



A Review of Tanzania's Fiscal Regime for Climate Action

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Table of Contents

List of Tables	iv
List of Figures.....	iv
List of Acronyms.....	iv
EXECUTIVE SUMMARY	vii
1. INTRODUCTION	1
1.1 General Objective.....	2
1.2 Specific Objectives.....	3
1.3 Rationale.....	3
1.4 Methodology	4
2. THE GLOBAL CLIMATE FINANCE ARCHITECTURE	5
2.1 International Public Finance.....	5
2.1.1 Multilateral Climate Finance	5
2.1.2 Bilateral Climate Finance	6
2.2 International private climate finance	6
2.3 Domestic sources of Climate Finance	7
2.4 Fiscal Regime for Climate Action	8
3. LESSONS FROM OTHER COUNTRIES	10
3.1 Climate/Green Bonds.....	10
3.2 Debt for Climate Swaps	12
3.3 Insurance and Guarantees	13
3.4 Fossil Fuel Subsidies.....	14
3.5 Climate Public Expenditure and Budget Tagging	15
4. THE POTENTIAL OF USING TAXES, LEVIES AND SUBSIDIES WITH RELEVANCE TO CLIMATE ACTIONS IN TANZANIA	17
4.1 Government Expenditure	17
4.2 Debts and Grants	17
4.3 Green Taxes, Levies and Customs Duty	18
4.4 Feed- in tariff	19
4.5 Other Means of Financing Climate Action in Tanzania	19
4.5.1 Carbon Market/ Emission Trading System (ETS).....	19
4.5.2 Contributions from other available 'Funds'	20

4.5.3	Disaster Risk Management.....	21
4.5.4	Payment for Ecosystems Services (PES) and other certifications.....	22
5.	THE SOCIAL, ECONOMIC AND POLITICAL IMPACTS OF CURRENT TAXES, LEVIES AND SUBSIDIES FOR CLIMATE ACTIONS.....	23
5.1	Rise in revenues.....	23
5.2	Fiscal efficiency gains.....	24
5.3	Facilitate innovation.....	24
5.4	Improve the quality of products and occupational health.....	24
5.5	Creating jobs, economic growth and welfare	25
5.6	Inflation and Social Unrest	25
5.7	Distort competition in the economy.....	26
6.	OVERVIEW OF FISCAL REGIMES IN TANZANIA AND BEST PRACTICES	28
6.1	Climate financing in Tanzania	28
6.2	Options for a fiscal framework (stakeholder contribution).....	34
6.3	Key elements in the Fiscal Framework.....	35
7.	CONCLUSION AND RECOMMENDATIONS.....	37
	ACKNOWLEDGEMENT	39
	REFERENCES.....	40

List of Tables

Table 1: Green bonds issued in Africa from 2014 to 2020.....	11
Table 2: Countries with Climate Change Budget Line Globally.....	16
Table 3: Total Revenues received by the Government of Tanzania from Climate Change Related Taxes	23
Table 4: The Total Climate Fund Received by Tanzania Government under GEF, MTF, LDCF and SCCF since their establishment (GEF since 1991)	29
Table 5: Examples of 'environmental' charges currently in use and proposed new charges in different sectors	31

List of Figures

Figure 1: Environmental Tax Reforms have direct and indirect effects on human well-being (Source: WBG 2019).....	35
Figure 2: Trends of imported cars and excise duties collected from 2012-2021.....	30

List of Acronyms

ABSs	-	Asset-Backed Securities
AF	-	Adaptation Fund
AfDB	-	African Development Bank
BFI	-	Bilateral Financing Institutions
BOAD	-	Banque Ouest Africaine de Development (West African Development Bank)
CC	-	Climate Change
BMZ	-	Federal Ministry for Economic Cooperation and Development (German)
CCF	-	Climate Change Fund
CCRIF	-	Caribbean Catastrophe Risk Insurance Facility
CDM	-	Clean Development Mechanism
CEFPPF	-	Clean Energy Financing Partnership Fund
CER	-	Certified Emissions Reduction
CFC	-	Chlorofluorocarbons
CIF	-	Climate Investment Fund
COP	-	Conference of the Parties
CPEIR	-	Climate Public Expenditure and Institutional Review
CSO	-	Civil Society Organisations
COVID-19	-	Corona Virus Disease 2019
DESA	-	Department of Economics and Social Affairs
DFI	-	Development Finance Institutions
DMP	-	Disaster Management Program

DRM	- Disaster Risk Management
EAC	- East African Cooperation
EHS	- Environmentally Hazardous Subsidies
EMA	- Environmental Management Act
ESCOM	- Electricity Supply Corporation of Malawi
ESG	- Environmental, Social and Governance
ETS	- Emission Trading Systems
EU	- European Union
EUR	- Euro
EWURA	- Energy and Water Utilities Regulatory Authority
FCDO	- Foreign Commonwealth and Development Office
FDI	- Foreign Direct Investment
FSR	- Fuel Subsidy Reform
FVPO	- First Vice President's Office
FYDP	- Five Year Development Plan
GCAP	- Global Climate Adaptation Partnership
GCCI	- Global Climate Change Initiative
GCF	- Green Climate Fund
GDP	- Gross Domestic Product
GEF	- Global Environment Facility
GHG	- Greenhouse Gases
GIZ	- Deutsche Gesellschaft für Internationale Zusammenarbeit
GN	- General Notice
GW	- Giga Watts
HFC	- Hydrofluorocarbons
IFC	- International Finance Corporation
IIED	- International Institute for Environment and Development
INDC	- Intended Nationally Determined Contributions
IPCC	- Intergovernmental Panel on Climate Change
KfW	- Kreditanstalt für Wiederaufbau (Credit Institute for Reconstruction)
LDC	- Least Developed Countries
LCFI	- Local Climate Finance Initiative
LDCF	- Least Developed Countries Fund
LGA	- Local Government Authorities
LPG	- Liquefied Petroleum Gases
MDB	- Multi-lateral Development Banks
MEA	- Multi-lateral Environmental Agreement
MEM	- Ministry of Energy and Minerals
MIE	- Multi-lateral Implementing Entities
M&E	- Monitoring and Evaluation
MoFP	- Ministry of Finance and Planning
MW	- Mega Watts

NAMA	-	Nationally Appropriate Mitigation Actions
NAP	-	National Adaptation Plan
NBS	-	National Bureau of Statistics
NCCS	-	National Climate Change Strategy
NCCRS	-	National Climate Change Response Strategy
NCMC	-	National Carbon Monitoring Center
NDC	-	Nationally Determined Contribution
NEMC	-	National Environment Management Council
NGO	-	Non-Government Organisation
PA	-	Paris Agreement
PES	-	Payment for Ecosystems Services
PFC	-	Perfluorocarbons
PO-RALG	-	President's Office-Regional Administration and Local Governments
REA	-	Rural Energy Agency
REDD	-	Reducing Emissions from Deforestation and forest Degradation
REPOA	-	Research on Poverty Alleviation
SCF	-	Strategic Climate Fund
SCCF	-	Special Climate Change Fund
SDG	-	Sustainable Development Goals
SUA	-	Sokoine University of Agriculture
TANROADS	-	Tanzania National Roads Agency
TARURA	-	Tanzania Rural and Urban Roads Agency
TFS	-	Tanzania Forest Services
TNC	-	The Nature Conservancy
TRA	-	Tanzania Revenue Authority
TWPF	-	Tanzania Wildlife Protection Fund
UGEAP	-	Universal Green Energy Access Program
UN	-	United Nations
UNCDF	-	United Nations Capital Development Fund
UNDP	-	United Nations Development Programme
UNFCCC	-	United Nations Framework Convention on Climate Change
UNEP	-	United Nations Environmental Program
USAID	-	United States Agency for International Development
VAT	-	Value Added Tax
VPO	-	Vice President's Office
WBG	-	World Bank Group
WCS	-	Wildlife Conservation Society
WMO	-	World Meteorological Organisation
WWF	-	Worldwide Wildlife Fund

EXECUTIVE SUMMARY

Climate change is a growing global threat and one of the greatest challenges to the world's environment with adverse consequences to both human and ecological systems mainly derived by Green House Gas (GHG) emissions. Climate action financing is one of the central solutions to climate change through funding various adaptation and mitigation programs that aim at reducing vulnerability and increasing resilience of human and ecological systems to negative impacts of climate change (Samaniego & Schneider, 2015). There are three major sources of climate finance: (i) International public climate finance, (ii) international private climate finance, and (iii) domestically sourced public and private finance. A robust fiscal regime for climate action is among the effective climate financing mechanisms used in many countries, comprising of a variety of fiscal policies and regulations to limit or reduce GHG emissions and achieve the country's desired NDC targets. Fiscal instruments like climate expenditure, debts, grants, environmental taxes, user charges, fees and fines, subsidies, debt swaps are commonly used to mobilize resources to finance the identified mitigation and adaptation measures to achieve climate change policy objectives.

The objective of this report is to develop optimal levels of taxes, levies, and subsidies as domestic financial resources to achieve the targets under the FYDP III and NDC emission reduction targets. This includes an assessment of the potential of using taxes, levies, and subsidies for climate action (compared with the climate tax regimes of other countries); assessing the social, economic, and political impacts of current taxes, levies, and subsidies; and to propose options for a fiscal framework to achieve the national climate targets. The information presented in this report is based on a comprehensive triangulation of desk reviews, field visits, secondary analysis of data and expert interviews with key stakeholder institutions aimed at discussing the most feasible options for imposing such taxes in selected sectors. Proposed recommendations are drawn from experiences gained from other developing countries.

Currently climate change financing in Tanzania largely depends on international support through multilateral (main source) and bilateral financial institutions. The government complements external finance with some budgetary allocation within the sector budgets, for example in projects like irrigation, rainwater harvesting and environmental management. There is no climate change budget line in the national budget system.

Fiscal instruments include green bonds, debt for climate swaps, insurance and guarantees and fossil fuel subsidies. In Tanzania about 40% of total climate change actions is financed by debt and 5% grants. Possible sources of local financing include taxes, levies and customs duty e.g. fuel levy, excise duty on imported used motor vehicles, VAT on petroleum, motor vehicle taxes, excise duties on petroleum and plastic bags; feed-in tariffs on solar products such as solar panels, modules, vacuum tube solar collectors, solar charger controllers, solar inverter, solar lights, and batteries are VAT-exempted goods; Carbon markets; fines and charges such as those on charcoal, bush fire, farm clearing and environmental pollution charges. Contributions can also be sourced by

instituting Payment for Ecosystem Services, allocating a small percentage from Agencies, Authorities and Credit facilities whose activities depend on natural resources and these include TFS, the Wildlife Fund and TANROADS. However, all these are currently considered as sources of broader government revenue and not directly allocated for climate actions.

Stakeholders proposed various options to further improve fiscal framework to achieve the national climate target such as (i) Setting the maximum number of cattle heads per household and introducing tax to farmers exceeding the maximum limit/size (ii) Introduction of insurance to farmers to internalize and cover the effect of extreme weather events like drought (iii) Subsidizing clean energy sources, spice farming, greenhouse and drip technology and solar pump in agriculture (iv) Taxing pesticides, fungicides and insecticides, highly polluting food machines/ technologies as well as imported agricultural produce like apples (v) Farmers should be given limit in clearing farms and extra hectares should be taxed or compensated by planting trees (vi) Promoting animal breeding and improved pastures to achieve destocking (vii) Construction of dams for irrigation to reduce carbon emission/ budget through carbon sinking and irrigation (viii) The LGAs can introduce by laws to impose and manage fines and charges related to environment such as those on Charcoal, bush fire, farm clearing, etc. and using a certain percentage of revenues for environment or forest restoration.

