



ADAPTATION FUND

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) in collaboration with Sokoine University of Agriculture (SUA)

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: 5,000,000 (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:

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

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. In these regions, increasing occurrences of epidemics from pests and diseases has been very common in crops and livestock.

Several studies conducted in various semi-arid regions of Tanzania and have demonstrated that rural areas especially of the agro-pastoral communities have been the most prone and vulnerable to the effect 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 life¹. Nowadays, people's experience in most of the semi-arid districts of Kondoa, Bahi 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 resilience².

Seasonality influences farmers' decisions about when to cultivate and sow and harvest. It 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 consequence 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 affected³. Understanding that over 60% of the population of Tanzanians relies on a rainfall dependent agricultural production for their livelihood, it is evident that climate change is going to reduce government effort 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

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.

and support economic development, and engage local communities in climate change planning and decision-making to ensure that their needs and concerns are addressed.

In addition, NAPA 2007 has been offering 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 crops and water harvesting techniques, developing community environmental conservation plans by developing and managing community environmental conservation plans. These strategies very well align with the proposed upscaling of interventions demonstrated by the SWAHAT project. Each of these interventions are aimed to ensure 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, Nzega and Bahi districts to further build and enhance adaptive capacity of semi-arid agropastoral communities in selected villages.

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).

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 consequence on social, economic, gender and environment. 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 supply⁴. This call for extended concrete climate change adaptation interventions that will enhance resilience of the vulnerable communities in the semi-arid rural dwellers. 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 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 left overs 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, save 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 adaptive 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

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.

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 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 livelihood through engagement in one or more of these innovative technologies, but they are constrained by lack of 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 to another Tanzanian community facing similar challenges of water scarcity will bring equivalent or higher magnitude of impact for resilience and adaptation to impacts of climate change.

This project concept note proposes to upscale the success of the various success of innovative interventions for adaptation and resilience to climate change of the vulnerable rural communities of semi-arid regions particularly in Kondoa, Bahi and Nzega districts.

The conceptual design is to continue with renovating and expansion of water harvesting dams 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 water harvesting dams and bore holes will supply water for all the proposed resilience and adaptation-integrated livelihood options. Based on previous project we propose to extend 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 livelihoods diversification in line with techniques in horticulture, agriculture, livestock beef fattening, pasture and fodder production, poultry farming, beekeeping, aquaculture, nursery management techniques, fruit tree and forest tree planting for enhance resilient ecosystem services such as provide fuel wood and restore 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 community to climate change-induced challenges of drought, floods and high temperatures in semi-arid regions of Tanzania for improved agricultural, aquaculture and livestock productivity, forest restoration and combating emergence of climate change related pests and diseases.

Outline the economic social, development and environmental context in which the project would operate.

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 are 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 productivity⁵.

Rural poverty rates are high whereby around 49.1% of people are poor with a low per day income of less than 1.4 USD and most have limited access to resources, markets, and services⁶. 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 affect access to clean water, this is socially exacerbating existing water-borne health issues. Furthermore, climate change socially contributes to internal migration, as people seek better economic opportunities or flee climate-related stressors³. 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 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 small number of communities and 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 agropastoral 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 and participatory training and co-creation of alternative livelihoods 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 on agriculture, water, and household responsibilities. Climate change affects young people's opportunities for education, employment, and social mobility. The proposed project therefore is well aligned to address the social challenges associated to impacts of climate change in rural semi-arid communities in the target villages.

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

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

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 sourcing from Agriculture accounting for about 23.7% of GDP and 65.4% coming from agriculture 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 achieve a higher middle-income economy by 2050⁷. 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 has also 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 forcing 13 million to migrate internally searching for relief of available water, pasture, and productive agricultural lands, alternative livelihood resources and food security⁸. Since Agriculture is a significant sector of the economy, employing around approximately 60% of the rural workforce heavily reliant on rainfed farming making it susceptible to climate variability⁹. 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.

Development Context

Climate change impacts have negative effects on National development efforts 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 lives 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.

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, the most part of the country, especially the semi-arid rural communities, is highly vulnerable to climate-

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)

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

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 disappeared in the semi-arid regions of the country due to unsustainable utilization and 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 security¹⁰. 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 Kondo, 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 desertification¹¹.

The proposed project will support selected climate change vulnerable communities in selected villages of Kondo, Bahi and Nzega districts. These districts are characterized by semi-arid agro-ecological characteristics with erratic unimodal rainfall patterns¹². 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 rainfalls in these regions are 581 mm⁷. 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

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*

with Miombo woodland vegetation, which has been threatened by land degradation and deforestation as a result of population growth coupled by environmental stress¹³¹⁴. 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 agropastoralism⁶ 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 impart alternative livelihoods options from the forests and ecosystem services. Consequences of droughts and floods in farm lands will be reduced by renovation of dams and enhancing availability of water from boreholes as this will drive more alternative livelihood activities enhancing water availability is regarded as solution for reducing dependence of erratic rainfall that has been a cause of unpredictable planting dates, poor crop establishment and performance, crop failure and hence low yields.

Therefore, knowledge of impacts and response of forest ecosystems to climate change resilience and adaptation measures emphasizes on strategies of reestablishment 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.

Project/Programme Objectives:

List the main objectives of the project/programme.

Project Objectives:

1. 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. 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

Project/Programme Components and Financing:

Fill in the table presenting the relationships among project components, activities, expected concrete outputs, and the corresponding budgets. If necessary, please refer to the attached instructions for a detailed description of each term.

1. Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities of semi-arid areas
2. Develop integrated climate resilient livelihoods diversification through improved climate smart technologies in agriculture, efficient utilization of natural ecosystem resource and efficient crop and livestock productivity
3. Engagement of local community in a participatory afforestation program for locally adapted fruit and forest trees
4. Learning and Knowledge Management to strengthen local community capacity for effective adaptation strategies and reduce risks associated with climate change

¹³ Gumbo, D.J., Dumas-Johansen, M., Muir, G., Boerstler, F., Xia, Z. 2018. Sustainable management of Miombo woodlands – Food security, nutrition and wood energy. Rome, Food and Agriculture Organization of the United Nations.

