CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: **Scaling Up of Project Interventions and Lessons Learned from Strategic Water Harvesting Technologies for Enhancing Climate Change Adaptation for Argo-Pastoral Communities of Semi-arid Areas of Tanzania (SWAHAT)**

Country: **United Republic of Tanzania**

Thematic Focal Area: **Water management, agriculture and forestry**

Type of Implementing Entity: **National Implementing Entity**

Implementing Entity: **National Environment Management Council**

Executing Entities: Technologies and Resilience for Agroecology, Climate Change & Environment (TRACE)

Amount of Financing Requested: 5,000,000 (in U.S Dollars Equivalent)

Project Formulation Grant Request (available to NIEs only): Yes ☒ No ☐

Amount of Requested financing for PFG: 150,000 (in U.S Dollars Equivalent)

Letter of Endorsement (LOE) signed: Yes ☒ No ☐

NOTE: LOEs should be signed by the Designated Authority (DA). The signatory DA must be on file with the Adaptation Fund. To find the DA currently on file check this page: https://www.adaptation-fund.org/apply-funding/designated-authorities

Stage of Submission:

☒ This concept has been submitted before

☐ This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date: **2/2/2026**

Please note that concept note documents should not exceed 50 pages, including Annexes

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LIST OF ACRONYMS

AF	Adaptation Fund
AFD	Adaptation Fund Board
ASDP	Agricultural Sector Development Program
AU	African Union
BAP	Best Available Practices
BAT	Best Available Techniques
CBWSO	Community Based Water Supply Organization
CCIAM	climate change impacts, adaptation and mitigation in Tanzania
CN	Concept note
EE	Executing Entities
EMP	Environmental Management Plan
EPINAV	Enhancing Pro-poor Innovations in Natural Resources and Agricultural Value-chains
ESIA	Environmental and Social Impact Assessment
GDP	Gross Domestic Product
IWRM	Integrated Water Resources Management
LGA	Local Government Authority
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NEMC	National Environment Management Council
NGO	Non Government Organisation
NORAD	Norwegian Agency for Development Cooperation
PA	Priority Area
PFG	Project Formulation Grant
REDD	Reduced Emission from Deforestation and Forest Degradation
RSAP	Regional Strategic Action Plan
RISDP	Regional Indicative Strategic Development Plan
SACCOS	Savings and Credit Cooperative Societies
SADC	Southern African Development Community
SDG	Sustainable Development Goals

SUA	Sokoine University of Agriculture
SWAHAT	Strategic Water Harvesting Technologies for Enhancing Resilience to Climate Change in Rural Pastoral Communities in Semi-Arid Areas of Tanzania
TMA	Tanzania Meteorological Authority
TOC	Theory of Change
TRACE	Technologies and Resilience for Agroecology, Climate Change & Environment
URT	United Republic of Tanzania
USD	United States Dollar
USP	Unidentified Sub-Projects
VPO	Vice President's Office

1. Project/Programme Background and Context:

Current challenges of climate change and climate variability in the semi-arid regions of Tanzania have seriously affected many socio-economic development and environmental sectors in which resident communities are vulnerable to climate related risks. These include water scarcity, witnessed by a general drying trend of natural water sources such as rivers, ponds shallow wells and dams due to drought events, leading to crop failures and livestock deaths and even migration of agropastoral communities.

Several studies conducted in various semi-arid regions of Tanzania have demonstrated that rural areas especially of the agro-pastoral communities have been the most prone and vulnerable to the effects of climate change. Increased events of crop failures, decreased crop yields, increased water scarcity and sometimes shrinkage and drying of grazing lands for pastures due to increased and intensified drought periods. The predominance of more "bad years" as commonly referred to by communities in rural areas of Tanzania have negatively impacted farmers' livelihoods, their economies and social life[1]. Nowadays, people's experience in most of the semi-arid districts of Kondoa, Bahi, Singida DC and Nzega including other parts of the country is that seasons are progressively being replaced by a more simplified pattern of events whose characteristics are predominantly hot (hotter) and dry or hot (hotter) and wet. Rains are more erratic, and less predictable as to the start or to the end of rainy seasons.

Generally, in most cases rainy seasons are shorter. Dry periods have increased in length and drought is more common. Within recognizable seasons, unusual and "unseasonable" events are occurring more frequently, including heavy rains in dry seasons, dry spells in rainy seasons, storms at unusual times and temperature fluctuations. It is now common to witness rains which are more violent and intense and punctuated by longer dry spells within the rainy seasons. The impacts of such shifts in seasonality and climate trends have already severely disrupted food production, led to the displacement of communities, loss of life and emergence of new pests in crops and livestock is causing an overall reduction of community resilience[2].

Seasonality influences farmers' decisions about when to cultivate and sow and harvest. This ultimately contributes to the success or failure of their crops and livestock. In general, climate change has come with devastating effects on agriculture in the semi-arid areas leading to drought, floods and water scarcity causing direct consequences on social, economic, gender and environment perturbations. As a result, food availability, natural resource utilization and income generation by the vulnerable semi-arid communities is severely affected[3]. Understanding that over 60% of the population of Tanzanians rely on rainfall-dependent agricultural production for their livelihood, it is evident that climate change is going to reduce government efforts to reduce poverty and slow down development efforts to be achieved in rural communities.

The Tanzanian government plans to implement Vision 2050 through a multi-pronged approach, focusing on adaptation, mitigation, and financing. Experts emphasize the need for urgent action, including establishing early warning systems to alert communities of impending climate-related disasters such as floods and drought, invest in climate-resilient infrastructure to protect communities and support economic development, and engage local communities in climate change planning and decision-making to ensure that their needs and concerns are addressed.

Some years back, NAPA 2007 offered a similar focus towards adaptation to climate change aimed at: increasing agriculture production and conserving water in rural areas through enhancing irrigation, promoting alternative farming systems such as promoting drought-resistant

1 URT 2014. Agriculture Climate Resilience Plan 2014-2019

[2] *TMA 2014.Climate change projection for Tanzania: A report Submitted to the Government of Tanzania. Dar es Salaam 33p*

[3] *Ahmed, S.; Deffenbaugh, N.; Hertel, T.; Lobell, D.; Ramankutty, N.; Rios, A.; Rowhani, P. Climate volatility and poverty vulnerability in Tanzania. Glob. Environ. Chang. 2011, 21, 46–55.*

crops and water harvesting techniques, developing community environmental conservation plans by developing and managing community environmental conservation plans. It is still evident that impacts of climate change are continuing to pose a threat among semi-arid communities in Tanzania, besides the NAPA strategy. These strategies very well align with the proposed upscaling of interventions demonstrated by the SWAHAT project. Each of these interventions is aimed at ensuring effective provision of quality livelihood and socio-economic systems. In this case, integrated water harvesting strategies need to be implemented and proposed for scaling up in Kondoa, Singida DC, Nzega and Bahi districts to further build and enhance the adaptive capacity of semi-arid agropastoral communities in selected villages.

1.1. Problem statement

This concept note proposes an upscaling of the successful lessons learned from the impacts generated by interventions implemented by the project, namely "Strategic Water Harvesting Technologies for Enhancing Resilience to Climate Change in Rural Pastoral Communities in Semi-Arid Areas of Tanzania (SWAHAT)".

The majority of semi-arid rural communities live and derive their economy from a rural agrarian setting. Climate change has come with devastating effects on agriculture in the semi-arid areas, leading to drought, floods, and water scarcity, causing direct consequences on social, economic, gender, and environmental sectors. As a result, food availability, natural resource utilization and income generation by the vulnerable semi-arid communities is severely affected. The government and donor community are obliged to set aside large sums of budget to support such communities for food as well as supporting various socio-economic needs such as food aid, education, health and water supply[4]. This call for extended concrete climate change adaptation interventions that will enhance resilience of the vulnerable communities in more semi-arid rural dwellings. The project will be implemented in drought and flood-prone semi-arid regions of Tanzania particularly Dodoma, Singida, and Tabora.

Among the key climate change-related impacts affecting communities living in these semi-arid regions is water scarcity. Water scarcity is therefore the major driver of vulnerability to climate change. Lack of water resulting from drought, damaged landscapes and loss through floods leads to crop failure and famine, reduced livestock productivity, loss of land cover, drying of natural water bodies and other surface and ground water and limited access of water for domestic uses. As a result, most of the semiarid rural community faces limited or lack of livelihood diversification for adaptation to impacts of climate change.

In the semi-arid areas, coping strategies for adaptation to water scarcity is done by a few dedicated farmers who dig small pits (<3 m diameter; < 2m deep) and small ponds for tapping surface run-off water to be used for irrigating vegetables in small plots, livestock drinking and domestic use (cooking and washing). In addition, there exist borrow pits as leftovers of excavation from road construction activities. These borrow pits have proved to be useful sources of water to the local communities. They support, on a small scale, irrigation of crops, drinking points for livestock, serve as spontaneous fish and other aquatic habitat and domestic water supply. However, these borrow pits as well as the dug pits and ponds are small, often polluted and contaminated and not strategically designed to cater for multiple and integrated activities effective for enhancing adaptation and resilience capabilities of affected semi-arid communities to climate change. Recently, the previous adaptation project phase has proved that inclusion of bore holes powered by solar water pumps enables communities to access clean drinking water thus supporting and relieving government from the high demand of clean domestic water supply to rural residents.

The project interventions have proved to accommodate water supply for agriculture, livestock

4 Josephine G. Mwamanga (2023) Water Scarcity in Tanzania: Examining the Influence of Economic Development and Population Dynamics. International Journal of Innovative Science and Research Technology vol 8: 12, www.ijisrt.com. ISSN No:-2456-2165. 513- 521pp.

and domestic needs. Therefore, upscaling of these innovative climate change adaptation technologies for crop and livestock production, aquaculture, horticulture, afforestation and livelihood diversification among rural agropastoral communities of the semi-arid areas through enhancing availability and supply of scarce resources like water. The vulnerable rural communities of semi-arid areas have the will to sustain their livelihoods through engagement in one or more of these innovative technologies, but they are constrained by lack of a reliable water supply due to dependency on rain-fed agriculture and impacts of climate change. It is with great hope that the success stories of the previous adaptation project, if shared with other Tanzanian communities facing similar challenges of water scarcity will bring equivalent or higher magnitudes of impact for resilience and adaptation to impacts of climate change.

This project concept note proposes to upscale the success of the various innovative interventions for adaptation and resilience to climate change of the vulnerable rural communities of semi-arid regions particularly in Kondoa, Bahi, Singida DC, and Nzega districts.
The conceptual design is to continue with protection and safeguarding of the dams and catchment areas and drilling of bore holes equipped with solar powered water delivery system to the vulnerable community for domestic water, agriculture, horticulture, livestock, and ensure reforestation of the water catchments and creation of sound microclimates for agroecological adaptation. It is expected that the installed bore holes will supply water for all the proposed resilience and adaptation-integrated livelihood options. Based on the previous project we propose to upscale the following interventions associated with improved water supply and availability: renovation of cattle dip tanks for enhanced livestock pest management, building permanent cattle drinking troughs where animals will access clean parasite free water, developing permanent multipurpose model farms schemes for imparting farmers with hands-on learning skill for livelihood diversification in line with techniques in horticulture, agriculture, livestock keeping, pasture and fodder production, poultry farming, beekeeping, aquaculture, nursery management techniques, fruit tree and forest tree planting for enhancing resilience of ecosystem services such as providing fuel wood and restoration of habitats for biodiversity conservation. Other current aspects will include imparting to farmers the principles of agroecology related to pest management, soil fertility and soil health in agricultural production will be emphasized. All these integrated approaches will contribute to livelihood diversification to ensure adaptation and resilience to climate change.

The main goal of the proposed concept note remains the same thus, the project is focused on enhancing resilience of rural communities to climate change-induced challenges of drought, floods and high temperatures in semi-arid regions of Tanzania for improved agricultural, aquaculture and livestock productivity and forest restoration.

1.1.1. Social Context

Rural semi-arid communities in Tanzania face significant socio-economic challenges due to their dependence on climate-sensitive livelihoods and wellbeing. The majority of people, about 60% of the Tanzania population whose livelihoods primarily rely on rain-fed agriculture and livestock keeping, making them highly vulnerable to climate change and variability. Most of crop production is mainly for subsistence, with maize, millet and sorghum being major crops, but yields have been declining due to climate-related shocks. Livestock keeping is an essential part of rural livelihoods but climate-related stressors such as droughts can significantly impact livestock productivity[5].

Rural poverty rates are high, whereby around 49.1% of people are poor with a low daily income

5 Climate Change, Adaptive Strategies and Rural Livelihoods in Semi-arid (www.scirp.org)

of less than 1.4 USD, and most have limited access to resources, markets, and services[6]. Food insecurity and malnutrition is another significant concern, with many households struggling to access nutritious food due to climate-related shocks and limited agricultural productivity. Water Scarcity is another concern caused by changes in rainfall patterns and increased frequency of droughts consequently affecting access to clean water, thus exacerbating existing water-borne health issues. Furthermore, climate change socially contributes to internal migration, as people seek better economic opportunities or flee climate-related stressors[3]. It is possible that during the serious drought periods with intensified water scarcity, these climate-related stressors can strain social relationships and community cohesion, particularly in resource-scarce environments, as observed in most communities of the population in the proposed semi-arid areas of Kondoa, Bahi, Singida DC, and Nzega districts.