These proposed options may bring about the following impacts: rise in revenues (for new taxes, levies and charges); fiscal efficiency gains for those who will implement environmentally friendly approaches; promote green innovations; improve the quality of products and occupational health as well as create opportunities for new jobs and hence foster economic growth. However, putting any additional charges or reduction of subsidies on commodities have a potential to cause social unrest and political instability if not well planned or may undermine competitiveness of domestic firms especially when foreign firms do not face equivalent fiscal policies.

Recommendations:

- a) The report recommends a comprehensive review of policies and regulatory framework that will allow allocation of part of the revenues generated from all fiscal instruments levied on activities that are impacted by climate change to be used to support climate action. There is also an opportunity to integrate private sector investments and non-state actors into financing strategies. In this context the additional budget will complement external sources of financing and will enable the country to achieve the set targets faster than sole dependence of external financing.
- b) Tanzania has no dedicated climate change budget line in the national budget system, instead climate expenditures pass through sector budgets. For example, the vote for budget line such as 'health and environment' is expected to cover for all health and environmental issues, with health issues being accorded priority. There is also a proposal in the NCCRS (2021) to have a

separate budget code for climate change, which will then be integrated as part of the main budget. It is not clear how this will be linked with the proposed CCF in the FYDP III

- c) Accelerate operationalization of the CCF so that Tanzania can mobilize, manage the incoming revenue streams into one centralized fund and disburse resources more efficiently by minimizing transaction costs and duplication of climate actions as well having a proper system to track the financial flow.
- d) A detailed assessment to come up with the percentage that different Agencies will contribute to the CCF (as is the case with EWURA and REA), prioritization of projects and modalities of disbursement of such funds to the proposed projects. It is thus proposed that all those sectors whose activities are climate dependent can contribute to the CCF. These include natural resource-based sectors (wildlife, forestry, agriculture, water). The MoFP is expected to spearhead this task in collaboration with key sectors and put in place policy and regulatory framework for the operation of the Fund.
- e) A situational analysis must be carried out to quantify losses and fiscal impacts of climate change, assess climate action costings versus available resources to identify financing gap and the policy options for reducing the financing gap. The Vice President's Office (VPO) can take the lead by integrating all available studies and come up with clear priorities and actions.

1. INTRODUCTION

The effects of climate change and variability on the development efforts is enormous due to their negative impacts on human life and the high costs incurred to rescue and reverse the situation. Tanzania has witnessed adverse impacts of climate change such as seasonal variations, frequent floods and prolonged droughts, strong winds, and sea level rise. Also the growing population, rapid urbanisation and industrialisation exposes the country to such climate risks due to its low adaptive capacity (National Bureau of Statistics (NBS), 2020). Furthermore, Tanzania's economy depends on climate sensitive production such as agriculture that employs at least 70% of her population, which subjects the country to high levels of vulnerability to the impacts of climate change. The country continues to experience high economic costs arising from the increasing frequency of extreme weather events, estimated to be an equivalent to annual loss of 1.5 to 2% of GDP (Watkiss et al., 2011). Frequent and severe extreme events have become more recurrent and at least 65 major weather related events have been recorded over the last two decades (FCDO, 2021).

Climate action involves stepping up efforts to reduce greenhouse gas emissions and strengthen resilience and adaptive capacity to climate induced impacts. It is a combination of climate policies and regulations, subsidies, and taxes as well as improved planning to address climate change. Implementation of all planned actions requires mobilization of resources domestically and internationally¹. Climate finance is one of the global solutions to address climate risks and key to attaining the goals of the Paris Agreement and achieving sustainable development (Steckel et al., 2017, UNFCCC, 2016). Financing for both adaptation and mitigation is needed in Tanzania with the former being very pressing to the country since many regions are vulnerable to the impacts of climate change and require immediate targeted interventions. Mitigation requires large scale investments to significantly reduce emission targets committed in the country's Nationally Determined Contributions (NDCs). Although developed country parties continue to take lead in mobilizing climate finance from various sources instruments and channels, there is also a need to have country driven strategies to support local initiatives that can contribute towards low emission pathways.

African countries have been receiving climate finance for a number of years with Sub-Saharan Africa receiving only 3% of average annual global climate finance in 2015/2016 (CPI, 2017). Climate finance flowing in Africa is not sufficient to meet the needs of the region for adaptation, which is projected to reach US\$ 50 billion per annum by the year 2030 for the 2°C target (UNEP, 2016). The financing gap can be filled by the country through several means. Taxation is mainly a government instrument for raising revenue; however, it may also be used to achieve other objectives such as encouraging or discouraging certain activities or behaviour. The government can use taxation to support environmental protection by waiving or imposing

¹ see objective viii of the NCCRS - facilitate mobilisation of sustainable and adequate finance and technologies to support climate change adaptation and mitigation interventions.

lower taxes on environmentally friendly technologies or products. Governments can also induce compliance with environmental standards by providing government subsidies for those who adopt methods of abating pollutants which arise from production or consumption.

Fiscal regime for climate action refers to fiscal instruments that are levied to the greenhouse gas (GHG) emissions/compliance such as taxes on products, pollutants, and emissions. For example, carbon tax was first introduced by Finland in 1990 and since then there has been a growing interest in the recent years around the world. Other fiscal instruments include climate expenditure, debts, grants, environmental subsidies, charges and fees and debt swaps (Catalano et al., 2020; Chaturvedi et al., 2014; Ernst & Young, 2018; Pigato, 2019). They can lead to economy-wide reductions in the CO₂ emissions and produce important co-benefits such as reductions in air pollution or raising valuable public revenue.

This assignment aims to undertake a review of Tanzania's Fiscal regime for climate action. It follows the government of Tanzania's issuance of its National Position paper to the COP-26 meeting that took place in Glasgow, UK, from 31st October to 13th November 2021. The key emphasis is on access to global climate finance, with specific reference to Adaptation Fund (AF), Green Climate Fund (GCF) and Global Environmental Facility (GEF; URT, 2021). Tanzania has also concluded its Nationally Determined Contributions (NDCs, 2021), National Climate Change Response Strategy (NCCRS, 2021) and the Third Five-Year Development Plan – III (FYDP-III, 2021-2025). These documents have provided the way forward as Tanzania's policy response to climate change (both mitigation and adaptation), its own financing of climate actions and global climate financing mechanisms.

Although the NCCRS has provided room for Local Climate Financing, the implementation of main actions largely depends on accessing international climate. For Tanzania to attract external climate financial resources and for these to be effective, it is important to demonstrate its commitment to align internal fiscal instruments to facilitate a policy shift to reach the targets set in the country's NDCs. It is against this background that REPOA commissioned this study to review Tanzania's use of policies and fiscal instruments such as taxes, levies, and subsidies to facilitate climate actions as a way of mobilising financial resources domestically. Further, the study is also expected to provide practical policy recommendations on how Tanzania's fiscal instruments can result in reduced emission from the various sectors and households and facilitate climate adaptation.

1.1 General Objective

The overarching objective of the assignment is to develop optimal levels of taxes, levies and subsidies as domestic financial resources to achieve the targets under the FYDP III, the NDCs and corresponding climate related policies.

Implementation of the assignment's objective was guided by the following specific objectives.

1.2 Specific Objectives

- i. To assess the potential of using taxes, levies, and subsidies with relevance to climate actions (for adaptation and mitigation) in Tanzania.
- ii. To assess social, economic, and political impacts of current taxes, levies and subsidies for climate actions in Tanzania (both mitigation and adaptation).
- iii. To compare the climate tax regime, including un-intentional climate consequences of ordinary taxes with the climate tax regime of other countries.
- iv. To propose options for a fiscal framework to achieve the national climate targets; and
- v. To present the findings to the relevant government institutions for discussion in relevant fora.

1.3 Rationale

Climate change has become a growing global threat with adverse consequences to human and ecological systems. The effect is more vulnerable to developing countries due to their limited financial and institutional capacity to address risks associated with climate change. Furthermore, the costs of putting in place environmental actions to counter damaging impacts of climate change are extremely high and require collective preventive and remedial efforts at national and international levels. The changing climate can be turned into an opportunity as fiscal instruments such as taxation can be levied on pollution and other environmentally hazardous technology both as a means of getting revenue and a way of reducing its negative impacts. However, due to competing priorities, fiscal constraints and imbalances that countries are facing, many countries tend to prepare fiscal buffers for extreme weather events instead of investing on the adaptation and preventive programs which are long lasting and have a greater long run macroeconomic stability (Catalano et al., 2020). The governments and financial institutions have identified different parallel mechanisms and instruments aimed to mobilize resources that meet the country's adaptive capacity and to attract the national and international actors in financing climate actions to achieve climate change policy objectives (Delgado et al., 2021).

Tanzania has prepared policies, plans and strategies that aim to address climate change and its impacts, including the budget requirements for those actions but no clear strategies are in place to guide the mobilization of finance, especially from the local sources. In this context the government proposed to establish a Climate Change Fund (CCF), which is expected to manage and track both external and internal sources of funds directed for climate action, to facilitate their proper accounting in a transparent manner and enable the country to make better use of financial instruments (MoFP, 2021). Funds can be sourced externally for large scale investments while tax reforms to support green technologies or fees charged for climate-insensitive actions can also be channeled to the fund to support mitigation and adaptation projects.

1.4 Methodology

This report is mostly based on desk review of literature on climate financing landscape and ongoing initiatives by the Government, regional and global Institutions. Proposed recommendations are drawn from experiences gained from other developing countries within and outside the continent. Consultations with stakeholders was also carried out involving key sectors through Focus Group Interviews, including the Vice President's Office (VPO), Presidents Office - Regional Administration and Local Government (PO-RALG), National Environment Management Council (NEMC), Ministry of Energy, Ministry of Agriculture and Food Security, University of Dar es Salaam (UDSM) and National Carbon Monitoring Center of the Sokoine University of Agriculture. This was later followed by the stakeholders' workshop in Morogoro where findings were presented and discussed for further clarification.

Recommendations that were provided during the stakeholders' workshop were incorporated into the report as part of the findings.

2. THE GLOBAL CLIMATE FINANCE ARCHITECTURE

The global climate finance is accessed from multiple sources across the world including capital markets and government budgets (Samaniego & Schneider, 2015). Funds are channeled through various national, bilateral and multilateral institutions, through UNFCCC and other public and private financial institutions like Banks, NGOs and Foundations (Hirsch, 2018; Samaniego & Schneider, 2015). The global climate architecture is clustered mainly into three key sources (Hirsch, 2018; Macquarie et al., 2020);

- (i) International public finance provided by the public sector actors such as governments climate funds, national, bilateral, and multilateral development financial institutions (DFIs), state owned financial institutions and public funds.
- (ii) International private climate finance provided by the private sector actors like commercial financial institutions, corporations, institutional investors, household, and individuals.
- (iii) Domestically sourced public and private climate finance such as government climate expenditure, subsidies, green bonds and funds and finance from the private domestic institutions like commercial banks, enterprises, NGOs, and individual investors.

Although the global climate finance has shown steady growth over time, reaching US\$ 632 billion in 2019/2020 (Buchner et al., 2021), there is still a finance gap of between US\$ 1.6 to 3.8 trillion required on new climate investments that will enable countries to significantly shift towards low emission development to reach 1.5 degrees pathway by 2050 (Department of Economic and Social Affairs (DESA), 2021). The COVID-19 pandemic has also resulted in socio-economic crisis, increased vulnerabilities of countries like Tanzania and created pressure to redistribute funds to the health sector to address the emergency.

