

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category: **Regular Project**

Country/ies: **United Republic of Tanzania**

Title of Project/Programme: **Enhancing Climate Change Adaptation for Agro-Pastoral Communities in Kongwa District**

Type of IE (NIE/MIE): **National Implementing Entity (NIE)**

Implementing Entity: **National Environment Management Council (NEMC)**

Executing Entity/ies: **The Foundation for Energy, Climate and Environment / Kongwa District Council**

Amount of Financing Requested: **1,200,000 (In U.S Dollars Equivalent)**

1.0 Project Background

1.1 Description of the problem which the project aims to solve

With the emerging challenge of climate change and climate variability, many socio-economic sectors in Tanzania are vulnerable to climate related risks. These include water, where there is a general drying trend of natural water sources and rivers, energy where the hydropower supply is frequently interrupted by drought events, agriculture where crops and livestock suffer the impacts of drought and flooding and increasing occurrences of epidemics from pests and diseases in the health sector¹. More than 70% of natural disasters in Tanzania are climate related. They are linked to droughts and floods and these have become more frequent as a result of climate change and climate variability. Several studies conducted in various regions and districts in the United Republic of Tanzania, indicate that rural areas especially agro-pastoral communities have been experiencing the effect of climate change through crop failures, decreased crop yields, increased water scarcity and sometimes shrinkage and drying of grazing lands/pastures due to increased and intensified drought periods². The predominance of more bad years as commonly referred by communities in rural areas of Tanzania have negatively impacted farmers' livelihoods, their economies and social life³. In Kongwa district for example, worryingly, farmers are reporting that both the timing of rainy seasons and the pattern of rains within seasons are changing. These observations of change in climate are striking in that they are widespread throughout the district and are pronounced in remarkably consistent terms in almost all villages of the district.

Over the past decades, the seasons appear to have shrunk in number and variety, such that what was termed as good seasons are truncated or have disappeared. Nowadays, people's experience in most villages of Kongwa district 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 wet⁴. Rains are more erratic, coming at unexpected times in and out of seasons. In particular, there is less predictability as to the start 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

¹ TMA, (2014). Climate change projection for Tanzania: A report Submitted to the Government of Tanzania. Dar es Salaam 33p.

² 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.

³ Bwire, M.K. (2016). Impact of climate change and variability on coastal Penaeid shrimp abundance in Rufiji delta, Tanzania. PhD thesis, submitted to the University of Dar es Salaam 295 pp

⁴ URT 2014. Agriculture Climate Resilience Plan 2014-2019

by longer dry spells within the rainy seasons. These kinds of rains, they may also come at unusual times⁵. The impacts of such shift in seasonality and climate trends, have already severely disrupted food production, led to the displacement of communities, loss of life and assets, and caused an overall reduction of community resilience. This is because, the timing of rain, and intra-seasonal rainfall patterns are critical to smallholder farmers/agro-pastoral communities. 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 Ugogoni and Mtanana Wards of Kongwa district for example, villagers witness that formerly the growing season had about five months commencing from December to April, but in recent times, this duration had decreased to less than three or two months⁶. This shrinkage of the seasons has confirmed the disappearance of short rains which previously used to appear around October to December. Rowhani et al⁷ for instance specified that a 20% increase in intra-seasonal precipitation variability reduces agricultural yields by 4.2%, 7.2%, and 7.6% for maize, sorghum, and rice respectively. Due to this, food insecurity remains significant in most places in the country. For example, in the year 2015, the country registered 28.5 on the Global Hunger Index, with 32% of the population under-nourished. As a result, food insecurity is responsible for more than 130 child deaths every day, making it the greatest contributor to under-five deaths in the country. About 42% of children under five years of in Tanzania are stunted, and this number has only decreased by 2% between 2005 and 2010. This chronic under-nutrition affects more rural children (45%) than urban children (32%) and is more common in less educated and poorer families in rural areas for districts like Kongwa in Dodoma region with the highest prevalence (50% or higher) of stunting children.

Consequently, the negative effects of climate change to the pastoral and agro-pastoral communities' livelihoods are intolerable in Kongwa. High level of livestock mortality associated with climate failures and bad seasons is continuously being recorded. Data indicates that in Ugogoni Ward for example, there has been progressive mortality record of livestock deaths due to dried pastures. In 2013, there were about 332 livestock deaths, 525 livestock deaths in 2014, 414 livestock deaths in 2015 and 595 livestock deaths in the year 2016⁸. Likewise, the same Ward received reasonable food quantities in thousands tons of maize as aid support given to households with critical food shortage from the Government and other donor agencies. Therefore, both the government in the District and the Central government recognizes that no meaningful reduction in poverty can be achieved without addressing the deleterious impacts climate change. Thus, it is indicated in the strategic policy documents such as the National Strategy for Growth and Reduction of Poverty 2010-2015; National Climate Change Strategy 2012, Tanzania Vision 2025 and in the National Adaptation Programme of Action (NAPA) 2007, that in responding to climate change and poverty challenges, there is a need to implement a number of concrete adaptation actions at grass root levels, including focusing on activities which ensure effective provision of quality livelihood and socio-economic systems. In this case, multi-disciplinary and integrated measures need to be implemented in Kongwa district to build and enhance adaptive capacity of poor agro-pastoral communities in selected villages. Hence the principle objective of this project is to reduce the impacts of climate change in agro-pastoral communities of Kongwa District. This will be achieved through implementation of integrated concrete adaptation measures covering the following sectors: water, agriculture and livestock. In this way the project will adopt a comprehensive integrated approach in order to tackle the multiple effects of climate change as well as to enhance the population's adaptive capacity through the following four components:

- i) *Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities at Mtanana and Ugogoni Wards;*

⁵ TMA 2014. Climate change projection for Tanzania: A report Submitted to the Government of Tanzania. Dar es Salaam 33p

⁶ Mkonda M.Y 2017. Are Rainfall and Temperature Really Changing? Farmer's Perceptions, Meteorological Data, and Policy Implications in the Tanzanian Semi-Arid Zone. Sustainability: 9- 1412

⁷ Rowhani, P.; Lobell, D.B.; Linderman, M.; Ramankutty, N 2011. Climate variability and crop production in Tanzania. Agric. For. Meteorol. 15, 449–460.

⁸ Kongwa district report, 2017

- ii) *Support transformation of exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods; and*
- iii) *Improved ecological functions to sustain climate sensitive livelihoods in Kongwa District.*
- iv) *Strengthen local institutions capacity for effective adaptation strategies and reduce risks associated with climate-induced socio-economic failures in Kongwa district.*

1.2. Brief information on socio-economic, Development and environmental context in which the project would operate

1.2.1 Location, Landforms and topography

Kongwa district is located in the drought prone semi-arid area of Dodoma region, which is considered to be the heart of Tanzania. Kongwa district lies between latitude 5°30' to 6°0'S and longitude 36°15' to 36°E with an area of about 4041km². The administrative area of the district comprises a total of 22 wards, 87 villages, 383 suburbs and 2 township authorities. The distribution of wards include Sejeli, Kongwa, Sagara, Chamkoroma, Pandambili, Lenjulu, Chiwe, Kibaigwa, Mtanana, Njoge, Ngomai, Mkoka, Matongoro, Makawa, Chitego, Hogoro, Songambebe, Zoissa, Iduo, Mlali, Nghumbi and Ugogoni.

The district is characterized by both high plateau and hills with steep slopes and an escarpment to the east-west. To the south, the escarpment is very steep and is therefore situated in what is sometimes considered as the southernmost fringe of the Maasai steppe. Similar topography stretches for countless miles up to the Kilimanjaro region. For example in Mtanana Ward and Ugogoni Wards, the area is characterized by gentle slopes, rarely exceeding 5%, but still stand out from the surrounding areas that are rather flat. The contrast is rendered more evident by the juxtaposition with the Lubiri Mbuga to the east. The Mbuga is an ancient valley that once contained a lake. Through sediment deposition the lake slowly was filled with silts to reach the present morphology. Seasonally, the Mbuga is flushed with water and the lower part of it can be under water for several months. Not only the Mbuga does not have a natural drainage at its southern tip, but is also dammed by the Dodoma/Dar es Salam highway that further impedes water drainage (Figure 2). The underlying rocks of Kongwa district generally belong to the lower basement complex. The original rocks were predominantly sandstones traversed by dolerite sills. While buried deeply these rocks were subjected to thermal metamorphism and to injection by feldspar forming fluids. The resultant rocks are predominately granitic gneiss but are traversed by strata of metadolerite and quartz-granulite which escaped the injection and only suffered the thermal metamorphism. Much of the metadolerite consists of coarsely crystalline plagioclase-amphibolite (plagioclase and hornblende). Local vein-like segregations of feldspar and of quartz and feldspar together are also found⁹. It is from these rocks where the district is drilling boreholes. From the data recorded from 1948 – 1960 the bore holes were drilled to depth ranging from 52.6 metres to 175.4 metres and horizons of striking water ranged from 29.8 to 82.2 metres. The water bearing horizons are fractured Granites. Weathered and fractured bed rock of granites and metamorphic rocks such as granites and schist's are at great depths and are the water bearing rocks.

⁹ Temperley, B.N., 1938, The Geology of the County Around Mpwapwa, Department of Land and Mines – Geological Division, Tanganyika territory.

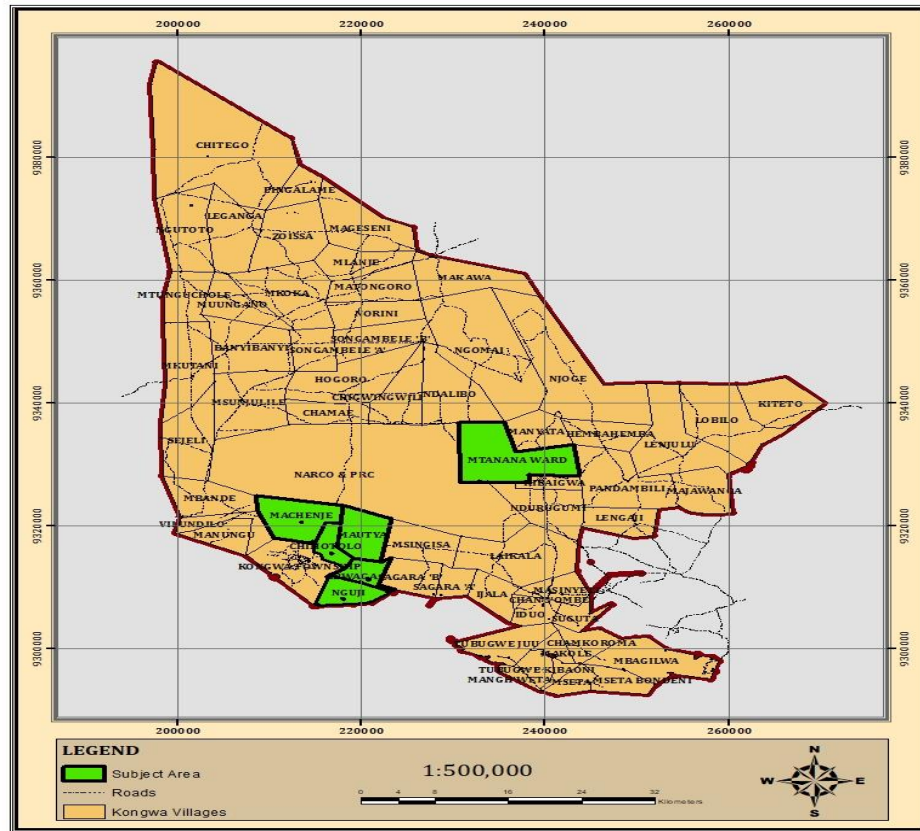


Figure1: Map of Kongwa District showing the project areas



Figure 2: The Mbuga is seasonally flooded. The Dodoma –Dar es Salam road acts as a barrier to drainage.



Figure 3: Flooded pump house in the Mbuga area at Mtanana village

1.2.1.1 Historical overview of the proposed project sites

Mtanana and Ugogoni Wards and Kongwa area at large have a long and relatively well documented history. Kongwa areas were originally a single entity, which was established under colonial rule as a central point of the by the then known “groundnut scheme”. The groundnut scheme was established by the British colonial administration as an effort to curb edible fat scarcity in the Second World War aftermath. At the time, in 1948, the area was predominantly covered with thick savannah thicket characterized by acacia trees and baobab. The area was cleared with the use of heavy machinery and the cleared bushes were heaped along contour windrows to protect the land from wind and water erosion. To date, the windrows, or what it remains of them, can be seen in parts of the landscape. The initial plan was to clear and put under cultivation 450.000 acres. Due to technical, logistical and management challenges the plan was scaled down by a factor of 5-6. At the end, only 80.000 acres were cleared and a minimal fraction of it was under groundnut cultivation. By 1960 industrial groundnut production was halted.

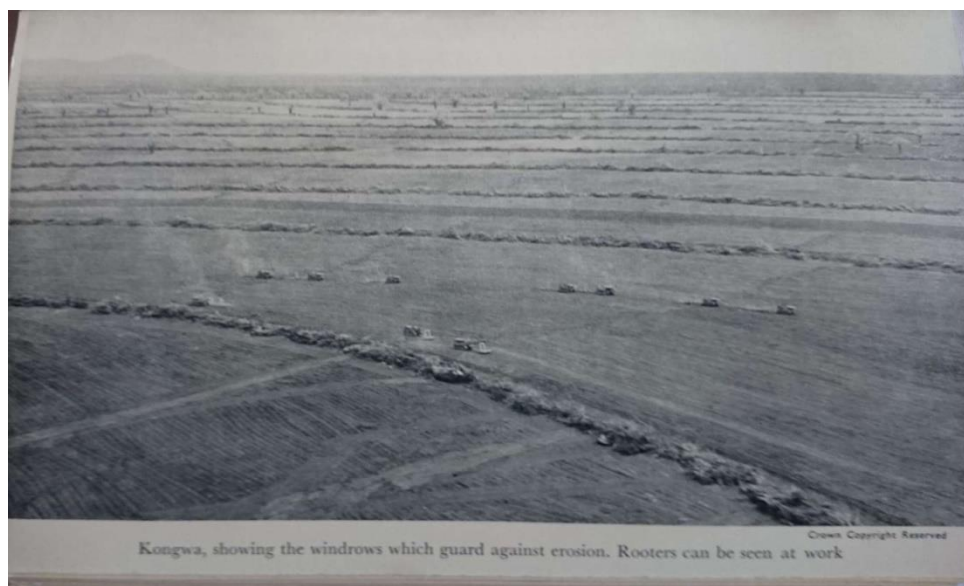


Figure 4: Windrows established during the groundnut scheme under the Oversea Food Corporation (Source: the Groundnut Affair. 1950)

The windrows were established at a vertical distance of 9 feet (2.73 m). The organic material that constituted the windrows decomposed in the years leaving space to gentle, but wide bunds, which in most cases resemble grass strips. Therefore, the bunds that now characterize the gently undulating slopes of the Mtanana and Ugogoni hills are the remain of this massive effort from colonial time. The interviewed community members, are partly aware that the bunds help in checking soil erosion, but even more importantly they see these contour measures as a demarcation between fields. Of these enormous efforts only few areas are still farmed while keeping the contour structures in place. Mtanana hills is one of such rare cases. The contour lines are still clearly visible from satellite imagery and 50 years on are still respected if not actively maintained.