This highlights that there is high social vulnerability to climate change among people of the target semi-arid regions in Tanzania, as a result of increased temperatures, changing rainfall patterns, and more frequent droughts. In some parts of semi-arid communities, efforts have been developed for adaptation strategies, such as growing drought-tolerant crops, water harvesting, and reduced pastoralist livestock migration through enhancing water and livestock feed availability. But these efforts have reached only a small number of communities and are hence insufficient to cope with the scale of climate-related impacts to the scope of target demand by various vulnerable groups in the regions. This concept note therefore seeks to scale up similar efforts for enhanced adaptation initiatives to enhance resilience over a wider community of agropastoralists in Tanzania. In the social context, it is intended to strengthen water availability and supply infrastructure to allow for rural or semi-arid communities to access water for domestic use, livestock, and irrigation of various crop production systems. Capacity building in empowering community awareness to impact and adaptation to climate change. These will be emphasized through various awareness workshops, participatory training, and co-creation of alternative livelihood resilience for income generation to alleviate poverty among community members. In this context, gender will be mainstream across all levels of project implementation to ensure equity and inclusiveness for all gender groups in the community inclusive of women, youth, men and people with disabilities to be beneficiaries of the project outputs. This is because social context intersects with climate change in various ways, affecting different groups in rural communities Thus, climate change exacerbates existing gender inequalities, as women often bear the brunt of climate-related impacts due to increased workloads on agriculture, water, and household responsibilities. Climate change affects young people's opportunities and limited access to resources and services such as education, employment, and social mobility. The proposed project, therefore, is well aligned to address the social challenges associated with the impacts of climate change in rural semi-arid communities in the target villages.

1.1.2. Economic Context

Tanzania's economic context is in a Lower-Middle-Income Status with a per capita GDP of $1,149. Tanzania achieved this status in 2020. This income comes from diversified economy which is sourced from agriculture accounting for about 23.7% of GDP, 65.4% of which comes from agricultural involvement in major cash crops like tobacco, coffee, cashew nuts, tea, and cotton. Emerging cereal food crops like maize, rice and beans are also contributing to business income generation. Other contributors to Tanzanian economic growth include Industry, making up around 28% of GDP, driven by manufacturing, processing, and construction, with significant contributions from mining (gold, diamonds, tanzanite, and other precious stones). There are several other services such as tourism, transport, financial institutions and insurance altogether contributing 28.7% of GDP, according to Tanzania vision 2050 with the country's ambition to

6 Perpetuation of Poverty in Rural Tanzania - Ballard Brief (ballardbrief.byu.edu)

achieve a higher middle-income economy by 2050[7]. However, the existing and future projection of economic growth can be hampered by poverty and inequality since half of the population lives in poverty, and 60% face moderate to severe food insecurity. Climate Change also has a high potential to slow economic growth by up to 4% by 2050, pushing 2.6 million Tanzanians into poverty. This is because the country is highly vulnerable to climate-related disasters, such as floods, droughts, and land degradation which has already demonstrated to impact agricultural production, infrastructure, and human settlements, especially migration of pastoral rural communities. Climate change is pushing and forcing 13 million residents to migrate internally in search of relief of available water, pasture, and productive agricultural lands, alternative livelihood resources and food security[8]. Since Agriculture is a significant sector of the economy, employing approximately 60% of the rural workforce, it is heavily reliant on rainfed farming, making it susceptible to climate variability[9]. Some of the suggested developmental plans are part of adaptation plans to climate change. The proposed upscaling plans include enhancing physical infrastructures for water availability and empowering community towards diversified livelihood for income generation. Some of the important strategies will focus on promoting climate-resilient agricultural practices and improving water management and mobilizing public and private sector investments to support climate change adaptation and mitigation efforts.

In this respect, for Tanzania needs to invest in adaptation to climate change so as align with strategies outlined in the National Adaptation Programme of Action (NAPA) developed in 2007 by identifying urgent adaptation needs and projects to address climate change impacts; investing in climate-smart agriculture through promotion of climate-resilient agricultural practices and improving water management to boost crop yields and reduce vulnerability to climate-related shocks which the previous SWAHAT project has demonstrated in some areas of semi-arid Tanzania.

1.1.3. Development Context

Climate change impacts have negative effects on National development efforts in Tanzania, with a population of approximately 70 million people as of mid-2025, with a yearly growth rate of 2.9%. where 40% of the population lives in urban areas, and about 60% of Tanzania's total population living in rural areas. The country is endowed with a significant variety of natural resources including land, rivers, lakes, ocean, forests, woodlands, wild animals, and wetlands but without climate change adaptation strategies these endowments are highly threatened.

Tanzania's development agenda is heavily influenced by climate change, which poses significant challenges to the country's goal of becoming a middle-income economy by 2050. However, most part of the country, especially the semi-arid rural communities, is highly vulnerable to climate-related disasters, such as floods, droughts, which can impact agricultural production, infrastructure, livelihood and human settlements. Understanding that agriculture is a key sector of the economy in Tanzania but is heavily reliant on rainfed farming, making it susceptible to climate variability, especially impacting the communities of semiarid regions where the project has been targeting. It is important that upscaling the successful and sustainable interventions will contribute to increased adaptation and resilience to climate change.

Furthermore, Vision 2050, Tanzania aims to become climate resilient with the Climate Change Response Strategy that outlines measures to mitigate and adapt to climate change, focusing on enhancing climate resilience in key sectors like agriculture, water resources, healthcare, and physical infrastructure, including the installation of water harvesting dams and boreholes to enhance water availability to the needy communities. More actions are needed for interventions that enhance Climate-Smart Agriculture through the promotion of climate-resilient agricultural

7 Tanzania Country Climate and Development Report - World Bank Group (www.worldbank.org)
8 Climate Risk Profile: Tanzania - Adaptation Community(www.adaptationcommunity.net)
9 TANZANIA Background - Climate Promise (climatepromise.undp.org)

practices and improving water management to boost crop yields. The proposed project is therefore in line with Tanzania's development vision 2050 to address climate change threats in the development context, especially in seeking to integrate climate considerations into national development plans, providing financing and technical assistance for climate-resilient infrastructure and agriculture.

1.1.4. Environmental Context

Tanzania is endowed with diverse natural resources including land, rivers, lakes, ocean, wetlands, flora and fauna. However, most of these natural resources have been destroyed and have disappeared in the semi-arid regions of the country due to unsustainable utilization and the impacts of climate change. Semi-arid communities are therefore deprived of these important natural resources, which would have provided resilient and sufficient ecosystem products and services necessary for adaptation to climate change. Unsustainable use of natural resources and environmental degradation inhibits future economic growth, exacerbates multidimensional poverty over time, and undermines the achievement of key development goals such as poverty reduction and food security[10]. Drought, floods, temperature rise due to climate change have been the key drivers of unsustainable utilization of natural resources by the people in the semi-arid communities particularly of Kondoa, Singida DC, Bahi and Nzega districts for survival. The livestock sector is also a major user of natural resources such as land, vegetation cover and water, currently using about 35% of total cropland and about 20% fresh water for feed production. Climate change has reduced the amount of rainfall in these areas threatened by desertification[11].

The proposed project will support selected climate change vulnerable communities in selected villages of Kondoa, Bahi, Singida DC, and Nzega districts. These districts are characterized by semi-arid agro-ecological characteristics with erratic unimodal rainfall patterns[12]. These regions experience long and dry periods of over 8 months resulting in serious water scarcity for agriculture, livestock and domestic uses. The scarcely available waters are seriously contaminated causing alarming health risks and costs.

The average rainfall in these regions is 581 mm[7]. This is a small quantity of rainfall and under climate change, impacts become adverse causing higher levels of vulnerability due to endemic crop failure, declined livestock production and escalated poverty calling for urgent intervention to address the challenges. The semi-arid landscapes of Tanzania are often surrounded or intertwined with Miombo woodland vegetation, which has been threatened by land degradation and deforestation as a result of population growth coupled with environmental stress. In addition, through experience, Farming communities in these selected districts have contributed to large scale deforestation through agriculture (shifting cultivation), charcoal/firewood harvesting, human settlements and agropastoralism. These human induced effects on semi-arid ecosystems require interventions of forest restoration by planting forest and fruit trees to minimize climate change impacts and deliver alternative livelihood options from the forests and ecosystem services. Consequences of droughts and floods in farm lands will be reduced protection and safeguarding of the dams and surrounding catchment areas and enhancing availability of water from boreholes as this will drive more alternative

livelihood activities.

10 OECD. (2016), Mitigating Droughts and Floods in Agriculture: Policy Lessons and Approaches, OECD Studies on Water, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264246744-en

11 Opio, C., Gerber, P., Steinfeld, H., 2011. Livestock and the environment: addressing the consequences of 2141 livestock sector growth. Advances in Animal Biosciences 2, 601-607.

12 Hamisi Juma (2013). Study of rainfall trends and variability over Tanzania. A research project submitted in partial fulfilment of the requirements for the postgraduate diploma in meteorology. University of Nairobi. 55pp

Therefore, knowledge of impacts and response of forest ecosystems to climate change resilience and adaptation measures emphasizes on strategies of re-establishment of vegetation cover through afforestation and reforestation by planting of fruits and multipurpose forest trees. Provision of climate change adaptation solutions to pastoralists will make them responsible for minimizing impacts of deforestation and land degradation.

1.2. Project/Programme Objectives:

1.2.1. Overall Objective:

To upscale the successful lessons learned from the Strategic Water Harvesting Technologies for Enhancing Resilience to Climate Change in Rural Pastoral Communities in Semi-Arid Areas of Tanzania (SWAHAT) in Kondoa, Bahi, Singida DC and Nzega districts

1.2.2. Specific Project Objectives

1. To enhance climate resilient rural water supply system in semi-arid rural communities
2. To empower local communities with skills and options for climate resilient livelihoods diversification
3. To contribute to participatory afforestation program for locally adapted fruit and forest trees
4. To strengthen local community's capacity for effective adaptation strategies for risks associated with climate change

1.2.3. Project Theory of Change (TOC)

Table 1: Project Theory of Change

Impact	Increased adaptation and resilience to impacts of climate change among Rural Pastoral Communities in Semi-Arid Areas of Tanzania				**Constraints**
Outcomes	1. Established resilient rural water supply system in vulnerable agro-pastoral communities	2. climate change resilient community with enhanced livelihood diversification capacity	3. Improved ecosystem health and delivery of ecosystem goods and services in the community	4. Strengthened institutional and technical capacity to reduce risks associated with climate- induced livelihood failures	Adoption levels for intervention among stakeholders
Assumptions	1. Community willingness to maintain and sustain water harvesting infrastructure 2. Strong stewardship of established local CBWSOs for equitable allocation of	1. Active community engagement in sustaining established crop and livestock production. 2. Willingness of community to adopt diversified livelihood options for	1. High responsiveness and readiness of women and youth to participate in fruits and forestry nursery ventures 2. Adaptability and survival rate of selected tree species in the local area.	Receptiveness of communities towards disseminated knowledge and practices Continuous institutional adoption of training and advocacy for sustainable practices	Unforeseen changes in aquafer recharges due to impact of climate change Survival of planted trees as a result of climate change

	water resources.	income generation			Vandalism or misuse of infrastructure Local socio-, cultural and political conflicts Rigidity of some communities to adopt principles of gender equity and inclusion
Outputs	1.1 Climate resilient rural water supply system established	2.1: Model block farm established for climate smart practices for crops and livestock production for improved income and food security	3.1 Increased sources of employment opportunities resulting from fruits and forestry nursery ventures for women and youths	4.1: Increased capacity of vulnerable semi-arid rural communities in adaptation to impacts of climate change	
	1.2: Established water governance structures (CBWSOs) and promote equitable water allocation for all users and revenue collection	2.2 Enhanced options for livelihood diversification among rural communities	3.2 Reduced land and forest degradation through efforts of reforestation and tree planting by the community	4.2. wider scale knowledge shared and lesson learned on climate change adaptation in semi-arid conditions	
		2.3 Enhanced adaptive capacity and livestock management systems for livestock keepers to climate induced droughts			
INPUTS	Drilling boreholes; installing solar water pumps; constructing water storage tanks, community water distribution points	Establishing drip irrigation schemes and enhancing management options on emerging pests cattle water drinking troughs; reinforcement of water-harvesting dams;	nurseries with multi purpose fruits and forest trees Establish at locally adapted fruits and forest trees knowledge establishment, propagation	Trainings of technical staff and agro-pastoral communities on managing climate risks and project measures Revision and mainstreaming of climate change adaptation	

		establishing value chains options for income generation; capacity building	and management of fruits and forest trees Establish orchards with various adapted species of fruit trees use of fruits and forest tree products	measures at district to village levels Communication of project results and lessons learned Documentation of knowledge generated on community preparedness, cultural change adoptions.	