2.1 International Public Finance

2.1.1 Multilateral Climate Finance

Multilateral climate finance is the center of financial architecture for the Paris Agreement (PA), which includes funds given by multilateral institutions like multilateral development banks, UN agencies and other financial institutions developed within the UNFCCC (Hirsch, 2018; Rios et al., 2013). These include: (i) The UN Adaptation Fund (AF) which mainly focuses on developing countries that are particularly vulnerable to the adverse effects of climate change; (ii) The Least Developed Country Fund (LDCF) to address the adaptation needs of the Least Developed Countries (LDCs) which are vulnerable to climate change; (iii) The Special Climate Change Fund (SCCF) established to complement the LDCF which is based on voluntary contributions from donor countries and under operation of the Global Environment Facility (GEF); (iv) The Green

Climate Fund (GCF) to promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change (Amerasinghe et al., 2017; Hirsch, 2018; Nakhlooda et al., 2015).

Apart from the listed UNFCCC financing programs, there are Non-UNFCCC multilateral climate funding programs such as The United Nations Program on Reducing Emissions from Deforestation and Forest Degradation (UN REDD), The Climate Investment Funds (CIF), The African Development Bank Fund (AfDB), The Clean Energy Financing Partnership Facility (CEFPF) and The Climate Change Fund (CCF) (Hirsch, 2018).

2.1.2 Bilateral Climate Finance

These include funds from developed countries channeled through bilateral initiatives and Bilateral Financing Institutions (BFI) created and directed by national governments for the purpose of providing aid and investing in development projects in certain developing countries (Climate Policy Initiative, 2014; Hirsch, 2018; Samaniego & Schneider, 2015). Most BFIs and cooperation agencies have started integrating climate finance into their development activities especially in recent decades, and hence they have become key sources of climate finance. Countries with Bilateral Financial Institutions (BFIs) for climate financing include Australia, France, Germany, Japan, Spain, Sweden, the United Kingdom and the United States (Climate Policy Initiative, 2014). For example in Germany the main BFI is the KfW Group, while the Federal Ministry for Economic Cooperation and Development (BMZ) is a bilateral development cooperation agency (Atteridge et al., 2009; Climate Policy Initiative, 2014). Other bilateral climate fund programs include the Australia's International Forest Carbon Initiative, Germany's International Climate Initiative, Norway's International Climate and Forest Initiative and International Climate Fund provided by the Government of the United Kingdom (Samaniego & Schneider, 2015).

2.2 International private climate finance

International private climate finance is sourced from private sector actors like commercial financial institutions, corporations, institutional investors, households and individuals, venture capital, private equity and infrastructure funds. It is one of the largest sources of climate finance where funds are channeled through dedicated projects by project developers and corporations, commercial financial institutions and Development Finance Institutions (DFI), mostly through lending as concessional and non-concessional loans (Charlene Watson & Schalatek, 2021; Prasad et al., 2022a; Rios et al., 2013). They include Multilateral Development Banks (MDBs) such as the World Bank, IFC and AfDB. Other several market instruments through which private sectors can finance climate include green bonds and loans, sustainability-linked bonds and loans, Social and sustainability bonds which are used to finance projects that

achieve positive social impact, Green Asset-Backed Securities (ABSs) like loans to small and medium enterprises to invest in climate-friendly projects, ESG funds, venture capital, and many other forms of private finance (Prasad et al., 2022a).

Despite its significance in financing climate actions globally, there are multiple constraints facing international private climate finance such as unattractive risk-return profiles in unproven markets, absence of carbon pricing and business models for infrastructure projects, high fossil fuel investments, knowledge spillovers, high risk perceptions because of uncertainties about future climate policies, technological costs, and the insufficient returns of mitigation and adaptation investment projects (Prasad et al., 2022b). Therefore, collective national and internal efforts are required to formulate better policies to overcome the existing constraints to attract more private sector capital into climate-related products from both domestic and foreign actors. Public policies should focus more on involving private sectors in climate action financing; for example, policies like carbon taxation, emissions trading, feebates, clean technology subsidies, and command-and-control regulations, all of which will ultimately lead to a change in incentives and a shift in public and private spending toward climate goals (Prasad et al., 2022a).

2.3 Domestic sources of Climate Finance

Domestic sources of climate finance can be from the public or private sectors. Funds sourced from the public sector include the national budget allocation or climate expenditure set specifically by the national authorities for climate action and green products/ programs financing. This is set from national revenues both tax and non- tax revenues, subsidies, and special national climate funds (Charlene Watson & Schalatek, 2021, 2021; Rios et al., 2013; Samaniego & Schneider, 2015).

Funds from private sources operate like international private climate finance and involves funds from domestic private actors like commercial financial intermediaries, corporations, NGOs and individual investors and other private sector actors within the country (Charlene Watson & Schalatek, 2021; Prasad et al., 2022a). In 2014, Kenya's domestic sources of climate finance funded 35 government-run projects valued at US\$ 450 million, with the private sector's investment being more than US\$ 150 million, mostly in geothermal activities, biomass, and small hydroelectric projects (Nzau, 2014²). In Tanzania the CRDB which is accredited to receive GCF funds aims to provide grants and loans to various projects with the purpose of catalyzing low emission and climate resilient development. The Bank has officially unveiled a \$200 million (about TZS 459.9 billion) facility to finance climate-resilient and adaptation projects in the country, targeting six million beneficiaries in Tanzania's agriculture sector³.

² Nzau, V. M. 2014. Climate change financing in Kenya. IIED briefing. International Institute for Environment and Development. <http://pubs.iied.org/17226IIED>

³ <https://www.greenclimate.fund/ae/crdb>

2.4 Fiscal Regime for Climate Action

A fiscal regime for climate action is among the most effective means of fighting against climate change while raising human welfare. It includes environmental taxes and subsidies, fees and charges, government climate expenditure, debts instruments, grants, and debt swaps (Catalano et al., 2020; Chaturvedi et al., 2014; Pigato, 2019; Schlegelmilch & Joas, 2015). It is implemented through public investments on infrastructure, health, education, transfers and funding promotion of investments, innovations on clean and more efficient energy and subsidisation of environmentally friendly production technologies and goods consumed (Delgado et al., 2021; Pigato, 2019). Despite the benefits, it has been difficult in practice to apply some of the fiscal regime strategies for climate action. For example environmental taxes and energy subsidy reforms in most cases adversely affect the poor and vulnerable consumers due to their negative effects associated with the rising costs of energy, food and public transportation, which may thus lead to social unrest if implemented without caution (Delgado et al., 2021).

The fiscal regime also includes a wide variety of government fiscal policies and regulations to limit or reduce greenhouse gas (GHG) emissions, reduce the negative effects of extreme weather events as well as promoting environmental conservation and green climate. They help to adjust patterns of human activity to reflect climate-related risks and increase prices of public assets to promote conservation and sustainable management by aligning their individual values more closely with their social values. Examples include regulations and standards, charges and fines on pollution and deforestation, zero level emission in electricity generation, sanitation, wastewater treatment and low carbon practices that help to reduce GHG emissions (Catalano et al., 2020; Delgado et al., 2021).

Additionally policies like zoning regulations can bar construction in areas that are vulnerable to flooding, provision of incentives can encourage private investments in adaptation, tradable permits, voluntary agreements between industry and governments, raising awareness among stakeholders, subsidies to stimulate the diffusion of new less GHG-emitting technologies, research and development programmes and information instruments including public disclosure requirements, may affect environmental quality by promoting better-informed choices (Catalano et al., 2020; Delgado et al., 2021). Other policies, such as those affecting trade, foreign direct investment, consumption, and social development goals, can also affect GHG emissions. In this context, integration of climate change issues into government policies on carbon taxation, disaster risk management, insurance and guarantees, can effectively contribute to sustainable reduction in GHG across sectors and detrimental effects associated with climate change (Michaelowa et al., 2007). Tanzania has taken such a position to address environmental pollution issues by reviewing its National Environmental Policy (2021) as well as having Regulations such as those relating to Solid Waste Management (GN. No. 263, 2009);

Hazardous Waste Control and Management (GN. No. 264, 2009); Carbon trading (GN. No. 636, 2022) and Fees and Charges (GN No. 387, 2021) and many other sector Regulations.

3. LESSONS FROM OTHER COUNTRIES

There are various instruments/mechanisms of climate action financing practiced in developed and developing countries which proved efficient in dealing with climate change through financing various mitigation and adaptation programs. The lessons from these mechanisms of climate financing are discussed below.

3.1 Climate/Green Bonds

Green bonds are debt securities designated to finance environmentally friendly projects and they were first issued by the World Bank and the European Investment Bank in 2007/08. The first Sovereign green bond was issued in Poland in 2017 and has become significant in the market, with cumulative issuance of more than US\$ 50 billion in both developed countries (notably France, Belgium, Ireland, and the Netherlands) and emerging countries such as Indonesia, Chile, and Nigeria (Delgado et al., 2021). They are also practiced in Latin America of which Chile has achieved several milestones with such innovative transactions including the lowest rate obtained in all currencies, record demand and an expansion of its investor base to include those with green mandates. Chile has also become the first issuer of the two sovereign green bonds (US\$ 2.377 billion) in the Americas and the first non-European issuer of a sovereign green bond in Europe (Delgado et al., 2021). In practice, Green Bonds are like other bonds but the difference is that they refer to any type of bond instrument of which an equivalent amount raised from investors is exclusively applied for financing or re-financing in part or in full green projects or projects with positive environmental impacts (International Capital Markets Association, 2021).

This is a significant mechanism of financing climate actions especially to developing countries as funds raised through green bonds are committed to finance eligible green public spending at least costs associated with lower interest rates (Delgado et al., 2021). It is an opportunity for the government and companies to raise funds for climate action financing as green bonds attract private capital investment in green projects and have been considered an integral component of climate finance. They appeal to investors who can reap financial benefits while also playing a role in investing in environmental and climate-related projects (Ford, 2022; Ngwenya & Simatele, 2020; Tyson, 2021).

Green bonds have also appealed to the public sector, where governments and municipalities issue green bonds to meet their climate-change commitments by implementing their adaptation and mitigation strategies. For example, a total of US\$ 3.96billion of green debt had been issued in Africa by August 2021, mostly by banks. However, the market remains fairly narrow and over 70% of Africa's green bonds have been issued in South Africa, with Morocco and Nigeria responsible for a further 23%. Benin sold a €500m 14-year SDG bond in July 2021 (Ford, 2022; Ngwenya and Simatele, 2020; Tyson, 2021); Nigeria in 2017 raised US\$ 29m;

Moroccan Agency for Sustainable Energy issued Africa’s first certified climate bond of US\$ 104m in 2016; the West African Development Bank (BOAD) issued EUR 750m in 2021 and South Africa’s Nedbank in conjunction with the International Finance Corporation (IFC) issued R1.09bn (US\$ 75m) to build environmentally sustainable housing (Ford, 2022). Table 1 summarizes the details.

If provided with the opportunity to expand – given strong and effective institutions, multiple stakeholders involved as well as proper planning and coordination – green bonds may become an integral component of climate finance for Africa and fund a range of environmental and climate-related projects (Ngwenya & Simatele, 2020).