Figure 5: Aerial view of the existing windrows portion at Mtanana village (Source: Field survey during the preliminary project design,2018)



Figure7: A bund being farmed (left side) and Spot failure along a bund Right side) (Source: Field survey during the preliminary project design)

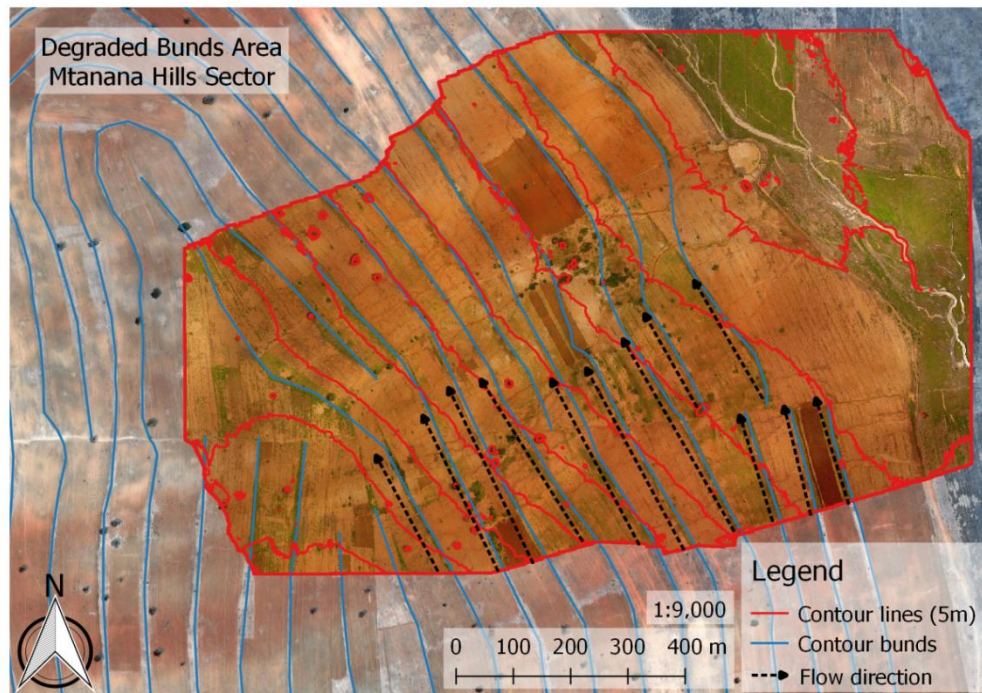


Figure 6: Example of the reflection on degraded bunds area at the project sites
The red lines represent the contour lines with a vertical interval of 5 m. The blue lines are the existing contour bunds (design vertical distance 2.7 m). In the southern section of the image the contour bunds have a side slope that convey runoff (see black dotted lines) towards the midsection of the area where water concentrates and all main gullies and collapsed bunds are found. (Source: Preliminary field survey, 2018)

1.2.1.1 Selection of the proposed project sites

Pre-design of the proposed project started in August 2018 with a first visit to various villages in the district. The project areas were selected and agreed upon with local stakeholders and district experts. In September 2018, a second visit took place, to discuss more in and around the selected villages of Mtanana and Ugogoni Wards to get the full picture of the landscape interactions and needs and challenges of the local communities. The pre-design is based on the inputs gathered from the field visits, interviews, community discussions, key informants, but also by carrying out transect walks in all landscape, observing environmental and ecological systems, vegetation cover, farming practices and livestock keeping systems in the villages.

1.2.2 Socio-economic and environmental profile of Kongwa District

1.2.2 Socio-economic context

The current population of Kongwa District is estimated to be 318,995 with growth rate of 2.4% per annum. The District has 299,100 ha of arable land which is suitable for rainy agriculture and 5,811 hector (1.9% of total arable land) apposite for irrigation. The number of households is 60,301 with approximately 98 percent of its population lives in rural areas with the majority engaged in smallholder - rain-fed agriculture, and who overwhelmingly rely on climate sensitive sectors for their livelihoods, with overuse and environmental harm only perpetuating the cycle of poverty. The district is economically and socially backward with acute poverty and society ridden with outmoded traditions and even superstitions. The status of women is coupled with discrimination against girl child¹⁰. The women suffer from all kinds of social disabilities and at the same time handling each and every responsibility of domestic work as well as collection of fuel wood and water for domestic uses from distant places. Gender inequity is the project site is normally based on community enlightenment which is configured by

¹⁰ Kongwa district socio-economic profile, 2016-2021

education level, cultural bondage, individual characteristics and society dynamics. All these factors adversely affect educational development of girls especially of vulnerable villagers and poorer sectors of the society. Illiteracy; which is high in women, (District literacy rate is 61.7%) and cultural bondage in Kongwa still play a pivot role in gender imbalance particularly in remote/peripheral rural areas. 51.75% of the populations in the proposed project sites are dependants. All the farmers are highly dependent on rains for agricultural activities as there is no any irrigation facility. As a result, average annual income per household in the area is well below the National poverty Line. Annual income per house hold is below USD\$1per day. Agriculture and to certain extent livestock are main income generation activities for nearly 95% of the households. Livestock are indigenous breeds of low productivity and hence undetermined contribution to households' income. Rain fed agriculture being primary occupation of the communities which expose them to greater risk and make them more vulnerable to climate change effects. Thus, Supporting productive high value and market-driven small scale agriculture and livestock sectors is both the national and district priority documents National Development Vision 2015, Five Year National Development Plan 2016/2021, Kobwa District Socio-Economic Profile (2016-2021), while environmental integrity and gender equality are cross-cutting issues. Equally, the District recognizes the threats posed by climate change which is the effect multiplier, is therefore committed to implementing improved climate resilient and adaptation actions. The District is also actively striving to promote gender equality and equity through the proactive plans and strategies that support women participation in all areas of socio-economic development and social wellbeing.

Table 2: Population distribution by age group and sex in 2016 (2012 Projection)

Age Group	Total	Male	Female
All ages	341,206	164,256	176,949
0 – 4	58,054	28,828	29,226
5 – 9	58,781	29,386	29,395
10 – 14	46,506	23,104	23,402
15 – 19	32,782	16,156	16,626
20 – 24	26,854	11,989	14,865
25 – 29	22,907	10,166	12,741
30 – 34	21,250	9,828	11,423
35 – 39	17,171	8,026	9,145
40 – 44	14,068	6,645	7,422
45 – 49	9,825	4,709	5,116
50 – 54	8,839	4,172	4,667
55 – 59	5,458	2,654	2,804
60 – 64	5,487	2,528	2,959
65 – 69	3,533	1,619	1,914
70 – 74	3,734	1,731	2,002
75 – 79	2,004	939	1,066
80+	3,953	1,777	2,176

Source: The United Republic of Tanzania 2012 Population and housing census

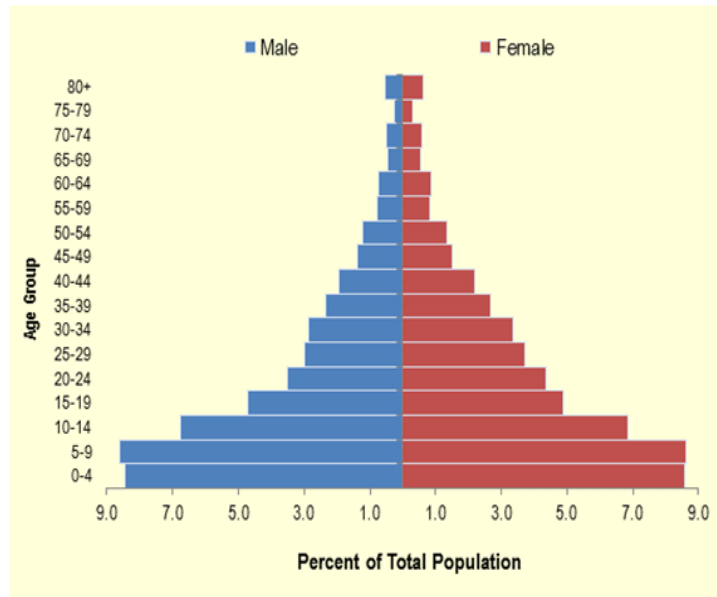


Figure7: Population pyramid of Kongwa district

1.2.3 Environmental context

In the past 70 years, Kongwa district was predominantly covered with thick savannah thicket characterized by acacia and baobab trees. Also tall savannah type of grassland rich in of wildlife was dominating the area. However, such environmental integrity was degraded following the decision by colonial government to establish groundnut plantations in the area, by clearing almost everything, in late 1940s. Since, 1948 onwards, with the advent of the groundnut scheme the natural vegetation was cleared in a continuous crescendo. Whereby the bush was cleared to give away for crop production and grazing land (figure8). Within the groundnut scheme only few areas were left with a good plant cover. Other human induced drivers for environmental degradation like persistent slash and burn farming methods and overgrazing are also common in the area during dry periods. This decision together with the current environmental degradation trend coupled with climate change effects turned the area to be almost bare, with the vegetation cover generally consisting of only shrubs and spots of acacia and baobab trees. Owing to the land being almost bare, flooding and stronger winds are now more frequent.

It can be said clearly here that, the effects of climate change being witnessed today in the area emanate from the induced and inherited environmental problems from British colonial masters to the subsequent generations since pre- independent era. The environmental failure is related to poverty and poor life quality of the population in most villages. Thus, challenges caused by climate change have multiplier effects which worsen the living condition and failures of environmental systems. Nevertheless, still the forests and environment sub-sector plays an important role in maintaining ecological balance, protect soils from erosion and conserve water including socio-economic services and reducing income poverty. For instance wooded grasslands and bush lands are sources of domestic energy (about 99.5% of households in the district use charcoal and firewood for cooking) and also provide a range of goods and services such as pastures for livestock, useful non-wood products mainly honey and traditional medicines.



Figure 8: Representation of vegetation cover in Ugogoni and Mtanana wards to date after the introduction of groundnut scheme in 1948.

1.2.3 Climate change context

1.2.3.1 The climate in Kongwa district

Like any other places in Tanzania, the climate in Kongwa is tropical while its microclimate is largely influenced by topography/altitude. The mean annual temperature is about 28.5°C, 20°C - 33°C. The main rain season is from November - April with an average annual rainfall of 400 - 600mm. The temperatures get slightly lower in the months of May to July. The mean annual rainfall is 700mm. The rain season is normally between December and April. Generally, the climate in Kongwa fluctuates on time scales from inter-annual to decadal and further beyond, and displays a high degree of chronological variability in most villages in the district. The climate is highly characterized by "drought and flooding rains", a variability that is driven by a complex mix of climate systems, mainly by the migration of the Inter-Tropical Convergence Zone (ITCZ) and the Indian Ocean Dipole (IOD) oscillations. Due to the variability of the ITCZ, the area experiences one wet season (unimodal) per year, which starts in October and continues to April or May. Despite these natural variations, the past and recent climate and weather data trends show that, the climate of Kongwa has varied and changed significantly since the 1950s up to now.

1.2.3.2 Trends of increased temperatures and lengthened dry periods in Kongwa

Analyses of the past and recent climate information indicate a significant increasing trend of air temperatures. Since the late 1950s to date all villages in Kongwa district continued to experience rising in temperature (figure 9). Analyses of climate data in the area agree with people's view that Kongwa is getting hot and hotter and warmer every year, and one can now count the number of cold days than before. Severe and intensified lengths of dry periods are

becoming more common and usual phenomena. For example, the district experienced prolonged droughts during La Nina period of 1999-2001, January-March 2006 and 2008-2009 and the drought period of 2016 significantly caused death of livestock, crop failure and reduced yields compromising food security and leading to famine, human migration including displacements. The average number of ‘hot’ days in district has only increased significantly in December- January –February (DJF). Likewise studies indicate the increase of the average number of ‘hot’ nights per year by 50 days. Like in other parts of the United Republic of Tanzania, the rate of increase is seen most strongly in DJF when the average number of hot DJF nights has increased by 19.8% of DJF nights between 1960 and 2003. The frequency of cold days has not changed discernibly, despite the observed increases in mean temperature. The frequency of cold nights has, however, decreased significantly in all seasons. The average number of ‘cold’ nights per year has decreased by 34 (9.3% of days). This rate of decrease is most rapid in DJF when the average number of cold DJF nights has decreased by 3.6 nights per month (11.5% of DJF nights) over this period.

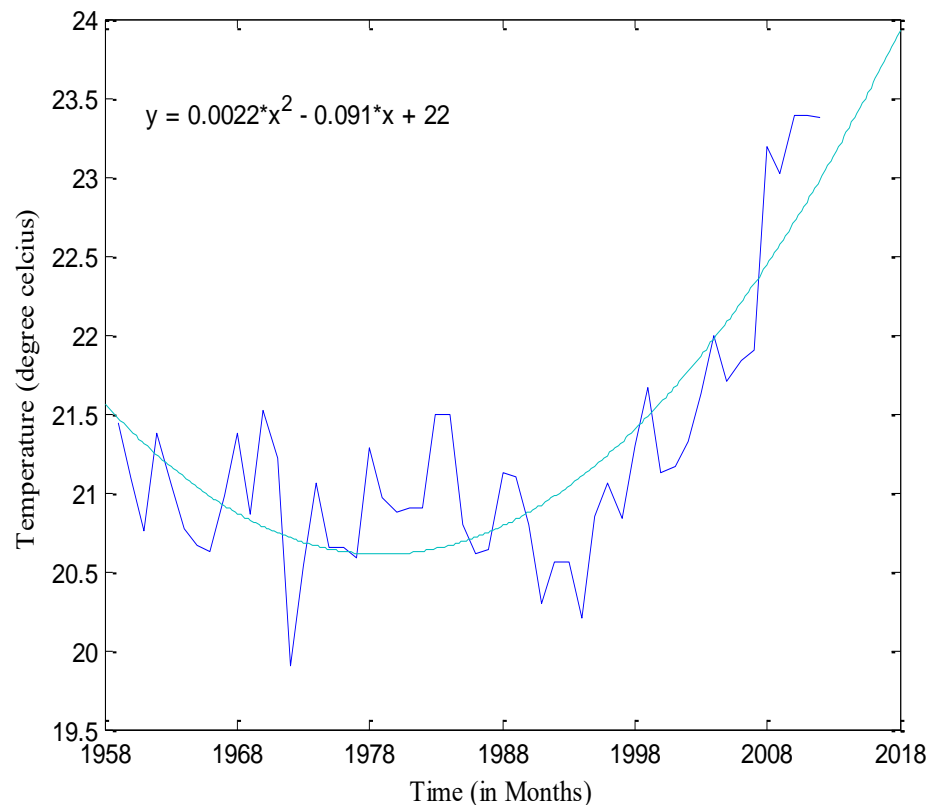


Figure 9: Annual mean temperature trend in the Kongwa over the past 30 years (1958-2011) (source: Msafiri, Y 2017)