1.3. Project/Programme Components and Financing

Table 2: Project Components and Financing

Component	Expected Outcomes	Expected Concrete Outputs	Amount (US$)
Component 1 Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities of semi-arid areas	Outcome 1. Established resilient rural water supply system in vulnerable agro-pastoral communities	**Output 1.1** Climate resilient rural water supply system established	2,524,983
		Output 1.2: Established water governance structures (CBWSOs) and promote equitable water allocation for all users and revenue collection	62,398
Total Component 1			**2,587,381**
Component 2: Develop integrated climate resilient livelihoods diversification through improved climate smart technologies in agriculture,and efficient utilization of natural ecosystem resources	Outcome 2 climate change resilient community with enhanced livelihood diversification capacity	**Output 2.1**: Model block farm established for climate smart practices for crops and livestock production for improved income and food security	365,242
		Output 2.2 Enhanced options for livelihood diversification among rural communities	390,293
		Output 2.3 Enhanced adaptive capacity and livestock management systems for livestock keepers to climate induced droughts	231,381
Total Component 2			**986,916**
Component 3. Engagement of local community in a participatory reforestation program through planting of	**Outcome 3:** Improved ecosystem health and delivery of ecosystem goods and services in the community	**Output 3.1** Increased sources of employment opportunities resulting from fruits and forestry nursery ventures for women and youths	158,170
		Output 3.2 Reduced land and forest degradation through efforts of	267,826

locally adapted fruit and forest trees		reforestation and tree planting by the community	
Total Component 3			425,996
Component 4. Learning and Knowledge Management to Strengthen local community capacity for effective adaptation strategies and reduce risks associated with climate change	4. Strengthened institutional and technical capacity to reduce risks associated with climate-induced livelihood failures	4.1: Increased capacity of vulnerable semi-arid rural communities in adaptation to impacts of climate change	94,144
		Output 4.2. wider scale knowledge shared and lesson learned on climate change adaptation in semi-arid conditions	79,563
Total Component 4			**173,707**
Total Project/Programme Activities Cost (A)			**4,174,000**
Total Project Execution Cost (B)			**436,000**
Total Project/Programme Cost (A+B)			**4,610,000**
Total National Impementing Entity (NIE) Management Fee (C)			**390,000**
Total amount of funding requested (A + B+ C)			**5,000,000**

1.4. Projected Calendar:

Table 3: Project calendar

Milestones	Expected Dates
Start of Project/Programme Implementation	1st July 2027
Mid-term Review (if planned)	30TH June 2029
Project/Programme Closing	1st July 2031
Terminal Evaluation	30th January 2032

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Project/programme components, concrete adaptation activities, and contribution to climate resilience

Brief Summary of SWAHAT Project Highlighting Successful Project Interventions and Impacts as per the Project Mid-Term Evaluation

Overview

The objective of the SWAHAT project was to enhance resilience and adaptation of semi-arid rural communities to climate change and variability-induced impacts of drought, floods and water scarcity. The project has been implementing its interventions in drought and flood prone semi-arid regions of Central and Western Tanzania, namely, in selected villages of Bahi,

Manyoni and Nzega districts. The main project components and objectives are to:

i. Install and rehabilitate community water harvesting facilities that will integrate agriculture, livestock, fruit and forest tree planting and aquaculture;
ii. Develop and implement participatory afforestation program for locally best adapted fruit and forest trees species for semi-arid areas;
iii. Develop integrated climate resilient livelihoods diversification through improved technologies in agriculture;
iv. Knowledge Management (KM)

Impacts

The early positives signs of project **impact**:

There is Increased adaptation and resilience to impacts of climate change among Beneficiaries of Rural Communities in the project sites of Semi-Arid Areas of Tanzania.

Meanwhile the following **outputs** generated by the project:

i. Walking distance and time in search for domestic water and livestock use has been significantly reduced;
ii. The participation of women and youth in agricultural and non-agricultural economic activities has increased due to reduce time and distance searching for water;
iii. Availability of water has significantly improved. This has significantly contributed to engagement in economic and income generating activities throughout the year;
iv. Construction of livestock water drinking troughs have improved safety for the communities and livestock;
v. Increased availability of water in the project villages will potentially contribute to resolving and reducing conflicts arising from competition for the use of water, for domestic, irrigation and livestock use;
vi. Fruit and forest tree planting will contribute to availability of fuel wood as a source of energy in the project villages. This will in turn contribute to reducing walking distances and time as well as drudgery in search of fuel wood;
vii. Participation in the project has improved and facilitated accessibility to sharing and exchange of information and knowledge on best agronomic and livestock husbandry for improved crop and livestock production and productivity;
viii. Participation in the project has improved and facilitated accessibility to modern agronomic and livestock technologies for improved production and productivity;
ix. Increased household livelihoods diversification, as project beneficiaries are engaged in more than one income generating activities;
x. Construction of livestock water drinking points is playing a significant contribution for environmental conservation due the fact that livestock do no longer directly drink water from the water harvesting dams, preventing siltation;
xi. Community members in the village project areas have planted fruit and forest trees surrounding their homestead and in designated farm land, such as in catchment water. This is significantly contributing to the restoration of the vegetation cover and eventually contributing to environmental conservation.

Component 1: Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities selected villages of Kondoa, Singida DC Bahi and Nzega district

Project Outcome 1: Enhanced climate resilient rural water supply system in vulnerable agro-pastoral communities of Kondoa, Singida DC Bahi and Nzega

AF outcome supported by the project here is **Outcome 4:** Increased adaptive capacity within relevant development sector services and infrastructure assets

Output 1.1: Climate resilient rural water supply system established in agro-pastoral communities of Kondoa, Singida DC Bahi and Nzega

All project components and indicative outputs proposed under this project are focusing on scaling up of the concrete adaptation actions, and will be implemented on the grounds of building resilience and the adaptive capacity of vulnerable semi-arid rural communities in Kondoa, Singida DC, Bahi and Nzega districts.

Activity 1.1.1 Extensively survey and drill boreholes in drought prone and water scarce villages and install solar power-driven water pumps in selected ten villages of Kondoa, Singida DC, Bahi and Nzega districts: target communities will propose specific sites and location, engineers will assess proposed sites and each sites will be approved individually for implementation and installation of boreholes . At the moment communities have roughly identified possible sites for boreholes installation.

Activity 1.1.2. Establish at least 20 water storage tanks and distribution network systems (2 per village) at Kondoa (Hondomahilwa, Changaa and Kikilo) Bahi (Mtitaa, Chibelela), Singida DC (Mvae, sekotouure and Msimihi), and Nzega (Tongi and Puge) district

Activity **1.1.3**. Construct 40 community water distribution points for water network systems in the selected villages

Activity 1.1.4. Construct at least 80 cattle drinking troughs for livestock water system in in agro-pastoral communities in selected villages of , Kondoa (Hondomahilwa, Changaa and Kikilo) Bahi (Mtitaa, Chibelela) Singida DC (Mvae, sekotouure and Msimihi), and Nzega (Tongi and Puge) district

Activity 1.1.5 To properly reinforce protection of water-harvesting dams in needy village for increased security and sustainable water availability for community utilization.

Output 1.2 Community Based Water Supply Organization (CBWSOs) established and facilitated and committee members trained on operational and maintenance

This output is proposed to put good and sustainable institutional structure to manage rural climate resilient water supply systems in selected villages of Kondoa, Bahi, Singida DC, and Nzega districts. The project proposes establishment of an operational committee for the CBWSOs, which will be trained on maintenance and operational issues including financial, accounting and procurement issues in relation to CBWSOs. The activities to be implemented under this output:

Activity 1.2.1 Formulate water governance structures (CBWSOs) in each selected village and promote equitable water allocation for all uses and revenue collection.

Activity 1.2.2 Promote formulation of water governance/bylaws to regulate effective use of water and protection of water sources

Component 2: Develop integrated climate resilient livelihoods diversification through improved climate-smart technologies in agriculture *and* ***efficient utilization of natural ecosystem resource****s*

Project Outcome ***2.0 Climate*** *change resilient community with enhanced livelihood diversification capacity*

AF outcome supported by the project here is **Outcome 6:** Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas

Output **2.1** ***Model block farm established for climate-smart practices for crops and livestock production for improved income and food security***

Like in many other rural settings in Tanzania, the majority of the semi-arid dwellers, agricultural farming systems in the target project sites rely on traditional food crops and farming practices carried out in erratic areas with unreliable rainfalls where rain seasons have varied and shifted their trends towards droughts and dry spell periods. These make individuals in these areas suffer the most and are more vulnerable to food insecurity and death of livestock associated with drying of pastures and grazing lands for the cattle. Therefore, in this aspect, the project intends to upscale the intervention for enhancing resilience and adaptation of farmers' communities to the impacts of climate change and variability by improving and introducing innovative agricultural techniques and value chains for improved livelihood diversification. In the process, innovative livelihood diversification activities will be upscaled and introduced into other sites of semi-arid rural dwellers for adaptation to the impacts of climate change. Among promising innovative interventions in this output will include:

Activity 2.1.1 To establish at least 1 model drip irrigation scheme in each selected village of, Kondoa, Bahi Singida DC, and Nzega. Districts**.**
Activity 2.1.2 To establish pest management clinic for enhancing management options on emerging pests and that affect fruit trees, and livestock

Output 2.2 Enhanced options for livelihood diversification among rural communities
Activity 2.2.1 Establishing vegetable gardening and value chains as options of income generation in favor of gender for women and youths
Activity 2.2.2 Establish model beef cow fattening farms per village for enhanced value chain of livestock income source
Activity 2.2.3 Establish in each village a model poultry production unit for local chicken in favor of gender for women and youths
Activity 2.2.4 Promote at least 2 modern beekeeping site schemes with 100 bee hives per village for alternative income generation
Activity 2.2.5 Establish within a block farm adapted types and species of fruit trees orchards as income diversification units and nutritional security

Output 2.3 Enhanced adaptive capacity on livestock management systems for livestock keepers to climate induced challenges
The negative effects of climate change to agro-pastoral communities' livelihoods are intolerable in project site districts. High level of livestock mortality associated with climate failures and bad seasons are continuously witnessed year after year. In Kondoa, Bahi, Singida DC, and Nzega districts for example, there has been progressive mortality record of livestock deaths due to dried pastures, tick borne diseases and lack of water for cattle, sheep and goats. Displacement and forced migrations from these villages are also being witnessed. Indicative activities to be implemented under output 2.2 are:
Activity 2.3.1: Establishing at least 1acre of drought-resistant pasture plots per village for animal feed supply during dry period
Activity 2.3.2: Establishing appropriate livestock pasture and forage conservation practices for dry season feeding
Activity 2.3.3: Establish at least 5 cattle and goat drinking troughs per village site for increased access to livestock drinking points
Activity 2.3.4: Renovated at least one cattle dip tank where available for improved livestock management to control pests
Activity 2.3.5: Establish at least 1 model chicken poultry infrastructure for improved learning in poultry keeping among community members in one of the village per district

Component 3. Engagement of local community in a participatory afforestation program for locally adapted fruit and forest trees

This component will support climate change vulnerable farmers to manage their resources in ways, which protect ecosystems and increase resilience to climate change. This component is also intended to help to improve the resilience, adaptation capacities of the beneficiaries and for the well-being of the natural habitat. Improved ecosystem health and delivery of ecosystem goods and services; Increased sources of employment opportunities resulting from fruits and forestry nursery ventures and reduced land and forest degradation in the community landscape. Since several livelihood activities such as fuel energy, construction wood, natural medicinal herbs and wild fruits are highly sourced from local forest resource ecosystem, establishment of locally adapted trees for multipurpose wood stock plots in the easily accessible and nearby village landscapes will be emphasized in addition to empowering locals on use of clean energy-efficient cooking stoves.

Project Outcome 3: Improved ecosystem health and delivery of ecosystem goods and services in the community
AF outcome supported by the project here is Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress

***Output 3.1 Increased sources of employment opportunities resulting from fruit and forestry nursery ventures for women and* youths**

Activity 3.1.1: At least 2 nurseries with multi-purpose fruits and forest trees per village established using adapted climate resilient tree species.

This will emphasize forestry interventions that incorporate fruit trees in the target community farms landscapes as a way of counteracting deforestation, through efficient production of fuel wood. Communities will be trained on better management and conservation of natural forests and smallholder forestry and fruit trees management practices. Best propagation methods for each of the selected species will be optimized under standard nursery establishment and management. Students from selected schools will be trained on nursery techniques, establishment, and distribution of germplasm material as well as management of trees on sites.

Output 3.2 Reduced land and forest degradation through efforts of reforestation and tree planting by the community

Activity 3.2.1: Establish at least 20,000 locally adapted fruits and forest trees per village where land is available within local communities: Seedlings obtained from output 3.1 will be used for restorations of degraded landscapes.

Activity 3.2.2: Raise awareness of at least 500 people on knowledge of establishment, propagation and management of fruits and forest tree species (at least 50 youths per village will be targeted)

Although technologies on establishment, propagation and management of fruits and forest tree species exist, yet the challenge has been the lack of knowledge and access to these practices by the vulnerable rural community. This output will focus on introducing and training vulnerable communities on this knowledge and these technologies through the establishment of farmer field schools. Apart from farmers' groups, also school pupils have demonstrated interest with establishment of Environmental Clubs with the purpose of inculcating environmental awareness, adaptation to climate change and resilience. Women and youths in the target communities will be trained on nursery techniques for income generation through sale of forest and fruit tree seedlings.

Activity 3.2.3 Promote high level adoption of use of clean energy-efficient cooking stoves for fuel wood plots conservation.

This output will establish locally adapted trees that will be easily accessible and nearby village landscapes for use as multipurpose woodlots and fuel wood focusing on reducing the drudgery of women in search of fuel wood, easy collection and emphasizing on the empowerment of locals to use these wood resources for clean energy efficient cooking stoves. Introduction and fabrication of different energy efficient models of cooking stoves will be established in the village communities.

Activity 3.2.4: Establish at least 6 orchards with various adapted species of fruit trees, using fruits and forest tree products developed in individual plots of farmer with high adoption rates.

For sustainability of intervention from this project, communities need to be equipped with methods and strategies that will enable them to realize early benefits (food and nutrition security, income generation, and other incentives) from these fruit and forest tree products.