¹⁴ Lusambo, L.P., Monela, G.C., and Katani, J., 2007. Socio-Economic Analysis of Land Use Factors Causing Degradation and Deforestation of Miombo Woodlands in Kilosa District, Tanzania. Tanzania Journal of Forestry and Nature Conservation Vol. 76 : pp. 28-39

For the case of a programme, individual components are likely to refer to specific sub-sets of stakeholders, regions and/or sectors that can be addressed through a set of well defined interventions / projects.

| Component | Expected Outcomes | Expected Concrete Outputs | Indicative Activities | Amount (US\$) |
|--|---|---|---|--|
| 1 Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities of semi-arid areas | Established resilient rural water supply system in vulnerable agro-pastoral communities | 1.1 Climate resilient rural water supply system established | 1.1.1 Extensively surveyed and Drilled boreholes established for upscale intervention in drought prone and water scarce villages and installed with solar power-driven water pumps in selected villages | 917,250 |
| | | | 1.1.2. Established 20 water storage tanks and 20 distribution network systems | 643,800 |
| | | | 1.1.3. Constructed 40 community water distribution points for water network systems | 450,350 |
| | | | 1.1.4. Constructed 80 cattle drinking troughs for livestock water system in in agro-pastoral communities in selected villages | 35,035 |
| | | | 1.1.5. Four properly reinforced and protected water-harvesting dams for increased security and sustainable water availability for community utilization | 120,760 |
| | | | 1.2: Established water governance structures (CBWSOs) and promote equitable water allocation for all users and revenue collection | 1.2 1 Eight Community Based Water Supply Organizations (CBWSOs) established and facilitated and committee members trained on operational |

| | | | | |
|---|---|---|--|------------------|
| | | | and maintenance | |
| | | | 1.2.2 Promoted formulation of water governance/bylaws to regulate effective use of water and protection of water sources with emphasis on inclusion of at least 60% women involvement and engagement | 31,199 |
| Total Component 1 | | | | 2,229,593 |
| Component 2: Develop integrated climate resilient livelihoods diversification through improved climate smart technologies in agriculture, efficient utilization of natural ecosystem resource and efficient crop and livestock productivity | 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 | 2.1.1 at least 20 drip irrigation schemes established in selected villages | 126,759 |
| | | | Activity 2.1.2 To establish pest management clinic for enhancing management options on emerging pests and that affect fruit trees, and livestock | 146,759 |
| | | | Activity 2.1.3 To introduce innovative practices for improved livestock health, | 91,724 |
| | | 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 | 104,996 |
| | | | Activity 2.2.2 Establish model beef cow fattening farms per village for enhanced value chain of livestock income source | 91,724 |

| | | | | |
|--------------------------------------|-------------------------------|--|--|----------------|
| | | | Activity 2.2.3 Establish in each village model poultry production units for local chicken in favor of gender for women and youths | 101,849 |
| | | | Activity 2.2.4.Promoted at least 2 modern beekeeping site schemes with 300 bee hives per village for alternative income generation | 91,724 |
| | | Output 2.3 Enhanced adaptive capacity and livestock management systems for livestock keepers to climate induced droughts | 2.3.1: Establishing at least 2ha of drought-resistant pasture plots per village for animal feed supply | 26,689 |
| | | | 2.3.2: Establishing appropriate livestock pasture and forage conservation practices for dry season feeding | 27,517 |
| | | | 2.3.3: Establish at least 6 cattle and goat drinking troughs per village site for increased access to livestock drinking points | 46,035 |
| | | | 2.3.4: Renovate at least one cattle dip tank per village for improved livestock management to control pests | 64,380 |
| | | | 2.3.5: Establish at least 1 model chicken poultry infrastructure for improved learning in poultry keeping among community members per village | 66,760 |
| Total Component 2 | | | | 986,536 |
| Component 3. Engagement of | Outcome 3: Improved | Output 3.1 Increased sources | Activity 3.1.1 At least 6 nurseries with multi- | 84,170 |

| | | | | |
|---|--|---|---|----------------|
| local community in a participatory reforestation program through planting of locally adapted fruit and forest trees | ecosystem health and delivery of ecosystem goods and services in the community | of employment opportunities resulting from fruits and forestry nursery ventures for women and youths | purpose fruits and forest trees per village established using adapted climate resilient tree species | |
| | | 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 200,000 locally adapted fruits and forest trees per village in local communities. | 130,170 |
| | | | Activity 3.1.3: Raise awareness of least 800 people on knowledge of establishment, propagation and management of fruits and forest tree species (at least 50 youths per village will be targeted) | 83,450 |
| | | | Activity 3.1.4: Promote high level adoption of use of clean energy efficient cooking stoves for fuel wood plots conservation | 26,689 |
| | | | Activity 3.2.4: Establish 6 orchards with various adapted species of fruit trees use of fruits and forest tree products developed in individual plots | 27,517 |
| Total Component 3 | | | | 351,996 |
| Component 4. Learning and Knowledge Management to Strengthen local community | 4. Strengthened institutional and technical capacity to reduce risks associated with | 4.1: Increased capacity of vulnerable semi-arid rural communities in adaptation to | Activity 4.1.1 Promote necessary trainings: technical staff and farmer communities on managing climate | 20,942 |

| | | | | | |
|--|--|---------------------------|--|---|---------|
| capacity for effective adaptation strategies and reduce risks associated with climate change | climate- induced livelihood failures | impacts of climate change | risks and project measures for sustained livelihood | | |
| | | | Activity 4.1.2 Review and mainstream climate change adaptation measures into sustainable development plans at district to village levels | 24,260 | |
| | | | Activity 4.1.3 Communicate project results and share lessons learnt | 24,942 | |
| | | | Activity 4.1.4 Facilitate provisional of project monitoring and evaluation facilities, tools and equipment | 24,000 | |
| | Output 4.2. wider scale knowledge shared and lesson learned on climate change adaptation in semi-arid conditions | | | 4.2.1 Documentation of knowledge generated through scientific journals, manuals guidelines, policy briefs on adaptation to climate change in semiarid areas of Tanzania | 20,942 |
| | | | | 4.2.2 Publishing reports on community preparedness, cultural change adoptions and challenges and lesson learned | 24,365 |
| | | | | 4.2.3 Produce a hand book of reference materials based on different innovation packages for adaptation to Climate Change | 34,256 |
| | | | | | 173,707 |