Table 1: Green bonds issued in Africa from 2014 to 2020

Issuer	USD\$ (M)	Type	Country	Year	Use of proceeds
Standard Bank group	200	Financial institution	South Africa	2020	Water, Energy, Buildings
Acorn Project Limited	40.9	Corporate	Kenya	2019	Buildings
Federal Government of Nigeria	41.4	Sovereign	Nigeria	2019	Conservation, Energy, Transportation
Nedbank	116.7	Financial institution	South Africa	2019	Energy
North South Power	23.5	Corporate	Nigeria	2019	-
Access Bank	41.5	Financial institution	Nigeria	2019	-
Bank of Windhoek	4.6	Financial institution	Namibia	2018	Energy, Transportation
Republic of Seychelles	15	Sovereign	Seychelles	2018	Conservation
Growth point	97.3	Corporate	South Africa	2018	-
Federal Government of Nigeria	29.7	Sovereign	Nigeria	2017	Energy
City of Cape Town	73.8	Municipal	South Africa	2017	Conservation Urban infrastructure
City of Johannesburg	137.8	Municipal	South Africa	2014	Energy, Transportation

Source: Tyson, 2021 (extracted from Climate Bonds Initiative (CBI))

3.2 Debt for Climate Swaps

A debt for climate swap is a fiscal approach which entails the sale of a foreign currency debt to an investor, or forgiveness of a debt by a creditor, in exchange for investment of the debt relief for climate change related activities (Fuller et al., 2018; Rios et al., 2013). This comes into consideration when the creditors do not expect to recover the full nominal value of debts and thus, they can forgive parts of the debt (debt relief) in exchange for its partial cancellation. The debtor government commits to mobilize the equivalent of the reduced amount in local currency for agreed actions, thus creating fiscal space to mobilize domestic savings for climate change-related investments (Fuller et al., 2018). Debt swaps are normally executed from bilateral debts based on negotiation between parties involved (debtor and creditor) to swap a particular debt amount in replacement with the green project. To have a successful debt swap, the projects being put forward for the proposed swap should be realistic, well-Organised in line with both creditor and debtor priorities and housed within institutions with the necessary capacity. To ensure their completion, the agreement should be structured in a way that allows attracting additional funds, there must be high commitment to the mitigation or adaptation activity, buy in from civil society and NGOs within the debtor country, high-level political support and whole-of-government support from the debtor's government (Chamon et al., 2022; Fuller et al., 2018).

Many Caribbean countries have negotiated debt for climate swaps. For example, in 2012 Antigua and Barbuda negotiated a debt for climate adaptation with coastal zone management swap with Brazil for US\$ 18 million. In September 2004, the government of Jamaica concluded a debt for nature swap agreement with the United States of America and The Nature Conservancy (TNC), which is anticipated to generate US \$16 million over a period of 20 years for forest conservation activities and was made possible by the contribution of US\$ 6.5 million from the US government and US\$ 1.3 million from TNC. Between 2010 and 2012, the US provided US\$ 32 million via a debt for nature swap under its Tropical Forest Conservation Act; Italy fulfilled EUR 38 million of its fast-start finance commitments via debt for nature swaps in Vietnam, Ecuador and the Philippines. In 2017, the TNC implemented a US\$ 60m debt swap to Grenada (Fuller et al., 2018). Moreover, In 2018, the Seychelles government, in partnership with the TNC, Global Environment Facility (GEF) and the UNDP developed a debt for climate swap for US\$ 27 million of official debt, to set up vast areas of protected marine parks for climate resilience, fishery management, biodiversity conservation and ecotourism (Steele et al., 2022). Furthermore, in 2018 Seychelles engaged in a debt-for-marine swap with Paris Club creditors, which resulted in a US\$ 21 million investment in coastal protection and adaptation (AfDB, 2022).

The debt for climate provides opportunities for developing countries to invest in the national climate adaptation and mitigation programs as they are highly indebted and use large parts of their government revenues for debt servicing. It is a good way of dealing with climate and debt problems at the same time and provides additional means of reaching commitments and

objectives that have been laid out in the national development plans, NAPs, NDCs and in securing low-carbon climate resilient economies. When a debt-climate swap is structured in a way that ensures climate investment commitment, the recipient country may have an advantage over a conditional grant (Chamon et al., 2022; Fuller et al., 2018). African countries may also continue to advocate for debt-climate swaps, directly with international financial institutions and indirectly through development partners as most of these countries lack the fiscal space to pay for needed climate investment even when financed on concessional terms. Developed financial Institutions and multilateral development institutions should also support by negotiating a bilateral and multilateral basis for debt for climate swaps in developing countries to enable these countries to reduce their external debt while investing the liberated funds in national climate adaptation and mitigation programmes.

3.3 Insurance and Guarantees

This is another approach to mitigating risks from weather related disasters practiced in many developed and developing countries. It is a combination of risk prevention and risk transfer mechanisms for losses such as those related to capital market investors (Delgado et al., 2021; Mechler et al., 2016). Insurance can be used as one of the tools in adapting to climate change by providing the flow of capital to support communities and infrastructure to recover from disasters, thus transferring the burden of paying for losses from the government or individuals to the insurer. Furthermore, insurance contributes to the wider understanding of climate-change risks and helps promote measures that individuals and communities can use to improve their protection from climate related disasters. Insurance can be integrated into a broader fiscal framework and as part of the climate adaptation strategy (Jarzabkowski et al., 2019)⁴.

For example, the Caribbean Catastrophe Risk Insurance Facility (CCRIF) was established in 2007 as a risk pool which is controlled by its member countries that are allowed to purchase coverage and provide them with immediate liquidity in the event of a natural disaster. The financial structure of the insurance instrument allows the Facility to provide countries with tailored coverage at a significantly lower cost than in the financial market (Delgado et al., 2021). The CCRIF's member governments recently purchased US\$ 1.2 billion in coverage for catastrophe risk insurance for the year 2022/23 for climate related and seismic hazards (CCRIF, 2022). Also in Ethiopia, the Satellite Index Insurance for Pastoralists (SIPE) in collaboration with insurance companies in the country provided \$US\$ 5.6 million in 2019 to compensate livestock losses resulting from drought (Frölich et al., 2019). Crop and livestock insurances are relatively new in Tanzania and so far, pilot cases have achieved little success mainly due to lack of

⁴ Jarzabkowski, P., K. Chalkias, D. Clarke, E. Iyahan, D. Stadtmueller & A. Zwick. 2019. "Insurance for climate adaptation: Opportunities and limitations." Rotterdam and Washington, DC. Available online at www.gca.org.

awareness on their benefits (for example: weather index insurance and multi-peril crop insurance (Thinwa, 2022)⁵.

Guarantee instruments are commitments in which a guarantor undertakes to fulfill the obligations of a borrower to a lender for either the entire investment or just a portion of it in case of non-performance or default of its obligations by the borrower, in exchange for a fee. This reduces the risk from investments with inadequate risk-adjusted returns to investors or governments and help to attract capital from project developers through debt on terms that could ensure the feasibility of the project (Rios et al., 2013). The guarantees reduce default risks thus motivating and enabling banks to lend to counterparties at reduced rates and higher volumes. This will raise enough funds to undertake strong adaptation and mitigation projects. For example, in the Latin American region, guarantees have been recently applied for the area of climate change with Chile, Mexico, Brazil, and Colombia as front-runners. In Africa, the UK guaranteed US\$ 1 billion of ESCOM debt (Malawi's primary energy provider) as a deal designed to transform the country's energy systems from coal to renewable energy (Steele et al., 2022). A recent example is the COVID19 loan guarantee programs and central bank liquidity facilities, which can be repurposed under some conditions as climate policy instruments that could support the highly capital-intensive renewable energy sectors or into any other green projects.

3.4 Fossil Fuel Subsidies

Substantial fuel subsidies have been provided by governments of many countries to keep energy prices relatively low and reduce the cost of living associated with the rise in fuel prices to the public as well as to keep the vital resources and services affordable. Resource-rich emerging economies spend a large amount of revenues on fossil fuel consumption subsidies. The Latin America region spent US\$ 44 billion on energy subsidies in 2017, described as direct subsidies of which on average, governments in the region spend one percent of GDP subsidizing energy consumption (Delgado et al., 2021). In 2012 Iran subsidized fossil fuels worth EUR 62.5 billion, the industrialized countries of the G20 spend EUR 70.6 billion annually just on subsidies for the exploration for fossil fuels (Schlegelmilch & Joas, 2015). In 2012, the EU countries spent EUR 15.3 billion subsidizing power productions from fossil fuels; Germany had Environmentally Hazardous Subsidies (EHS) worth EUR 52 billion in 2014, of which large subsidy items were tax exemptions for aviation (EUR 7 billion) followed by energy (EUR 22 billion), building/ housing (EUR 6 billion) and agriculture/ fishery (EUR 53 billion). The Institute for European Environmental Policy estimates the value of global EHS at EUR 825 billion, with the largest share going to energy (Schlegelmilch & Joas, 2015).

On the other hand, subsidisation of fuel leads to wasteful use of resources and leads to resource depletion and environmental degradation. Besides imposing significant fiscal

⁵ Thinwa, E. 2022. Crop insurance in Tanzania: The case for area yield index insurance. Platform for Agricultural Risk Management. <https://www.p4arm.org/crop-insurance-in-tanzania-the-case-for-area-yield-index-insurance/>

pressures on the government, such broad subsidisation usually does not benefit the poor as it encourages the consumption of fossil fuel to the detriment of the environment (Chaturvedi et al., 2014). Furthermore, lower fossil energy prices can be an obstacle to adopting solutions that will allow the transition of private sector to net zero emissions. For example, it will be hard for households and businesses to adopt electric vehicles, renewable energy, and energy efficiency measures. Reforming or eliminating energy subsidies will hence provide an incentive for economic agents to decarbonise and allow prices to go up and in turn discourage their consumption. Elimination of energy subsidies, the imposition of taxes to correct local externalities and a conservative carbon tax was estimated to yield a combined US\$ 224 billion per year for the Latin America region; these savings would add up to more than 2% of GDP in 27 countries and more than 10% in countries like Guyana, Venezuela and Trinidad and Tobago (Delgado et al, 2021). More over the OECD estimates that, removing global energy subsidies to fossil fuels worth around EUR 500 billion could boost global growth by 0.3 per cent and even more for larger subsidizers, such as India, which could increase growth by more than 2.5 percentage points (Schlegelmilch & Joas, 2015). The removal of fossil fuel subsidies is, however, associated with social unrest and protest as exemplified in the cases of Chile and Ecuador (see Section 5.6; (Delgado et al., 2021).

Despite the challenges, it is possible to eliminate fuel subsidies when the instruments are carefully designed to avoid social unrest and other protest of Fuel Subsidy Reforms (FSR) from the public, e.g. the use of other supplementary policies such as targeted compensation schemes to alleviate hardship of negatively affected parties, especially low income households (Chaturvedi et al., 2014). Furthermore, FSR should be viewed as part of a comprehensive set of policies aimed at achieving economic and environmental goals. The FSR implemented in both developed and developing countries has provided some lessons and critical insights into factors determining its success. First, a thorough understanding of the political economy of FSR is required, that covers legal and institutional frameworks, political situation, and economic conditions. Any FSR being conceptualised needs to be tailored to the specific political and economic context of the country in question and it must be decided whether FSR is the best course of action to achieve desired goals. A rigorous analysis of instrument choice, design, and policy impacts, both positive and negative, has to be conducted to determine the optimal outcome. Stakeholders must be consulted to understand their perspectives and address their concerns, together with an effective public awareness campaign to build political support. Finally, a well-developed monitoring and evaluation system needs to be put in place to detect problems, foster continuous improvement, and sustain public support (Chaturvedi et al., 2014).

3.5 Climate Public Expenditure and Budget Tagging

Climate public expenditure is the government spending on climate action using a fund set in the dedicated climate change budget line in the national budget (Mahat et al., 2019a; Tippmann et al., 2013). This involves allocation of domestic revenues on contemporary climate

related issues for green purposes. However, the climate change budget can be integrated with other sources of funding from external finance. For example Nepal has a dedicated budget line and is receiving large percent of climate action fund from multilateral and bilateral institutions of which apart from these international climate finance, the country uses domestic sources for climate action (Mahat et al., 2019b). The climate change financing is integrated in the budget cycle where 6% of the total government expenditure/budget is allocated for climate related activities, mostly adaptation actions (Mahat et al., 2019b). Table 2 provides an example of countries with the climate change budget supported mainly through external funding.