Component 4. Learning and Knowledge Management to Strengthen local community capacity for effective adaptation strategies and reduce risks associated with climate change

Outcome 4: *Strengthened institutional and technical capacity to reduce risks associated with climate-induced livelihood failures in Kondoa, Bahi Singida DC, and Nzega districts*

AF outcome supported by the project here is **Outcome 2:** Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses

Output 4.1 Increased capacity of vulnerable semi-arid rural communities in adaptation to impacts of climate change through adoption of various technological interventions in Kondoa, Bahi ,Singida DC, and Nzega

Outcome and output activities of this component are designed to strengthen the technical and institutional capacities required to implement adaptation measures in the district. This component will contribute to build sustainability of the project. The output will promote mainstreaming of adaptation issues into development plans in the district and at village levels. In this way, knowledge management

will be enhanced across levels and will also be fostered across the departments and sectors in the districts. The indicative activities to be implemented under Output 4.1 are:

Activity 4.1.1 Promote necessary trainings: technical staff and agro-pastoral communities on managing climate risks and project measures for sustained livelihood and future scaling ups in: knowledge on water harvesting, safety and sustainable water management, Knowledge on Nursery techniques and tree planting, increased capacity of semi-arid rural communities in management of emerging pests and diseases, enhancing capacity and knowledge on income generation diversification options and value chains of different commodities,

***Activity* 4.1.2** Review and mainstream climate change adaptation measures into sustainable development plans at district to village levels

Activity 4.1.3 Communicate project results and share lessons learnt

***Activity* 4.1.4** Facilitate provisional of project monitoring and evaluation facilities, tools and equipment

Output 4.2. Wider scale knowledge shared and lessons learned on climate change adaptation in semi-arid conditions

This will be through publications scientific journals, manuals, guidelines and policy briefs on adaptation to climate change and on different innovation packages resulting from knowledge gained and data collected from field work and research findings, workshops that will be conducted within the communities and sharing of experiences between researchers and indigenous knowledge, information will be gathered as learning and experiences for documentation and sharing among communities in the project area. Different reports will be published regarding community response, preparedness, awareness cultural changes, adoptions and challenges and lessons learned will be documented.

Activity 4.2.1 Documentation of knowledge generated through scientific journals, manuals guidelines, policy briefs on adaptation to climate change in semiarid areas of Tanzania

Activity 4.2.2 Publishing reports on community preparedness, cultural change adoptions and challenges and lesson learned

B. Project/Programme Economic, Social and Environmental Benefits, and Compliance with the Adaptation Fund Policy

The proposed SWAHAT scaling up project is aligned with the AF strategic results framework outcomes through the below mentioned outcomes:

1. Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level
2. Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets
3. Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress
4. Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas

The upscale of SWAHAT project, which encompasses the districts of, Kondoa, Bahi, Singida DC and Nzega, aims to enhance the resilience of vulnerable agro-pastoral communities to the increasing threats posed by climate change in semi-arid areas of central Tanzania. This expanded geographical coverage is critical in addressing widespread environmental degradation, water scarcity, and limited adaptive capacity, especially among marginalized groups such as women, youth, and persons with disabilities. Through a multi-sectoral and inclusive approach, the project will deliver broad-based economic, environmental, and social benefits to a total of 108,445 people including 54,312 female and 76,685 youth. These benefits are aligned with the Environmental and Social Policy of the Adaptation Fund, with particular emphasis on gender equity and empowerment.

Additionally, water harvesting dams that were rehabilitated during the previous project phase will be further supported under this upscaled initiative. The focus will be on strengthening the security to ensure

their long-term sustainability and functionality. This will involve reforestation of catchment areas. These efforts aim to reduce erosion, extend dam lifespan, and secure year-round water availability for both agricultural and domestic use in the target communities.

i) Environmental benefits

The upscaling of the SWAHAT project will deliver large-scale environmental benefits, including contribution to climate change adaptation and mitigation, ecosystem management, biodiversity conservation, land management and conservation of agricultural landscapes, reforestation of degraded areas and strengthening the security and resilience of existing dams. It will promote climate-smart practices like tree planting of 200,000 locally adapted fruits and forest trees per village, and ecosystem rehabilitation across all four districts. In addition, establishment of at least 6 orchards will contribute to reversing land degradation, promote sustainable forestry and agroforestry practices through raising awareness of a least 500 people on knowledge of establishment, propagation and management of fruits and forest tree species. This will enhance the functionality of ecological systems. Issues of promoting Best Available Techniques (BAT) and Best Available Practices (BAP) on the use of efficient firewood and charcoal stoves in rural villages as means geared to environment benefits have been well given due weight by this project. Reversing the ongoing degradation of ecological systems and enhancing adaptation activities through linked project components is expected to contribute over 60% of forest regeneration and cover and implement village environmental laws. This intervention is expected to compliment effort by the government aiming to enhance energy use efficiency as the government is deliberately subsdizing the cost og natural gas to reduce load on use of charcoal from the forest

ii) Economic benefits

Economically, the project will catalyze rural transformation through diversification of income sources and enhancement of climate-resilient value chains through establishment of at least 2 modern beekeeping site schemes with 200 bee hives per village as a means for for alternative income generation; Strengthening rural water supply systems which will improve livestock productivity through establishing model beef cow fattening farms and poutry production units for enhanced value chain of livestock income source and crop productivity through establishing vegetable gardening and value chains as options of income generation in favor of gender for women and youths, particularly in drought-prone communities. This will reduce the economic shocks from unreliable rainfall and increase household income and food security. Communities will be advised to establish rural cooperatives and savings groups (e.g., SACCOs) to support financial inclusion and access to credit, allowing households to invest in sustainable farming inputs, technologies, and small-scale enterprises. Moreover, the project will promote innovation and entrepreneurship through the use of climate-smart technologies, value addition, and capacity building in agribusiness, processing, and marketing. These efforts will reduce unemployment and underemployment, especially among youth and women and elderly. Detailed quantification of economic benefits will be provided in the full proposal level of this project.

iii) Social benefits

Socially, the project will significantly improve the quality of life for 3,517 households in underserved and marginalized communities particularly in the agro pastoral areas of Kondoa, Bahi, Singida DC and Nzega Districts. By enhancing rural water supply systems, promoting food security and transforming farming and livestock practices including better management of fodder, rangelands and pastures, the project will yield wide ranging social benefits. Improved water availability and strengthened food security will reduce household-level conflicts, especially among livestock keepers and farmers by minimizing competition over limited water resources. This is expected to foster more peaceful and resilient social systems. Furthermore, reducing time spent collecting water particularly by at least 40% of available female youth (36,109 girls) will improve gender equity and educational outcomes also improving academic retention and performance through more time spent in school.

The participatory approach adopted by the project will ensure that communities including youth, women and elderly take active ownership of climate adaptation initiatives. This will help embed climate resilience into broader development agendas promoting lasting social change and sustainability.

This upscaling initiatives will also focus on enhancing the security and resilience of the existing dams to ensure their long-term sustainability. By doing so the project will not only guarantee reliable water availability but also empower local communities to sustainably manage and maintain these critical assets. Detailed description will be provided during the full proposal stage.

iv) Gender Considerations

Communities in Dodoma, Singida, and Tabora face severe climate vulnerabilities, particularly in the form of water scarcity, land degradation, droughts and emerging pests. Consultations with diverse groups—including women, youth, elders, and agro-pastoralists revealed widespread gender impacts.

The initial gender assessment highlights that climate change impacts in the semi-arid districts of Kondoa, Bahi, Singida DC, and Nzega disproportionately affect women, youth, and other marginalized groups. Water scarcity, land degradation, droughts, and emerging pests have intensified existing gender inequalities, particularly due to socially and traditionally assigned roles that place the burden of water and fuel collection on women and girls. These responsibilities expose them to long travel distances, gender based violence (GBV), school absenteeism, and early marriages. Youth, especially young women, face increased risks of climate-driven urban migration, unemployment, exploitation, and school dropouts as climate stress undermines livelihoods, food security and safety. Consultations revealed that women experience heavier livelihood and safety impacts, while youth face heightened vulnerability linked to economic instability and limited opportunities for employment, land ownership and income generation.

The assessment identified access to reliable water as the most critical gender responsive priority, as it is a crucial resource for agriculture, livestock production, water sanitation and Hygiene (WASH) as well as household wellbeing, and reduced workloads for women and girls. Strengthening water harvesting infrastructure expected to significantly reduce time spent collecting water, particularly benefiting female youth and thereby improving education outcomes, safety, and participation in productive activities. The project's livelihood diversification strategies, including vegetable gardening, beekeeping, poultry production, and agroforestry among others are particularly relevant for women and youth, offering pathways to income generation, food security, and resilience against climate shocks.

However, the assessment also noted gaps in climate change awareness, limited access to resources, and unequal participation in decision-making processes, underscoring a need for targeted capacity building and inclusive governance mechanisms. In response to these findings, the upscaled project adopts a gender-responsive and gender-transformative approach across all components, committing to at least 50% female participation, as reflected by the inclusion of 54,312 women beneficiaries and of 76,685 youth (Table 6). Specific measures include reducing women's workload, improving access to water and productive resources, supporting women and youth-led livelihood initiatives, and strengthening their roles in water governance and community decision-making. The project aligns with The National Guidelines for Mainstreaming Gender into Environment (2014), East African Community Gender Policy (2018) and international gender commitments, uses sex-disaggregated indicators, and provides targeted support to vulnerable groups, ensuring that both women and men can equitably build climate resilience and adaptive capacity.

Compliance with the Adaptation Fund Policy

The proposed Up-scaling of SWAHAT project is replicating and scaling up the projects in different areas will be stimulated by the success of the innovative interventions. Therefore, the experiences and lesson learned and knowledge and information sharing will motivate the new project areas communities to replicate the project in their respective areas. Since this is upscaling, it is expected that the experience accumulated from the previous project will help to align and continued compliance to AF policy.

The project will commit to environmental and social policies, and regulations of the adaptation fund. As a matter of principle, the project will ensure that environmental and social risks will be assessed to identify any potential problems. Any risks identified must have a plan in place for avoidance during project implementation. A mechanism to monitor and report on the status of the measures taken will also be put in place. In addition, the project will comply with both national and international laws.

Access and equitability of the project benefits will be promoted. The project will be participatory by allowing local communities and other stakeholders to bring ideas on board from the onset of the project. The lessons that are learned from the project with regard to water supply systems, restoration and empowerment of local community capacity options for climate resilient livelihood diversifications. The multiple uses and competition will have global significance and will be applied in other areas with possible similar circumstances. In addition, this will contribute to the conservation of crop, livestock, and other biodiversity for which the country has a global obligation.

Gender issues will be incorporated in the proposed - project to also align with the National gender policy for gender mainstreaming. Tanzania is committed to gender equity and has ratified international and regional conventions aimed at eliminating the different forms of discrimination against women and the vulnerable groups in society. This commitment is manifested in the adoption of a National Gender Policy, the establishment of gender focal points in Ministries, Departments and Agencies, and the amendment of the Constitution raising the percentage of seats reserved for women in Parliament from 15 to 20%, and to 30% in local governments. The government strategy is to achieve a 50% involvement of women through representation in all endeavours including the job sector. Women participation in Up-scaled SWAHAT project activities will be implemented with the aim of reaching the 50% involvement. Not only that also the proposed Up-scaled SWAHAT project will entail involvement of other disadvantaged social groups from across the whole project period. Major focus gender mainstreaming within the Up-scaled SWAHAT project particularly in vegetable gardens, bee keeping, nursery management, tree planting and water governance interventions is to reduce drudgery in search for water, fuel woods, include enhancing their livelihood resilience

C. Cost-Effectiveness of the Proposed Project/Programme

Approach to ensuring cost-effectiveness

The National Adaptation Programme of Action (NAPA) of The United Republic of Tanzania conducted a multiple climate change vulnerable sectors analysis to prioritize adaptation actions according to their potential for positive effects on economic development, social capital and environmental management. Cost-effectiveness of the interventions was a criterion used to measure economic development. As such, the interventions proposed by the NAPA are the most urgent and were assessed to be cost-effective. The activities proposed in the upscaling of SWAHAT project under AF are in line with those prioritized in the NAPA as described in Part II.D and as such are already identified as cost-effective by the United Republic of Tanzania.

The proposed project will address the agriculture, water and forestry sectors which were identified as the most vulnerable to climate change; ranking number 1, 2 and 4 respectively being the priority areas for adaptation interventions by NAPA in the URT. The proposed interventions in this project are also of top priority for each of the 3 sectors mentioned above. NAPA emphasizes establishment and development of irrigation systems and innovation of alternative farming systems as the top priorities in the agriculture sector. In the water sector, priority is on development alternative water storage technologies for communities and promotion of water harvesting interventions. Afforestation, which is also a component in this project, is given top priority in the forestry sector as indicated by NAPA. A number of interventions have been adopted based on those listed as climate change adaptation measures identified in the UNEP-GEF report[13].

The anticipated benefits from implementation of project components will greatly exceed the costs and prevent climate change-induced losses. Component 1 will benefit local community by increasing availability and access to water that will be used for domestic purpose, crops, fish and livestock production. This will lead to increased food and nutrition security as well as restoration of degraded

[13] The McKinsey Group, 2010. Shaping Climate-Resilient Development. http://www.mckinsey.com/App_Media/Images/Page_Images/Offices/SocialSector/PDF/ECA_Shaping_Climate%20Resilent_Development.pdf.

ecosystem services.. Activities in component 2 will lead into increased climate resilient livelihoods diversification through adoption of diversified income generation strategies, diversified food sources and use of smart agriculture skills.

Component 3 of the project deals with participatory afforestation for locally adapted fruits and forest trees species, which have tangible benefits such as, afforestation and reforestation, reduced run off, prevention of soil erosion and siltation, increased fuel wood availability and improved ecosystem services. In addition, interventions of tis component will lead to increased alternative sources of income generation from sales of fruits and forest tree seedlings. Activities in the component have proposed to strengthen the local community's capacity for effective adaptation strategies for risks associated with climate change. This is a knowledge management intervention that has more cost effective if knowledge dissemenated, adopt annd implemennted by community to adapt climate change will use less cost to solve climate associated risks in tha target communities.