| | | | |
|--|---|--|------------------|
| Total Component 4 | | | |
| Total Project/Programme Cost (A) | | | 4,179,826 |
| 5.Project/Program Execution cost | 5.1 Logistics and mobilities transport and vehicle | | 232,655 |
| | 5.2 Project management and coordination | | 143,314 |
| | 5.3 Project monitoring and evaluation | | 46,557 |
| | 5.4 Institution overheads and utilities | | 12,978 |
| | Total project execution cost | | 437,994 |
| 6.Project/Program Cycle Management Fee charged by the Implementing Entity (C) | 6.1 Implementation Oversight and Monitoring | | |
| | 6.2 Personnel Salary Top-Ups (NIE Coordinator, PPR Focal Point, Accountant) | | |
| | 6.3 Mid-Term and Terminal Evaluation Oversight | | |
| | 6.4 Reporting and Compliance | | |
| | 6.5 Portfolio Management and Knowledge Dissemination | | |
| | 6.6 Audit Facilitation and Corporate Quality Standards | | |
| | Total NIE Management fee | | 384,654 |
| Total Project Execution Cost (B) | | | 435,520 |
| Total NIE Management Fee (C) | | | 384,654 |
| Total Project/Programme Cost (A) | | | 4,179,826 |
| Total amount of funding requested (A + B+ C) | | | 5,000,000 |

Projected Calendar:

Indicate the dates of the following milestones for the proposed project/programme

| Milestones | Expected Dates |
|---|------------------------------|
| Start of Project/Programme Implementation | 1 st October 2026 |
| Mid-term Review (if planned) | 1 st October 2028 |
| Project/Programme Closing | 1 st October 2030 |
| Terminal Evaluation | 1 st April 2031 |

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Describe the project/programme components, particularly focusing on the concrete adaptation activities of the project, and how these activities contribute to climate resilience. For the case of a programme, show how the combination of individual projects will contribute to the overall increase in resilience.

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

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

Output 1.1: Climate resilient rural water supply system established in agro-pastoral communities of Kondoa, 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 ground to build resilience and the adaptive capacity of vulnerable semi-arid rural communities including promoting climate resilience issues in Kondoa, 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 eight villages of Kondoa, Bahi and Nzega districts

Activity 1.1.2. Establish at least 20 water storage tanks and 20 distribution network systems at Kondoa (Hondomahilwa, Changaa and Kikilo) Bahi (Mtitaa, Nholi) and Nzega (Tongi) 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, Nholi) and Nzega (Tongi) district

Activity 1.1.5 Four properly reinforce protected water-harvesting dams 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, 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) and promote equitable water allocation for all uses and revenue collection.

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

Component 2.0: Develop integrated climate resilient livelihoods diversification through improved climate smart technologies in agriculture, efficient utilization of natural ecosystem resource and efficient crop and livestock productivity

Outcome 2.0 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 in selected villages of Kondoa, Bahi and Nzega. 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 its 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 impacts of climate change. Among promising innovative interventions in this output will include:

Activity 2.1.1 To establish at least 20 drip irrigation schemes in selected villages of, Kondoa, Bahi 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

Activity 2.1.3 To introduce innovative practices for improved livestock health through renovation

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 model poultry production units for local chicken in favor of gender for women and youths

Activity 2.2.4 Promoted at least 2 modern beekeeping site schemes with 300 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 and livestock management systems for livestock keepers to climate induced droughts

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 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 2ha 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 6 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 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 per village

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 livelihoods activities such as fuel energy, construction woods, 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.

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

Activity 3.1.1: At least 5 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. Groups of farmers 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 200,000 locally adapted fruits and forest trees per village in local communities: Seedlings obtained from output 3.1 will be used for restorations of degraded landscapes.

Activity 3.2.2: Raise awareness of least 800 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 these knowledge and technologies through establishment of farmer field schools Apart from farmers' groups, also schools' pupils has demonstrated to be used as 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 drudgery of women

in search of fuel wood, easy collection and emphasized on empowering locals on use of these woods 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 6 orchards with various adapted species of fruit trees use of fruits and forest tree products developed in individual plots

For sustainability of intervention from this project, community communities need to be equipped with methods and strategies that will enable them realize early benefits (food and nutrition security, income generation and other incentives) from these fruits 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 and Nzega districts*

Output 4.1 Increased capacity of vulnerable semi-arid rural communities in adaptation to impacts of climate change through adoption of various technological interventions co created by project team and village community members in Kondoa, Bahi and Nzega

Outcome and output activities of this component are designed to strengthen 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 provision of project monitoring and evaluation facilities, tools and equipment

Output 4.2. Wider scale knowledge shared and lesson 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 lesson 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. Describe how the project/programme provides economic, social and environmental benefits, with particular reference to the most vulnerable communities, and vulnerable groups within communities, including gender considerations. Describe how the project/programme will avoid or mitigate negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

The upscaled project, which now encompasses the districts of, Kondoa, Bahi, 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 that 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 and resilience of these existing dams to ensure their long-term sustainability and functionality. This will involve the implementation of anti-siltation measures such as desilting, construction of sediment traps, reforestation of catchment areas, and installation of protective fencing. These efforts aim to reduce erosion, extend dam lifespans, and secure year-round water availability for both agricultural and domestic use in the target communities.

i) Environmental benefits

The upscaling of the 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 the restoration of colonial contour bands/windows, tree planting, and ecosystem rehabilitation across all four districts. In addition, it will reverse land degradation, promote sustainable forestry and agroforestry practices, and 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.

ii) Economic benefits

Economically, the project will catalyze rural transformation through diversification of income sources and enhancement of climate-resilient value chains. Strengthening rural water supply systems will improve livestock and crop productivity, particularly in drought-prone communities. This will reduce the economic shocks from unreliable rainfall and increase household income and food security. The establishment of rural cooperatives and savings groups (e.g., SACCOs) will 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 underserved and marginalized

communities particularly in the agro pastoral areas of Kondo, Bahi, 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 girls will improve educational outcomes and gender equity allowing children to spend more time 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 these 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.

