, particularly in rural areas where such projects are often located.

4. **Formulation of a NAP roadmap:** The roadmap coupled with the accreditation of Tanzania's first National Implementing Entity to an international climate fund, namely the National Environment Management Council (NEMC). NEMC got accredited to access funds from the Adaptation Fund in 2018.
5. **Enhanced monitoring and accountability through Sharing of climate relevant information:** Some academic institutions like the Centre for Climate Studies at the University of Dar Es Salaam and the Sokoine University of Agriculture National Carbon monitoring Centre have played a role in sharing climate change relevant information and data.
6. **Increased stakeholder engagement and ownership:** CSOs like ForumCC which is a civil society coalition working on climate change advocacy, has used open data to initiate climate finance tracking analysis of the budget for the agriculture sector and livestock sector in Tanzania. ForumCC has a focus on information awareness and dissemination and is an active promoter of increased access to climate data. They also simplify and disseminate policy information to local levels to enable actors at the grassroots to take part in the implementation circle.

These impacts highlight Tanzania's proactive and coordinated approach to NDC implementation, serving as a model for other countries seeking to meet their climate commitments.

### **3.7 Challenges and opportunities for NDC implementation in Tanzania**

Despite making strides in the NDC implementation, Tanzania still faces significant challenges. However, there are substantial opportunities to improve NDC implementation and drive progress towards their climate goals.

#### **Challenges in NDC implementation**

1. **Insufficient financial resources:** Mobilizing adequate financial resources from both domestic and international sources remains a major hurdle. Much of Tanzania's climate finance comes from international donors. This dependency can lead to uncertainty and variability in funding, impacting continuity and sustainability of climate projects. The country also challenges in mobilizing sufficient domestic funds to support their NDC targets. Public budgets are often constrained and climate-related initiatives must compete with other pressing development priorities.
2. **Limited awareness and engagement of stakeholders:** There is low awareness among key stakeholders, including local governments, private sector, civil society and the general public about Tanzania's NDC targets and their roles in implementation. Participation in planning and decision-making processes has been limited.
3. **Capacity constraints:** There is a shortage of skilled professionals and technical expertise need to design, implement and monitor complex climate actions. This limits the ability to develop and deploy innovative solutions effectively. The lack of delineation between climate change and

environmental issues has resulted in the components being treated as one and the same thing as the institutional architecture was designed to address environmental issues. Some government institutions and local authorities lack the capacity to fully integrate climate change considerations into their planning and operations, resulting in fragmented and inefficient implementation.

4. **Insufficient institutional capacity and coordination:** While there are efforts to coordinate actions across different sector, there are still instances of weak inter-agency collaboration, leading to overlaps, gaps and inefficiency in NDC implementation. The country still lacks strong institutional arrangements and clear mandates for effective coordination. For instance, the LGA as the entity responsible for implementing policy frameworks at the local level not being able to build a common understanding of NDC and mainstream relevant targets in their plans and strategies. If not addressed, then it will result in delays, implementation errors and inaccurate data for reporting.
5. **Data information gaps:** The country lacks a centralized MRV system to capture data from every entity working on climate change. Current data collection primarily focuses on LULUCF with limited tracking in other sectors. Some actions are being taken by different stakeholders around mitigation and adaptation, but data collection, management and dissemination still remains a challenge, thus hindering the ability to plan and implement evidence-based climate actions. In addition, stakeholders, especially at local level often have limited access to relevant climate data and information, which affects their capacity to respond to climate risks and opportunities.