There are several barriers that may hamper the implementation of the upscaling of SWAHAT activities, thus calling for a need to address them. Apart from limited internal capacity to fund adaptation activities, the vulnerable communities in the project area are also constrained by: (i) extreme poverty, (ii) small and fragmented farm lands, (iii) illiteracy, (iv) the impact of HIV/AIDS creating a major drain on family energy, cash and food, and (v) Limited analytical capability of the vulnerable groups to effectively analyze the threats and potential impacts of climate change, so as to develop viable adaptation solutions. Funding the activities of this project will address these barriers at a lower cost compared to costs of dealing with the impacts of climate change in absence of the interventions.

D. Consistency of the Project/Programme with National or Sub-National Sustainable Development Strategies

The project specifically aims to address climate-related challenges affecting agro-pastoral communities in Tanzania's semi-arid regions by enhancing their adaptive capacity and resilience to the adverse impacts of climate change.

The upscaling of the SWAHAT project has clearly planned objectives focusing on ensuring sustainable availability of water resources among communities residing in semiarid areas. This project will be implemented to fulfill 4 major components that are consistent with national programs of sustainable development strategies

A summary of the key policies, strategies and plans with which the project is aligned is provided in the following paragraphs, highlighting its relevance and contribution to Tanzania's climate change response.

Alignment with the Environmental Master Plan for Strategic Interventions 2022–2032

The proposed scaling up of SWAHAT is fully aligned with the objectives of the Environmental Master Plan for Strategic Interventions 2022–2032, particularly under the plans in Component 1 and 3 as strategic focus on sustainable natural resource management. The plan emphasizes the need for integrated and environmentally sound approaches to water resource development, especially in vulnerable ecosystems like semi-arid regions. The project contributes to these goals by employing sustainable technologies such as solar-powered water pumps, low impact borehole drilling, and rain and storm water harvesting, which minimize environmental degradation while enhancing access to clean water.

In support of the plan's priority on climate change adaptation and resilience, the project addresses the increasing vulnerability of semi-arid areas to droughts, erratic rainfall, and water scarcity through addressing component 1, 2 and 3 activities. It integrates adaptive measures including climate-resilient infrastructure, community-based water governance, and the promotion of efficient water-use practices.

Alignment with the National Environmental Policy 2021

The proposed scaling up of SWAHAT in semi-arid areas aligns closely with the National Environmental Policy 2021 by promoting sustainable and equitable access to water resources, particularly in ecologically fragile regions. The policy underscores the importance of managing natural resources to improve livelihoods while safeguarding the environment using strategies in component 2 and 3. This project addresses water scarcity through eco-friendly technologies such as solar-powered pumps, rainwater harvesting systems, and borehole development with minimal ecological disruption (component 1 and 3, in line with the policy's principles of sustainability and environmental stewardship. Additionally, the project supports the policy's goals of participatory environmental governance and gender inclusion. Local communities will be actively engaged in decision-making, planning, and maintenance of water systems (component 1 and 3) , ensuring ownership and sustainability. Special attention is given to the roles of women and youth, aligning with the policy's call for inclusive environmental management. By balancing development needs with ecological integrity.

Conformity to the National Climate Change Response Strategy (2021- 2026) Priorities and Objectives

The proposed scaling up of the SWAHAT project aligns with the National Climate Change Response Strategy by contributing to the overarching goal of promoting a climate-resilient and low-carbon development pathway. In semi-arid regions where climate-induced water stress is intensifying, the project strengthens adaptive capacity through the development of sustainable and climate-resilient water infrastructure. By incorporating solar-powered pumping systems, improved water harvesting technologies, and ecosystem-based approaches, the project supports the strategy's objective of enhancing resilience in vulnerable sectors such as water and agriculture. By reducing dependence on erratic rainfall and strengthening local water governance structures, the project helps mitigate the risks associated with prolonged droughts and shifting rainfall patterns, thus aligning with the strategy's goal to safeguard livelihoods and ecosystems under a changing climate.

Lastly, the project reflects the strategy's emphasis on institutional coordination and community participation.. In order to achieve this aim, the National Climate Change Strategy has identified several strategic interventions (SI), the upscaling of SWAHAT project component 1 by ensuring water supply to communities is claearly align with : C) - emphasizes on facilitating and promoting water recycling and reuse; D) – Promoting rain water harvesting; G) – facilitate access to water resources; J)– enhancing decentralization of water sources management..

Conformity to the Agricultural Policy and ASDP II (2018)

The proposed scaling up of SWAHAT project aligns with Tanzania's Agricultural Policy, which recognizes agriculture as the backbone of the national economy, employing over 80% of the population. Given the sector's vulnerability to climate change due to heavy reliance on rainfed agriculture, the project plays a critical role in enhancing resilience in semi-arid regions. It contributes to improved water security through the development of appropriate irrigation systems eleborated in component 2 as drip irrigation in vegetable gardening tailored to micro-agroecological zones with low and erratic rainfall. This intervention directly supports national goals to reduce climate-related risks and improve agricultural productivity, food security, and rural incomes.

Additionally, the project supports multiple priority areas of the Agricultural Sector Development Program II (ASDP II, 2018), which operationalizes the Agricultural Sector Development Strategy (ASDS). Specifically, the project contributes to Priority Area 1 (PA 1) by promoting sustainable water and land use management practices. Through efficient irrigation systems, soil conservation techniques, and water harvesting strategies as planned in component 1 and 2 the project strengthens the resilience of farming systems to climate variability. It also aligns with Priority Area 2 (PA 2), which focuses on enhancing productivity and profitability by enhancing livelihood options in component 2 by supporting drought-tolerant crops, improving agro-infrastructure, and integrating indigenous knowledge into climate-smart farming practices.

National Adaptation Programme for Action (NAPA 2007): The Government of The United Republic of Tanzania recognizes that the extreme vulnerability of communities and the surrounding natural systems to the effects of climate change escalates poverty and slows down achievement of Millennium Development Goals (MDGs) and several other National Development Strategies such as National Strategy for Growth and Poverty Reduction (NSGPR/MKUKUTA) and was included to contribute in the Vision 2025 and is still valid plan to date. The National Adaptation Programme of Action (NAPA) of 2007 was developed to respond to these challenges particularly to identify and prioritizing activities that addresses adaptation to climate change so as to avoid the risks of increased vulnerability and costs, which come along with effects of climate change. NAPA underscores that Agriculture, Water and Forestry are high priority sectors that requires interventions for adaptation to climate change. The upscaling of SWAHAT conform with the following NAPA activities described in each sector, which aims to enhance the resilience to the vulnerable semi arid rural communities of Tanzania to climate change.

i) ***Agriculture Sector*** (Addressed by upscale of SWAHAT project component 1, 2 and 3): i) Increase irrigation to boost crop production in all areas; ii) Introduce alternative livelihoods and farming systems; iii) Create awareness on the negative effects of climate change; iv) Increase the use of manure and fertilizer; v) Range management for livestock production; and vi) Control pests and diseases.

ii) ***Water Sector*** (Addressed by upscale of SWAHAT project component 1, 2 and 3): i) Develop alternative water storage programs and technology for communities, (ii) Promote water harvesting and storage facilities; ii) Develop reservoirs and underground water abstraction; iii) Community based catchments conservation and management programs – partially addressed; iv) Develop new water serving technologies in irrigation.

iii) ***Forestry sector*** (Addressed by upscale of SWAHAT component 3): i) Afforestation programmes in degraded lands using more adaptive and fast growing tree species; ii) Develop community forest fire prevention plans and programmes; iii) Strengthen community based forest management practice; (iv) Promotion of appropriate and efficient technologies to reduce use of wood in particular to this rural household firewood usage and v) Enhance the development of buffer zones and wildlife migratory routes.

Therefore, the proposed upscaling of SWAHAT project recognizes remarkable efforts made by the Tanzanian Government, include other stakeholders, whereas these initiatives must be sustained and deepened by enhancing resilient capacities of communities to climate change across all targeted areas of intervention, and the nation at large

Alignment to the National Water Policy 2002

The proposed scaling up of SWAHAT in semi-arid areas is in strong alignment with the National Water Policy 2002, particularly its emphasis on ensuring universal access to safe, affordable, and sustainable water services. The project focuses on improving water availability in under-served and water-stressed regions by developing infrastructure in componet 1 such as boreholes, solar-powered water pumps, and rain and storm water harvesting systems. These interventions directly support the policy's goal of providing adequate water supply and sanitation services, especially in rural and peri-urban communities where access is often limited as outlined in component 1.

The project also upholds the policy's principle of integrated water resources management (IWRM). By incorporating community-based water governance in component 1, local capacity building strategy in component 4, and environmentally sensitive design, the project ensures that water use is both equitable and sustainable.

Alignment with National Forestry Policy 1998

The among the components in the proposed scaling up of SWAHAT project , aligns with the National Forest Policy (1998) by supporting sustainable land and forest management practices that contribute to biodiversity conservation and ecosystem resilience, this will employ achieving planned activities in component 3. By integrating soil and water conservation techniques, such as planting vegetation buffers around water points, the project complements forest conservation efforts and helps reverse land degradation through planting of fruits and forest trees as described in component 2. These interventions contribute to forest cover restoration, especially when combined with the planting of climate-resilient, native species around water catchments, which is in line with the policy's goals of sustainable environmental management for current and future generations. Moreover, the project enhances the adaptive capacity of forest-dependent and vulnerable communities, consistent with the policy's

emphasis on the role of forests in climate change adaptation.

Alignment with Livestock Sector Adaptation Initiatives in Tanzania

The proposed scale-up of SWAHAT project directly supports Tanzania's livestock sector adaptation initiatives, which aim to strengthen the resilience of pastoral communities and ecosystems affected by climate change. In semi-arid regions where water scarcity, increasing temperatures, and recurrent droughts have significantly reduced rangeland productivity the project provides a climate-resilient solution by improving access to reliable water sources by actions planned in component 1, 2 and 3 involving construction of water drinking troughs, dip tanks, and pasture yards establishment. This mitigates the stress on rangelands, reduces overgrazing, reduce livestock pests and minimizes the need for seasonal livestock migration, which often leads to conflicts between pastoralists and crop farmers.

Additionally, the project aligns with national priorities to promote sustainable pasture and rangeland management systems. By integrating both traditional and modern knowledge, the project supports the regeneration of degraded rangelands through water-efficient land use practices and promotes the establishment of livestock watering points that reduce pressure on fragile ecosystems. It also complements efforts to implement participatory land use plans, by fulfilling planed activities in components 2, 3 especially in regions like Dodoma, Singida, and Tabora, where drought has already diminished the carrying capacity of grazing lands. the project will be establishing model pasture farms under component 3.

Moreover, the scale-up of SWAHAT project initiatives under component 2 enhances livelihood diversification and climate resilience for livestock-dependent communities as described in component 2 by ensuring year-round access to water, the project opens opportunities for integrated farming, small-scale irrigation like vegetable gardens, and fodder production, reducing overdependence on extensive grazing systems. It also supports improved traditional livestock keeping methods by enhancing animal health through better hydration and reduced exposure to vector-borne diseases, including those spread by tsetse flies. The planned actions in components 1,2 and 4 interventions reflect the strategic goals outlined in Tanzania's livestock adaptation framework and are fully consistent within the project concept note.

Alignment with the sustainable development goals (2015- 2030)

The scale up of SWAHAT project interventions aligns directly with SDG 6: Clean Water and Sanitation, which seeks to ensure availability and sustainable management of water for all as strategized and planned in component 1. By enhancing access to reliable and safe water sources in water-scarce regions, this proposal addresses critical challenges faced by communities that are disproportionately affected by drought and seasonal water shortages. The initiative incorporates water harvesting, efficient storage, and in the case need be purification technologies tailored to the unique environmental conditions of semi-arid zones.

In response to SDG 13: Climate Action, the proposed scaling up of SWAHAT project incorporates climate-resilient infrastructure and adaptive strategies to mitigate the impacts of climate variability. Semi-arid regions are particularly vulnerable to climate change due to increased temperatures, erratic rainfall, and prolonged dry spells. This project supports climate adaptation by strengthening local capacity, promoting sustainable water use practices, and reducing community vulnerability to future climate shock.

Additionally, the proposed scaling up of SWAHAT contributes to SDG 11: Sustainable Cities and Communities through strategies in component 2, and 4 by promoting inclusive, safe, and sustainable human settlements. Improved water access as in strategies in component 1, enhances public health, reduces water-fetching burdens especially on women and children and supports local agriculture and livelihoods. This holistic approach not only addresses immediate water needs but also creates conditions for sustainable development in fragile ecosystems. The synergy with multiple SDGs underscores the

project's commitment to a more equitable and climate-resilient future.

Alignment with African Union Climate Change Priorities in Water Supply Projects (2013 -2063)
The proposed scaling up of SWAHAT in semi-arid regions is strongly aligned with the African Union's Agenda 2063 and its commitment to combating climate change and ensuring water security across the continent. As water scarcity intensifies due to changing weather patterns, the African Union recognizes the need for climate-resilient infrastructure and integrated water resource management. This project supports these objectives in components 1, and 4 by introducing sustainable water supply infrastructures that are adapted to arid and semi-arid climates, using renewable energy for pumping and incorporating local knowledge in water and ecosystem conservation.

Alignment with the Africa Union Climate Change and Resilient Development Strategy (2022 – 2032)
The proposed scaling up of SWAHAT in semi-arid regions is strongly aligned is in conformity with enhancing adaptive capacity, improving climate services, and building resilience in vulnerable communities by realising outputs strategies from component 1, and 3 focusing on semi-arid areas where the effects of climate change are already visible the project helps reduce vulnerability and supports the AU's call for inclusive, community-driven adaptation efforts. It incorporates rainwater harvesting, efficient irrigation, and groundwater recharge methods in the future that reduce pressure on overstretched water sources while fostering long-term sustainability. the strategy also ensure access to safe water enhances livelihoods, supports agriculture, and reduces the burden on women and children, who are often most affected by water scarcity.