C. Describe or provide an analysis of the cost-effectiveness of the proposed project/programme.

The National Adaptation Programme of Action (NAPA) for the United Republic of Tanzania conducted a comprehensive analysis of multiple climate-vulnerable sectors to prioritize adaptation actions based on their potential to contribute to economic development, strengthen social capital, and enhance environmental management. A key criterion in this prioritization was cost-effectiveness. As such, interventions identified and proposed under NAPA are considered both urgent and economically justified. The activities planned under the SWAHAT project are directly aligned with the NAPA priorities, as elaborated in this proposal. Accordingly, the interventions have already been recognized by the government as cost-effective.

The project will address the agriculture, water, and forestry sectors ranked by NAPA as first, second, and fourth most vulnerable to climate change, respectively. The proposed interventions represent top priorities for these sectors: in agriculture, NAPA highlights development of irrigation systems and promotion of alternative farming techniques; in the water sector, the focus is on introducing community-level water harvesting and storage technologies; and in forestry, afforestation and reforestation efforts are emphasized.

D. Describe how the project/programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, national adaptation plan (NAP), national or sub-national development plans, poverty reduction strategies, national communications, or national adaptation programs of action, or other relevant instruments, where they exist.

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. By promoting integrated and sustainable approaches across key sectors, the project ensures coherence with broader national and global climate objectives. 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 sustainable development goals

The water supply project in semi-arid areas aligns directly with SDG 6: Clean Water and Sanitation, which seeks to ensure availability and sustainable management of water for all. 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 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 shocks. By integrating climate risk assessments and nature-based solutions, the project fosters resilience and long-term sustainability.

Additionally, the project contributes to SDG 11: Sustainable Cities and Communities by promoting inclusive, safe, and sustainable human settlements. Improved water access 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

The water supply project 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 by introducing sustainable water systems that are adapted to arid and semi-arid climates, using renewable energy for pumping and incorporating local knowledge in water conservation.

Conformity is also evident in the project's response to the Africa Climate Change Strategy, which emphasizes enhancing adaptive capacity, improving climate services, and building resilience in vulnerable communities. By 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.

Alignment with SADC Climate Change Priorities in Water Supply Projects

The water supply project in semi-arid areas aligns with the SADC Regional Strategic Action Plan (RSAP) on Integrated Water Resources Development and Management, which emphasizes sustainable water access and resilience to climate change. In these regions, where rainfall is increasingly unpredictable and droughts are more frequent, the project contributes to regional goals by promoting water efficiency, improving storage infrastructure, and supporting transboundary water cooperation where applicable. These measures reflect SADC's commitment to equitable and sustainable water resource management under changing climatic conditions.

Furthermore, the project contributes to the goals of the SADC Regional Indicative Strategic Development Plan (RISDP) by fostering social and economic development through improved water

security. Access to safe water enhances livelihoods, supports agriculture, and reduces the burden on women and children, who are often most affected by water scarcity. By embedding climate resilience into infrastructure and governance, the project helps member states meet their commitments to sustainable development and regional stability in the face of climate change.

Alignment with the National Environmental Policy 2021

The water supply project 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. This project addresses water scarcity through eco-friendly technologies such as solar-powered pumps, rainwater harvesting systems, and borehole development with minimal ecological disruption, 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 are actively engaged in decision-making, planning, and maintenance of water systems, 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, the water supply project demonstrates full conformity with the guiding principles and strategic priorities outlined in the National Environmental Policy 2021.

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

The water supply project is fully aligned with the objectives of the Environmental Master Plan for Strategic Interventions 2022–2032, particularly under the 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. It integrates adaptive measures including climate-resilient infrastructure, community-based water governance, and the promotion of water-efficient practices. These interventions reduce the risk of water stress and contribute to the long-term resilience of both people and ecosystems, in accordance with the Master Plans call for strengthened climate response mechanisms in natural resource sectors.

Alignment to the National Water Policy 2002

The water supply project 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 such as boreholes, solar-powered 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.

The project also upholds the policy's principle of integrated water resources management (IWRM). By incorporating community-based water governance, local capacity building, and environmentally sensitive design, the project ensures that water use is both equitable and sustainable. It takes into account the hydrological balance of semi-arid areas, promotes efficient water use, and safeguards

natural water sources from over exploitation. This conforms to the policy's framework of managing water resources as an economic good while protecting the environment and promoting social equity.

Conformity to the National Climate Change Strategy (2012) Priorities and Objectives

The water supply project aligns with the National Climate Change Strategy (2012) 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. It promotes the involvement of local stakeholders in planning, implementation, and monitoring, ensuring that interventions are locally appropriate and socially inclusive. Special focus is given to empowering women, youth, and marginalized groups key actors identified in the strategy for effective climate response. By fostering community ownership and integrating climate considerations into water supply development, the project demonstrates full conformity to the priorities and objectives of the National Climate Change Strategy (2012).

Alignment with National Forestry Policy 1998

The water supply project in semi-arid areas aligns with the National Forest Policy (1998) by supporting sustainable land and forest management practices that contribute to biodiversity conservation and ecosystem resilience. By integrating soil and water conservation techniques, such as contour bunds, check dams, and vegetation buffers around water points, the project complements forest conservation efforts and helps reverse land degradation. 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.

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.