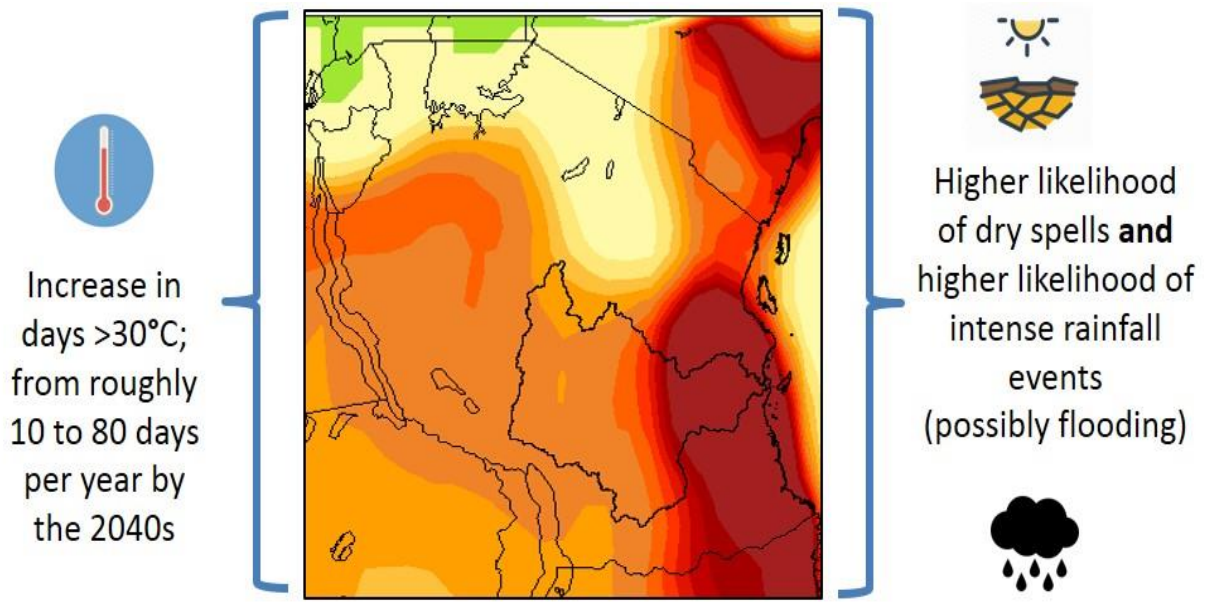


Figure 10: The pattern of increase in number of days above 30°C in Tanzania (Dark shading indicates greater increase. Source: UMFULA project 2017)

1.2.3.2 Trends of unseasonable events and erratic rains in Kongwa District

Rainfall in Kongwa like many other parts of the country has already highly varied in amount and seasonality⁹. For instance, during pre-designing meetings in Mtanana and Ugogoni wards villagers are wondering on what is happening to the rain seasons. They said rains are no longer having a clear pattern and seasons. Sometimes they come early when people have not prepared, sometimes they end too soon and the crops wilts and sometimes they experience very, very heavy rains that last up to two days which washes away everything. The timing of wet seasons and dry seasons has also varied significantly. These views reflect very well the reality of rainfall behaviors in the district as studies confirm that rainfall patterns are increasingly unpredictable and expected to become increasingly variable in most parts of Tanzania including Kongwa. Unpredictable weather has always presented serious problems for smallholder farmers in poor rural communities. The most common reflection is that the changes are “shortening” the growing season. Farming is now becoming even more difficult, pernicious and risky because of the greater unpredictability in seasonal rainfall patterns. Lack of water at crucial times, pests, and diseases are serious problems in Kongwa nowadays that climate change appears to be exacerbating. These all interact with ongoing and inherited environmental and other socio-economic related challenges on land, soils, and water resources that exist regardless of climate change.

Informal discussions with communities around Kongwa showed that fluctuation in rainfall patterns and erratic, unpredictable, unseasonable rains is more and is a serious problem on their wellbeing than simply drought or heavy rain as used to be considered by the Government authorities. In fact, the effect of changed seasonality in most villages around Kongwa is having major effects on agriculture, farming practices and livelihood choices. For example, farmers who previously considered themselves to be strongly connected to seasons and rainfall behaviors are now baffled by the ongoing changes. They are being confused on understanding to what particular date they may need to plant seeds in the ground as everything are keeping on changing each year. Crops are drying, yields are showing declining trends, and livestock systems are also being affected by the changing climate and therefore are not reliable. In villages, people struggle for everything, food is getting more expensive forcing the majority into deeper poverty line than before¹¹.

¹¹ URT, 2014: Agriculture Climate Resilience Plan 2014-2019

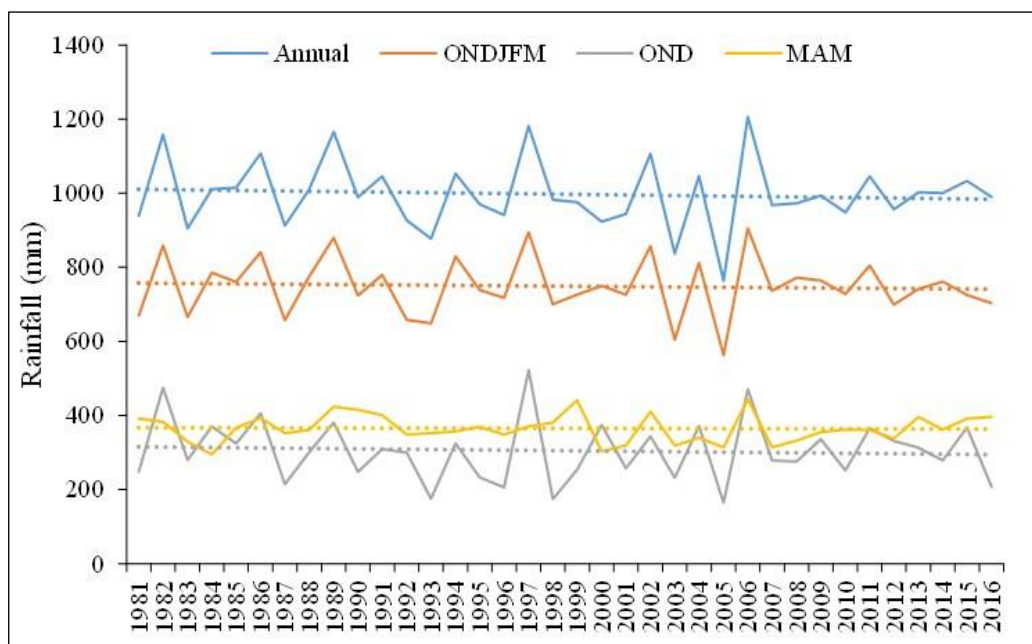


Figure 11: Graphical presentation of the observed mean annual rainfall in Tanzania for the period covering 1981-2010 (Source: UMFULA project 2017)

1.2.3.3 The predicted future climate of Kongwa District

Available climate model predictions of rainfall in Kongwa and other districts in the Dododma show slightly higher future rainfall amount and increased temperatures¹². All projections of future precipitation suggest more variability in rainfall with both likelihood of dry spells and higher likelihood of intense rainfall events, more often associated with flooding. As in many districts in the central zone of the United Republic of Tanzania, mean annual rainfall is projected to increase, but the seasonal patterns of change will be more complex and unpredictable. Timing of rainy seasons will be more uncertain. In future, Kongwa district will be drier and hotter. Dry spell periods will be stronger than wet spells. Like in many regions and places in Tanzania, the temperature will rise by 1.0 to 2.7°C by the 2060s, and 1.5 to 4.5°C by the 2090s. Hot days will be at around 19-40% of days by the 2060s, and 19-65% of days by the 2090. Likewise, nights that were considered 'hot' for the annual climate between of 1970-1999 are projected to increase more quickly than hot days, occurring on 30-68% of nights by the 2060s and 35-91% of nights by the 2090s. Events of cold days and nights are expected to become exceedingly rare, with cold days occurring on 0-4% of days and cold nights occurring on a maximum of 1% of days, and not at all under higher emission scenarios, by the 2090s¹³.

¹² TMA 2014, Climate change projection for Tanzania.

¹³ URT 2012, Climate change strategy

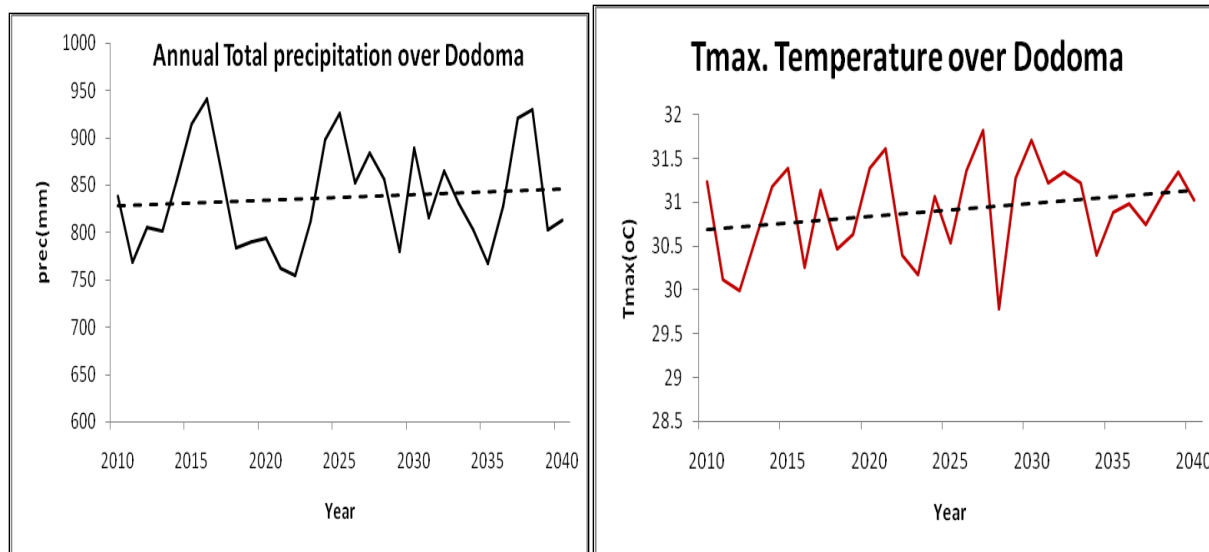


Figure 12 a) Observed and predicted precipitation and b) Observed and predicted maximum air in the temperature Dodoma region (including Kongwa district)

1.2.3.4 The observed and future effects of climate change in Kongwa

Observation of the past and current climate change impacts including records in literature show that, over three decades now, Kongwa district have been suffering from myriad adverse effects of climate change and variability. Recently, Kongwa has been experiencing significant rainfall changes and variations coupled with calamitous drought and prolonged dry spell periods¹⁴. The drought periods for example such as of 2003, 2005, 2006, 2008, 2009, 2010, 2011, 2015 and 2016 seriously affected most of the vulnerable economic sectors in the district such as water, agriculture and livestock with distressing social and economic consequence to rural communities¹⁵. Experienced erratic heavy rains at different times has led to recurrent floods, causing damage and substantial losses both socially and economically and sometimes loss of people's life. For instance, the floods recorded in 2009, 2010, 2011 and 2016 were largely stressful on people's livelihoods, property and infrastructure¹⁶. The District has been witnessing increased conflicts among human communities of different livelihood systems. For example increased droughts and unpredictable rains have triggered the recently experienced conflict on land and water-access and use, by instigating competition between groups of people practicing different economic activities, such as livestock keepers and farmers. This kind of weather related vagaries has sometimes stemmed inter-village/inter-house fighting, especially where members of the involved villages/houses are from different ethnic groups.¹⁷ As a result, the predicted increase in the frequency of intense rainfall events, flooding and increased frequency of droughts and dry spell periods are expected to increase in future. The future decline in rainfall volume per season, coupled with increased variability in rainfall, is expected to cause serious crop failures and reduce the productivity of farming about more than 30% of total food crop production in most villages of the District. Future climate change is most likely to disrupt almost all life forms in the district and will intensify food insecurity and livelihood failures due to the reason that people and their life firms in Kongwa are heavily reliant on the climate sensitive sectors.

1.2.3.5 Observed effects of climate change on gender issues in Kongwa district

Available reports in Kongwa district show that women are more vulnerable to the effects of climate change than men in most villages. Although they constitute the majority of population in villages, they still suffer high level

¹⁴ Drafted NAP stock taking report, 2018

¹⁵ Annual Report for Kongwa District Council, 2018

¹⁶ Drafted NAP stock taking report, 2018

¹⁷ Mkonda Y.M 2017. Are Rainfall and Temperature Really Changing? Farmer's Perceptions, Meteorological Data, and Policy Implications in the Tanzanian Semi-Arid Zone, Journal of sustainability 9: 1412;

of illiteracy. Norms and traditional systems in these communities, expose women to struggle mostly with domestic issues and to keep domestic matters of families going. Also, they are more dependent for their livelihood on sectors sensitive to climate shocks. Above all they face social, economic and political barriers that limit their coping capacity¹⁸. It has been observed that these roles such as to be charged with the responsibility to secure water, food and fuel for cooking and heating make them to suffer the most whenever climate calamities happen. Ideally, available information on gender based conflicts available at the district are linked with climate change issues such as water scarcity and food shortage. Water scarcity and continued food crisis in villages of the targeted project sites have also instigated conflict within households, including incidents of abandonment or separation of couples. The proposed project will integrate gender roles and special needs of marginalized groups in various activities/interventions.