E. Adherence to Relevant National Technical Standards

I. National Standards

The project will engage dam reinforcement and borehole drilling engineers and geologists and ensure that they follow all the necessary codes of conduct. NEMC will ensure the necessary project components are subjected to Environmental and Social Impact Assessment (ESIA) so that all possible impacts are identified and robust mitigation measures put in place. This will be followed by close monitoring to ensure the Environmental Management plan (EMP) is implemented. among the standards/guidelines are briefly outline below:

National Environmental Policy (1997)

There are number of existing policies that relate to environmental management in Tanzania. These are policies that provide guidance or impact the implementation of management at different levels of governance in the country. Effective environmental management involves many actors and incorporates many different and sometimes overlapping institutional and legal mandates, which require cooperation and coordination.

In that way it creates the context for cross-sectorial planning and coordination. NEP articulates the concept of shared responsibility and distinct accountability for environmental management so as to inculcate collective responsibility in environmental management. the proposed scale up of SWAHAT project activities are multispectral by nature and will comply to NEP as directed by the National Environment Management Council (NEMC).

The Environmental Management Act, 2004 (EMA)

The Environmental Management Act (EMA) is an important regulation in the country which the scaling up of SWAHAT project aligns with. EMA provides the legal and institutional framework for sustainable management of environment. It outlines principles for management, impact and risk assessments related to human interventions in all sectors of the economy that have a relationship with any form of environment. Scaling up of SWAHAT project will involve installation of boreholes, solar powered water pumps, installation of community water distribution points, strategic intervention in agriculture, aquaculture, livestock, horticulture and forestry. All of these activities will align to EMA.

The National Land Policy (1997)

The policy seeks to establish, support and guarantee a secure land tenure system, which will facilitate the sustainable use of resources and land management. It also seeks to ensure that sensitive areas, such as forests, river basins, areas of biodiversity and national parks are not allocated to individuals for the purpose of development activities. National Land Policy enables all citizens' access to land and promotes an equitable distribution of land. However, the policy also ensures that existing rights to land, especially customary rights of small holders are recognized, and secured.

Small-scale farmers would need assurance of right of ownership of land where they have to invest in Sustainable Land Management (SLM). In Implementation of this proposed project, land used for project activities should be contributed by villagers through agreement with village local governments and should not be in areas considered sensitive by this policy.

Land and Village Lands Acts 1999, 2003

Land tenure in Tanzania is governed by this act that all land in Tanzania is vested in the President as the trustee for the citizens. The Ministry of Lands and Human Settlements (MLHS) in collaboration with the Local Government Authorities, Ministry of Agriculture and Food Security, and Ministry of Water and Livestock Development are mandated under the Government's Agricultural Sector Development Strategy to undertake land surveys and demarcation to identify potential land for private investors. The facilities to be installed by the project will use allocated land based on the existing land use plans of respective villages/ District Councils.

The Agriculture and Livestock Policy (1997)

The policy acknowledges that climate change has serious impacts on agriculture and livestock sectors and that agricultural practices could have a contribution on climate change. Through one of its objectives which is to ensure food availability, the policy encourages more food production but it does not clearly warn doing this through (i) area expansion which in many cases is done at the expenses of the existing vegetation cover (clearing vegetation) and (ii) extension of cultivation to the sensitive and marginal lands such as wetlands, will be contributing to climate change as more carbon dioxide is added to the atmosphere. This few but important shortcomings need to be addressed during implementation of the up-scaling of SWAHAT project activities. Improved agricultural practices that are vestest on agroecological principles expected to maximise productivity per unit area of land will be promoted. Semi arid farming and livestock keeping communities will be empowered with knowledge and skills to improve their resilience to impacts of climate change on land resources and productivity

The National Forest Policy Implementation Strategy (2021 – 2031)

The Nation Forest Policy Implementation Strategy is an instrument meant to implement the National Forestry Policy (1998). This was developed in order to address the challenging responsibilities and to increase the forest sectors contribution to the national economy and more so in poverty reduction. The document outlines obligations, opportunities and implications of international initiatives to Tanzania's forest management in the context of the international treaties and initiatives such as United Nations Framework Convention on Climate Change (UNFCCC) and the Convention on Combating Desertification (CCD). The proposed project involve rehabilitation of natural catchment areas as well as afforestation of degraded landscapes of semi-arid areas. These activities will be done and aligned to fulfil the NFP broader objectives as well as related international agreements and principles. resulting in improved ecosystem services and increased resilience.

Strategy on Urgent Actions on Land Degradation and Water Catchment (2006)

The Strategy was developed in 2006 with the overall objective of halting the environmental degradation particularly degradation of land and water catchments.

Cognizant of the fact that the country is faced with widespread environmental degradation particularly degradation of land and water catchments, the environmental problem due to unsustainable agricultural activities in water catchments, on mountain tops, slopes and in other fragile sections of mountain

ecosystems. The proposed upscale of SWAHAT project recognises that land and water resources are under serious threats especially in semi arid regions and thus thriving to address and minimise them as planned in component 3.

National Environment Management Council (NEMC)

The Environmental Management Act, 2004 has NEMC as a statutory body under the Act charged with, among others, the following functions: (i) carrying environmental audit; coordinate survey, and research in the field of environment and disseminate the information; (ii) review EIAs and recommend for their approval; enforcing and ensuring compliance to the national environmental quality standards; (iii) in co-operation with relevant sector Ministries undertake programmes intended to enhance environmental education and public awareness; (iv) render advice and technical support to entities engaged in natural resources management and environmental protection; (v) publishing and disseminating manuals, codes or guidelines relating to environmental management; (vi) establishing and operating a Central Environmental Information System which may bring together any findings, data and statistics generated by both public and private institutions in the course of environmental observation and management; and (vii) managing Environmental Protected Areas that may be established under the EMA, 2004. Activities under the proposed project relate with the functions of NEMC.

Local Government Authorities

In Tanzania, district and village authorities intervene environmental challenges though Village Environmental Committees (VECs). The committees are responsible in formulation and foreseeing various bylaws. Before the bylaws are enacted, they must be approved by the village assembly where all or majority of villagers participate. Involvement of VECs in participatory planning and implementation of the proposed project activities is key to successfully achievement of the goals and achievement as well as sustainability of the outcomes and impacts.

F. Description of Possible Duplication of Project/Programme with Other Funding Sources

There is no duplication of the project. However, some projects and programs conducted and or proposed previously in Tanzania addressed some components of the proposed project. The following table lists some of the related projects for climate change adaptation conducted in Tanzania:

Table 4:Climate change-related programs/projects in Tanzania

S/N	Project/Program	Objectives	Potential synergism/complementarity
1	Enhancing Pro-poor Innovations in Natural Resources and Agricultural Value-chains – EPINAV. A climate change adaptation program funded by NORAD (2010-2015).	The program was aimed at empowering and enhancing communities and institutions' capabilities and readiness to adapt and be more resilient to the impacts of climate change.	**No duplication**: The proposed project is enhancing the resilience of rural communities to climate change-induced challenges of drought, floods and high temperatures for improved crops and livestock productivity, forest restoration and combating the emergence of climate change-related pests and diseases. Interventions are driven by water harvesting technologies.
2	Programme on climate change impacts, adaptation and mitigation in Tanzania (CCIAM) - Cooperation between the government of the	To develop and sustain adequacy in national capacity to participate in climate change initiatives and address the effects and challenges of climate change, with particular	**No duplication.** The project is focused on adaptation and enhancing resilience to climate change

S/N	Project/Program	Objectives	Potential synergism/complementarity
	United Republic of Tanzania (URT) and the government of the Kingdom of Norway (2009 -2014).	emphasis on the REDD initiatives, this project focused more on mitigation measures	using water harvesting and integrated technologies.
3	Proposed project on Improving water availability in drought-stricken communities in the central part of the country, NAPA team (2007)	The project aims at efforts to provide water and ensure sustainable utilization of water in the drought-stricken areas using reservoirs and underground water.	**No duplication:** Proposed project advocates integrated water harvesting on a larger scale, for increased productivity of crops, livestock, fish farming, nursery and improved forest ecosystem services to enhance livelihoods' resilience to climate change.
4	The Tanzania UN-REDD National Programme – National Framework for Reduced Emission from Deforestation and Forest Degradation in Tanzania (2009 – 2013)	The Cambodia UN-REDD National Programme aims to support Tanzania to be ready for REDD+ implementation and forest carbon trading, and is a mitigation project.	**No duplication.** The proposed project provides knowledge and skills on water harvesting technologies for forest restoration, agriculture and ecosystem services.
5	Strategic Water Harvesting Technologies for Adaptation to Climate Change in Rural Semi-arid Communities of Tanzania (SWAHAT) 2021-2025	Enhancing resilience of rural community to climate change-induced challenges of drought, floods and high temperatures in semi-arid regions in Tanzania	**Complimentary.** The proposed project is an upscale of SWAHAT project, bringing strategic interventions to different villages which are yet to benefit.

G. Learning and Knowledge Management Component for Capturing and Dissemination of Lessons Learned.

The proposed upscaling project is a result of the experiences and lessons learned.

The lessons learnt from this project will mainly be captured by on-site TRACE , team of specific experts from district coucils and research assistants during implementation through various approaches and disseminated through site visits reports, mid-term and annual review reports, project progress reports, publications, workshop reports, conference paper proceedings and project meetings, including end of the project reports. Information generated from different outputs and outcomes from the project will be shared or disseminated to farmers in the target communities through seminars, workshops, demonstration sites, farmers' field schools, hands-on practice training, especially activities in components 2, 3 and 4 of the projects. Furthermore, farmer-to-farmer experience sharing will be promoted; local leaders and decision makers will be constantly engaged from the start to the end of the project to enhance promotion of the interventions. Promotion of the intervention strategies to outside stakeholders will be conducted using signboards, posters, booklets, pamphlets and publications to be distributed during planned workshops and exhibitions. Promotion through various media outlets will be done to reach the wider public. Documentary films on tangible benefits for resilience to climate change and improving livelihoods will be developed in components 1 through 4 will be coordinated by NEMC. Web-based dissemination through websites, blogs, and other social media will be developed by TRACE and will be part of this approach. Since disseminating project results is useful to: i) inform future projects in best practices; ii) effectively overcome information barriers to the uptake of adaptation measures; and iii) prevent duplication of efforts, the project will emphasize and put significant weight on the knowledge management component to capture and disseminate lessons learned. All these generated

outputs from the knowledge management component will be tracked by TRACE through documentation and submission of quarterly and semi-annual reports to be verified further by NEMC to be further used for tracking in project performance reports (PPRs) annually.

H. Description of the Consultative Process

Consultation process was conducted in two steps, It started by visiting officials at District level to introduce the objectives of the project. then the district officials had to identify the possible sites whare the project could deliver tangible benefits of climate change adaptation (Table 5). Following this guidance from district we went for consultation to the wards and eventually villages and conducted a focus group discussion from which, primary socio-demographic characterization of beneficiaries to project objectives are illustrated in Table 6. Further detailed consultations will be carried out during full proposal development using the same process starting with the district officials involving a diversified number of participants to be consulted at district, wards and village community memebers paying attantion in the inclusion of gender,

Marginalized and vulnerable groups were identified by community members during ward and village consultative meeting in each project site presented in Table 6 and they will be further specific narratives for gender mainstreaming. Strategies for gender considerations were presented in page 21 extracting information from Table 6 these vulnerable groups will further be involved in a focus group consultation during project formulation at full proposal development stage

Through preliminary surveys and consultative meetings in semi-arid regions of Bahi, Kondoa Singida DC and Nzega (the study areas), the following significant climate change associated challenges were prioritized by target communities that include: poor crop performance and crop failure due to insufficient and unreliable rainfall, land degradation due to water surface runoff and flooding, lack of water for domestic use and livestock, lack of alternative means for income generations, and emergence of pests in crops and livestocks. Based on these challenges highlighted by the target communities being similar to those faced by the communities in the previous SWAHAT project, the idea for scaling-up water harvesting dams and boreholes were sought as adaptation measures to further extend community resilience to climate change, and therefore development of this project proposal that will cover Bahi, Kondoa, Singida DC and other villages in Nzega.

Also, preliminary stakeholders' analysis was carried out for consultations and participation in the project design. The consultative meetings carried out in the local village governments of proposed project target areas identified a number of stakeholders including: (i) Local communities: The local communities are involved in project design particularly in identifying problems, specific needs related to resilience to climate change, sites for project implementation and the role they play in project implementation; (ii) District and Local Government Authorities: The participating Local Government Authorities (LGAs) will be contributing in providing baseline information and data on their areas of jurisdiction as well as mobilizing local communities to ensure their effective participation and engagement. The Vice President's Office through NEMC has provided overall guidance and coordination during preparation, implementation and monitoring of the project. In addition to VPO, the Ministry of Water will be further consulted for better installation and reconnaissance of the best spots for borehole drilling and installation. Selected relevant field experts from each distric council will be collaborating for project execution with TRACE (Technologies and Resilience for Agroecology, Climate Change & Environment) to share information during execution of the project in the actual sites of implementation.