Conformity to the Agricultural Policy and ASDP II (2018)

The proposed water supply 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 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, 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 supporting drought-tolerant crops, improving agro-infrastructure, and integrating indigenous knowledge into climate-smart farming practices.

Alignment with Livestock Sector Adaptation Initiatives in Tanzania

The proposed water supply 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. This mitigates the stress on rangelands, reduces overgrazing, 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, especially in regions like Dodoma, Singida, and Tabora, where drought has already diminished the carrying capacity of grazing lands. These measures help stabilize livestock production systems and contribute to the restoration of ecosystem services.

Moreover, the water supply initiative enhances livelihood diversification and climate resilience for livestock-dependent communities. By ensuring year-round access to water, the project opens opportunities for integrated farming, small-scale irrigation, 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. These interventions reflect the strategic goals outlined in Tanzania's livestock adaptation framework and are fully consistent within the project concept note.

E. Describe how the project/programme meets relevant national technical standards, where applicable, such as standards for environmental assessment, building codes, etc., and complies with the Environmental and Social Policy of the Adaptation Fund.

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.

II. B. Compliance with the Adaptation Fund Policy

The proposed 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, mainly through identifying appropriate programme activities as part of the processes of developing annual work-plans. It could also be relevant to establish a working group in order to ensure that the project implementation is in line with gender mainstreaming policies according to National gender policy so that the interests of a larger portion of the population is incorporated in the project implementation.

Describe if there is duplication of project/programme with other funding sources, if any.

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: Climate change-related programs/projects in Tanzania

| S.No | Project/Program | Objectives | Potential synergism |
|------|--|---|---|
| 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 SWAHAT 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. |

| S.No | Project/Program | Objectives | Potential synergism |
|------|--|--|--|
| 2 | Programme on climate change impacts, adaptation and mitigation in Tanzania (CCIAM) - Cooperation between the government of the United Republic of Tanzania (URT) and the government of the Kingdom of Norway 2009 -2014. | 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 emphasis on the REDD initiatives, this project focused more on mitigation measures | No duplication. The project is focused on adaptation and enhancing resilience to climate change 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 | 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: SWAHAT 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 | 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 SWAHAT project provides knowledge and skills on water harvesting technologies for forest restoration, agriculture and ecosystem services. |

F. If applicable, describe the learning and knowledge management component to capture and disseminate 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 through various approaches: 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 news channels 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,. Web-based dissemination through websites, blogs, and other social media 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.

G. Describe the consultative process, including the list of stakeholders consulted, undertaken during project preparation, with particular reference to vulnerable groups, including gender considerations, in compliance with the Environmental and Social Policy and Gender Policy of the Adaptation Fund.

Through preliminary surveys and consultative meetings in semi-arid regions of Bahi, Kondoa 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 new crop pests. 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 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 governments in 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 consulted for better installation and reconnaissance of the catchment points. Sokoine University of Agriculture will provide technical backstopping of the project execution to a designated NGO – TRACE (Technologies and Resilience for Agroecology, Climate Change & Environment) to share information during execution of the project in the actual sites of implementation

H. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

A. Provide 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, 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 life. 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 benefit from AF funding of Tanzania particularly new village communities in Kondo, 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 Kondo, Bahi and Nzega District. Financial resources for the AF will facilitate building rural climate resilient-water supply and adaptive to the current and future climate shocks.

the fund will facilitate the establishment of the following indicative activities:

- 1.1.1. Extensively survey and drill boreholes in drought prone and water scarce villages and install solar power-driven water pumps in selected eight villages of Kondo, Bahi and Nzega districts
- 1.1.2. Establish at least 20 water storage tanks and 20 distribution network systems at Kondo (Hondomahilwa, Changaa and Kikilo) Bahi (Mtita, Nholi) and Nzega (Tongi) district
- 1.1.3. Construct 40 community water distribution points for water network systems in the selected villages
- 1.1.4. Construct at least 80 cattle drinking troughs for livestock water system in in agro-pastoral

communities in selected villages of at, Kondoa (Hondomahilwa, Changaa and Kikilo) Bahi (Mtitaa, Nholi) and Nzega (Tongi) district

1.1.5 . Four properly reinforce protected water-harvesting dams for increased security and sustainable water availability for community utilization

1.2.1 Formulate water governance structures (CBWSOs) and promote equitable water allocation for all uses and revenue collection.

1.2.2 Promote formulation of water governance/by laws 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, efficient utilization of natural ecosystem resource and efficient crop and livestock productivity (baseline without funding):

Because the agricultural system is largely-rain fed which is increasingly becoming unpredictable and unreliable with the continuing effects of climate change, since 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 crops production systems 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.

Component 2 (With Funding): Develop integrated climate resilient livelihoods diversification is required

Some of proposed interventions that promote livelihood diversifications may include the following funded activities:

2.1.1 To establish at least 20 drip irrigation schemes in selected villages of, Kondoa (Hondomahilwa, Changaa and Kikilo) Bahi (Mtitaa, Nholi) and Nzega (Tongi) district

2.1.2 To incorporate management options of emerging pests and that affect fruit trees, and other crops

2.1.3 To introduce innovative practices for improved livestock health including cattle deep tanks

2.2.1 Establishing vegetable gardening and value chains as options of income generation in favor of

gender for women and youths

2.2.2 Establish model beef cow fattening farms per village for enhanced value chain of livestock income source

2.2.3 Establish in each village model poultry production units for local chicken in favor of gender for women and youths

2.2.4. Promoted at least 2 modern beekeeping site schemes with 300 bee hives per village for alternative income generation

2.2.5 Establish within a block farm adapted types and species of fruit trees orchards as income diversification units and nutritional security

2.3.1: Establishing at least 2ha of drought-resistant pasture plots per village for animal feed supply during dry period

2.3.2: Establishing appropriate livestock pasture and forage conservation practices for dry season feeding

2.3.3: Establish at least 6 cattle and goat drinking troughs per village site for increased access to livestock drinking points

2.3.4: Renovated at least one cattle dip tank for improved livestock management to control pests

2.3.5: Establish at least 1 model chicken poultry infrastructure for improved learning in poultry keeping among community members per village

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 farming methods, 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 Kondo, 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 Kondo, bahi and Nzega districts. The following indicative activities will be funded:

3.1.1: At least 5 nurseries with multi purpose fruits and forest trees per village established using adapted climate resilient tree species.