1.3 Project objectives

The proposed project seeks to pilot practical and cost effective and community rooted solution to improve livelihood of poor people, restore and rehabilitate ecological systems, support agriculture and livestock production in Kongwa district. The objective is to enhance climate resilience of more than 320,000 people living in the area and improve livelihood actions towards climate adaptation and transformed environmental actions. Specifically, the proposed project will be addressing the following objectives;

- i) *To enhance climate resilient rural water supply system in vulnerable agro-pastoral communities at Mtanana and Ugogoni wards;*
- ii) *To support transformation of exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods;*
- iii) *To improve ecological functions to sustain climate sensitive livelihoods in Kongwa District.*
- iv) *To strengthen local institutional capacity for effective adaptation strategies and reduce risks associated with climate-induced socio-economic failures in Kongwa district.*

1.4. Project Components and Financing

Project Components	Expected Concrete Outputs	Indicative activities	Expected Outcomes	Amount (US\$)
<i>1.Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities at Mtanana and Ugogoni wards</i>	<i>1.1: Climate resilient rural water supply system established in agro-pastoral communities at Matanana and Ugogoni Wards in Kongwa district</i>	1.1.1 Drill boreholes in drought prone and water scarce villages and Install solar driven water pumps at Mtanana and Ugogoni wards	Enhanced climate resilient rural water supply system in vulnerable agro-pastoral communities of Mtanana and Ugogoni wards, Kongwa district	330,000.00
		1.1.2.Construct water storage tanks and distribution network systems at Mtanana and Ugogoni wards		
		1.1.3.Construct community water points/ community water Kiosks for network systems		
		1.1.4.Construct cattle troughs for livestock water system in agro-pastoral communities in selected villages at Matanana and Ugogoni wards, in Kongwa district		
	<i>1.2 Community Owned Water Supply Organization(COWSOs) established and facilitated and committee members trained on operational and maintenance</i>	1.2.1Establish water governance structures (COWSOs) 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		

¹⁸ Kongwa district Council, 2018

2. <i>Support transformation of exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods</i>	2.1 Best agricultural –climate smart practices enhanced to improve food security in the selected villages of Mtanana and Ugogoni wards, Kongwa district	2.1.1. Construct and establish atleast three drip irrigation structures/schemes at Mtanana and Ugogoni wards in Kongwa district	Number of agro-pastoral communities transformed from exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods in selected wards of Kongwa district	430,000.00
		2.1.2. Rehabilitate the existed pre independence contour bands/windrows, and promote other soil and water management techniques (terracing, tie ridging) in-situ techniques for sustained agriculture/crop productivity at Mtanana and Ugogoni wards		
		2.1.3. Facilitate increased use of climate smart crops and promoting intercropping with drought resistant varieties like sorghum, sunflower, simsim, pigeon peas, cassava, cereals, sweet potatoes and early maturing crops to increase resilience farming systems at Mtanana and Ugogoni wards.		
		2.1.4 Improve knowledge on best farming practices and transform traditional farming system through solid farmers tailored trainings using Farmer Field School Approach.		
		2.1.5 Establish women based gardens and poultry houses and trainings on FFFS (Female Farmer Field School) – provision of seeds and tools to diversity gender based livelihood systems		
	2.2 Natural pasture, local breeds and livestock management systems improved to enhance adaptive capacity of livestock keepers to climate induced droughts in Kongwa district.	2.2.1 Establishing drought resistant pasture species and enhance range management and transform traditional grazing system.		
		2.2.2 Improve livestock management to control pests and diseases through cattle dips, feeding systems and cross breeding local breeds with improved breeds available at the National Ranching Company (NARCO)		
	2.3 Improve market value chain of agro-pastoral products on farm and off farm products to strength their competition power in the market and diversify livelihood systems in the project sites	2.3.1 Facilitate and train farmers and livestock keepers on value addition and packaging techniques of their agricultural products and link them to competitive markets and finance institutions		
		2.3.2 Facilitate provision of value addition and packaging tools, equipment and machines		
3. <i>Improve ecological functions to sustain climate sensitive rural livelihoods at Mtanana and Ugogoni wards and in selected rural communities of Kongwa district</i>	3.1. Integrated ecological and management systems implemented in Kongwa district to sustain climate sensitive rural livelihoods in vulnerable communities	3.1.1 Establish and implement ecological restoration and rehabilitation plans (such as shrub/grasses establishment on contour bands/windrows, woodlots and woodland restoration) in selected Wards and Villages of Kongwa District	Improved ecological functions to sustain climate sensitive rural livelihoods in Kongwa district under the changing climate and variability of seasonal weather events	198,285.00
		3.1.2. Promote bee keeping and fruit plants as income diversification activities to increase female and old people adaptive capacity in the district		
		3.1.3 Promote tree planting activities in residential areas, along streets and roadsides and in the degraded areas		
		3.1.4 Promote Best Available Techniques (BAT) and Best Available Practices (BAP) on the use of efficient firewood and charcoal stoves in rural villages		

4. <i>Strengthen local institutional capacity for effective adaptation strategies and reduce risks associated with climate-induced socio-economic failures in Kongwa district</i>	4.1 Institutional and technical capacity of the district and communities in Kongwa is strengthened to be able to withstand impacts of climate change and variability	4.1.1 Promote necessary trainings: technical staff and agro-pastoral on managing climate risks and project measures for sustained livelihood and future scaling ups	Strengthened institutional and technical capacity to reduce risks associated with climate-induced livelihood failures in Kongwa district	60,000.00
		4.1.2 Review and mainstream climate change adaptation measures into sustainable development plans at district to village levels		
		4.1.3 Communicate project results and share lessons learnt		
		4.1.4 Facilitate provision of project monitoring and evaluation facilities, tools and equipment		
1. Project execution cost				95,160.77
2. Total Project cost				1,018,285.00
3. Project cycle Management Fee charged by the Implementing Entity				86,554.23
4. Amount of financing requested				1,200,000.00

Projected Calendar:

Milestones	Expected Dates
Start of Project Implementation	October 2019
Mid-term Review	March 2021
Project Closing (4 months after project completion)	February 2024
Terminal Evaluation	August 2023

PART II: PROJECT JUSTIFICATION

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

All project components and activities proposed under this project are focusing on the concrete adaptation activities, and will be implemented on the ground to build resilience and the adaptive capacity of vulnerable agro-pastoral communities including promoting climate actions on gender issues in Kongwa district. The proposed project has four components, the details of how these will contribute the climate resilience are provided here below.

Component 1: Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities at Mtanana and Ugogoni wards, Kongwa district

Outcome 1: Enhanced climate resilient rural water supply system in vulnerable agro-pastoral communities of Mtanana and Ugogoni wards, Kongwa district

Output1. 1: Climate resilient rural water supply system established in agro-pastoral communities at Matanana and Ugogoni Wards in Kongwa district

Rural communities in Kongwa district rely heavily on climate sensitive water resources and infrastructures for their water supply. It is evident that water services in the proposed project sites are facing water security risks in various aspects such as scarcity and quality, both of which affect health and other economic development. Existing

water sources have proved to be incapable of withstanding the effects of climate change and even increased water demands. Although quantification of water demand in these villages have yet to be well done by proper numerical models but based on villagers' view, field observation and visits paid to the community and issues raised in the pre-planning workshop, it is clear that water shortage is a big problem especially to women and children and therefore a burden to peoples life quality, health and livelihood. In the two wards, community members are forced to fetch supplementary water about 25 kilometres away from their residences using different facilities dragged by cattle and donkeys (Figure 13).



Figure 13: Photo illustrating some facilities being used to fetch water from long distance.

The supplementary water for most villages of Mtanana and Ugogoni wards is also obtained from traditional shallow wells often along the valleys. These traditional wells dry few days after the rain season, mainly from July – November. The traditional wells are often not secure, thus hazards like floods may cover them up or contaminate them with human or livestock wastes thereby exposing people to water borne diseases (e.g. cholera, dysentery), which occurs almost every year. All supplementary water sources often dry up during the dry season, forcing people (more often women and children) to travel long distances and opt for unsafe water wherever they are found as already mentioned. It is a true worry that, the most likely future climate change effects will further increase water scarcity and associated diseases problems in these communities. Under this output, climate resilient rural water supply and reliable water distribution networks will be established through drilling boreholes. Bore holes are the only reliable options as is considered to be more stable to climate shocks when compared to seasonal rivers which dry in every dry season. In addition, ground water in the project area has regional recharge advantages as compared to localized recharges; hence ground water in Kongwa is stable to seasonal rainfall variability, dry spells and drought. The indicative activities to be implemented under Output 1.1 are:

- 1.1.1 Drill boreholes in drought prone and water scarce villages and Install solar energy driven water pumps at Mtanana and Ugogoni wards
- 1.1.2 Construct water storage tanks and distribution network systems at Mtanana and Ugogoni wards
- 1.1.3 Construct community water points/ community water Kiosks for network systems in the project sites
- 1.1.4 Construct cattle troughs and charcoal-dams for livestock water system in in agro-pastoral communities in selected villages at Matanana and Ugogoni wards, in Kongwa district

Output 1.2 Community Owned Water Supply Organization (COWSOs) 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 system at Mtanana and Ugogoni wards. The project proposes establishment of operational committee for the COWSOs, which will be trained on maintenance and operational issues including

financial, accounting and procurement issues in relation to COWSOs. The indicative activities to be implemented under this output are:

- 1.2.1 Formula water governance structures (COWSOs) 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: Support transformation of exploitive agro-pastoral practices into diversified climate smart and sustainable livelihoods

Outcome 2: Transformed exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods in selected wards of Kongwa district

Output 2.1 Best agricultural –climate smart practices enhanced to improve food security in the selected villages of Mtanana and Ugogoni wards, Kongwa district

Like in many other rural settings in Tanzania and in other least developed countries, agricultural activities including farming systems in Kongwa area are facing several challenges including poor farming practices and reliance on rainfall. As already described, over the past three decades now rain seasons have varied and shifted its trends such that droughts and dry spell periods are more common than wet spells. Rains are more erratic, coming at unexpected times in and out of seasons. Within recognizable seasons, unusual and “unseasonable” events are occurring more frequently. These make individuals in these areas to suffer the most and are more vulnerable to food insecurity and death of livestock including drying of pastures and grazing lands for the cattle. Therefore, under this output, the project intends to increase resilience of farmers and livestock keepers to effects of climate change and variability by improving farming and livestock keeping systems in the selected villages. Indicative activities to be implemented under this output 2.1 are:

- 2.1.1 Construct and establish at least three drip irrigation structures/schemes at Mtanana and Ugogoni wards in Kongwa district
- 2.1.2 Rehabilitate the existed pre independence contour bands/windrows, and promote other soil and water management techniques (terracing, tie ridging) in-situ techniques for sustained agriculture/crop productivity at Mtanana and Ugogoni wards
- 2.1.3 Facilitate increased use of climate smart crops and promoting intercropping with drought resistant varieties like sorghum, sunflower, simsim, pigeon peas, cassava, cereals, sweet potatoes and early maturing crops to increase resilience farming systems at Mtanana and Ugogoni wards.
- 2.1.4 Improve knowledge on best farming practices and transform traditional farming system through solid farmers tailored trainings using Farmer Field School Approach.
- 2.1.5 Establish women based gardens and poultry houses and trainings on FFFS (Female Farmer Field School) – provision of seeds and tools to diversity gender based livelihood systems

Output 2.2 Natural pasture, local breeds and livestock management systems improved to enhance adaptive capacity of livestock keepers to climate induced droughts in Kongwa district

The negative effects of climate change to agro-pastoral communities’ livelihoods are intolerable in Kongwa district. High level of livestock mortality associated with climate failures and bad seasons is continuously witnessed year after year. In Ugogoni ward for example, there has been progressive mortality record of livestock deaths due to dried pastures and lack of water for cattle. Due to this in 2013, there were about 332 livestock deaths, 525 livestock deaths were in the year 2014, 414 livestock died in the year 2015 while in 2016 about 595 livestock died. Likewise, the same Ward received reasonable food quantities in thousands tons of maize as food aid given to households with critical food shortage from the Government and other donor agencies. Displacement and forced migrations from these villages are also being witnessed. Indicative activities to be implemented under output 2.2 are:

- 2.2.1 Establishing drought resistant pastures species and enhances range management and transform traditional grazing system.
- 2.2.2 Improve livestock management to control pests and diseases through cattle dips, feeding systems and cross breeding local breeds with improved breeds available at the National Ranching Company (NARCO)

**Output 2.3 Improve market value chain of agro-pastoral products on farm and off farm
Products to strength their competitive power in the market and diversify livelihood systems
in the project sites**

Activities proposed under this output aim to solve the existing market challenges of agro-pastoral products and capital issues to promote market based community innovations. Implementation of these activities will leverage and facilitate building climate resilience and adaptive capacity to poor communities especially women. The indicative activities under Output 2.3 are:

- 2.3.1 Facilitate and train farmers and livestock keepers on value addition and packaging techniques of their agricultural products and link them to competitive markets and finance institutions
- 2.3.2 Facilitate provision of value addition and packaging tools, equipment and machines

**Component 3: Improve ecological functions to sustain climate sensitive rural livelihoods at
Mtanana and Ugogoni wards and in selected rural communities of Kongwa district**

**Outcome 3: Improved ecological services and functions to sustain climate sensitive rural
livelihoods in Kongwa district**

**Output3.1: Integrated ecological and management systems implemented in Kongwa district
to sustain climate sensitive rural livelihoods in vulnerable communities**

Over the past 70 years, ecological systems in Kongwa have been impaired by a combination of both human induced and climate change related drivers¹⁹²⁰. The original and natural ecosystems, covered by savannah thickets were degraded following the decision by colonial government to establish groundnut scheme. Since then, other human induced drivers for environmental degradation such as poor farming methods, deforestations, charcoal making and overgrazing are common in the area. Unless novelty approaches which integrate community and ecosystem based solutions to tackle climate change be implemented, the trend will continue with disastrous effect to the vulnerable community. This project under component 3 proposes innovations which promote conservation measures linked to economic benefits to the people for tackling climate change in the district.

The indicative activities to be implemented under Output 3.1 are:

- 3.1.1 Establish and implement ecological restoration and rehabilitation plans (such as shrub/grasses establishment on contour bands/windrows, woodlots and woodland restoration) in selected Wards and Villages of Kongwa District
- 3.1.2 Promote bee keeping and fruit plants as income diversification activities to increase female and old people adaptive capacity in the district
- 3.1.3 Promote tree planting activities in residential areas, along streets and roadsides and in the degraded areas
- 3.1.4 Promote Best Available Techniques (BAT) and Best Available Practices (BAP) on the use of efficient firewood and charcoal stoves in rural villages

Component 4: Strengthen local institutional capacity for effective implementation of adaptation

¹⁹ Mkonda Y.M 2017. Are Rainfall and Temperature Really Changing? Farmer's Perceptions, Meteorological Data, and Policy Implications in the Tanzanian Semi-Arid Zone, Journal of sustainability 9: 1412;

²⁰ The Groundnut Affair. 1950

- strategies and reduce risks associated with climate-induced socio-economic failures in Kongwa district**
- Outcome 4:** **Strengthened institutional and technical capacity to reduce risks associated with climate- induced livelihood failures in Kongwa district**
- Output 4.1** **Institutional and technical capacity of the district and communities in Kongwa is strengthened to be able to with stand impacts of climate change and variability**

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:

- 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
- 4.1.2 Review and mainstream climate change adaptation measures into sustainable development plans at district to village levels
- 4.1.3 Communicate project results and share lessons learnt
- 4.1.4 Facilitate provisional of project monitoring and evaluation facilities, tools and equipment

PATR IIB. *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 of the Adaptation Fund**. (Refer Annex I)*

All four components will considerably contribute to economic, social and environmental benefits at village, district, national and at the international level. The proposed interventions under this project will improve adaptive capacity of the most vulnerable communities in Tanzania. Each component activities are well linked to both environmental and socio-economic to improve the wellbeing of the people and their supporting natural ecosystems. Equally, the project is well informed by the Environmental and Social Policy of the Adaptation Fund to avoid and mitigate unseen negative impacts including considering gender issues. The following description below entails how economic, social and environmental benefits have been integrated in the designing of this project. Through these economic gains, the project will also deliver significant social benefits.

i) Environmental benefits

This project will have several environmental benefits, including contribution to climate change mitigation, ecosystem management, biodiversity conservation, land management and conservation agriculture. This project have special component on improving functions and services of ecological which aims to increase availability of trees for planting, restoration and rehabilitation of the colonial contour bands/windrows. The project will also invest in reforestation and restoration of degraded ecosystems in Kongwa including hills and river 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 40% of forest regeneration and cover including establishing woodlots and beekeeping activities in villages' forest lands and implementing village environmental related by laws. The project will contribute to reverse bad practices of livestock keepers and farmers as explained under component 2 and 3.

ii) Economic benefits

The project components will extensively contribute to economic benefits, and it is seen that, when perfectly implemented, this project will lastingly transform livelihood systems and quality of life in the project sites and beyond. The project components proposed here will improve and transform agro-pastoral systems and water

supply to be more adaptive to climate shocks and more sustainable. In particular, the activities outlined in each output of the components will lead to increased agriculture and livestock production and move vulnerable communities beyond subsistence farming to selling excess crops and livestock products. This project will also build sustainable market and will link villagers to financial services as well as promoting credit cooperatives (SACCOs). Social-cooperative model proposed in this project will maximize their marketing and competitive power in the national and international market. Detailed quantification of economic benefits will be provided in the full proposal level of this project.

iii) Social benefits

The social benefits that will be gained as a result of implementing this project are manifold. All activities suggested under each component offer multiple social benefits with positive multiplier effect to marginalize and poor vulnerable rural communities including women and school girls. The project inspires to improve rural water systems, foster food security, and transform farming practices and livestock keeping systems including improvement of fodder, rangeland and pastures. All these have multiple benefits and positive contribution to the existing social systems in Kongwa. For instance availability of water and increased food security will contribute to solving social conflicts at household levels and invent competing demand for water among livestock keepers and farmers. School dropout will also be solved including controlling recurring water borne diseases like cholera. The observed malnutrition challenges will also be tackled through various output activities of this project especially activities under component 2, 3 and 4. It is also expected that families will be able to invest in their own social development issues such as education, modern houses and health care issues. Detailed description will be provided during the full proposal stage.