Table 5:Summary of community consultation process of stakeholders conducted through focus group discussions (FGDs) dissegragated into gender

Date	Venue	Topics	Stakeholders/Community	Female	Male
01/07/2025	Kondoa District Office	Climate Change Impacts, Water Availability for Domestic; Livestock and Agricultural Use, Presence or Absence of Climate Change Adaptation Interventions, Potential Vulnerable Wards for Intervention	District Officers (Kondoa)	-	3
02/07/2025	Kikilo Ward Executive Office	Livelihood Options, Population Size and Distribution, Availability and Access to Water Facilities, Awareness of Climate Change, Availability of Farmer Groups/Organizations	Ward Executive Officers (Kondoa)	1	3
02/07/2025	Kikilo Village Executive Office	Awareness to Climate Change, Availability of Village Land for Project Implementation, Availability of Farmer Groups/Organizations	Village Executive Officers (Kondoa)	-	4
02/07/2025	Kikilo Village	Water Availability for Domestic; Livestock and Agricultural Use, Livelihood Options, Awareness of Climate Change, Availability of Farmer Groups/Organizations, Willingness to Participate in Project Interventions	Farmers (4 Villages-Kondoa)	90	18
04/07/2025	Bahi District Office	Climate Change Impacts, Water Availability for Domestic; Livestock and Agricultural Use, Presence or Absence of Climate Change Adaptation Interventions, Potential Vulnerable Wards for Intervention	District Officers (Bahi)	-	2
04/07/2025	Mtitaa Ward Executive office	Water Availability for Domestic; Livestock and Agricultural Use, Livelihood Options, Awareness of Climate Change, Availability of Farmer Groups/Organizations, Willingness to Participate in Project Interventions	Farmers (2 Villlages-Bahi)	23	8
25/08/2025	Singida District Office	Climate Change Impacts, Water Availability for Domestic; Livestock and Agricultural Use, Presence or Absence of Climate Change Adaptation Interventions, Potential Vulnerable Wards for Intervention	District Officers (Singida DC)	1	1
26/08/2025	Sekotoure Village Executive Office	Awareness to Climate Change, Availability of Village Land for Project Implementation, Availability of Farmer Groups/Organizations	Village Executive Officers (Singida DC)	1	3
26/08/2025	Sekotoure Village	Water Availability for Domestic; Livestock and Agricultural Use, Livelihood Options, Awareness of Climate Change, Availability of Farmer Groups/Organizations, Willingness to Participate in Project Interventions	Farmers (3 Villages-Singida DC)	35	20
	Nzega District Office	Climate Change Impacts, Water Availability for Domestic; Livestock and Agricultural Use, Presence or Absence of	District Officers (Nzega DC)	1	2

		Climate Change Adaptation Interventions, Potential Vulnerable Wards for Intervention			
	Tongi Village	Water Availability for Domestic; Livestock and Agricultural Use, Livelihood Options, Awareness of Climate Change, Availability of Farmer Groups/Organizations, Willingness to Participate in Project Interventions	Farmers (2 Villages- Nzega DC)	22	16

Outcomes:

1. Establishment of rapport with the community to align with principles of co-creation and inclusion in project planning for sustainability and community ownership
2. Preliminary screening of potential areas for project intervention based on compatibility and complementarity with the scalable project components
3. Served to establish needs assessment
4. Identification of potential USPs
5. High rate of willingness among women to participate in project activities was observed.

Table 6: Gender data of the beneficiaries of communities in the intervention areas

District	Villages Selected	Neighbouring villages beneficiaries to the dam	Females	Males	Number of Beneficiaries	Total Poor Households	Youth - working group	Female Youth	Male Youth
Bahi	Chibelela	**Chibelela,** Jamhuri, Mazengo, Samora, and Karume	6,654	6,137	12,791	221	7,691	3,992	3,682
		Isanga, Mwongozo, Nyerere, Karume	6,493	6,298	12,791	229	7,675	3,896	3,779
	Mtitaa	**Nyinhila** Mbugani, Kawawa,	2,768	2,690	5,458	378	4,039	1,661	1,614
		Mtitaa, Nyerere, Kusila Zanbia, Matilangs, Karume	3,171	3,476	6,647	280	4,919	1,903	2,086
Kondoa	Changaa	Chngaa,	4,096	4,340	8,431	346	6,239	2,867	3,038
	Kikilo	Kikilo kati,	4,714	4,906	9,620	400	7,119	3,300	3,434
	Hondomairo	Hondomairo, Mtiryangwi	7,035	7,446	14,481	380	10,716	4,925	5,212
Singida DC	Sekotoure	Mvae	1,156	1,155	2,311	298	1,710	809	809
		Msimihi	2,293	2,298	4,591	367	3,397	1,605	1,609
		Sekotoure	1,554	1,519	3,073	260	2,274	1,088	1,063

Nzega	Tongi	**Tongi**,Nkingamalucha, Mangashini, Chabutwa, Ndekeli and `tumbi,	7,633	7,403	15,036	245	11,127	5,343	5,182
	Puge	**Puge**, Busondo, Isunha,Kipugala	6,745	6,470	13,215	200	9,779	4,722	4,529
		Total direct beneficiaries	**54,312**	**54,138**	**108,445**	**3,517**	**76,684**	**36,109**	**36,037**

I. Justification for Funding Requested, Focusing on the Full Cost of Adaptation Reasoning

Like most rural areas in Tanzania, the economy and livelihood system of communities in Kondoa, Singida DC, Bahi and Nzega, districts. are mainly carried out in areas constrained by climate change challenges. These areas are impacted by negative effects due to shifting weather seasons and climate variability, disrupting the economy and people's lives. Equally, historical degradation of natural ecosystems and through the on-going poor livestock and farming practices and climate-induced processes adversely affect the existing socio-ecological and livelihood systems.

This Scaling up project remains focused on dry and semi-arid regions that have not received the adaptation interventions and similar benefits from AF funding of Tanzania particularly new village communities in Kondoa, Singida DC, Bahi and Nzega districts. These regions are exposed to a range of serious climate change related problems such as agriculture failure, deforestation and environmental degradation. Research suggests that by 2030, even if the drought frequency and intensity remain stable, 5% of the region's population will go hungry. The ecosystem resilience and capacity to support agriculture and safeguard human health will be jeopardized due to continued land and forest degradation. Therefore, without support from AF funding the resident communities will continue to be highly vulnerable to impacts of climate change. The AF will provide opportunity to scale up interventions for community adaptation to climate change in the area of enabling sustainable water supply systems, forest conservations and provision of alternative livelihoods innovations for social and economic development.

Component 1: Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities (baseline Without Funding)

Without the AF fund: means that, no actions will be taken to implement this project, and therefore, future climate threats will continue to accelerate the impacts of existing water scarcity in affected communities. Observed climate and weather extreme events such as droughts, and prolonged dry periods will continue to destroy their livelihoods, notably water supply for multi-purpose activities. In this manner, adaptation failure will be witnessed, and the detrimental effects of climate change will be irreversible in the near future. Currently, there is sufficient evidence that women in these areas are suffering the most and are now forced to walk longer distances to search for water. Such evidence on water scarcity driven by climate change have instigated increased social group conflicts such as farmers and livestock keepers as well as conflicts within households, including incidents of gender-based violence. Local communities in the project area have a low capacity to adapt to such induced water scarcity due to poverty levels. Tanzania's arid and semi-arid areas cover more than 50% of the country, representing a large population of vulnerable communities. If the communities living in these areas are left without support to cope with these challenges,

Despite the significant government investment in water supply, coverage is not satisfactory with only 50% of the population having access to clean water. Moreover, being the least developed country; the Tanzania Government has low adaptive capacity and inadequate financial resources to assist on the same.

With AF funding: The AF funding will facilitate upscaling of this proven climate smart water harvesting intervention thus enhancing investments for rural climate resilient water supply systems in vulnerable people in the semi-arid communities of selected villages in Kondoa, Bahi and Singida DC, Nzega District. Financial resources for the AF will facilitate building rural climate resilient-water supply and adaptive to the current and future climate shocks.

Component 2: Develop integrated climate resilient livelihoods diversification through improved climate smart technologies in agriculture, efficient utilization of natural ecosystem resources (baseline without funding):

Without the AF fund: because the agricultural system is largely-rain fed which is increasingly becoming unpredictable and unreliable with the continuing effects of climate change, and agriculture is the largest employer of the population it is kept in jeopardy (Paavola, 2003, URT, 2003). Shortening and/or change of

the growing season are trends that have already been observed. For example, in Dodoma region there had been an 80% decrease in harvests as a direct result of poor or late arrival of rainfall.
Being a staple food for most Tanzanians, maize that is widely grown in Tanzania is projected to be affected the most by climate variability resulting into decrease in maize harvest by up to 33%. Alternative crop production systems, such as introducing high-value vegetable gardening and fruit production, need to be established for alternative livelihood diversification.
On the other hand, livestock productivity, survival and distribution will be affected through reduced quantity and quality of range-land and prevalence of vector-borne livestock diseases. As a result, pastoralists are forced to relocate to places where pasture and water are available However, the tendency has already caused conflicts between different pastoralist societies on one hand and farmers and pastoralists on the other. innovative animal husbandry options for adaptation to climate change is required to sustain these agro-pastoral communities in these sites.
Chicken production is an important source of animal-source food and income for rural subsistence producers in Tanzania. In terms of livestock ownership, chicken is dominant in Tanzania, with more than 86% of the 4.6 million livestock-keeping households owning chickens. These demonstrate the central importance of poultry production to poverty reduction and nutrition improvement in the country. Poultry has therefore a natural advantage over other livestock industries because of its low global impact. The impacts of climate change on chicken (Costa, 2009) productivity will greatly reduce resilience of vulnerable farmers to climate change.

With Funding: The proposed upscaling project will implement interventions that promote diversified livelihoods through which model block farms for climate smart practices for horticultural crops and livestock production for improved income and food security in selected villages. In addition, the funding will contribute to enhanced income generation options through vegetable gardening, fruit orchards and beekeeping among rural communities. Furthermore, it will contribute to enhanced adaptive capacity and livestock management systems for livestock keepers to climate induced droughts.

Component 3. Engagement of local community in a participatory afforestation program for locally adapted fruit and forest trees (Baseline without funding):

There is a continued trend of environmental degradation resulting from conventional farming methods involving threshing and burning, deforestation, charcoal making and overgrazing in most of the proposed project sites. Unless concrete adaptation approaches which integrate community and ecosystem-based solutions to tackle climate change are implemented, the trend will continue with disastrous effects on these vulnerable communities. Different types of vegetation occupy the semi-arid and agropastoral landscapes of Kondoa, Singida DC, Bahi and Nzega districts of Tanzania, including grasslands, dense thickets, miombo woodlands, baobab (Adansonia digitata), acacia and seasonally inundated grasslands. Anthropogenic activities have extensively modified these types of vegetation, with deforestation and land degradation in these areas on the increase (Shechambo et al., 1999). These anthropogenic activities include forest clearing for agricultural expansion (especially shifting cultivation), pastoralism, fire, human settlements, charcoal making and mining. Based on these facts, it is obvious that climate change will accelerate the dependence of vulnerable rural communities to forest resources for their livelihoods support leading to further forest and land degradation. Alternative integrated interventions are needed to address these challenges without which these communities will be subjected to more risks and vulnerability to climate change.

With Funding in Component 3:

AF resources will be used to implement concrete adaptation activities to enhance integrated management of environmental and ecological systems to sustain climate sensitive rural livelihood systems. The requested financial resources will therefore be used to establish and implement ecological rehabilitation and restoration activities in Kondoa, Singida DC, bahi and Nzega districts.

Component 4. Learning and Knowledge Management to Strengthen local community capacity for

effective adaptation strategies and reduce risks associated with climate change (Baseline Without funding):

Component 4: (**without AF funding**): At present, some villages located in Kondoa, Bahi, Singida DC and Nzega Districts have not benefited from the AF funding that have previously built climate change adaptation interventions for enhancing water availability, forest conservation, improved alternative livelihoods diversification for income generation. These communities therefore require scaled-up climate adaptation interventions. Without the AF project, integrating climate change adaptation strategies into district development plans and implementing adaptation actions will likely be delayed. Without access to AF resources, vulnerable communities in, Kondoa, Bahi, Singida DC and Nzega district's villages will likely continue unsustainable farming and livestock practices, limiting their future adaptive capacity.

With availability of AF resources: Best practices and lessons learned in the course of project implementation will be effectively shared and communicated with key stakeholders and decision makers. This will pave the way to upscale and replicate outcomes and results in other places with similar environments.

J. Accounting of sustainability of the project/programme outcomes in project/programme designing

Sustainability is a cornerstone of this upscaled project, which is designed to ensure that its benefits endure long after the funding period. The project emphasizes local ownership, institutional strengthening, and integration with district-level planning frameworks across the four targeted districts. By involving Kondoa, Bahi, Singida DC and Nzega alongside, the project leverages a regional approach to build broader resilience and scale up best practices.

At the grassroots level, the project will strengthen the capacities of village councils, local extension officers, water user groups, and agro-pastoral associations through targeted training and knowledge-sharing platforms. These efforts will enable communities to continue implementing and maintaining project activities, such as managing water infrastructure, sustaining agroforestry plots, and applying conservation agriculture techniques.

At the Economic Level

The project interventions will serve as catalysts for commercializing agriculture, horticulture, beekeeping and improved livestock production to many farmers leading to increased opportunities for income generation.

Increased access and exposure of project beneficiaries to modern crop and livestock inputs and technologies, which are potential and essential for developing the agricultural, horticulture and livestock economy, agricultural transformation as can sustainably contribute to increased production, productivity and income, and thus contributing to improved welfare.

At the Social Level

Empowering farmers with knowledge and skills together with best and improved crop and livestock techniques and husbandry. Through strengthening rural based and local community networks, and using local promoters have significant synergistic spillover effects. Not only to project beneficiaries, but also can go beyond the project beneficiaries as the benefits spill over to the surrounding communities.