3.2.1: Establish at least 200,000 locally adapted fruits and forest trees per village in local communities: Seedlings obtained from output 3.1 will be used for restorations of degraded landscapes.

- 3.2.2: Raise awareness of least 800 people on knowledge of establishment, propagation and management of fruits and forest tree species (at least 50 youths per village will be targeted)
- 3.2.3: Promote high level adoption of use of clean energy efficient cooking stoves for fuel wood plots conservation
- 3.2.4: Establish 6 orchards with various adapted species of fruit trees use of fruits and forest tree products developed in individual plots

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 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 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. The upscaling of activities in this component will be as follows:

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 and
- 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

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.

I. Describe how the sustainability of the project/programme outcomes has been taken into account when designing the project/programme.

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 Kondo, Bahi, 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 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 project ensures that local stakeholders have the knowledge, resources, and motivation to sustain and expand the impacts of the interventions. The proposed design thus guarantees that the benefits of the project will be long-term, scalable, and integrated into the socio-economic development agenda of the target districts.

J. Provide an overview of the 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 |
|---|--|--|
| <i>Compliance with the Law</i> | No further assessment is required. | Upscaling of the project complies with Tanzania constitution, enforced legislations, standards, and regulations. Such interventions are justifiable by community demand No risk is anticipated here. |
| <i>Access and Equity</i> | No further assessment is required here. | 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. |
| <i>Marginalized and Vulnerable Groups</i> | No further assessment is required | Moderate risk Marginalized and poor vulnerable village groups especially women will be widely consulted and involved in the design and implementations all on-the-ground |

| | | |
|--|-----------------------------------|--|
| | | activities. In addition, 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. The design of this project ensures that all components enhance the adaptive capacity of marginalized and vulnerable groups including transforming their social life to better levels |
| <i>Human Rights</i> | No further assessment is required | The proposed project respect and adhere to all relevant conventions on human rights, national and local laws in relation to human rights. |
| <i>Gender Equality and Women's Empowerment</i> | No further assessment is required | Moderate risk From the beginning the project will ensure inclusion of gender and women empowerment issues with activities sensitive to gender and women empowerment. All consultative and participatory processes will strive to include representation of women groups of the community and analyze gender-disaggregated data where relevant. |
| <i>Core Labour Rights</i> | No further assessment is required | 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. |
| <i>Indigenous Peoples</i> | No further assessment is required | 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. |
| <i>Involuntary Resettlement</i> | No further assessment is required | The project design does not include involuntary resettlement. |
| <i>Protection of Natural Habitats</i> | No further assessment is required | By implementing conservation measures linked to economic benefits to the people to tackle climate change in the district, the project will promote improved management of natural ecosystems, particularly in the context of future climate change. |
| <i>Conservation of Biological Diversity</i> | No further assessment is required | 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 into significant loss of biological diversity or introduction of known invasive species. |
| <i>Climate Change</i> | No further assessment is required | 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. |
| <i>Pollution Prevention and Resource Efficiency</i> | No further assessment is required | The proposed project is visualized to cause no any harm or pollution. |
| <i>Public Health</i> | No further assessment is required | The proposed project enhances the quality of public health. Indeed, through components contribution of this project to the general public health is clear. |
| <i>Physical and Cultural Heritage</i> | No further assessment is required | 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. |
| <i>Lands and Soil Conservation</i> | No further assessment is required | 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. Demonstrate how the project/programme aligns 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 | | | | |
| 1.Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities | Increased coverage of and distribution of climate resilient rural water supply system in selected target village communities | Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets | 4.1. Responsiveness of development sector services to evolving needs from changing and variable climate | 917,250 |
| | Established 20 water storage tanks and 20 distribution network systems | 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 | 643,800 |
| | Constructed 40 community water distribution points for water network systems | 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 | 450,350 |
| | Constructed 80 cattle drinking troughs for livestock water system in in agro-pastoral communities in selected villages | 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 | 35,035 |

| | | | | |
|---|--|--|---|---------|
| | Four properly reinforced and protected water-harvesting dams for increased security and sustainable water availability for community utilization | 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 | 120,760 |
| | Eight Community Based Water Supply Organizations (CBWSOs) established and facilitated and committee members trained on operational and maintenance | Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level | 3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 3.2. Percentage of targeted population applying appropriate adaptation responses | 31,199 |
| | Promoted formulation of water governance/bylaws to regulate effective use of water and protection of water sources with emphasis on inclusion of at least 60% women involvement and engagement | Outcome 7: Improved policies and regulations that promote and enforce resilience measures | 7. Climate change priorities are integrated into national development strategy | 31,199 |
| 2. Develop integrated climate resilient livelihoods diversification through improved climate smart | At least 20 drip irrigation schemes established in selected villages | 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 | 126,759 |

| | | | | |
|---|--|---|---|---------|
| technologies in agriculture, efficient utilization of natural ecosystem resource and efficient crop and livestock productivity | | | | |
| | Number of established pest management clinic for enhancing management options on emerging pests and that affect fruit trees, and livestock | Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas | 6.1 Percentage of households and communities having more secure (increased) access to livelihood assets | 146,759 |
| | Number of introduced innovative practices for improved livestock health, | Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets | 4.1. Responsiveness of development sector services to evolving needs from changing and variable climate | 91,724 |
| | Number of Established vegetable gardening and value chains as options of income generation in favour of gender for women and youths | Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas | 6.1 Percentage of households and communities having more secure (increased) access to livelihood assets | 104,996 |
| | Number of Established model beef cow fattening farms per village for enhanced value chain of livestock income source | Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas | 6.1 Percentage of households and communities having more secure (increased) access to livelihood assets | 91,724 |