### **Opportunities for NDC implementation**

1. **Leveraging international support:** Tanzania can capitalise on international climate finance mechanisms such as the GCF and GEF to secure funding for NDC projects. They can also engage with international organisations and donor agencies to provide technical assistance and capacity building support to strengthen local expertise and institutional capacities.
2. **Enhancing stakeholder engagements and partnerships:** Tanzania can strengthen multi-stakeholder platforms for dialogue, coordination and collaboration to consider diverse expertise, resources and networks in NDC implementation. They can also support grassroots initiatives and local adaptation projects to enhance community resilience and ensure climate actions are relevant and increase public awareness on climate change and its impacts.
3. **Building Public-Private Partnerships (PPPs) and strengthening collaboration:** The PPPs can increase private sector investment and expertise to expand climate projects in the country in addition to collaborations with companies or organisations to drive adoption of appropriate technologies. Development partners can also strengthen capacity building efforts to enhance expertise among stakeholders engaged in NDC implementation.
4. **Strengthening institutional frameworks:** Tanzania can have continued efforts to integrate climate policies into national and sectoral development plans to ensure a more coherent and unified approach to NDC implementation. There can also institute policy reforms by updating

and harmonising the regulatory framework to reduce barriers to project implementation, streamline approvals and encourage investments.

5. **Enhancing data and information systems:** Tanzania can invest in technology to modernise data collection and management systems through investments in technology. This can improve the accuracy and accessibility of climate data, facilitating better planning and decision making. Training programs can also build the capacity of local authorities to use climate data effectively, enhancing their ability to implement adaptation measures.

## 4. CONCLUSION AND RECOMMENDATIONS

### 4.1 General Conclusion

In Tanzania, there are challenges related to limited awareness about NDCs among stakeholders. This limits the effective implementation of NDC targets by different stakeholders and across different sectors. There is also limited availability and access to information about the implementation of NDC targets in the country. To address some of these challenges, the NCMS at Sokoine University of Agriculture is developing an MRV system. This system is set to archive data on climate change mitigation efforts, particularly focusing on forest degradation and land use land cover change. However, there is need to enhance the MRV system to collect comprehensive information on the delivery of NDC targets from various sector ministries beyond forestry and land use. This improvement in data collection and monitoring mechanisms will ensure transparency, accountability and effective tracking of progress towards the country's climate goals. There is also the need for policy coherence and alignment between the country's NDC targets and its broader sustainable development objective. Harnessing synergies and co-benefits across sectors like energy, agriculture, forestry and waste management can help integrate climate action into national development planning and budgeting processes.

While Tanzania faces significant challenges in implementing its NDCs, there are valuable opportunities to accelerate progress. By strengthening institutions, mobilising resources, engaging stakeholders and aligning climate and development agenda, Tanzania can create a more sustainable, resilient and prosperous future.

### 4.2 Proposed Policy and Institutional Recommendations

To address the challenges identified in Tanzania's NDC implementation, the following policy recommendations are proposed:

***Recommendation 1: The government of Tanzania should diversify funding sources and strengthen international cooperation for effective financial mobilisation for NDC implementation:*** These can be accomplished by increasing public funding to unconditional targets and attract private sector climate-resilient investments in mitigation action through improved policy and regulatory business environment. They can effectively mobilise domestic as well as additional financing from the international community by developing a robust strategy to attract private sector investments including through PPPs and green bonds. They can also enhance engagement with

international donors and climate finance institutions to secure long-term funding commitments and utilise mechanisms like the GCF and GEF. –

***Recommendation 2: The government of Tanzania should build technical and institutional capacity:*** They can provide adequate resources and support key institutions such as the National Climate Change Steering Committee, and the National Environmental Management Council to enhance their operational capacities. Climate action responsibilities can be decentralised and the capacity of local governments to implement and monitor climate initiatives effectively, built. They can also establish partnerships with academic institutions and international organisations for ongoing capacity development and knowledge exchange.

***Recommendation 3: The government of Tanzania should synchronise NDC targets in their budgetary systems:*** The NDC targets can be integrated into the government budgetary systems to ensure effective resource allocation and implementation of climate action initiatives. This includes clear financial mechanisms that include assigning a climate budget code to help integrate and track climate expenditures within the national budget, ensuring funds are allocated and utilised specifically for climate action initiatives. Regular audits and financial reports can be conducted to monitor climate expenditure and assess the efficiency and impact of funded projects.