The establishment of model farms will promote awareness of the project intervention, stir curiosity and promote participation of communities and other stakeholders to gain experience and discover opportunities.

At the Environmental Level

To ensure continued monitoring by the village government, livestock keepers and farmers should avoid grazing of planted trees by livestock and deforestation by local farmers through the imposition of laws and by-laws designed to protect forests and forest products and limit land degradation. The knowledge management component will highly contribute to increasing awareness on conservation and preservation ecosystem services.

At the institutional level

the project will enhance coordination mechanisms between local and central government entities. This will facilitate better policy implementation, replication of successful practices, and efficient resource mobilization for climate action. Capacity-building efforts will target district officials and technical personnel to improve planning, budgeting, and monitoring capabilities in climate-resilient development.

The project also promotes sustainability by embedding its objectives within existing development and climate adaptation strategies. By aligning with national frameworks such as Tanzania's National Climate Change Strategy and the Local Government Development Plans. Additionally, by fostering strong community participation and building institutional resilience. The design of the project involved a consultative approach that ensured local stakeholders have the knowledge, human resources, and motivation to install, operate and maintain the different facilities associated with project interventions. The proposed design thus guarantees that the benefits of the project will be long-term, scalable, and integrated into the target areas through established community organizations related to specific interventions in association with local governments.

K. Overview of the environmental, social impacts, and risks identified as being relevant to the project/programme.

Based on the current assessment, this project is classed as a Category C projects/programmes for which no adverse environmental or social impacts are anticipated at this time. While no further actions are required at this time, on-going risk monitoring shall be done for any unexpected environmental or social impacts.

Table 7:Environmental and social impacts and risks identified as being relevant to the project/programme

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
1.Compliance with the Law		Low risk is anticipated here. Upscaling of the project complies with Tanzania constitution, enforced legislations, standards, and regulations. Such interventions are justifiable by community demand. Construction permits, permits for water extraction will be obtain from local authorities.
2.Access and Equity	X	No risk anticipated. This project does not reduce or prevent communities at the project sites from accessing basic health services, clean water and sanitation, energy, education, housing, safe and decent working conditions and land rights.

3.Marginalized and Vulnerable Groups	X	Moderate risk anticipated. The project beneficiaries were consulted have been disaggregated by gender. Specific marginalized and poor vulnerable village groups especially women will be more closely consulted and involved in the design and implementations all on-the-ground activities. Risk mitigation measures: The project design will ensure that benefits accruing from the project interventions – including technology transfer and awareness-raising activities – reach marginalized and vulnerable groups rural villages; Ensures that all components enhance the adaptive capacity of marginalized and vulnerable groups including transforming their social life to better levels
4.Human Rights		Low Risk anticipated. The proposed project respect and adhere to all relevant conventions on human rights, national and local laws in relation to human rights.
5.Gender Equality and Women's Empowerment	X	Moderate risk anticipated. Women were involved from the initial consultation in the village sites. More consultation will be conducted during full proposal development to determine their equal participation in the project activities. Risk mitigation measures: All consultative and participatory processes will strive to include representation of women groups of the community and analyze gender-disaggregated data where relevant. Project implementation will follow the national guidelines for mainstreaming gender into environment 2014.
6.Core Labour Rights		Low risk anticipated. Core labor rights will be respected and considered in the project design and implementation. In particular, national and regional stakeholders will be involved in the design of project activities to ensure that labor legislations are adhered. No forced or compulsory labour will be used during the project works. To avoid employment discrimination, voluntary labour will be obtained community members.
7.Indigenous Peoples	X	No risk anticipated. All project interventions will ensure that local peoples benefit from the project's activities and that, where relevant, they are included in community consultation and participatory planning activities.

8.Involuntary Resettlement	X	No risk anticipated. The project design does not include involuntary resettlement.
9.Protection of Natural Habitats	X	No risk anticipated. By implementing conservation measures linked to economic benefits to the people to tackle climate change in the t district, the project will promote improved management of natural ecosystems, particularly in the context of future climate change.
10.Conservation of Biological Diversity	X	Low Risk: Introduction of new tree species may dominate the locally existing species Baseline assessment will be undertaken to assess site-specific risks to biodiversity. Final project sites will then be mapped using a participatory approach – which will include village leaders – to ensure that the project's activities do not result in loss of biological diversity or introduction of known invasive species.
11.Climate Change	X	No risk anticipated. The project will contribute to climate change adaptation and mitigation, thus will complement the national and global efforts to combat detrimental effects of climate change.
12.Pollution Prevention and Resource Efficiency	X	The proposed project is visualized to cause no any harm or pollution.
13.Public Health	X	The proposed project enhances the quality of public health. Indeed, through components contribution of this project to the general public health is clear.
14.Physical and Cultural Heritage	X	Physical and cultural heritage sites which exists in project area. However, critical analysis will be done during the final design to determine whether physical and cultural heritage to avoid any negative effects.
15.Lands and Soil Conservation	X	This project is design to enhance and promote conservation of soil and land resources.. The proposed activities will result into increased soil stability, rehabilitate the degraded lands and soil conservation

PART III: IMPLEMENTATION ARRANGEMENTS

A. Project/Programme Alignment with the Results Framework of the Adaptation Fund

Table 8:Project/Programme Alignment with the Results Framework of the Adaptation Fund

Project Objective(s)[1]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Project Goal Enhancing resilience of rural community to climate change-induced challenges of availability and water supply systems rural communities of semi-arid regions in Tanzania				
Objective 1. Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities of semi-arid areas	Number of communities with access to enhanced climate resilient rural water supply facilities in semi-arid areas.	Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	2,587,381
Objective 2. Develop integrated climate resilient livelihoods diversification through improved climate smart technologies in agriculture, efficient utilization of natural ecosystem resource	Percentage of the target population adopting diversified livelihood options for climate change resilience.	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	6.2. Percentage of targeted population with sustained climate-resilient alternative livelihoods	986,916
Engagement of local community in a participatory reforestation program through planting of locally adapted fruit and forest trees	Size of the area allocated to reforestation program and proportion of the community engaged in ecosystem restoration	Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural resource assets maintained or improved under climate change and variability-induced stress	425,996
Learning and Knowledge Management to Strengthen local community capacity for effective adaptation strategies and reduce risks associated with climate change	Number/percentage of individuals and institutions strengthened with technical capacity to reduce risks associated with climate- induced livelihood failures	Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.2. Percentage of targeted population applying appropriate adaptation responses	173,707
Total objective level grant amount				**4,174,000**

Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
Project Goal Enhancing resilience of rural community to climate change-induced challenges of availability and water supply systems rural communities of semi-arid regions in Tanzania				
Outcome 1: Established resilient rural water supply system in vulnerable agro-pastoral communities	1.1 Number of climate resilient rural water supply facilities established	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by sector and scale)	2,524,983
	1.2: Number of established water governance structures (CBWSOs) for equitable water allocation for all users and revenue collection	Output 4: Vulnerable development sector services and infrastructure assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of development sector services modified to respond to new conditions resulting from climate variability and change (by sector and scale)	62,398
Outcome 2: climate change resilient community with enhanced livelihood diversification capacity	2.1: Number of model block farms established for climate smart practices in crops and livestock production.	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1. No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	365,242
	2.2 Number of options for livelihood diversification among rural communities	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1. No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies	390,293
	2.3 Percentage of livestock keepers with enhanced capacity and livestock management systems for climate induced droughts	Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.2.1. Type of income sources for households generated under climate change scenario	231,381
Outcome 3: Improved ecosystem health and delivery of ecosystem goods and services in the community	3.1 Increased sources of employment opportunities resulting from fruits and forestry	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from	158,170

	nursery ventures for women and youths		climate variability and change (by type and scale)	
	3.2 Reduced land and forest degradation through efforts of reforestation and tree planting by the community	Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts, including variability	5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)	267,826
Outcome 4: Strengthened institutional and technical capacity to reduce risks associated with climate- induced livelihood failures	4.1: Increased capacity of vulnerable semi-arid rural communities in adaptation to impacts of climate change	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders	94,144
	4.2. wider scale knowledge shared and lesson learned on climate change adaptation in semi-arid conditions	Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning	3.2.1 No. of technical committees/associations formed to ensure transfer of knowledge	79,563
Total outcome level grant amount				**4,174,000**

[1] The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still app

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government[2]

Provide the name and position of the government official and indicate date of endorsement. If this is a regional project/programme, list the endorsing officials all the participating countries. The endorsement letter(s) should be attached as an annex to the project/programme proposal. Please attach the endorsement letter(s) with this template; add as many participating governments if a regional project/programme:

Prof. Peter Lawrance Makenga Msoffe, Deputy Permanent Secretary, Vice President's Office	Date*: August, 8th, 2025*

A. Implementing Entity certification

I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (National Environmental Policy (20210; National Climate Change Response Strategy (2021-2026); Nationally Determined Contributions (2021-2030); National Adaptation Program of Action (2007); National Environmental Master Plan for Strategic Interventions (2022-2032); Tanzania Development Vision 2025-2050) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this project/programme.

[6.] Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

Fredrick F. Mulinda  Implementing Entity Coordinator	
Date: *August, 1st, 2025*	Tel. and email: +255 753 240 517 nieaf@nemc.or.tz /kasigazi.koku@gmail.com
Project Contact Person: Prof. Paul Mbogo Kusolwa	
Tel. +255 785 116 669 And Email: kusolwa@sua.ac.tz Or kusolwap@gmail.com	

Government Endorsement Letter

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA MAKAMU WA RAIS

Telegrams:"MAKAMU",
Telephone. : **+255 26 2329006**
Fax : **+255 26 2329007**
Email : **ps@vpo.go.tz**
In reply, please quote:

Government City,
Mtumba Area,
Vice President Street,
P.O. Box. 2502,
40406 DODOMA.

Our Ref. No : **CBA. 78/90/03**

08th August, 2025

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

SUBJECT: ENDORSEMENT FOR SCALING UP OF PROJECT INTERVENTIONS AND LESSONS LEARNED FROM STRATEGIC WATER HARVESTING TECHNOLOGIES (SWAHAT) FOR ENHANCING CLIMATE CHANGE ADAPTATION FOR AGRO-PASTORAL COMMUNITIES OF SEMI-ARID AREAS OF TANZANIA

Please refer to the above subject.

2. In my capacity as the designated authority for the Adaptation Fund in Tanzania, I confirm that the above national grant proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in semi-arid areas of Tanzania.

3. Accordingly, I am pleased to endorse the above grant proposal with support from the Adaptation Fund. If approved, the project will be implemented by National Environment Management Council (NEMC) and executed by Technologies and Resilience for Agroecology, Climate Change and Environment(TRACE).

4. Thank you for your continued support.

Prof. Peter L.M. Msoffe
NATIONAL DESIGNATED AUTHORITY- DEPUTY PERMANENT SECRETARY

Annex 1: **Project Formulation Grant**

Project Formulation Grant (PFG)

Submission Date: August 6, 2025
Adaptation Fund Project ID: [To be assigned]
Country/ies: Tanzania (United Republic of)
Title of Project/Programme: Scaling up of Project Interventions and Lessons Learned from Strategic Water Harvesting Technologies (SWAHAT) for Enhancing Climate Change Adaptation for Agro-Pastoral Communities of Semi-Arid Areas of Tanzania
Type of IE (NIE/RIE/MIE): NIE
Implementing Entity: National Environment Management Council(NEMC)
Executing Entity/ies: Technologies and Resilience for Agroecology, Climate Change and Environment (TRACE)

A. Project Preparation Timeframe

Start date of PFG:	June 30, 2026
Completion date of PFG:	December 30, 2026

B. Proposed Project Preparation Activities ($)

List of Proposed Project Preparation Activities	Output of the PFG Activities	US$ Amount	Budget Note
Assessment of existing SWAHAT interventions	Report on lessons learned and scalability potential	40,000	Costs for field visits, data analysis, and expert consultations
Community consultations for scaling up	Community-driven plans for expanded water harvesting	40,000	Logistics, facilitation, and materials for workshops and stakeholder engagement
Technical design of water harvesting systems	Blueprints for scalable water harvesting technologies	35,250	Engineering, technical expertise, and prototype development
Drafting full project proposal	Comprehensive proposal for country cap modality	22,000	Staff time, technical expertise, and stakeholder coordination for proposal development
Implementing Entity fee for `PFG (8.5%)	IE coordination fee	12,750	IE staff time, technical expertise, and stakeholder coordination
Total Project Formulation Grant		**150,000**	

Description and Justifications for PFG Activities:

- **Assessment of existing SWAHAT interventions ($40,000):** Conducting in-depth evaluations of current water harvesting technologies, including field visits and expert analysis, to inform scaling-up strategies. This ensures the project builds on proven approaches with robust data.

- **Community consultations for scaling up ($40,000):** Engaging agro-pastoral communities through extensive workshops to co-design scaling-up plans, ensuring local relevance and sustainability. Costs cover logistics, facilitation, and materials for broad engagement.
- **Technical design of water harvesting systems ($35,250** Developing detailed blueprints and prototypes for scalable, climate-resilient water harvesting technologies tailored to semi-arid areas. This requires advanced engineering expertise.
- **Drafting full project proposal ($22,000):** Preparing a comprehensive proposal that incorporates lessons learned, stakeholder inputs, and technical designs, meeting country cap modality requirements through iterative revisions.
- **Implementing Entity fee for `PFG (8.5%) ($12,750):** Coordination, monitoring, review and stakeholder coordination

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation.

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Fredrick F. Mulinda		August 6, 2025	Prof. Paul Kusolwa	+255 785 116 669	kusolwa@sua.ac.tz