Annex 5 to OPG Amended in October 2017

| | | | | |
|--|---|---|---|---------|
| | Number of Established in each village model poultry production units for local chicken in favour of gender for women and youths | Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas | 6.1 Percentage of households and communities having more secure (increased) access to livelihood assets | 101,849 |
| | Number of Promoted at least 2 modern beekeeping sites schemes with 300 bee hives per village for alternative income generation | Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas | 6.1 Percentage of households and communities having more secure (increased) access to livelihood assets | 91,724 |
| | Establishing at least 2ha of drought-resistant pasture plots per village for animal feed supply | Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress | 5. Ecosystem services and natural assets maintained or improved under climate change and variability-induced stress | 26,689 |
| | Established appropriate livestock pasture and forage conservation practices for dry season feeding | Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress | 5. Ecosystem services and natural assets maintained or improved under climate change and variability-induced stress | 27,517 |
| | Establish at least 6 cattle and goat drinking troughs per village site for increased access to livestock drinking points | Outcome 4: Increased adaptive capacity within relevant development sector services and infrastructure assets | 4.1. Responsiveness of development sector services to evolving needs from changing and variable climate | 46,035 |
| | Renovated at least one cattle dip tank per village for improved livestock management to | Outcome 4: Increased adaptive capacity within relevant development sector services and | 4.1. Responsiveness of development sector services to evolving needs from | 64,380 |

Annex 5 to OPG Amended in October 2017

| | | | | |
|---|--|--|---|---------|
| | control pests | infrastructure assets | changing and variable climate | |
| | Established at least 1 model chicken poultry infrastructure for improved learning in poultry keeping among community members per village | Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas | 6.1 Percentage of households and communities having more secure (increased) access to livelihood assets | 66,760 |
| 3.Engagement of local community in a participatory afforestation program for locally adapted fruit and forest trees | At least 6 nurseries with multipurpose fruits and forest trees per village established using adapted climate resilient tree species | 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 | 84,170 |
| | Establish at least 200,000 locally adapted fruits and forest trees per village in local communities. | Outcome 5: Increased ecosystem resilience in response to climate change and variability-induced stress | 5.1. No. of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type and scale) | 130,170 |
| | Raised awareness of least 800 people on knowledge of establishment, propagation and management of fruits and forest tree species (at least 50 youths per village will be targeted) | Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level activities | 3.2. Percentage of targeted population applying appropriate adaptation responses | 83,450 |
| | Promoted high level adoption of use of clean energy efficient | Outcome 3: Strengthened awareness and ownership of | 3.2. Percentage of targeted population applying | 26,689 |

Annex 5 to OPG Amended in October 2017

| | | | | |
|---|---|---|--|--------|
| | cooking stoves for fuel wood plots conservation | adaptation and climate risk reduction processes at local level activities | appropriate adaptation responses | |
| | Established 6 orchards with various adapted species of fruit trees use of fruits and forest tree products developed in individual plots | 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 | 27,517 |
| 4. Learning and Knowledge Management to Strengthen local community capacity for effective adaptation strategies and reduce risks associated with climate change | Trained technical staff and farmer communities on managing climate risks and project measures for sustained livelihood | Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level | 3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses | 20,942 |
| | Reviewed and mainstreamed climate change adaptation measures into sustainable development plans at district to village levels | Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level | 3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses | 24,260 |
| | Number and types of Communicated project results and share lessons learnt | Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level | 3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate response | 24,942 |
| | Number and types of Facilitated | Outcome 3: Strengthened | 3.1. Percentage of targeted | 24,000 |

Annex 5 to OPG Amended in October 2017

| | | | | |
|--|---|---|--|---------------------------|
| | provisional of project monitoring and evaluation facilities, tools and equipment | awareness and ownership of adaptation and climate risk reduction processes at local level | population aware of predicted adverse impacts of climate change, and of appropriate response | |
| | Number of scientific journals, manuals guidelines, policy briefs generated for adaptation to climate change in semiarid areas of Tanzania | Outcome 3: Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level | 3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate response | 20,942 |
| Project Outcome(s) | Project Outcome Indicator(s) | Fund Output | Fund Output Indicator | Grant Amount (USD) |
| 1: Established resilient rural water supply system in vulnerable agro-pastoral communities | Extensively surveyed and Drilled boreholes established and installed with solar power-driven water pumps | Output 4: Vulnerable physical, natural, and social 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 asset types) | 917,250 |
| | Established 20 water storage tanks and 20 distribution network systems | Output 4: Vulnerable physical, natural, and social 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 asset types) | 643,800 |
| | Constructed 40 community water distribution points | Output 4: Vulnerable physical, natural, and social assets | 4.1.2. No. of physical assets strengthened or | 450,350 |

Annex 5 to OPG Amended in October 2017

| | | | | |
|--|--|---|--|---------|
| | for water network systems | strengthened in response to climate change impacts, including variability | constructed to withstand conditions resulting from climate variability and change (by asset types) | |
| | Constructed 80 cattle drinking troughs for livestock water system in in agro-pastoral communities in selected villages | Output 4: Vulnerable physical, natural, and social 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 asset types) | 35,035 |
| | Four properly reinforced and protected water-harvesting dams for increased security and sustainable water availability for community utilization | Output 4: Vulnerable physical, natural, and social 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 asset types) | 120,760 |
| | Eight Community Based Water Supply Organizations (CBWSOs) established and facilitated and committee members trained on operational and maintenance | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 31,199 |
| | Promoted formulation of water governance/bylaws to regulate effective use of water and protection of | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 31,199 |

| | | | | |
|--|--|---|--|---------|
| | water sources with emphasis on inclusion of at least 60% women involvement and engagement | | | |
| Outcome 2 climate change resilient community with enhanced livelihood diversification capacity | At least 20 drip irrigation schemes established in selected villages | Output 4: Vulnerable physical, natural, and social 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 asset types) | 126,759 |
| | Number of established pest management clinic for enhancing management options on emerging pests and that affect fruit trees, and livestock | Output 4: Vulnerable physical, natural, and social 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 asset types) | 146,759 |
| | Number of introduced innovative practices for improved livestock health, | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 91,724 |
| | Number of Established vegetable gardening and value chains as options of income generation in favor of gender for women and youths | Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability | 6.1.2. Type of income sources for households generated under climate change scenario | 104,996 |
| | Number of Established model | Output 6: Targeted individual and | 6.1.2. Type of income sources | 91,724 |