Table 2: Countries with Climate Change Budget Line Globally

Country	CPEIR (year)	Tagging Supported by	Year Tagging Applied	Budget Application
Nepal	2011	UNDP	2013–present	Budget
Cambodia	2012	UNDP	2013–present	Review
Indonesia	2012	WBG	2014–present	Budget
Philippines	2013	WBG	2015–present	Budget
Ecuador	2017	UNDP	2016–present	Budget
Ghana	2015	UNDP	2016–present	Budget
Colombia	2018	WRI	2017	Review
Ethiopia	2014	WBG	2017	Review
Honduras	2016	UNDP, GEF	2017–present	Budget
Nicaragua	2015		2017–present	Budget
Pakistan	2015 and 2017	UNDP	2017–present	Budget
Kenya	2016	UNDP, UNEP	2017–present	Budget
Bangladesh	2012	UNDP	2018–present	Budget
Ireland			2019–present	Budget
Uganda	2013	WBG	2019–present	Budget
Odisha (India)			2020	Budget
France			2021	Budget
Mexico			2021	Budget

Source: World Bank (2021)

4. THE POTENTIAL OF USING TAXES, LEVIES AND SUBSIDIES WITH RELEVANCE TO CLIMATE ACTIONS IN TANZANIA

4.1 Government Expenditure

The government of Tanzania finances climate actions through the national budget supported by international climate finance accessed through various green projects to be undertaken in the country. There is no budget line for adaptation/ mitigation activities in the national budget system, funding is within the wider government budgets of the sectors. The budget for climate change largely depends on donor funding and the effective capacity of the country to undertake strong adaptation and mitigation actions is driven by an increase in donor/ external climate finance recorded on budget (United Republic of Tanzania (URT), 2021c; Yanda et al., 2013). In response to climate change, Tanzania has been investing in adaptation and mitigation programs like irrigation and rain water harvesting as remedial measures to drought which is recurring in the country, construction of dams, roads, planting trees, public health, climate change awareness, research and development and climate information (National Bureau of Statistics (NBS), 2020). For example, in the 2021/22 Financial Year, the Government of Tanzania allocated a total of TZS 48.2 billion to finance irrigation activities in the country as a measure to mitigate against prolonged drought and 722.2 billion shillings for road construction, maintenance and rehabilitation (URT, 2021e). Various projects have also been implemented along the sea walls to increase resilience to climate change impacts, including the construction of 780m sea wall at Barack Obama Road; construction of 500 m wall at Mwalimu Nyerere Memorial College in Kigamboni; reconstruction of 860m sea wall in Pangani to protect the coasts against sea erosion; restoration of 1,000 ha of degraded mangrove areas in Rufiji and restoration of 3,000 m² of coral reef in Sinda Kigamboni (NBS, 2020). All these adaptation projects were externally funded through International and bilateral financing mechanisms.

It is a fact that climate financing sources do not meet the expectations as recent estimates indicate that by 2020 a total of TZS 24.7 trillion equivalent to USD 10.7 million were mobilized during FYDP II, which was only 3.6% of the targeted amount. Some of the challenges for the limited utilisation of climate financing included delays in implementing the suggested strategies for allowing tapping of climate change funds, capacity to prepare documents that are responsive to the fund requirements, lack of accredited institutions to access the funds such as GCF as well as inadequate mechanisms for identifying and monitoring climate change funds mobilised by non-state actors. The proposed fiscal reforms have been considered so as to complement climate change funding in the financing mix required for FYDP III (Ministry of Finance and Planning, 2021; United Republic of Tanzania (URT, n.d.).

4.2 Debts and Grants

In Tanzania the landscape of financial instruments is dominated by debt instruments (concessional and non-concessional) and grants. In Africa, debt (that is, loans) makes up 67% of total climate finance and grants account for 30%. The split within EAC is slightly more uneven: 74% debt and 25% grants of which the high share of grants at the EAC level is due to many of the LDCs qualifying for repayment exemption (UNFCCC, 2018, 2021). According to the 2021 technical assessment of climate finance in EAC, the United Republic of Tanzania climate finance structure is 40% debt/borrowings and 5% grants with modest shares in most of the sectors, except for transport which received the majority of the total finance (UNFCCC, 2021). This support in terms of grants helps the least developed countries to make essential investments in several initiatives with no return on investments, such as adaptation projects with costless resources as opposed to loans.

Based on the FYDP III Financing Strategy (2021-2025), the Country's projected external grant is expected to reach TZS 3.487 trillion, but additional financial resources will be required to achieve the SDG and Addis Ababa Action Agenda 2063 (MoFP, 2021). Furthermore, external borrowing, which includes concessional and non-concessional loans, is expected to reach TZS 19.539 trillion for the five-year period. However, the FYDP III has not considered the impacts of climate change on economic growth or linked the government's NDC targets with a low carbon pathway in mind (FCDO, 2021). It is also not clear how the local productive sectors will contribute to the proposed CCF to make it sustainable and not totally dependent on external funding.

4.3 Green Taxes, Levies and Customs Duty

There are taxes, levies and duties introduced on environment including those on energy, pollution, transportation and other sources which in other countries are for climate action financing to achieve low carbon emission and climate resilient economy (Pigato, 2019). Introduction of environmental taxes and charges have the following advantages: help to shift consumer and business behaviour towards more sustainable patterns; enhance budgetary reforms to align government expenditure with environmental goals and promote effective spending; part of the green tax can be used to fund innovations that promote alternative technologies that are cheaper and more environmentally friendly (UNEP, 2022).

In Tanzania however, these are charged as sources of Government revenue which is mainly spent on recurring costs such as staff salaries (Klarer, 2011; TRA, 2021). Although the proposed Climate Change Fund is expected to tap financing from external sources such as the GCF and other bilateral sources, a certain percentage of domestic sources especially those sourced from environmentally related fines or charges can be channeled to the CCF as contribution towards the implementation of the NCCRS (2021), estimated to be TZS 326.5 billion. An example in this context is the 3% levy on electricity purchased and forwarded to the Rural Energy Agency (REA) to support rural electrification through grid extension and off-grid projects such as mini-hydros and solar power.

4.4 Feed- in tariff

Feed- in tariff is another fiscal means of climate change financing used in Tanzania to promote clean energy which involves provision of incentives for clean energy by import duty exemption implemented through feed-in tariff policies (Moner-Girona et al., 2016; UNFCCC, 2021). For example, solar products such as solar panels, modules, vacuum tube solar collectors, solar charger controllers, solar inverter, solar lights, and batteries are VAT- exempted goods (UNFCCC, 2021). This reduces the costs of solar power installation and in turn results in an increase in consumption of clean solar energy especially in rural areas that are not connected to the national grid. This will help reduce consumption of other pollutant energy types as well as carbon emission. Section 80 of EMA (Cap 191) has also provided opportunities for investors to receive some economic incentives for the use of environmentally friendly technologies such as those applied in the energy and agriculture sectors. However, there is no record as to whether this opportunity has been used by any investor in the country.

4.5 Other Means of Financing Climate Action in Tanzania

4.5.1 Carbon Market/ Emission Trading System (ETS)

A carbon market or emission trading system is a carbon pricing system in which emitters are provided with emission allowances or permits and allowed to trade between them. It was the first international climate finance mechanism that attempted to use a market mechanism to reduce global greenhouse gas (GHG) emissions by putting a price on those emissions (Hirsch, 2018). An ETS establishes a maximum cap for total emissions within a specific jurisdiction and assigns permits to emissions' sources. Emitters can choose to use their permits or sell them to other emitters that have fallen short. They are allowed to trade directly among themselves, sometimes across sectors and even jurisdictions. It is in this way, polluters for whom it is easier or cheaper to lower their emissions can do so and sell their permits to companies that are having a harder time in reducing their emissions (United Nations, 2021). However, an ETS is generally considered to be more complex than a carbon tax because it requires a specialized institutional system to establish the rules for the transaction of emission allowances. This is difficult and costly and has only been implemented effectively in developed countries. On the other hand, an ETS is perceived as a market instrument that reduces emissions more cost-efficiently than tax, because it creates an emission trading market that can access lower abatement costs across firms and can be linked across jurisdictions (United Nations, 2021).

Globally more than 50 countries including 30 from Europe, 15 non-European, and a number of other countries have adopted a carbon pricing systems with prices up to EUR 115 per ton of CO₂ removed or avoided (Hirsch, 2018). The carbon credit sales are used for financing climate change actions by offering project development entities financial resources obtained from the sale of units resulting from GHG mitigation actions certified through the mechanism

to those interested in acquiring them. For example, the number of registered CDM projects and programs in EAC countries stands at 124, 25 of which had a combined capital investment of US\$ 3.8 billion and a total of 9.7 million certified emission reductions (CER) have been issued (Carbontanzania, 2022; UNFCCC, 2021). In Tanzania, 10 CDM projects have been implemented costing US\$ 41 million and a total of 180,583 Certified Emission Reduction (CER) credits were issued (UNFCCC, 2021). Furthermore, the communities of Makame, Ntakata Mountains and Yaeda-Eyasi forest in Tanzania received US\$ 2,041,638 from carbon credits through the project "Carbontanzania". The project is implemented in Tanzania as one of the most cost-effective ways to mitigate climate change through forest conservation. The project is working closely with the Vice President's Office (Environment) to align with their environmental management and climate mitigation goals, and report to the Tanzanian National Carbon Monitoring Centre (NCCMC). The project has increased community income and reduced CO₂ emissions by 857,284 tones (Carbontanzania, 2022).

In Tanzania carbon trading projects are managed under the Regulations 'Control and Management of Carbon trading, 2022', made under Sections 75 and 230(2) of EMA Cap 191.

4.5.2 Contributions from other available 'Funds'

Agencies, Authorities and Credit facilities whose activities depend on natural resources can contribute a small percentage of their revenue for climate action. Examples include the Tanzania Wildlife Protection Fund (TWPF), Tanzania Forest Services Agency (TFS), The Energy and Water Utilities Regulatory Authority (EWURA), the Road Fund (TANROADS) and even Agricultural Credit and Insurance Facilities. Possibilities of mobilizing financing for climate action from such institutions have been explored in the neighbouring country of Uganda (Bakiika et al., 2020). A small percentage of the revenue can be channeled to the CCF to be used for financing climate actions. For example, in Uganda the government proposed a levy of .0005% of the market value of resources generated from hydroelectricity and production of hydrocarbons to be channeled to the Tree Fund. Although this did not become operational, a similar approach was successfully used in Costa Rica where 3.5% fuel tax and 25% water tariff are transferred to FONAFIFO⁶ and consequently used for afforestation, as a result there was an increase in forest cover from 21% in 1987 to 54% by 2015 (Bakiika et al., 2020).

The National Environment Management Council (NEMC) is also mandated to charge for services rendered (permits, licenses) for purposes of prevention of environmental degradation and promotion of environmentally sound practices under the Fees and Charges Regulations (GN No. 387 of 2021⁷), as well as imposing fines and penalties for any entity that will cause pollution as detailed in Part XVI under Compliance and Enforcement (S. 191 of EMA Cap 191). A certain percentage of collected revenues is sent to the government of which some can be utilized to address climate actions once the CCF is operational.

⁶ FONAFIFO: National Forestry Financing Fund (In Spanish)

⁷ Made under Section 230(2)(b) of EMA Cap 191

Voluntary contributions to obtain funds for redressing loss and damage from extreme climate events could also be made by all types of actors such as donor governments, private foundations, private sector, households, and other institutions, based on voluntarism and the justice principle of solidarity. Due to their voluntary nature these sources can be easily realized without lengthy legal processes (Hirsch, 2018). In Tanzania during disasters communities affected by floods and/or droughts are supported by family members, friends, businessmen and international Civil Societies such as the Tanzania Red Cross Society. Due to the absence of an established system to address climate-induced loss and damage, the community in Pangani has come up with local strategies to make contributions through community Organised groups. One example is a Village Community Bank, where people contribute an amount of money each month, which can then be used to support friends and family members during climate related disasters. This, however, cannot replace the support of the government and the international community because the climate impacts in coastal Tanzania are already beyond the adaptive capacity of poor and vulnerable communities (Hirsch, 2018).