PART IIC. Describe or provide an analysis of the cost-effectiveness of the proposed project programme.

a) Cost effectiveness from a technical perspective

Although not much details of the quantification and analysis of the cost effectiveness of this project have been done, yet technical design and proposed project activities under the four components of this project demonstrate the cost effectiveness when compared to the cost of doing nothing (the cost of not implementing this project). As described in part I above, the effects of climate change in the proposed project site are beyond the monetary terms. Therefore, the cost effectiveness of this project is bounded in its unique approach when compared with the traditional approaches of implementation development projects and plans. This project uses a combination of both community based and adaptation techniques in tackling existing social, economic and environmental challenges posed by short and longer term variability and changes in the climate and weather systems. Cost effectiveness of this project is built in its interventions to tackle the specific climate driven challenges at grassroots levels. Participation of community through volunteering and their in-kind contributions in project implementations will build local capacity, utilize local knowledge and deliver project outputs with relatively less investment cost as well as enhance the sustainability of project interventions. It is expected that this designing model by involving the communities will raise the project value by over 45%. This will promote sustainability of the project and other climate related actions to combat poverty while promoting social justice and protection of natural resources and the environment.

b) Cost effectiveness from a project management perspective

The Project Management Unit (PMU) is proposed to be based in the project area at the district headquarters. As maximum possible the project will use and enjoy the existing government staff available at the district and at Foundation for Energy, Climate and Environment (FECE) including to be hosted in the buildings of the district headquarters. No new staff is expected to be hired; no pensions and insurances will be paid by the requested fund under this project as those costs are already covered by FECE and the governments. However, the project will pay some reasonable top up salaries only for project key staffs who will be placed in the PMU.

This is viewed to be cost effective and promote best use of resources by reducing project management costs. All utility bills for project staff will be covered by FECE and Kongwa District Council. This will cut-off the project running cost by around 5-20%. More details and analysis of cost effectiveness will be provided during full proposal development stage.

PARTIID: Describe how the project / programme is consistent with national or sub-national sustainable development strategies, including, where appropriate, 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 being proposed here reflects villages, district and national issues and therefore is consistence and in-line with national vision for sustainable development, policies, plans, strategies, programs and actions. For instance, this project is well reflecting top most three priorities listed under the National Adaptation Programme of Action (NAPA, 2007), reflects the first and second priority sectors identified under the Intended Nationally Determined Contributions (INDCs, 2014) and the National Climate Change Strategy (URT, 2012) that are most vulnerable, which need urgent and integrated adaptation measures. The project is also in consistence with the Tanzania Development Vision 2025, National Second Five Year Development Plan (NSFYDP 2016/2021), the First and the Second National Communication submitted to the United Nations Framework for Convention on Climate Change (UNFCCC), the National Strategy for Growth and Poverty Reduction (MKUKUTA II), National program under the Tanzania Social Action Fund (TASAF), The Roadmap of the National Adaptation Plan (NAPs) and Kongwa District Strategic Plan (2016/2021). All these national and district documents take account and recognize the challenges and negative effects posed by climate change. In this way they propose and call for the need to implement climate actions at local levels, whre vulnerable people, particularly women who suffer the most and are now being forced into deer poverty challenges as a result of increased climate vagaries. This project is also linked to Sustainable Development Goals (SDGs); particularly SDG 1: End poverty in all its forms everywhere; SDG 2:End hunger, achieve food security and improved nutrition, and promote sustainable agriculture; SDG 3: Ensure healthy lives and promote well-being for all at all ages; SDG 5: Achieve gender equality and empower all women and girls; SDG 6: Ensure availability and sustainable management of water and sanitation for all; SDG 13: Take urgent action to combat climate change and its impacts (in line with the United Nations Framework Convention on Climate Change); and SDG 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity los. In the same way, the proposed project is in line with the *Agenda 2023: the Africa we want* which promotes issues of sustainable and inclusive economic growth and to take actions to reduce the effects of climate change in rural areas. Additionally, the linkages to the national and subnational/district policies and other poverty reduction strategies can be easily seen at each component, this part will be further described in detail during the development of the full proposal.

PART IIE. Describe how the project 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***

The proposed project is aligned with relevant national technical standards and meets requirements stipulated by Environmental Management Act (Cap.191 of 2004) and its subsequent Environmental Impact Assessment (EIA) and Environmental Audit (EA) Regulations (G.N. No. 349 of 2005). The project also took into consideration of the broader objective of the National Guidelines for the Preparation of Water Safety Plans-Resilient to Climate Change (2015). Other pertinent national standards for rural water supply, agriculture, forestry and beekeeping, environment, agriculture and food security and village land use planning/ rural land tenure systems will be highly considered at advanced stage of designing of this project and during implementation. In that way, the proposed project will be fulfilling vital national policies, plans, strategies and programmes set by the United Republic of Tanzania including plans and bylaws formulated by District Council. Similarly, this project is relevant to the Environmental and Social Safeguard policy of the Adaptation Fund

(AF) and any other Environmental and Social Safeguard Policies of International and UN agencies such as the World Bank as its intervention will enhance sustainable development benefits while avoiding unnecessary harm to the environment and communities. All activities under each component will facilitate social security of the riparian communities and veracity of the environment. However, the executing entities (FECE and Kongwa District Council) have adequately screened the project concept note and placed this project at C category under classification criteria of Environmental and Social Safeguard Policy of the Adaptation Fund. This is because there is no any component of this project which indicates any serious risk to the environment or social systems and on the public health. Nevertheless, an environmental and social risk management plan and the detailed environmental assessment study will be done to guide the management of unforeseen environmental and social risks during full proposal development stage.

PART IIF. Describe if there is duplication of project with other funding sources, if any.

There is no any duplication of this project with other funding sources. This project will rather complement any efforts geared to foster adaptation actions in the United Republic of Tanzania, in the related thematic areas. Preliminary meetings and discussions with various stakeholders at district and national levels, confirm the existence of potential synergies of proposed activities with various national development plans. There is no fund which has been allocated to implement this project, except this application to the Adaptation Fund.

PART IIG. If applicable, describe the learning and knowledge management component to capture and disseminate lessons learned.

Issues of learning and knowledge management including dissemination of lessons learned issues are captured under component four; which aim to strengthen local institutional capacity for effective adaptation strategies and reduce risks associated with climate-induced socio-economic failures in Kongwa district. Hence, this project will utilize a fraction of the requested fund to build core knowledge capacity and to disseminate results and outcomes including sharing lessons which will be generated by the project. Under Activities 4.1.1 and 4.1.3 issues of learning, trainings and communicating results will be effectively implemented. In this way, issues on climate change education and awareness raising will be well addressed. Participatory approaches and community involvement through volunteering to implement project activities, their in-kind contribution, trainings, tour and visits and on farm/site demonstrations will be conducted as part of learning and knowledge management. Sharing project results and communicating outcomes at various community and inter-village levels will also be conducted under component four. Positive project results and outcomes will be also communicated and disseminated at national and international levels through seminars, meetings, workshops, project briefs, various publications in peer reviewed journals. Other means such as newspapers, radio and video documentaries, techniques and achievements will be used as well to share and communicate lessons and outcomes of the project. Moreover, various technical training under short term basis will be conducted as part of knowledge management.

PART IIH. 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 of the Adaptation Fund**.

Pre-design of the proposed project started in August 2018 with a first visit to various villages to meet various community groups in Kongwa district. The proposed project areas were selected and agreed upon with local stakeholders and district experts. In September 2018, a second visit took place, to discuss more in and around the selected villages of Mtanana and Ugogoni Wards to get the full picture of the landscape interactions and needs and challenges of the local communities. The pre-design is based on the inputs gathered from the field visits, literature reviews, interviews, community discussions and key informants. Moreover, transect walks were carried out for observing environmental and ecological systems, vegetation cover, farming practices and livestock keeping systems in the villages. Meetings with women representatives, leaders of village and ward governments, representatives of farmers and livestock keepers and influential people and elders in these villages assisted better

to understand the problem, whereby they explained its root causes and proposed activities and project components. These meeting for pre-designing this project assisted to perform quick analytical scanning of gender and environmental related issues as well. Qualitative analysis and reviews on how climate change affects women and men differently were also conducted to facilitate proposing gender sensitive actions. The list of stakeholders consulted to date and who will be consulted for developing the full project proposal is outline in the table below.

Stakeholders	Responsibilities
Sector ministries	The Vice President's Office and the NDA to the Adaptation Fund, line ministries such as Ministries Responsible for Water, Livestock, Forestry, Lands Environment and Agriculture including the President's Office, Regional Administration and Local Government are key and will be broadly consulted and involved during implementations .
Dodoma Regional Administration Secretariat (RAS) office	Dodoma Regional Administration Secretariat (RAS) office will be widely involved in project implementations. Various reports during the designing and implementations will be communicated to the RAS
Local NGOs, Social groups and CBOs	Non-governmental organizations, community based organizations are very few in number, and most of them are not active. However, few of them such as JUST DIGG ITI and CARE international operate in the project area. Informal and community based Organization such farmers, livestock and other social organizations exist in Kongwa. These are already highlighted as key partners for developing and to operate the project. Additionally, are key beneficially of results and outcomes of the project
Private sector	Private sector in the project site is at very infant stage, no potential investment exist. However, this project will attempt to maximise linkages of villagers/farmers to markets and financial institutions and buyers of agricultural related products
Direct beneficiaries	Direct beneficiaries of the proposed project in Kongwa are vulnerable and marginalized community groups in Kongwa. Therefore, these poor villages who are mostly farmers, livestock keepers , women and youth groups are key stakeholders and will be involved widely.

PART II I. Provide justification for funding requested, focusing on the full cost of adaptation reasoning.

Like most of rural areas in Tanzania, the economy and livelihood system of communities in Kongwa district are mainly driven by the climate sensitive sectors. As described earlier in part I above, negative effects due to shifting in weather seasons and climate variability and change have already disrupted the economy and people's life in Kongwa. 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. The current climate trend and the continued global change in the climate system accelerates these effects and calls for adaptation actions in life supporting sectors such as water, agriculture and livestock. Hence, the requested funds from Adaptation Fund support direct implementation of concrete climate smart innovations and build resilient economy and livelihoods of the people in rural areas. In this way, the requested fund reflects the capacity and financial needs to facilitate implementation of adaptation measures and builds resilience of these communities. For instance, the no project scenario is very expensive when compared to the project scenario.

Component 1: Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities at Mtanana and Ugogoni wards, Kongwa district

Baseline scenario (without AF resources): Without the AF fund, means that, no actions will be taken to implement this project, that is to say present and future climate threats will continue to accelerate the existing water scarcity. Observed climate and weather extreme events such as droughts, and prolonged dry periods will continue to destroy livelihoods, notably water supply. In this manner, the adaptation failure will be witnessed and the detrimental effects of climate change will be irreversible in the near future. Currently, there are sufficient evidences that, women in these areas are suffering the most and are now forced to walk longer distances for searching water. Such evidences 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 such induced water scarcity due to poverty levels. Moreover, being in least developed country; the Tanzania Government has low adaptive capacity and inadequate financial resources to assist. **With AF funding:** The AF funding will enhance investments for rural climate resilient water supply system in vulnerable agro-pastoral communities of Kongwa District. Financial resources for the AF will facilitate to build rural climate resilient-water supply and adaptive to the current and future climate shocks. The empowerment of community groups, capacity building and the adoption of COWSOs will provide sustainable supervision and operational structures to withstand the effects of the projected future climate change.

Component 2: Support transformation of exploitive agro-pastoral practices into diversified climate smart and sustainable livelihoods

Baseline scenario (without AF resources): Without the AF project, rural communities in Kongwa District will be forced to continue with their traditional agro-pastoral practices, which are already vulnerable to climate change climate impacts. As explained earlier, crop failures due to drought and unpredictable seasons have caused serious food insecurity. Taking no measures to improve agricultural productivity and transform livestock systems to improve livelihood to be more climate resilient will worsen the situation. If this happened, vulnerable communities especially women will be more pushed into deeper poverty levels. **With AF funding:** The AF resources will be used to facilitate improvement of agro-pastoral productivity, transform existing subsistence livelihood system to be more climate resilient and adaptive to future effect of climate change (including increased mean annual temperatures and increased frequency and intensity of droughts).

Component 3: Improve ecological functions to sustain climate sensitive rural livelihoods at Mtanana and Ugogoni wards and in selected rural communities of Kongwa district

Baseline scenario (without AF resources): Over years now, ecological and environmental systems in Kongwa have been impaired by both human induced and climate change related drivers. The original and natural ecosystems, covered by savannah thickets were degraded over the past 5-7 decades. There is continued trend of environmental degradation such as poor farming methods, deforestations, charcoal making and overgrazing in the project site. Unless concrete adaptation approaches which integrate community and ecosystem based solutions to tackle climate change are implemented, the trend will continue with disastrous effect to the vulnerable community. **The scenario with AF resources):** 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 Kongwa district. Beekeeping activities including tree planting and windrows establishment will be supported under this project. AF funds will also be used to facilitate campaigns on planting fruit trees as income generating activities including engaging farmers in tree planting in their residential areas, along streets and degraded lands.

Component 4: Strengthen local institutional capacity for effective implementation of adaptation strategies and reduce risks associated with climate-induced socio-economic failures in Kongwa district

Baseline scenario: (without AF resources): At present Kongwa district do not have adequate capacity to effectively support implementations and scale up climate adaptation. Without the AF project, it is likely that the pace to integrate adaptation issues into district development plans including and carrying out adaptation actions on ground will be slow and in most cases will be not possible. Without FA resources, vulnerable communities in villages of Kongwa district are likely to continue with their unsustainable way of farming and livestock keeping practices which are also likely to limit their adaptive capacity in future. **With AF resources:** Best practices and lesson 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 environment.