Annex 5 to OPG Amended in October 2017

| | | | | |
|--|--|---|--|---------|
| | beef cow fattening farms per village for enhanced value chain of livestock income source | community livelihood strategies strengthened in relation to climate change impacts, including variability | for households generated under climate change scenario | |
| | Number of Established in each village model poultry production units for local chicken in favor of gender for women and youths | Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability | 6.1.2. Type of income sources for households generated under climate change scenario | 101,849 |
| | Number of Promoted at least 2 modern beekeeping sites schemes with 300 bee hives per village for alternative income generation | Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability | 6.1.2. Type of income sources for households generated under climate change scenario | 91,724 |
| | Establishing at least 2ha of drought-resistant pasture plots per village for animal feed supply | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 26,689 |
| | Established appropriate livestock pasture and forage conservation practices for dry season feeding | Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability | 6.1.2. Type of income sources for households generated under climate change scenario | 27,517 |
| | Establish at least 6 cattle and goat drinking troughs per village site for increased access to livestock | Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate | 6.1.2. Type of income sources for households generated under climate change scenario | 46,035 |

Annex 5 to OPG Amended in October 2017

| | | | | |
|--|--|---|--|---------|
| | drinking points | change impacts, including variability | | |
| | Renovated at least one cattle dip tank per village for improved livestock management to control pests | Output 4: Vulnerable physical, natural, and social 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 asset types) | 64,380 |
| | Established at least 1 model chicken poultry infrastructure for improved learning in poultry keeping among community members per village | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 66,760 |
| Outcome 3: Improved ecosystem health and delivery of ecosystem goods and services in the community | At least 6 nurseries with multipurpose fruits and forest trees per village established using adapted climate resilient tree species | Output 4: Vulnerable physical, natural, and social 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 asset types) | 84,170 |
| | Establish at least 200,000 locally adapted fruits and forest trees per village in local communities. | Output 4: Vulnerable physical, natural, and social 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 asset types) | 130,170 |
| | Raised awareness of least 800 | Output 3: Targeted population groups | 3.1.1 No. and type of risk | 84,170 |

Annex 5 to OPG Amended in October 2017

| | | | | |
|---|--|---|--|---------|
| | people on knowledge of establishment, propagation and management of fruits and forest tree species (at least 50 youths per village will be targeted) | participating in adaptation and risk reduction awareness activities | reduction actions or strategies introduced at local level | |
| | Promoted high level adoption of use of clean energy efficient cooking stoves for fuel wood plots conservation | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 130,170 |
| | Established 6 orchards with various adapted species of fruit trees use of fruits and forest tree products developed in individual plots | Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability | 6.1.2. Type of income sources for households generated under climate change scenario | 83,450 |
| OUTCOME 4. Strengthened institutional and technical capacity to reduce risks associated with climate- induced livelihood failures | Trained technical staff and farmer communities on managing climate risks and project measures for sustained livelihood | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 20,942 |
| | Reviewed and mainstreamed climate change adaptation measures into sustainable development plans at district to village levels | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 24,260 |
| | Number and types of Communicated | Output 3: Targeted population groups | 3.1.1 No. and type of risk | 24,942 |

Annex 5 to OPG Amended in October 2017

| | | | | |
|--|---|--|--|--------|
| | project results and share lessons learnt | participating in adaptation and risk reduction awareness activities | reduction actions or strategies introduced at local level | |
| | Number and types of Facilitated provisional of project monitoring and evaluation facilities, tools and equipment | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 24,000 |
| | Number of scientific journals, manuals guidelines, policy briefs generated for adaptation to climate change in semiarid areas of Tanzania | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 20,942 |
| | Number of Published reports on community preparedness, cultural change adoptions and challenges and lesson learned | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 24,365 |
| | Number of hand books as reference materials produced on different innovation packages for adaptation to Climate Change | Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities | 3.1.1 No. and type of risk reduction actions or strategies introduced at local level | 34,256 |

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

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

A. Record of endorsement on behalf of the government² *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:*

| | |
|---|--------------------------------|
| <i>Prof. Peter Lawrance Makenga Msoffe, Deputy Permanent Secretary, Vice President's Office</i> | <i>Date: August, 8th, 2025</i> |
|---|--------------------------------|

B. Implementing Entity certification*Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

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.

| | |
|--|--|
| <i>Fredrick F. Mulinda</i> | |
|  | |
| Implementing Entity Coordinator | |
| Date: <i>August, 1st, 2025</i> | 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 | |

Annex 1: Government Endorsement Letter

THE UNITED REPUBLIC OF TANZANIA
VICE PRESIDENT'S OFFICE

Telegrams: "MAKAMU"
Telephone: +255 026 2329006
Fax: +255 026 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) in collaboration with Sokoine University of Agriculture.
4. Thank you for your continued support.


Prof. Peter L.M. Msoffe

NATIONAL DESIGNATED AUTHORITY- DEPUTY PERMANENT SECRETARY



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) in collaboration with Sokoine University of Agriculture (SUA)

A. Project Preparation Timeframe

| | |
|--------------------------------|------------------|
| Start date of PFG: | December 1, 2025 |
| Completion date of PFG: | June 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 | 40,000 | Engineering, technical expertise, and prototype development |
| Drafting full project proposal | Comprehensive proposal for country cap modality | 30,000 | Staff time, technical expertise, and stakeholder coordination for proposal development |
| 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 (\$40,000):** 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 (\$30,000):** Preparing a comprehensive proposal that incorporates lessons learned, stakeholder inputs, and technical designs, meeting country cap modality requirements through iterative revisions.

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 |