4.5.3 Disaster Risk Management

This is the climate financing mechanism through regulatory foundation for organising and coordinating Disaster Risk Management (DRM). It includes regulations, resource availability, and the creation of satisfactory arrangements for information and citizen participation, as well as mechanisms for monitoring, evaluating, and minimizing vulnerabilities and risks with a view to mitigating the adverse impacts of climate related hazards. It encompasses financial mechanisms for risk retention and transfer, with a view to accessing economic resources in a timely manner after a disaster, which improves disaster response capabilities for both minor and large recurring disasters and protects the government's fiscal balance (Delgado et al., 2021). The system is effective and has been adopted in many countries in Latin America and the Caribbean. In Tanzania there is Disaster Management Program (DMP) under the Prime Minister's Office dealing with mitigation of disasters occurring in the country including those related to climate change. This is, however, solely funded by the government through provision of emergency assistance provided to the affected population to meet basic needs (food, shelter, and medical attention) and the rehabilitation of damaged infrastructure.

The main option for Tanzania is the use of crop and livestock insurance policies to help avoid losses that may occur from different causes such as natural calamities (drought, floods). This will help the government to avert crisis and strengthen socio-economic resilience under a changing climate. Funds obtained from insurance can be integrated into other resilience and adaptation measures as part of a comprehensive climate adaptation strategy.

4.5.4 Payment for Ecosystems Services (PES) and other certifications

Payment for Ecosystem Services occurs when the beneficiaries or users of ecosystem services make payments to the providers of those services PES, which hence encourages the conservation of natural resources through environmentally friendly practices that avoid damage to other users (Fripp, 2014). A well-planned and executed PES scheme provides several advantages through conservation of degraded areas with co-benefits on improved carbon storage, improved water availability, improved air quality and landscape restoration as well as improved livelihoods. It can also be used as a strategy for adaptation to the impacts of climate change, which helps to improve risk reduction by restoring coastal habitats and establishment of sustainable agricultural systems.

Its application is relatively new in Tanzania and has been tried in some selected areas such as the Uluguru Mountains (Kagata et al., 2018) and Usambara Mountains (Kaczan et al., 2011) mainly for watershed management. PES is also used in the REDD+ programs where Carbon credits are bought and sold on carbon markets. The Royal Norwegian Government and the Clinton Climate Initiative supported the establishment of baseline studies that helped to provide methods for estimating deforestation and carbon sequestration, emissions and leakage in selected village forests in Tanzania and how the global UN-REDD goals could be aligned with the national and local priorities in forest management (Mustalahti et al., 2012; WCS, 2016). Other PES options are based on biodiversity conservation and ecotourism. Implementing soil conservation measures also have adaptation co-benefits by bringing in buyers of additional ecosystem services such as carbon sequestration, wildlife habitat and ecotourism (van de Sand et al., 2014). PES can contribute to adaptation by reducing the vulnerability of the ecosystem, enhancing adaptive capacity through its designed activities and providing incentive mechanisms to adopt specific measures to address climate change impacts (van de Sand, 2012). In this context a carefully planned PES can also be used as a viable option to contribute to payments for climate services.

Other certification schemes include ecotourism operations and certification of forest and agricultural products and products from aquaculture and fisheries.

5. THE SOCIAL, ECONOMIC AND POLITICAL IMPACTS OF CURRENT TAXES, LEVIES AND SUBSIDIES FOR CLIMATE ACTIONS

The use of taxes, levies and subsidies for climate action has both positive and negative social, economic, and political impacts to the implementing country. These impacts are discussed in sub-sections below by citing examples in countries including Tanzania.

5.1 Rise in revenues

The current taxes and levies charged on pollution raise revenues that can be used to improve both the environment and fiscal health of the nation, especially when environmental taxes are used for purposes other than environmental enhancement. This is known as the "double dividend" meaning that, the revenue is used first for improvement in environmental quality and any extra benefits derived from using the revenues to reduce pre-existing distortions in the economy (Patterson III, 2000; Schlegelmilch & Joas, 2015). Pigato (2019) further explained that environmental taxes and other charges defined in supplementary policies like that on charcoal and pollution raise domestic revenues at a lower cost than other taxes, of which the revenues generated can be used to finance investments in climate change mitigation and adaptation, offset the social impacts of other forms of pollution, and accelerate the transition towards safer, more efficient infrastructure and cleaner technologies (Pigato, 2019; Richardson & Chanwai, 2003; United Nations, 2021). For example, the environmental related taxes and charges have significant increment in the Tanzania government revenue as indicated in Table 3. Thus, it is expected that once the Climate Change Fund becomes operational, these can be very potential sources of climate actions finance. The government can set aside a certain percentage and use it in part or in full to achieve greater effects on climate change adaptation and mitigation instead of relying on donor funding only.

Table 3: Total Revenues Received by the Government of Tanzania from Climate Change Related Taxes, Custom Duty and Levy (2015-2022)

Year	Fuel Levy (Million TZS)	Petroleum Levy-REA (Million TZS)	Excise Duty on Imports – Petroleum (Million TZS)	Import duty- Vehicles (Million TZS)	Excise Duty for aged motor Vehicle (Million TZS)	Motor vehicle taxes (Million TZS)	VAT on Plastics (million TZS)
2015/16	160,523.10	79,419.20	174,931.90	213,639	120,665	58,045	2,847.10
2016/17	164,796.80	67,481.70	178,501.80	227,373	114,750	55,168.80	1,545.50
2017/18	172,457.40	67,191.80	224,497.90	149,394	85,504	22,247.80	2,921.80
2018/19	193,945.30	78,902.80	271,087.10	209,706	105,546	28,306.60	2,974.50
2019/20	155,645.50	58,113.30	198,606.40	254,429	172,798	24,853.90	2,736.10
2020/21	219,547.90	88,982.70	305,149.80	207,482	140,102	32,411.70	2,032.60

2021/22	340,123.00	67,605.10	282,685.50	309,298	244,107	38,649.90	2,483.30
TOTAL	1,407,039.00	507,696.60	1,635,460.40	1,571,320.29	983,471.94	259,683.70	17,540.90

Source: Tanzania Tax Collection Statistics: <https://www.tra.go.tz/index.php/tax-collection-statistics>.

5.2 Fiscal efficiency gains

Environmental and climate related taxes reduce the burden on the government and minimize pollution control costs since they don't require costly government oversight. All management decisions are in the hands of the polluters as they must decide whether it is cheaper to pollute and pay the associated taxes, or to devise a more environmentally friendly way of doing business. Under such a regime, those polluters that face higher costs for pollution reduction techniques will be more likely to pay the tax, while those who can reduce pollution more cheaply will be more likely to choose that option. Therefore, results will still be achieved without costly monitoring or oversight by the government (Pigato, 2019; Schlegelmilch & Joas, 2015).

5.3 Facilitate innovation

The taxes, levies and green subsidies help to increase innovation towards clean and smart life as producers have an incentive to find alternatives and more environmentally friendly means of production. Imposing high taxes on fuel and other polluting substances will raise prices of such products and motivate adoption of more productive and clean facilities. As a result, firms will go for energy efficient capital and scrap old fuel-based machinery, meanwhile the community as well will use efficient and clean energy and products in response to the increasing prices (Chaturvedi, 2016; Pigato, 2019; Richardson & Chanwai, 2003). Thus, emerging climate-smart technologies and practices such as biomass energy production from crop and food wastes, manure management, renewable energy-based farming systems, solar or wind-powered water pumping, drip irrigation, innovative greenhouse technologies and efficient field machinery have been in one way the result of environmental and climate related taxes. For example, the U.S. tax on chlorofluorocarbons (CFCs) encouraged the development of substitute chemicals that are less harmful to the atmosphere and turned out to be profitable to export. Another example is the Swedish tax on sulphurous diesel fuel, which led to the development of new cleaner fuels (Chaturvedi, 2016; Pigato, 2019; Richardson & Chanwai, 2003; Schlegelmilch & Joas, 2015).

5.4 Improve the quality of products and occupational health

Environmental taxes may result in the improvement of quality of products and reduction of diseases and other ill health conditions resulting from pollution. Imposing such taxes increases the price of environmentally harmful behaviour which may oblige firms and individuals to consider environmental and health consequences when making decisions on certain

investments. For example, 6 of every 100 employees in Washington in the United States became ill after working with cleaning fluids containing harmful chemicals, which led to additional expenses per employee in addition to time off work (Delgado et al., 2021). Furthermore, environmental taxes, user charges and fees also help put into practice the precautionary principle which ensures a reduction of polluting substances before definite evidence of grave harm associated with those substances. Availability of such funds helps the government to avoid the lag time between recognition of harm and a regulatory response to that harm. In other words, they help to make the world proactive than reactive to climate change and the related effects with affordable and least cost adaptive procedures (Catalano et al., 2020). Thus expanding the use of environmental taxes together with risk-pooling mechanisms involving insurance systems, multilateral safety nets and global climate funds will strengthen fiscal resilience and accelerate post-disaster reconstruction, which in turn improve the quality of products, services and occupational health (Catalano et al., 2020).

5.5 Creating jobs, economic growth and welfare

Taxes, levies and custom duty charged on pollutants and environmentally harmful substances create employment opportunities for the people who implement the strategies. Several studies find that when structural unemployment exists in an economy, environmental tax reform can boost employment and profits (Schlegelmilch & Joas, 2015). For example, promotion of green public procurement introduced in South Korea in 2005 by the Ministry of Environment resulted in the creation of 13,000 new jobs in companies with environmentally sustainable practices (Delgado et al., 2021). In Tanzania, people are employed by the government institutions such as NEMC, TRA and TFS to administer taxes, fines, and charges (environmental taxes). A set percentage of such fees and charges can be used to finance activities such as irrigation or tree planting as measures to mitigate against prolonged drought, reduce the problem of food insecurity and in turn help to improve health and welfare of (especially) the vulnerable communities of Tanzania.

5.6 Inflation and Social Unrest

The environmental taxes or reduction in subsidies may lead to social unrest and political instability if not well planned and managed in the country because they are associated with the increase in prices of goods and services. Despite their benefits, the costs of environmental taxation such as higher prices for energy and fuel tend to be more visible than the benefits (Pigato, 2019; Schlegelmilch & Joas, 2015). Furthermore, it has been difficult in practice to apply environmental taxes and implement energy subsidy reforms due to their negative effects on the cost of energy, food, and public transportation, which affects the poor and vulnerable consumers. For example, raising public transportation prices in Chile associated with taxes and removal of gasoline subsidies triggered a series of protests in 2019, while reductions in diesel subsidies in Ecuador sparked protests from workers in the transportation sector that led to reinstatement of the subsidies and social assistance program for those most in need.

Moreover, the social discontent is common at the international level when governments suddenly implement price reforms without prior, participatory consultations and without proposing compensation measures for the most affected households and companies (Delgado et al., 2021).

In Tanzania, the current rising prices of fuel and re-introduction of TZS 100 per liter in fuel levy has brought political attention in the country. There are many complaints that the cost of living has increased and the citizens demand for the government to act over the increasing fuel prices. In response to that, the government of Tanzania promised to subsidize fuel by TZS 100 billion monthly to curb the rising global fuel price.