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

The project's sustainability is rooted in its design as it puts emphasis on active participation of community groups and individuals in decision-making and implementation of the project's activities from the beginning. The project is also striving to strengthen the institutional and technical capacity at community and district levels. This ensures active engagement and inclusion of key stakeholders in all stages of the project from the designing to closing phase including equipping them with adequate knowledge and skills to maintain the benefits of the project's interventions for sustainability. The participatory approach will lead to ownership of the project interventions including results and outcomes to vulnerable local communities. Thus, the proposed project will empower people at the grass root to build their local capacity to continue adapting to climate change risks in future. Community ownership will also ensure that all social, economic and environmental benefits gained from the project interventions will be long-lasting. Moreover, the proposed investment is well aligned with national priorities. This provides greater opportunity for the district and central government to scale-up the project outcomes after phasing out of the AF funding and interventions. The operation of the project within District Headquarters will also ensure sustainability through integrating the project components into adaptation plans of the district.

PARTII K. Provide an overview of the environmental and social impacts and risks identified as being relevant to the project / programme.

<i>Checklist of Environmental and Social Principles</i>	<i>No further assessment required for compliance</i>	<i>Risk and potential impact</i>	<i>Detail of potential risks</i>	<i>Measures to address risk</i>
<i>Compliance with the Law</i>	<i>x</i>	<i>Risk: Low Potential impact: High</i>	<i>None anticipated</i>	<i>The final project document will be compliant to all relevant national laws including international standards. Local, district and national stakeholders will be consulted to ensure reflection of relevant legal requirements.</i>
<i>Access and Equity</i>	<i>x</i>	<i>Risk: Low Potential impact: Low</i>	<i>None anticipated</i>	<i>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. Enhance availability of those basic human services in the marginalized communities an fair and equitable access to project benefits</i>

<i>Marginalized and Vulnerable Groups</i>		Risk: Moderate Potential impact: Moderate/High	Without extensive consultation with marginalized/vulnerable groups at the project sites and in training exercises, it is probable that project activities will exclude these marginalized/vulnerable groups, thus preventing them from accessing benefits – both in terms of resources and training	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>	X	Risk: Low Potential impact: Moderate/High	None anticipated	The proposed project respect and adhere to all relevant conventions on human rights, national and local laws in relation to human rights.
<i>Gender Equity and Women's Empowerment</i>		Risk: Moderate Potential impact: Moderate/High	Without extensive, transparent and fair involvement of women and other gender sensitive groups, it is likely that women will be inadequately represented the detailed design and implementation of this project. This inadequate inclusion of women would be compounded as the negative effects of climate shocks are expected to be experienced disproportionately by women compared to men	From the begging 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. Gender experts and NGOs actively involved in gender issues in Tanzania will be invited to participate in appraising the final document of this project.
<i>Core Labour Rights</i>	x	Risk: Low Potential impact: Moderate/High	None anticipated	Core labor rights will be respected and considered in the project design and implementation. In particular, national and regional stakeholders will be involved in the design of project activities to ensure that labor legislations are adhered.
<i>Indigenous Peoples</i>		Risk: Moderate Potential impact: Moderate/High	None anticipated	All project interventions will ensure that local peoples benefit from the project's activities and that, where relevant, they are included in community consultation and participatory planning activities.

<i>Involuntary Resettlement</i>	<i>x</i>	<i>Risk: Low Potential impact: High</i>	<i>None anticipated</i>	<i>The project design does not include involuntary resettlement.</i>
<i>Protection of Natural Habitats</i>		<i>Risk: Low Potential impact: High</i>	<i>Interventions will include planting of tree species. If these activities are not undertaken with consideration of immediate and downstream effects, natural habitats may be negatively affected.</i>	<i>By implementing conservation measures linked to economic benefits to the people to tackle climate change in Kongwa district, the project will promote improved management of natural ecosystems, particularly in the context of future climate change. The downstream effects of these activities will include enhanced ecosystem functioning in the projects and beyond.</i>
<i>Conservation of Biological Diversity</i>		<i>Risk: Low Potential impact: High</i>	<i>Without careful planning and mapping of project site, on-the-ground adaptation interventions might adversely impact on local biodiversity. For example, planting exotic, invasive species might outcompete indigenous species and impact negatively on both indigenous species richness and on the ecosystem services.</i>	<i>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>
<i>Climate Change</i>	<i>x</i>	<i>Risk: Low</i>	<i>None anticipated</i>	<i>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>
<i>Pollution Prevention and Resource Efficiency</i>		<i>Risk: Low Potential impact: High</i>	<i>None anticipated</i>	<i>The proposed project is visualized to cause no any harm or pollution.</i>
<i>Public Health</i>	<i>x</i>	<i>Risk: Low Potential impact: High</i>	<i>None anticipated</i>	<i>The proposed project enhances the quality of public health. Indeed, through components 1, 2 and 3, contribution of this project to the general public health is clear.</i>
<i>Physical and Cultural Heritage</i>	<i>X</i>	<i>Risk: Low Potential impact: Moderate/High</i>	<i>None anticipated</i>	<i>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	X	Risk: Low Potential impact: Moderate/High	Without thorough planning and species selection, on-the-ground adaptation interventions might result in reduced soil productivity or	This project is design to enhance and promote conservation of soil and land resources. The continued degradation of the land resources will be reversed through smart interventions for components 2 and 3. The proposed activities under those components will result into increased soil stability, rehabilitate the degraded contour bands/windrows and reduced runoff.
-----------------------------	---	--	--	--

PART III: IMPLEMENTATION ARRANGEMENTS

PARTIII A. Describe the arrangements for project implementation.

Executing Agency: Foundation for Energy, Climate Change and Environment (FECE) jointly with Kongwa District Council will be the overall coordinator of the project, through the services of a Project Management Unit, which will be staffed with a Project Coordinator, an Assistant Project Coordinator, a Project Driver and a Project Accountant who will also serve as Project Administrative Support Staff. The Project Coordinator, the Assistant Project Coordinator, the Driver and the Accountant are referred here as project personnel and will be sourced from the existing staff within Kongwa District Council, except the Project Coordinator who will be sourced from the existing staff within FECE. Strong participation of other District staff will be at the project implementation level as activities involve cross-sectoral coordination. A Project Steering Committee will be set up to steer the project execution. The Committee will be chaired by the Chairperson of Kongwa District Council. The Secretariat of the Committee will be the PMU through the District Executive Director and the Executive Director of FECE. The members of Project Steering Committee will be District Executive Director of Kongwa District Council, Chairperson of the Kongwa District Council, one representative from each of the following sector ministries: the ministry responsible for rural water supply, the ministry responsible for agriculture, the ministry responsible for livestock, the ministry responsible for Climate Change. Other members will be an officer from National Environment Management Council (NEMC), two members from FECE and one member from Tanzania Civil Society Forum for Climate Change (Forum CC). **Implementing Entity:** National Environment Management Council (NEMC) which is also the National Implementing Entity (NIE) of the Adaptation Fund (AF) in Tanzania and will be responsible for the overall management of the project and monitoring of project outcomes/outputs. Details on the implementation arrangement including financial and procurement issues will be presented during the full proposal development stage.

PARTIII B. Describe the measures for financial and project risk management.

Strict precautionary measures for financial and project risk management will be formulated to foresee those risks before they happen. The risk categories on delayed time for project implementations and conflict management are pertinent risks of the proposed project. These are rated low, but those risks related with limited stakeholders' involvement and natural and environmental hazards are rated low to medium. The financial risks are rated low as well. The table below summarizes measures for financial and project risk management

Risks Category	Level Risk	Measures to be taken
Delays in Implementation project activities	Low	Detailed Implementation Plans (DIPs) and Project Annual Plans (PAP) will be developed and be approved by both the Project Steering Committee (PSC) and National Implementing Entity (NIE). The project monitoring and evaluation plan will also be developed and implemented effectively.

Conflict Management	Low	Although it is not expected that any conflict will rise during implementation of this project, the NIE management and conflict resolution structure/mechanism and its oversight and support role will be followed and respected to management any unforeseen conflict which may rise during lifetime of the project phases. Additionally, the PSC and the PMU will put string early warning structure to foresee and management both financial and management risks before they happen
Limited Stakeholders Involvement	Low	All stakeholders will be widely involved in all phases of the project from early stages of the project design, implementation, monitoring and evaluation. Involvement of key stakeholders at community level and inclusion of marginalized communities and groups such as women, local leaders, community beneficiaries, local district government in Kongwa and public service organizations will facilitate to mitigating any risks related to stakeholders involvement.
Financial Risk	Low	There are clear financial management structures in the district that will be followed. These structures follow national laws and regulations governing public financial expenditures and transactions. Therefore, this project will adhere to all Generally Acceptable Accounting Principles (GAAP) regarding control, transparency and documentation, and have procedures and necessary infrastructure in place for an appropriate audit system by the Office of Auditor General or any other internationally accepted auditing firm. Approved regulations, procedures and guidelines on costs for services & goods of the United Republic of Tanzania including the Adaptation Fund Standards will be strictly followed
Natural and Environmental hazards	Low	Historically, no symptoms or records of natural and environmental hazards in the area, expect the climate related hazards like floods and droughts and strong winds including slushing rains. Thus, climate information and early warning system for weather and climate information will be improved to foster adaptation planning.

PARTII C. Describe the measures for environmental and social risk management, in line with the Environmental and Social Policy of the Adaptation Fund.

FECE and Kongwa District Council will address both social and environmental opportunities and risks in an integrated manner, recognizing the interrelatedness of social and environmental issues at early stages during the designing and implementation phases. This project is designed in consistence with Environmental and Social Policy of the Adaptation Fund. Proposed activities will be reviewed at every stage for potential social and environmental risks and will ensure that potential adverse impacts are assessed and avoided, or where avoidance is not possible, minimized, mitigated, and managed. According to the AF's Environmental and Social Policy, a project can be categorized as either A, B or C. Category A refers to projects that is "likely to have significant adverse environmental or social impacts that can be diverse, widespread, and irreversible". According the quick assessment already undertaken, it has been revealed that, the proposed project is unlikely to pose any significant adverse social and environment impacts. However, the foreseen social and environmental risks are expected to be localized and minimal as most of proposed interventions on the ground will largely be "green". Due to this, Category A classification does not apply to this project, and this project is viewed to be in Category B as its potential impacts are "less adverse than Category A because they are fewer in number, smaller in scale, less widespread, reversible and easily mitigated. Preliminary screening on social and environmental risks presented here will be further assessed to specifically quantify these risks in details during full proposal development stage.

PARTIII D. Describe the monitoring and evaluation arrangements and provide a budgeted M&E plan.

A routine monthly continuous assessment of the planned project activities will be done to identify actual or potential successes, problems and constraints so as to facilitate timely adjustments. The monthly reports will be summarized into quarterly reports for circulation and sharing with key actors. During the mid of each year, a

project progress review (PPR) will be undertaken and information collected will be used in making the necessary adjustments to suit the project implementation. Annual evaluations will be undertaken and its results will be used for improving planned activities for the next financial year and phase. The annual reviews will cover performance, output and outcome of the activities. This will help to provide the project and its funder information on the performance of the project and its effectiveness. Mid-term and terminal evaluation will be conducted and will constitute an assessment of a project's success and potential sustainability through evaluation of the impact or effect to the community. Both expected and un-expected impacts will be investigated to evidence the situation before and after project implementation. Quantitative and qualitative approaches will be used for quantification and qualification of information gathered. A solid monitoring and evaluating system will be put in place and will base on the indicators and means of verification defined in the Results Framework. Monitoring and evaluation system will be linked to the results framework, annual work plans and budget. In addition, the project will commission an annual audit (to be conducted by a certified auditor) of project accounts to ensure compliance with the AF and Government rules and procedures. The following table summarizes the budget of the M&E plan.

Activity	Responsible officer	Budget	Timeframe
Inception and annual Workshops	Project Coordinator and Assistant Project Coordinator	6,000	Within 2 months of project starting and yearly thereafter
Baseline survey	National consultant	14,800	Soon after project inception
Annual impact Assessment	Monitoring and Evaluation Officer	1,000	Annual
Bi-annual Progress Reports	Project Coordinator	1,000	6 monthly
Quarterly Progress Reports	Project Coordinator	-	Quarterly
Participatory Monitoring and Evaluation by beneficiaries	Monitoring and Evaluation Officer	-	Quarterly
Annual field visits by representatives of Steering Committee	Project Coordinator	6,000	Annual
Minutes of Steering Group	Project Coordinator	-	Quarterly
Technical Reports	Project Coordinator	-	Periodic
Mid-term Evaluation with gender gap analysis ⁸⁷	National consultant	10,800	Mid term
Final evaluation	National consultant	13,000	6 months before end of project
Audits	External auditor	4,000	In Years 2 and 3

E. Include a results framework for the project proposal, including milestones, targets and indicators

<i>Project Component</i>	<i>Project Outcome</i>	<i>Project Output</i>	<i>Output Activities</i>	<i>Baseline Indicators</i>	<i>Baseline Levels</i>	<i>Project Outcome Indicator</i>	<i>Results/Targets</i>
Project goal: Contribute to building adaptive capacity to manage climate related risks and reduce vulnerability of rural communities in semi-arid areas of Kongwa district							
1.Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities at Mtanana and Ugogoni wards	1.Enhanced climate resilient rural water supply system in vulnerable agro-pastoral communities of Mtanana and Ugogoni wards, Kongwa district	1.1:Climate resilient rural water supply system established in agro-pastoral communities at Matanana and Ugogoni Wards in Kongwa district	1.1.1Drill boreholes in drought prone and water scarce villages and Install solar energy driven water pumps at Mtanana and Ugogoni wards	1.Number of boreholes drilled 2. Number of purchased and installed solar energy- driven water pumps	0% of required boreholes 0%– water pump driven by solar energy	% coverage of climate resilient rural water supply system in agro-pastoral communities of Kongwa district	100% of vulnerable agro-pastoral communities of Mtanana and Ugogoni wards Kongwa district are access to climate resilient rural water supply system
			1.1.2.Construct water storage tanks and distribution network systems at Mtanana and Ugogoni wards	1.Number of water storage structures and distribution networks constructed	8% water networks		
			1.1.3.Construct community water points/ community water Kiosks for network systems	Number of community water points/ community water Kiosks	0 community water points/ community water Kiosks exist		
			1.1.4.Construct cattle troughs for livestock water system in agro-pastoral communities in selected villages at Matanana and Ugogoni wards, in Kongwa district	Number of constructed cattle troughs	20 cattle troughs constructed in Mtanana and Ugogoni wards		
		1.2 Community Owned Water Supply Organization(COWS Os) established and facilitated and committee members trained on operational and maintenance	1.2.1Establish water governance structures (COWSOs) and promote equitable water allocation for all uses and revenue collection	1.Number of COWSOs established 2.Training reports	0% of COWSOs exist and has effective management structure at Mtanana and Ugogoni wards		
			1.2.2. Promote formulation of water governance/by	Number of by laws on effective water	0 bylaws exist		

			laws to regulate effective use of water and protection of water sources	uses and management			
2. Support transformation of exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods	2. Transformed exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods in selected wards of Kongwa district	2.1 Best agricultural – climate smart practices enhanced to improve food security in the selected villages of Mtanana and Ugogoni wards, Kongwa district	2.1.1. Construct and establish atleast three drip irrigation structures/schemes at Mtanana and Ugogoni wards in Kongwa district	Number climate sensitive drip irrigation schemes	0% of drip irrigation schemes	% of agro-pastoral practices transformed to diversified climate smart and sustainable livelihoods	Establish three drip irrigation schemes and improve food security by 90% at Mtanana and Ugogoni wards
			2.1.2. Rehabilitate the existed pre independence contour bands/windrows, and promote other soil and water management techniques (terracing, tie ridging) in-situ techniques for sustained agriculture/crop productivity at Mtanana and Ugogoni wards	Number of contour bands/windrows constructed Number of farmers using water management techniques in farms	Existence of damaged contour band/windrows		
			2.1.3. Facilitate increased use of climate smart crops and promoting intercropping with drought resistant varieties like sorghum, sunflower, simsim, pigeon peas, cassava, cereals, sweet potatoes and early maturing crops to increase resilience farming systems at Mtanana and Ugogoni wards.	Number of farmers using improved seeds and use intercropping with drought resistant varieties	Less than 10% farmers use improved drought tolerant and early maturing seeds		
			2.1.4 Improve knowledge on best farming practices and transform traditional farming system through solid farmers tailored trainings using Farmer Field School Approach (FFS).	Number of farmers trained and using FFS	90% of farmers use traditional methods of agricultural systems		