***Recommendation 4: The government of Tanzania should modernise data infrastructure and promote data sharing and transparency:*** This will require an investment in advanced technologies for climate data collection, management and dissemination. Then develop centralised databases to ensure that climate data is accessible to all relevant stakeholders all the time and encourage the sharing of climate data among government agencies, research institutions and the private sector to facilitate informed decision making. Finally, establish platforms for public access to climate information, enhancing transparency and community engagement in climate action.

***Recommendation 5: The government of Tanzania should align policies and regulations to create a conducive environment for partnerships and investments in climate projects:*** The alignment involves ensuring legal frameworks support sustainable development initiatives, incentivise private sector engagement and facilitate collaboration between stakeholders. This will create fiscal incentives like tax breaks, subsidies and concessional loans to encourage private sector investment in renewable energy and sustainable projects, and develop clear and attractive frameworks for PPPs, outlining roles, responsibilities and benefits for private sector partners.

***Recommendation 6: The government of Tanzania should enhance community engagement and resilience:*** They can support grassroots initiatives by providing financial and technical support for community-based adaptation and mitigation projects, ensuring that they are locally relevant and sustainable. Engaging local communities in the planning and implementation of climate actions to ensure that their needs and knowledge are incorporated. This can be strengthened by conducting extensive public awareness campaigns to educate communities about climate change impacts and the importance of NDC implementation. Climate education can also be introduced in schools and through media to foster a culture of environmental stewardship among the youth.

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## ANNEXES

### Annex 1: List of Respondents

	Name	Institution	email
1	Bahati Ally Magesa	DUCE	<a href="mailto:bahatially134@gmail.com">bahatially134@gmail.com</a>
2	Doreen Mgonja	TARI	<a href="mailto:dmgonja@gmail.com3">dmgonja@gmail.com3</a>
3	Hassan K. Ame	TMA	<a href="mailto:hassan.ame@meteo.go.tz">hassan.ame@meteo.go.tz</a>
4	Hekima C. Juzania	TMA	<a href="mailto:hekima.juzania@meteo.go.tz">hekima.juzania@meteo.go.tz</a>
5	Maria C. Mabugo	DTBI (Waste -protein Team)	<a href="mailto:mariamabugo@gmail.com">mariamabugo@gmail.com</a>
6	Aloyces Swenya	TMA	<a href="mailto:aloyce.swenya@meteo.go.tz">aloyce.swenya@meteo.go.tz</a>
7	Valeria Mwakipesile	COSTECH	<a href="mailto:valeriamwakipesile@cotech.go.tz">valeriamwakipesile@cotech.go.tz</a>
8	Everada M. Ndugumchana	TANROADS	<a href="mailto:noverah@yahoo.com">noverah@yahoo.com</a>
9	Benedict N. Mutalemwa	ESREF-Dodoma	<a href="mailto:bmutalemwa@rsif.or.tz">bmutalemwa@rsif.or.tz</a>
10	Paul Kalakola	NEMC	<a href="mailto:paul.kalakola@remc.or.tz">paul.kalakola@remc.or.tz</a>
11	Euster Kibona	FECE	<a href="mailto:eusterkibona@gmail.com">eusterkibona@gmail.com</a>
12	Gabriel Chowo	COSTECH	<a href="mailto:gchow@yahoo.com">gchow@yahoo.com</a>
13	Blassia Mkapa	COSTECH	<a href="mailto:Blassia.mkapa@costech.or.tz">Blassia.mkapa@costech.or.tz</a>



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African Technology Policy Studies  
Network (ATPS) Contact Executive  
Director: [executivedirector@atpsnet.org](mailto:executivedirector@atpsnet.org)  
8th Floor Chancery Building, Valley Road  
P.O. Box 10081-00100 Nairobi  
Tel: +254 (020) 2714092  
[www.atpsnet.org](http://www.atpsnet.org)

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