5.7 Distort competition in the economy

Environmental taxes, levies and subsidies that are unilaterally adopted may undermine competitiveness of domestic firms especially when foreign firms do not face equivalent fiscal policies. For example, the higher energy prices could make it harder for domestic firms to compete in both foreign and domestic markets, especially in energy-intensive tradable sectors (Pigato, 2019). The impact of environmental taxation on competitiveness could also push some industries to relocate production to countries with lower or no environmental tax rates thus resulting in an unintended increase in GHG emissions via the so-called carbon leakage effect (Pigato, 2019).

Figure 1 summarises the benefits of fiscal reforms as a means of providing opportunities towards green economy and sustainable development.

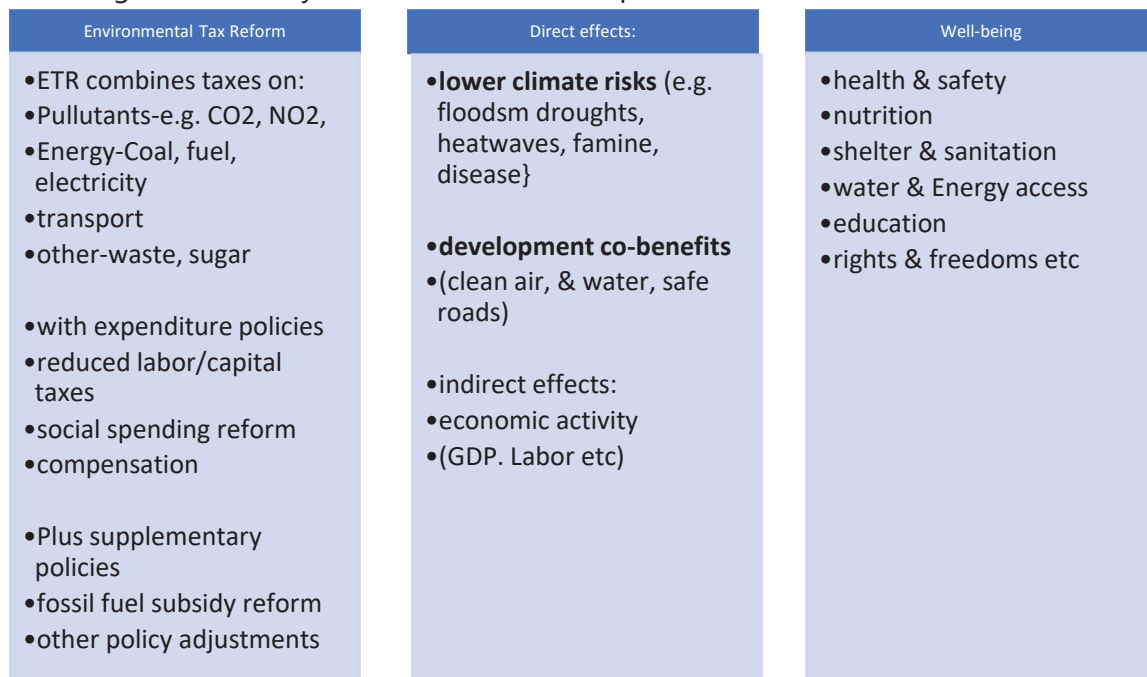


Figure 1: Environmental Tax Reforms have direct and indirect effects on human well-being (Source: WBG 2019).

6. OVERVIEW OF FISCAL REGIMES IN TANZANIA AND BEST PRACTICES

6.1 Climate financing in Tanzania

Based on the 2011 assessment on the economic costs associated with climate change impacts, it was estimated that losses that occur due to weather related disasters such as floods and drought are equivalent of 1 to 2 percent of GDP per year (Watkiss et al., 2011), with indirect losses associated with disruption of transport and power being equivalent to 0.7% of the GDP (FCDO, 2021). It was estimated that the 2018 floods in Dar es Salaam alone caused losses equivalent to 2 to 4% of the city's GDP. With the business-as-usual scenario, the aggregate estimates of economic costs stand at 1-2% of GDP/year by 2030, which will hence influence economic growth negatively and prevent the country from achieving poverty reduction targets (FCDO, 2021). Adaptation can reduce many of the impacts and economic costs, but significant funding is required to address the existing adaptation deficit. The cost of building adaptive capacity and enhancing resilience against future climate change in Tanzania is estimated at US\$ 100 to 150 million per year and the cost of implementing Tanzania NDCs is estimated to be US\$ 14 billion (URT, 2021b).

Despite the high cost of financing climate action in Tanzania, the country is eligible to receive most multilateral funds including the Global Environment Facility (GEF), Adaptation Fund, Least Developed Countries Fund (LDCF) and Green Climate Fund (GCF). For example, since the establishment of GEF in 1991 as the financial mechanism for MEAs, the United Republic of Tanzania has received non-repayable financial support approximately worth US\$ 1,096 million and US\$ 7,987 million in co-financing for 108 projects, focusing on seven GEF focal areas, including 10 climate change related projects (see Table 4). Other GEF focal areas include biodiversity, international waters, land degradation (desertification and deforestation), chemical pollution, sustainable forest management and cross-cutting capacity development (URT, 2021b). Tanzania has also benefitted from the Adaptation Fund to the tune of US\$ 10 million for financing concrete actions to help vulnerable communities adapt and build resilience to the negative effects of climate change.

Table 4: The Total Climate Fund Received by Tanzania Government under GEF, MTF, LDCF and SCCF by 2022 since their establishment (GEF since 1991)

Fund	Project Type	Number of Projects	Total Financing US\$	Total Co-Financing (US\$)
GEF	National	40	\$136,326,901	\$789,066,483
	Regional/Global	84	\$1,1175,294,517	\$8,225,214,415
MTF (Multi Trust Fund)		1	\$5,117,100	\$215,218,000
LDCF	National	5	\$ 19,543,743	\$159,925,527
	Regional/Global	0	0	0
SCCF	National	1	\$1,000,000	\$1,574,875
	Regional/Global	2	\$ 5,070,000	\$12,710,000

Source: GEF. 2022. Tanzania Country at a glance.

<https://www.thegef.org/projects-operations/country-profiles/tanzania>

This is a clear indication of the country's dependence on international support through multilateral (main source) and bilateral financial institutions (URT, 2021b, 2021d). Even the country's future climate fundraising has focused on international financing as stated in the conditionality of implementing the NDC targets and the FYDP III (2021/22–2025/26). The actions to be undertaken for raising the targeted Climate Change Fund include capacity to identify and prepare eligible projects, negotiation skills (for syndication loans, semi-concessional loans and export credit agency loans) and continue with accreditation process to enable the Ministry of Finance and Planning (MoFP) to access directly the GCF and other climate finance opportunities beyond the GCF (URT, 2021c). Currently Tanzania has only one private entity (CRDB Bank PLC) which is accredited to access the GCF and other climate financing opportunities. Tanzania has also launched the Local Climate Finance Initiative (LCFI), a program jointly implemented by the government of Tanzania, UN Capital Development Fund (UNCDF) and the International Institute for Environment and Development (IIED; URT, 2021b). This allows Local Government Authorities (LGAs) across the country to access and use climate finance effectively for building verifiable climate-resilient local economies and communities. These climate initiatives contribute to ensuring climate change resilient communities and local economies by using a country-based mechanism to channel climate finance (URT, 2021b). However, this initiative is currently dependent on external financing and additional local resources must be sought locally to make it sustainable.

There are several 'climate change' related taxes/levies which are already in force at sector level. For example, fuel levy charged on petrol or diesel (TZS 413 per liter), Petroleum Levy chargeable based on per liter of Kerosene, Gas Oil and Motor Spirit amount (TZS 250 per liter), Excise Duty on Imported used Motor vehicles of which Imported motor vehicles aged from eight years but not more than 10 years (counted from the year of its manufacture) are charged

a rate of 15%, while those aged ten (10) years or more are charged a rate of 30% and 10% rate for imported used motorcycles aged more than three years from the manufacture date (TRA, 2021). Other environmental related taxation includes VAT on petroleum, Motor vehicle taxes, Excise duty on petroleum, Fuel levy and Excise duty on plastic bags (Klarer, 2011; TRA, 2021).

Figure 2 presents the trend of imported cars since 2012 and the excise duty for aged car received for the same period.

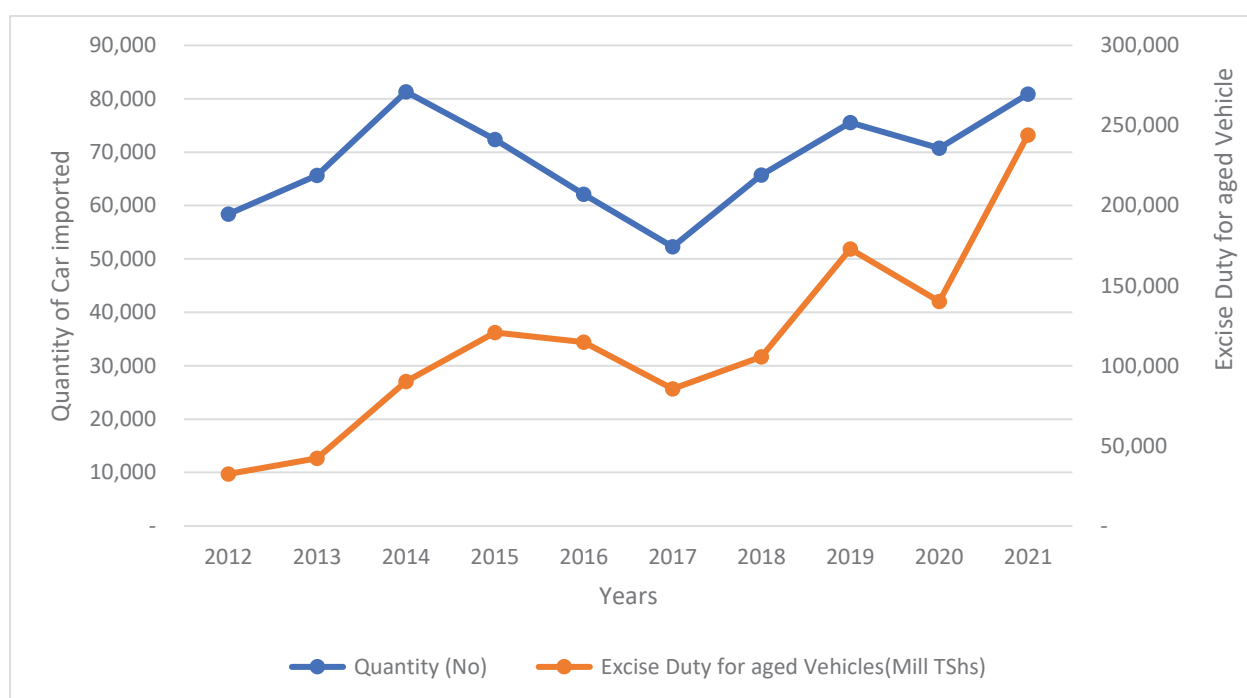


Figure 2: Trends of imported cars and excise duties collected from 2012-2021

Figure 2 indicates that there is no correlation between the quantity of imported cars and excise duty for aged vehicles in Tanzania. The trend of imported cars has been increasing with excise duty for aged vehicles from 2012 to 2021. This implies that excise duty for aged vehicles is among the potential sources of climate finance if part of the revenue generated from this source is strategically allocated to climate actions. Also, this trend further indicates that the demand for imported motor vehicles is independent of excise duties or inelastic, thus the government can impose more tariffs on imported motor vehicles and use the revenue in achieving climate change targets.

Table 5 provides examples of different other taxes and charges with linkage to environmental management that are currently operational in different sectors and the proposed new charges. It is proposed that a percentage of these taxes charged at the sector level be transferred to the CCF to make it operational.