			2.1.5 Establish women based gardens and poultry houses and trainings on FFFS (Female Farmer Field School) – provision of seeds and tools to diversity gender based livelihood syst2.2 Natural pasture, local breeds and livestock management systems improved to enhance adaptive capacity of livestock keepers to climate induced droughts in Kongwa district.ems	Number of gardens established by women Number of women attended FFFS	More than98% of women engage in traditional agriculture		
		2.2 Natural pasture, local breeds and livestock management systems improved to enhance adaptive capacity of livestock keepers to climate induced droughts in Kongwa district.	2.2.1Establishing drought resistant pasture species and enhance rangeland management and transform traditional grazing system	Number of pastures farms, Number of rangeland managed in km,	0 pasture farms, existing of xx number of grazing land		
			2.2.2 Improve livestock management to control pests and diseases through cattle dips, feeding systems and cross breeding local breeds with improved breeds available at the National Ranching Company (NARCO)	Number of local breeds improved through cross breeding techniques Number of cattle dips	Availability of improved breeds at NARCO		
		2.3 Improved market value chain of agro-pastoral products on farm and off farm products to strength their competition power in the market and diversify livelihood systems in	2.3.1 Facilitate and train farmers and livestock keepers on value addition and packaging techniques of their agricultural products and link them to competitive markets and finance institutions	Number of local farmers trained on market and financial issues, Number of local famers and livestock keepers access to improved market	Availability of famers and livestock keeps organized in informal groups		
			2.3.2Facilitate provision of	Number of machines	0 machines and		

		the project sites	value addition and packaging tools, equipment and machines	and equipment for improving quality and packaging of agricultural products	equipment		
3.Improve ecological functions to sustain climate sensitive rural livelihoods at Mtanana and Ugoni wards and in selected rural communities of Kongwa district	3:Improved ecological services and functions to sustain climate sensitive rural livelihoods in Kongwa district	3.1.Integrated ecological and management systems implemented in Kongwa district to sustain climate sensitive rural livelihoods in vulnerable communities	3.1.1 Establish and implement ecological restoration and rehabilitation plans (such as shrub/grasses establishment on contour bands/windrows, woodlots and woodland restoration) in selected Wards and Villages of Kongwa District	Number of restored and rehabilitated ecosystems, windrows, established woodlots, Number of ecological restoration and rehabilitation plans developed	90% windrows and contour bands restored, xx hectares of woodlots established, 10 villages have ecosystem restoration plans	Number and type of ecosystems maintained and improved to enhance their functions and services under the climate and weather seasons	Restore and Rehabilitate at least 90% of the degraded ecosystems in Mtanana and Ugoni wards to sustain climate sensitive rural livelihoods
			3.1.2 Promote bee keeping and fruit plants as income diversification activities to increase female and old people adaptive capacity in the district	Number of modern beehives purchased and used by farmers, women and old people	0% of modern bee hives in the selected project sites		
			3.1.3 Promote tree planting activities in residential areas, along streets and roadsides and in the degraded areas.	Number of tree planted	Availability of some tree nurseries available in local communities		
			3.1.4 Promote Best Available Techniques (BAT) and Best Available Practices (BAP) on the use of efficient firewood and charcoal stoves in rural villages	Number of improved charcoal and firewood stoves	0% of improved charcoal and firewood stoves available in the project sites		
4 Strengthen local institutional capacity for effective	4Strengthened institutional and technical capacity to reduce risks associated with	4.1Institutional and technical capacity of the district and communities in Kongwa is strengthened to be	4.1.1 Promote necessary trainings: technical staff and agro-pastoral on managing climate risks and project measures for sustained livelihood and future	Number of communities and district staff trained	Availability of knowledgeable staff	20% of district staff and local communities trained on climate change	Over 2000 knowledge products (IEC) developed and distributed 12 Radio talk

implementation of adaptation strategies and reduce risks associated with climate-induced socio-economic failures in Kongwa district	climate-induced livelihood failures in Kongwa district	able to with stand impacts of climate change and variability	scaling ups			management issues	shows on project implementation s and adapation issues Web portal for interactions on project success and challenges
			4.1.2 Review and mainstream climate change adaptation measures into sustainable development plans at district to village levels	Number of development plans reviewed to integrate climate change issues Number and type of climate related risk reduction strategies developed at district level			
			4.1.3 Communicate project results and share lessons learnt	Number of news outlets in the local press and media that have covered the topic Number of awareness meetings conducted			
			4.1.4 Facilitate provisional of project monitoring and evaluation facilities, tools and equipment	Number of tools and equipment purchased			

F. Demonstrate how the project / programme aligns with the Results Framework of the Adaptation Fund.

Project Objective(s)	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
1.Enhance climate resilient rural water supply system in vulnerable agro-pastoral communities at Mtanana and Ugogoni wards	% coverage of climate resilient rural water supply system in agro-pastoral communities of Kongwa district	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors	2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	330,000.00
			4.1.Development sectors' services responsive to evolving needs from changing and variable climate	
			4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	
			6.1 Percentage of households and communities having more secure (increased) access to livelihood assets	
			6.2. Percentage of targeted population with sustained climate-resilient livelihoods	
			3.2. Modification in behavior of targeted population	
2. Support transformation of exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods	Number of agro-pastoral communities transformed from exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods in selected wards of Kongwa district	Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas Outcome 5: Increased ecosystem resilience in response to climate change and variability Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors	2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks	430,000.00
			3.2. Modification in behavior of targeted population	
			4.2. Physical infrastructure improved to withstand climate change and variability-induced stress	

			5.1 Ecosystem services and natural Assets maintained or improved under climate change and variability-induced stress	
			6.1 Percentage of households and communities having more secure (increased) access to livelihood assets	
			6.2. Percentage of targeted population with sustained climate-resilient livelihoods	
3.Improve ecological functions to sustain climate sensitive rural livelihoods at Mtanana and Ugogoni wards and in selected rural communities of Kongwa district	Improved ecological functions to sustain climate sensitive rural livelihoods in Kongwa district under the changing climate and variability of seasonal weather events	Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors Outcome 5: Increased ecosystem resilience in response to climate change and variability	3.2. Modification in behavior of targeted population 4.1.Development sectors' services responsive to evolving needs from changing and variable climate 5.1 Ecosystem services and natural Assets maintained or improved under climate change and variability-induced stress 6.1 Percentage of households and communities having more secure (increased) access to livelihood assets	198,285.00
4. Strengthen local institutional capacity for effective adaptation strategies and reduce risks	Strengthened institutional and technical capacity to reduce risks associated with	Outcome 2: Strengthened Institutional capacity to reduce risks associated with climate-induced Outcome 6: Diversified and	Output 2.1: Strengthened capacity of national and regional centers and networks to respond rapidly to extreme weather events	

<i>associated with climate-induced socio-economic failures in Kongwa district</i>	<i>climate-induced livelihood failures in Kongwa district</i>	<i>strengthened livelihoods and sources of income for vulnerable people in targeted areas</i> <i>Outcome 4: Increased adaptive capacity within relevant development and natural resource sectors</i>	3.2. Modification in behavior of targeted population Output 2.1: Strengthened capacity of national and regional centers and networks to respond rapidly to extreme weather events	60,000.00
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
1.Enhanced climate resilient rural water supply system in vulnerable agro-pastoral communities of Mtanana and Ugoni wards, Kongwa district	Number of boreholes drilled Number of purchased and installed solar energy- driven water pumps Number of water storage structures and distribution networks constructed	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities Output 4: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	4.1.1. No. and type of health or social infrastructure developed or modified to respond to new conditions resulting from climate variability and change (by type) 4.1.2 Number of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types) 6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individual- or community- livelihood strategies 6.1.2. Type of income sources for	330,000.00

	<p><i>Number of community water points/ community water Kiosks</i></p> <p><i>Number of constructed cattle troughs</i></p> <p><i>Number of COWSOs established</i></p>	<p><i>Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability</i></p>	<p><i>households generated under climate change scenario</i></p>	
<p><i>2. Transformed exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods in selected wards of Kongwa district</i></p>	<p><i>Number of climate sensitive drip irrigation schemes</i></p>	<p><i>Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities</i></p>	<p><i>4.1.1. No. and type of health or social infrastructure developed or modified to respond to new conditions resulting from climate variability and change (by type)</i></p>	<p><i>430,000.00</i></p>
	<p><i>Number of contour bands/windrows constructed</i></p>		<p><i>4.1.2 Number of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types)</i></p>	
	<p><i>Number of farmers using improved seeds and use intercropping with drought resistant varieties</i></p>	<p><i>Output 4: Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability</i></p>	<p><i>5.1.1 Number of natural resources assets created ,maintained or improved to withstand conditions resulting from climate variability and change (by type and scale)</i></p>	
	<p><i>Number of farmers trained and using FFS</i></p> <p><i>Number of gardens established by women</i></p> <p><i>Number of women attended FFS</i></p>	<p><i>Output 5: Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts including variability</i></p> <p><i>Output 6: Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability</i></p>	<p><i>6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individual- or community- livelihood strategies</i></p> <p><i>6.1.2. Type of income sources for households generated under climate change scenario</i></p>	

3.Improved ecological services and functions to sustain climate sensitive rural livelihoods in Kongwa district	Number of restored and rehabilitated ecosystems, windrows and established woodlots	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	4.1.1. No. and type of health or social infrastructure developed or modified to respond to new conditions resulting from climate variability and change (by type)	198,285.00
	Number of ecological restoration and rehabilitation plans developed	Output 5.Vulnerable ecosystem services and natural resource assets strengthened in response to climate change impacts including variability	5.1.1 Number of natural resources assets created ,maintained or improved to withstand conditions resulting from climate variability and change(by type and scale)	
	Number of modern beehives purchased and used by farmers, women and old people	Output 6:Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	6.1.1.No. and type of adaptation assets (physical as well as knowledge) created in support of individual- or community- livelihood strategies	
	Number of tree planted		6.1.2. Type of income sources for households generated under climate change scenario	
	Number of improved charcoal and firewood stoves			
4. Strengthened institutional and technical capacity to reduce risks associated with climate-induced livelihood failures in Kongwa district	Number of communities and district staff trained	Output 3: Targeted population groups participating in adaptation and risk reduction awareness activities	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events	60,000.00
	Number of development plans reviewed to integrate climate change issues	Output 6:Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	3.1.1 Number and type of risk reduction actions or strategies introduced at local level 3.1.2 No. of news outlets in the local press and media that have covered the topic 7.2. No. or targeted development strategies with incorporated climate change priorities enforced	

G. Include a detailed budget with budget notes, a budget on the Implementing Entity management fee use, and an explanation and a breakdown of the execution costs.

This part will be done during full proposal development stage

H. Include a disbursement schedule with time-bound milestones.

This part will be done during full proposal development stage

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

A. Record of endorsement on behalf of the government²¹ *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:*

Eng. Joseph K. Malongo , Permanent Secretary, Vice President's Office	Date: December, 28 th , 2018
--	---

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 Strategy for Growth and Reduction of Poverty 2010-2015; National Climate Change Strategy 2012, Tanzania Vision 2025 and in the National Adaptation Programme of Action (NAPA) 2007) and subject to the approval by the Adaptation Fund Board, commit to implementing the project/programme in compliance with the Environmental and Social 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.



Fredrick F. Mulinda
Implementing Entity Coordinator

Date: January 4, 2019

Tel. and email: +255 753 240 517, nieaf@nemc.or.tz / kasigazi.koku@gmail.com

Project Contact Person: **Dr. Dominico B. Kilemo**

Tel. And Email: +255 757 370 856, Email: dbkilemo@gmail.com

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.

Annex 1: Concept Note

1.0 Project Background

1.1 Description of the problem which the project aims to solve

With the emerging challenge of climate change and climate variability, many socio-economic sectors in Tanzania are vulnerable to climate related risks. These include water, where there is a general drying trend of natural water sources and rivers, energy where the hydropower supply is frequently interrupted by drought events, agriculture where crops and livestock suffer the impacts of drought and flooding and increasing occurrences of epidemics from pests and diseases in the health sector²². More than 70% of natural disasters in Tanzania are climate related. They are linked to droughts and floods and these have become more frequent as a result of climate change and climate variability. Several studies conducted in various regions and districts in the United Republic of Tanzania, indicate that rural areas especially agro-pastoral communities have been experiencing the effect of climate change through crop failures, decreased crop yields, increased water scarcity and sometimes shrinkage and drying of grazing lands/pastures due to increased and intensified drought periods²³. The predominance of more bad years as commonly referred by communities in rural areas of Tanzania have negatively impacted farmers' livelihoods, their economies and social life²⁴. In Kongwa district for example, worryingly, farmers are reporting that both the timing of rainy seasons and the pattern of rains within seasons are changing. These observations of change in climate are striking in that they are widespread throughout the district and are pronounced in remarkably consistent terms in almost all villages of the district.

Over the past decades, the seasons appear to have shrunk in number and variety, such that what was termed as good seasons are truncated or have disappeared. Currently, the experience in most villages of Kongwa district 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 wet²⁵. Rains are more erratic, coming at unexpected times in and out of seasons. In particular, there is less predictability as to the start 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. These kinds of rains, they may also come at unusual times²⁶. The impacts of such shift in seasonality and climate trends, have already severely disrupted food production, led to the displacement of communities, loss of life and assets, and caused an overall reduction of community resilience. This is because, the timing of rain, and intra-seasonal rainfall patterns are critical to smallholder farmers/agro-pastoral communities. 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 Ugogoni and Mtanana Wards of Kongwa district for example, villagers witness that formerly the growing season had about five months commencing from December to April, but in recent times, this duration had decreased to less than three or two months²⁷. This shrinkage of the seasons has confirmed the disappearance of short rains which previously used to appear around October to December. Rowhani et al²⁸ for instance specified

²² TMA, (2014). *Climate change projection for Tanzania: A report Submitted to the Government of Tanzania*. Dar es Salaam 33p.

²³ 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.