Table 5. Examples of ‘environmental’ charges currently in use and proposed new charges in different sectors (other taxes/levies not directly linked to environment have not been included)

Sector	Current sources of financing	Proposed new charges/taxes	End user
Natural resources	Forestry: charges on forest and bee products (timber, wax...) as defined in the Forest Act No. 14 (2002) and Beekeeping Act. No 15 (2002) Carbon certification	Communities to promote conservation practices, planting of trees and beekeeping for improved livelihoods	Private sector and communities for conservation activities such as planting trees, catchment protection (funding channelled through the TFS and TWPF)
	Wildlife: taxes and charges on protected areas including those for use of biodiversity resources Proceeds from sales of wild animals, trophy, permits and charges for hunting, photography, park entry plus other charges as defined in the Wildlife Conservation Act No. 5 (2009)	Promotion of biodiversity conservation, ecotourism	
Agriculture	Charges on agricultural products Taxes on pesticides, fertilizers	Exemptions on water efficient technologies (drip irrigation) Crop Insurance Tax on imported agricultural products such as apples. Reduced tax on sisal waste Tax on ‘additional’ number of hectares cleared	Agricultural communities enhanced to use climate smart agricultural practices
Fisheries	Fisheries: fishing vessels licences, diving, entry fee into marine parks and protected areas Levy on fish and fish products (exported)	Communities to promote good fishing practices and use of environmentally friendly fishing gear	Conservation of marine protected areas, aquaculture, mangrove restoration
Livestock	Livestock heads Skin and hides	Tax on increased number of animals	Improved breeds and pasture development
Water	Water use tariff and charges as stipulated in the Water Resources Management Act. Pollution charges	Strengthening Water User Associations and promote conservation of water sources for catchment protection	Development of infrastructure for water supply in the urban and rural areas Conservation of water sources

Sector	Current sources of financing	Proposed new charges/taxes	End user
Energy	Fuel (gasoline, kerosene, diesel, furnace oil, lubrication oil and greases) No taxes on jet fuel and LPG		To be used to promote use of alternative sources of energy and energy efficiency innovations
	Fuel levy (TZS per l)	Emission charges on vehicles (penalties/fines or charged to old vehicles)	Tanzania Road Fund (TANROADS) for road rehabilitation and maintenance
	Electricity: 4% levy	Exemption on solar, wind and geothermal equipment (proposed)	3% to REA for installation of electricity in the rural area 1% to EWURA
Transport	Vehicle import tax and excise duty. Old vehicle tax more than 10 years (20%)	Tax on large vehicles Airport and sea transport fee (proposed) Pollution (CO2) fee	Construction of climate resilient structures such as bridges, roads
LGA	Waste management (solid), for products such as used batteries.... Collection of waste and disposal (certification) Waste management (liquid): effluent charges Waste collection charges	Electronic equipment disposal – computers, televisions	Development of climate sensitive infrastructure financed by the LGA
Mining	Resource extraction licenses, charges, and royalties as per the Mining Act (Cap 123 R. E. 2019) Pollution charges/fines Rehabilitation fund (Environmental Performance Bond) Small scale mining licenses	Incentive for use of environmentally friendly technologies Charges on water effluent, air emissions and waste production and disposal	Funds to be used during decommissioning by rehabilitating the area (enhance conservation) Occupational health and safety
Industry/ Manufacturing	Effluent charges Taxes and levies on processing different products Charges on packaging materials, plastics	Air emissions Incentives for environmentally friendly technologies Charges on second-hand/used appliances	Manufacturing sector to promote environmentally friendly technologies
Environment	Hazardous waste charges (certification) Fees and charges for all environmental activities defined in the EMA Cap 191 and its regulations.	Oil spill contingency fine/ penalty Ballast water fee	Rehabilitation of environmentally hazardous areas

Sector	Current sources of financing	Proposed new charges/taxes	End user
		Disposal fee of electronic equipment (cell phones, obsolete computers, printers)	

Source: 1) Information extracted from different sources where environmental taxes are charged in Sectors (most overlaps with those proposed for Environmental Trust Fund). 2) Klarer, J. 2011. Use of economic instruments to promote environmental conservation in the United Republic of Tanzania. UNDP/Ministry of Finance and Economic Affairs of the URT.

6.2 Options for a fiscal framework (stakeholder contribution)

Tanzania has different fiscal instruments in place for climate change actions as well as policies to combat the effect of climate change in the country. However, less emphasis is given on the implementation of these actions since all the taxes, levies and charges are considered as part of government revenue. Various climate change related programs implemented in the country are not well stated and there is no budget code specific for addressing climate change, thus making traceability of funds difficult. Together with the existing fiscal instruments, the following options can also help to achieve the national climate targets, enhance climate action fund and climate resilient economy:

- In agriculture and livestock sectors, setting the maximum number of cattle heads per household and introducing tax to farmers that exceed the maximum limit; introduction of insurance to farmers to internalize and cover the risks of extreme weather events like drought; subsidizing greenhouse and drip technology (water efficient); emphasizing the use of solar pumps; imposing tax on imported agricultural produce like apples and tax/levy on pesticides.

Other options include reducing tax in sisal waste so that it can be used for generating electricity; promoting the use of biodiesel; farmers should be given limit in clearing farms and additional hectares acquired must be taxed or compensated by planting trees; promoting animal breeding and improved pastures to achieve destocking; construction of more dams for irrigation and encourage having two crop seasons, thus increasing the rate of carbon absorption and help to reduce food insecurity; promote spice farming to increase vegetation cover and absorption of carbon.

- Forestry: promote Payments for Ecosystem Services (PES) to compensate individuals or communities that undertake actions that conserve ecosystems, thus promoting services such as water purification, flood mitigation or carbon sequestration; allocate a percentage of levy and charges from forest products to be used to promote tree planting or fund projects that focus on enhancing climate resilience (can be transferred to CCF when operational).
- LGA: More taxes can be imposed on other areas such as highly polluting food processing facilities/ technologies; subsidizing clean energy sources like solar power, wind, use of briquettes (charcoal from waste) and LPGs. The LGAs through the department of environment and waste management can support green projects such as planting trees with their local budget allocation (for example, in Morogoro 3%). However, this budget is general to environmental management and not specified for climate action and used to complement funds being received from bilateral and multilateral sources. Municipalities

can also prepare bylaws to impose fines and charges to activities that are harmful to environment such as on Charcoal, bush fires and farm clearing. The revenue can be used for financing various mitigation and adaptation programs, unlike in the present where these revenues are taken to the treasury and only 5% returned to the LGAs. The government must also employ more environmental experts to implement climate actions in LGAs as well as raise awareness on other environmental issues that promote good practices in communities.

- Additionally Section 80 of the Environmental Management Act (EMA, Cap 191) of Tanzania provides room for the Minister responsible for Environment in consultation with the Minister responsible for Finance, to prepare proposals on packages of economic instruments and financial incentives for protection of environment (United Republic of Tanzania (URT) EMA, 2004). These include subsidies, tax deductions, rebates and special grants which may be used to encourage the use of green technologies and those that may contribute to emission reduction, while green products can be charged to give a price advantage over those that use old technologies.

6.3 Key elements in the Fiscal Framework

Formulation of the CCF will engage all relevant stakeholders for mobilization, management and targeting of climate finance. It will involve the following key steps:

1. Situation analysis to set the regulatory framework for operation of the CCF in consideration of the following: i) review of the existing Regulations since most of the proposed sources of funding are currently being utilised at Sector level; ii) the existence of the Environment Trust Fund which is expected to seek funds from similar sources in Sectors and with broader objectives of addressing environmental issues (climate change included); iii) the NCCRS proposal of having a budget code in the total budget allocation in Sectors.
2. Quantification of losses and fiscal impacts of climate change. This will help to define climate change related activities and establish a system for quantification of losses and damages from CC impacts.
3. Review of trends of CC expenditure to set out the financing gap and assessment of climate action costings and available resources from both domestic, international and the private sectors. Prioritize climate actions for funding.
4. Policy options for reducing the financing gap and integration of gender and other vulnerable groups in the proposed climate interventions.

5. Identification of institutional entry points for CC planning, project selection and tracking finance through monitoring and reporting.
6. Coordination (currently the NCCRS has identified VPO as the coordinating Institution).

7. CONCLUSION AND RECOMMENDATIONS

Climate actions in Tanzania have not received much attention in the government expenditures and most of adaptation and mitigation programmes are funded through support from multilateral and bilateral financial institutions (debts and grants). The dependence on external financing has been clearly stipulated in the FYDP III financing strategy, which, however, did not include commitment from domestic sources and with minimum consideration of the country's NDC emission reduction targets. The government has been complimenting external finance with budgetary allocation within the sectors (agriculture, environment, and forest) in projects like irrigation, rainwater harvesting and infrastructure development, but the strategy is silent on their contribution towards a lower carbon pathway. The fiscal instruments that are currently in place (such as taxes on fuel, fees, and charges such as those on charcoal, bush fire and farm clearing) are not considered sources of climate change financing.

It is evident that the climate finance flowing into country is not sufficient to meet the needs for climate actions. However, the exact amount that is channeled through Non-State Actors is not known. There is room for local climate financing if policies are reviewed to facilitate mobilization of resources through fiscal instruments such as environmental taxes, levies, and subsidies as well as through mobilizing budgetary allocation and private funding from domestic sources like commercial banks, corporations, NGOs and individual investors. This report highlights some of the areas where such taxes can be imposed or deduced to support climate resilience activities and provide recommendations for further actions as shown below:

- a) There are several charges and taxes imposed on climate change related activities, but the revenues generated from these instruments are not geared to finance climate interventions as they are collected as government revenues to support different development priorities. Lack of specific budget code makes generating actual data difficult to determine the actual contribution by the government. This calls for a review of policies to focus on mobilizing domestic resources from the public and private actors and allocation of revenues collected from all fiscal instruments levied on activities related to climate change such as those on energy, transport sector, charcoal and agriculture like bush fire, farm clearing, etc.

There is also an opportunity to utilize additional economic and financial instruments to integrate private sector investments into financing strategies. It includes the use of guarantees to enable small and medium-sized enterprises to access funds from financial institutions, as well as crop and livestock insurances and concessional loans to address the barriers associated with risky investments and up-front investment costs (Nzau, 2014).

- b) Tanzania has no dedicated climate change budget line in the national budget system, instead climate expenditures pass through sector budgets. For example, the vote for budget line such as 'health and environment' is expected to cover for all health and environmental issues, with health issues being accorded priority. There is also a proposal

in the NCCRS (2021) to have a separate budget code for climate change, which will then be integrated as part of the main budget. It is not clear how this will be linked with the proposed CCF in the FYDP III.

- c) To scale up the climate resilient green pathway, make the proposed CCF operational so that Tanzania can mobilize, manage the incoming revenue streams into one centralized fund and disburse resources more efficiently by minimizing transaction costs and duplication of climate actions as well having a proper system to track the financial flow.
- d) A detailed assessment to come up with the percentage that different Agencies will contribute to the CCF (as is the case with EWURA and REA), prioritization of projects and modalities of disbursement of such funds to the proposed projects. It is thus proposed that all those sectors whose activities are climate dependent contribute to the CCF. These include natural resource-based sectors (wildlife, forestry, agriculture, water), polluters and other beneficiaries of resources. The MoFP is expected to spearhead this task in collaboration with key sectors and put in place policy and regulatory framework for the operation of the Fund.
- e) A situation analysis must be carried out to quantify losses and fiscal impacts of climate change, assess climate action costings versus available resources to identify financing gap and the policy options for reducing the financing gap. The Vice President's Office (VPO) can take a lead by integrating all available studies and come up with clear priorities and actions.

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