²⁴ Bwire, M.K. (2016). *Impact of climate change and variability on coastal Penaeid shrimp abundance in Rufiji delta, Tanzania*. PhD thesis, submitted to the University of Dar es Salaam 295 pp

²⁵ URT 2014. *Agriculture Climate Resilience Plan 2014-2019*

²⁶ TMA 2014. *Climate change projection for Tanzania: A report Submitted to the Government of Tanzania*. Dar es Salaam 33p

²⁷ Mkonda M.Y 2017. *Are Rainfall and Temperature Really Changing? Farmer's Perceptions, Meteorological Data, and Policy Implications in the Tanzanian Semi-Arid Zone*. *Sustainability*: 9- 1412

²⁸ Rowhani, P.; Lobell, D.B.; Linderman, M.; Ramankutty, N 2011. *Climate variability and crop production in*

that a 20% increase in intra-seasonal precipitation variability reduces agricultural yields by 4.2%, 7.2%, and 7.6% for maize, sorghum, and rice respectively. Due to this, food insecurity remains significant in most places in the country. For example, in the year 2015, the country registered 28.5 on the Global Hunger Index, with 32% of the population under-nourished. As a result, food insecurity is responsible for more than 130 child deaths every day, making it the greatest contributor to under-five deaths in the country. About 42% of children under five years of age in Tanzania are stunted, and this number has only decreased by 2% between 2005 and 2010. This chronic under-nutrition affects more rural children (45%) than urban children (32%) and is more common in less educated and poorer families in rural areas for districts like Kongwa in Dodoma region with the highest prevalence (50% or higher) of stunting children.

Consequently, the negative effects of climate change to the pastoral and agro-pastoral communities' livelihoods are intolerable.. High level of livestock mortality associated with climate failures and bad seasons is continuously being recorded. Data indicates that in Ugogoni Ward for example, there has been progressive mortality record of livestock deaths due to dried pastures. In 2013, there were about 332 livestock deaths, 525 livestock deaths in 2014, 414 livestock deaths in 2015 and 595 livestock deaths in the year 2016²⁹. Likewise, the same Ward received reasonable food quantities in thousands tons of maize as aid support given to households with critical food shortage from the Government. Therefore, the District and the Central government recognizes that no meaningful poverty reductions actions can be achieved without addressing the deleterious impacts climate change. Thus, strategic development policy documents such as the National Strategy for Growth and Reduction of Poverty 2010-2015; National Climate Change Strategy 2012, Tanzania Vision 2025 and in the National Adaptation Programme of Action (NAPA) 2007, recognizes that in responding to climate change and poverty challenges, it is essential to implement a number of concrete adaptation measures at grass root levels , including focusing on activities which ensure effective provision of quality livelihood and socio-economic systems. In this case, multi-disciplinary and integrated measures need to be implemented in Kongwa district to build and enhance adaptive capacity of poor agro-pastoral communities.

1.2 ***Observed effects of climate change on socio-economic systems and gender issues in Kongwa district***

Rural communities in Kongwa district rely heavily on climate sensitive sectors for their livelihoods. For instance, it is evident that water services in the proposed project sites are facing water security risks in various aspects such as scarcity and quality, both of which affect health and other economic development. Existing water sources have proved to be incapable of withstanding the effects of climate change and even increased water demands. Agricultural and livestock systems are also facing several challenges including poor farming practices and reliance on rainfall. As already described above, over the past three decades rain seasons have varied and shifted its trends such that droughts and dry spell periods are more common than wet spells. Rains are more erratic, coming at unexpected times in and out of seasons. Within recognizable seasons, unusual and “unseasonable” events are occurring more frequently. These make individuals in these areas to suffer the most and are more vulnerable to food insecurity and death of livestock including drying of pastures and grazing lands for the cattle. Due to this, available reports in Kongwa district show that women are more vulnerable to the effects of climate change than men in most villages. The contributing factors for their vulnerability are high level of illiterate, norms and traditional systems in these communities which expose women to struggle mostly with inferior domestic issues and to keep domestic matters of families going.. Above all, they face social, economic and political barriers that limit their coping capacity to climate change effects³⁰. It has been observed that these roles such as to be charged with the responsibility to secure water, food and fuel for cooking and heating make them to suffer the most whenever climate calamities happen. Ideally, information on gender based conflicts available at the district are linked with climate change issues such as water scarcity and food shortage. Water scarcity and continued food crisis in villages of the targeted project sites have also instigated conflict within households, including incidences of abandonment or separation of couples. The proposed project will integrate gender roles and special needs of marginalized groups in various activities/interventions.

Tanzania. Agric. For. Meteorol. 15, 449–460.

²⁹ *Kongwa district report, 2017*

³⁰ *Kongwa district Ciuncil, 2018*

1.3 Project objectives

The principle objective of this project is to reduce the impacts of climate change in agro-pastoral communities. This will be achieved through implementation of integrated concrete adaptation activities covering the following sectors: water, agriculture and livestock. In this way, the project will adopt a comprehensive integrated approach in order to tackle the multiple effects of climate change as well as to enhance the population's adaptive capacity through the following four specific objectives:-

- i) *To enhance climate resilient rural water supply system in vulnerable agro-pastoral communities at Mtanana and Ugogoni wards;*
- ii) *To support transformation of exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods;*
- iii) *To improve ecological functions to sustain climate sensitive livelihoods in Kongwa District.*
- iv) *To strengthen local institutional capacity for effective adaptation strategies and reduce risks associated with climate-induced socio-economic failures in Kongwa district.*

1.4 Economic, social and environmental benefits of the proposed project to the most vulnerable communities

The proposed project seeks to pilot practical and cost effective and community rooted solution to improve livelihood of poor people, restore and rehabilitate ecological systems, support agriculture and livestock production in Kongwa district. All four specific objectives contribute to economic, social and environmental benefits.. Each objective activity is well linked to both environmental and socio-economic to improve the wellbeing of the poor and vulnerable people and their supporting natural ecosystems. Equally, the project is well informed by the Environmental and Social Policy of the Adaptation Fund to avoid and mitigate unseen negative impacts including considering gender issues.

i) Environmental benefits

The proposed project will have several environmental benefits, including contribution to climate change mitigation, ecosystem management, biodiversity conservation, land management and conservation agriculture. This project have special component on improving functions and services of ecological which aims to increase availability of trees for planting, restoration and rehabilitation of the colonial contour bands/windrows. The project will also invest in reforestation and restoration of degraded ecosystems in Kongwa including hills and river 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 40% of forest regeneration and cover including establishing woodlots and beekeeping activities in villages' forest lands and implementing village environmental related by laws. The project will contribute to reverse bad practices of livestock keepers and farmers as explained *in the attached AF application form*

ii) Economic benefits

The project components will extensively contribute to economic benefits, and it is seen that, when perfectly implemented, this project will lastingly transform livelihood systems and quality of life in the project sites and beyond. The project components proposed here will improve and transform agro-pastoral systems and water supply to be more adaptive to climate shocks and more sustainable. In particular, the activities outlined in each output of the components will lead to increased agriculture and livestock production and move vulnerable communities beyond subsistence farming to selling excess crops and livestock products. This project will also build sustainable market and will link villagers to financial services as well as promoting credit cooperatives. Social-cooperative model proposed in this project will maximize their marketing and competitive power in the national and international market.

iii) Social benefits

The social benefits that will be gained as a result of implementing this project are manifold. All activities suggested under each component offer multiple social benefits with positive multiplier effect to marginalize and poor vulnerable rural communities including women and school girls. The project inspires to improve rural water systems, foster food security, and transform farming practices and livestock keeping systems including improvement of folder, rangeland and pastures. All these have multiple benefits and positive contribution to the

existing social systems in Kongwa. For instance, availability of water and increased food security will contribute to solving social conflicts at household levels and invent competing demand for water among livestock keepers and farmers. School dropout will also be solved including controlling recurring water borne diseases like cholera. The observed malnutrition challenges will also be tackled through various output activities of this project especially activities under objectives 2, 3 and 4. It is also expected that families will be able to invest in their own social development issues such as education (*more details are described in the attached AF application form*)

2.0 Project location, Stakeholders involvement and Sustainability

Project location: The project target vulnerable agro-pastoral communities in Semi-arid areas of Kongwa district, in Dodoma region. The district is economically and socially backward with acute poverty and society ridden with outmoded traditions and even superstitions. The status of women is coupled with discrimination against girls³¹. Women suffer from all kinds of social disabilities and at the same time handling each and every responsibility of domestic work as well as collection of fuel wood and water for domestic uses from distant places. Gender inequity is the project site is normally based on community enlightenment which is configured by education level, cultural bondage, individual characteristics and society dynamics. Approximately 98 percent of the population in Kongwa lives in rural areas with the majority engaged in smallholder - rain-fed agriculture, and who overwhelmingly rely on climate sensitive sectors for their livelihoods, with environmental harm only perpetuating the cycle of poverty.

The project's sustainability: Its sustainability is rooted in its design as it puts emphasis on active participation of community groups and individuals in decision-making and implementation of the project's activities from the beginning. The project is also striving to strengthen the institutional and technical capacity at community and district levels. This ensures active engagement and inclusion of key stakeholders in all stages of the project from the designing to closing phase including equipping them with adequate knowledge and skills to maintain the benefits of the project's interventions for sustainability. The participatory approach will lead to ownership of the project interventions including results and outcomes to vulnerable local communities. Thus, the proposed project will empower people at the grass root to build their local capacity to continue adapting to climate change risks in future. Community ownership will also ensure that all social, economic and environmental benefits gained from the project interventions will be long-lasting. Moreover, the proposed investment is well aligned with national priorities. This provides greater opportunity for the district and central government to scale-up the project outcomes after phasing out of the AF funding and interventions. The operation of the project within District Headquarters will also ensure sustainability through integrating the project components into adaptation plans of the district.

3.0 Summary of the project budget

Project component	Cost in US\$
Component 1: Enhancing climate resilient rural water supply system in vulnerable agro-pastoral communities at Mtanana and Ugogoni wards	330,000.00
Component 2: Supporting transformation of exploitive agro-pastoral practices to diversified climate smart and sustainable livelihoods	430,000.00
Component 3: Improving ecological functions to sustain climate sensitive rural livelihoods at Mtanana and Ugogoni wards and in selected rural communities of Kongwa district	198,285.00
Component 4: Strengthening local institutional capacity for effective adaptation strategies and reduce risks associated with climate-induced socio-economic failures in Kongwa district	60,000.00
Project execution cost	95,160.77
Total project cost	1,018,285.0

³¹ Kongwa district socio-economic profile, 2016-2021

Project cycle management fee charged by the Implementing Entity	86,554.23
Amount of financing requested	1,200,000.0

4.0 Projected Calendar:

Milestones	Expected Dates
Start of Project Implementation	October 2019
Mid-term Review	March 2021
Project Closing (4 months after project completion)	February 2024
Terminal Evaluation	August 2023

Annex 2: Government Endorsement Letter

THE UNITED REPUBLIC OF TANZANIA VICE PRESIDENT'S OFFICE

Telegrams: "MAKAMU"
Telephone: +255 026 2329006
Fax: +255 026 2329007/2963150
Email: ps@vpo.go.tz
In reply please quote:



Makole Street,
LAPF Building, 7th floor,
P.O. 2502,
40406 DODOMA,
TANZANIA.

Our Ref: AB.90/201/01/202

28th December, 2018

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

Subject: Endorsement for **Enhancing Climate Change Adaptation for Agro-pastoral communities in Kongwa District**

In my capacity as designated authority for the Adaptation Fund in the United Republic of Tanzania, I confirm that the above national project 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 the country.

Accordingly, I am pleased to endorse the above project proposal with support from the Adaptation Fund. If approved, the project will be implemented by National Environment Management Council and executed by Foundation for Energy, Climate and Environment (FECE) in collaboration with Kongwa District Council.

Sincerely,


Eng. Joseph K. Malongo,
PERMANENT SECRETARY



Annex 3: Project Formulation Grant (PFG)

Submission Date: 4th January 2019

Adaptation Fund Project ID:

Country/ies: **United Republic of Tanzania**

Title of Project/Programme: **Enhancing Climate Change Adaptation for Agro-Pastoral Communities in Kongwa District**

Type of IE (NIE/MIE): **National Implementing Entity (NIE)**

Implementing Entity: **National Environment Management Council (NEMC)**

Executing Entity/ies: **The Foundation for Energy, Climate and Environment / Kongwa District Council**

A. Project Preparation Timeframe

Start date of PFG	28 March 2019
Completion date of PFG	22 May 2019


B. Proposed Project Preparation Activities (\$)

Describe the PFG activities and justifications:

List of Proposed Project Preparation Activities	Output of the PFG Activities	USD Amount
Desktop literature review	Detailed literature review, a list of reviewed literatures	900
Stakeholders workshops for validating the project design and inputs for full proposal development	Workshop reports, validated project design, improved design, inputs to the design process	6,500
Field visits in the project area for validating project design and obtaining inputs for full project proposal development	Validated project design	6,800
Detailed analysis of project components	Well described and detailed Project components	2,200
Development of project log frame and results framework	Detailed Project Logframe and Results Framework developed	1,500
Detailed project budget development	Detailed and concrete project budget	1,000
Environmental Impact Assessment (EIA) of the proposed project	EIA report, EIA review report and Environmental Clearance Certificate	6,000
Full project proposal development	Full Project Proposal developed	4,900
Printing and binding of full proposal copies for submission	Printed and bound copies of full project proposal for submission	200
Total Project Formulation Grant		30,000

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 Mulinda		4 th Jan 2019	Dr. Dominico B. Kilemo	+255 757370856	dbkilemo@gmail.com

Annex 4: Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING FOR EXECUTING THE ADAPTATION FUND PROJECT

BETWEEN

THE FOUNDATION FOR ENERGY, CLIMATE AND ENVIRONMENT of P.O BOX 6494 Dar es Salaam (herein referred to as "**Principal Executing Entity**")

AND



KONGWA DISTRICT COUNCIL of P.O.BOX 57 Kongwa (herein referred to as "**Co-Executing Entity**")

NOW THIS AGREEMENT WITNESSES THE FOLLOWING:

1. That, the Parties shall jointly execute the project titled *Enhancing Climate Change Adaptation for Agro-pastoral communities in Kongwa District*
2. The Parties of this agreement shall establish the Project Management Committee (PMC), which will consist nine (9) members and among of those members two shall come from the Principal Executing Entity, two from the Co-Executing Entity. Four members shall come from public institution such as Regional Administrative Secretary's office, National Environment Management Council, Ministry of Agriculture and one member shall come from Tanzania Civil Society Forum on Climate Change
3. That, the main function of this Committee shall be to oversee project implementation
4. That, the Chairperson of Co-Executing Entity shall be the chairperson of the Committee whereas the Executive Director of the Principal Executing Entity shall be the Secretary of the Committee, while the Executive Director of the Co-Executing Entity shall be the Co-Secretary of the Committee
5. That, in this agreement the Principal Executing Entity shall lead and coordinate project implementation
6. That, the Co-Executing Entity shall provide staff for project implementation
7. That, the Parties in this agreement shall open a special Bank Account for the Project
8. That, such special Project bank account shall consist of four signatories, whereby two shall come from the Principal Executing Entity and the other two shall come from the Co-Executing Entity.

In witness thereof the Parties have executed these presents on the date and in the manner hereinafter appearing.

1

Scanned by CamScanner