REQUEST FOR PROJECT/PROGRAMME
FUNDING FROM THE ADAPTATION FUND

The annexed form should be completed and transmitted to the Adaptation Fund Board Secretariat by email or fax.

Please type in the responses using the template provided. The instructions attached to the form provide guidance to filling out the template.

Please note that a project/programme must be fully prepared (i.e., fully appraised for feasibility) when the request is submitted. The final project/programme document resulting from the appraisal process should be attached to this request for funding.

Complete documentation should be sent to:

The Adaptation Fund Board Secretariat
1818 H Street NW
MSN P4-400
Washington, D.C., 20433
U.S.A
Fax: +1 (202) 522-3240/5
Email: afbsec@adaptation-fund.org

ADAPTATION FUND

PROJECT/PROGRAMME PROPOSAL TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Regular Project
Country/ies:	Malawi
Title of Project/Programme:	Enhancing Adaptive Capacity and Livelihood Diversification for the Rural Poor of Northern Malawi
Type of Implementing Entity:	Multilateral
Implementing Entity:	African Development Bank
Executing Entity/ies:	Ministry of Agriculture, Irrigation and Water Development and the Northern Region Water Board
Amount of Financing Requested:	USD $**4,662,000.00**

Project / Programme Background and Context:

Provide brief information on the problem the proposed project/programme is aiming to solve. Outline the economic social, development and environmental context in which the project would operate.

Geographic, Environmental and Socio-economic Context

Malawi is a land-locked country located in southeast Africa lying along a section of the East African Rift Valley. The country covers a total geographical area of 118,480 km^2 and shares borders with Mozambique, Tanzania and Zambia. The major physiographic regions of the country are the Nyika and Viphya Plateau in the north, the plains of the central region and the Shire Highlands in the south. Between these high plateau areas and the lakeshore zone below, lies the Escarpment zone traversed by numerous rivers and streams. About 20 percent of the country is covered by surface water resources dominated by Lake Malawi (Lake Malawi, Malombe, Chilwa and Chiuta are the largest water bodies in Malawi).

Rainfall is the most important source of water resources in Malawi where annual precipitation varies between 800 mm in low lying areas of the extreme south to well over 3000 mm in the highlands and the lakeshore areas of the extreme north. Consequently, water resources is at the center of Malawi's socio-economic development - key sectors

including agriculture, tourism, transport, fisheries, among others, are largely dependent on the availability of water resources. As an agro-based economy, water scarcity would severely limit agricultural productivity and negatively affect the country's economy. Climate change is expected to result in more rainfall variability across the region- further increasing the risk of water shortages.

Malawi is ranked as one of the poorest countries in the world with 50.7 percent of the population living below the poverty line and 25 percent living in extreme poverty (World Bank 2010[1]). There is a significant urban rural poverty divide, with urban poverty at 14% and rural poverty at 43%. The country's population is currently estimated at about 19 million with an annual growth rate of 2.9 percent. Growing population needs, rapid urbanization, climate variability and poor natural resources use and management practices subject Malawi to daunting challenge, which could see the southern African country witness graver water security threats in the future.

Over 80 percent of Malawi's total population is rural or live in small towns, where livelihoods are characterized by smallholder/subsistence farming systems and have limited access to basic services including water and electricity. Majority of the peri-urban and rural households rely on unsafe water sources such as shallow wells and rivers for domestic purposes, these are rainfall-dependent water sources that are impacted by floods and droughts. This is the largely because these communities are not connected to piped water by the public utilities. In rural northern Malawi for instance, water source options include community water points and boreholes. However, many areas remain without boreholes because of the difficulty in finding good aquifers. As water usage increases to meet growing population needs, groundwater reserves are also being depleted due to unsustainable consumption and effects of climate change.

Malawi has the fourth highest deforestation rate in the world. According to the Ministry of Natural Resources, Energy and Mining, National Charcoal Strategy (2017-2027), in 1990, more than 47% of the country was covered in trees, but by 2010 roughly 17% of the forest had been lost. The Department of Forestry put the deforestation rate at between 1.6 percent and 2.8 percent of forest cover per year. The high rate of deforestation is driven by the demand for firewood and charcoal, which remains predominant in Malawi's energy mix. The unchecked demand for charcoal and firework is driving deforestation and forest degradation in Malawi, and is undermining agricultural productivity and food security, water security, and hydroelectric generating capacity—increasing the country's vulnerability to climate shocks.

[1] World Bank, Malawi Country Brief

Climate Variability and Change in the Water Sector

Climate change, coupled with high population growth, rapid deforestation, and widespread soil erosion, poses a serious challenge to Malawi's predominantly agriculture and fisheries-based economy. Of particular concern are potential shifts in the frequency and intensity of extreme events such as intense rainfall, floods, seasonal droughts, and multi-year droughts. The floods of 2014/15 and the drought of 2015/16 significantly hurt the economy's dominant sector, agriculture. Erratic rains affected the country's hydro-dependent electricity generation, leading to widespread blackouts and water shortages. According to the Malawi Drought Post- Disaster Needs Assessment for the 2015- 16 drought events, the water and sanitation sector experienced USD 11.8 million in damages and USD 7.4 million in losses.

The Malawi Climate Change Vulnerability Assessment (2013) notes that the impacts of climate change on *water availability* in Malawi have become evident -"erratic rains, extended dry periods, and increased evaporation have combined with population growth and increased water demand to rapidly turn Malawi's historical water abundance into water scarcity". According to the report, most sub-basins in the country, as a whole, and the northern areas, in particular will retain little or inadequate surface water. Future projections suggest that by 2050 the north of the country will become more prone to flooding and the south to drought[2].

Problem Statement

Prolonged droughts have been recorded to affect groundwater levels in the proposed project areas leading to dried up of boreholes used for rural drinking water. This has adversely affected water supply and sanitation and had tremendous impact on socio-economic wellbeing for the rural poor. In the inland districts of Mzimba, Rumphi and Chitipa, which lie on the rain shadow area of Viphya and Nyika Plateaus, there is frequent drought due to erratic rainfalls. The impact of such drought is felt more severely during the dry months of August, September and October when rivers and community shallow wells used for drinking water dry up completely. As a coping practice, communities move long distances in search for water; these extreme events are severely felt by women and girls who are traditionally responsible for collecting water –, a woman or girl child is responsible for collecting water in more than 88% of Malawian households (Malawi National Statistical Office, Malawi Demographic and Health Survey). The erratic rains

[2] Adhikari U, Nejadhashemi AP. 2016. Impacts of climate change on water resources in Malawi. J. Hydrol. Eng. 21: 05016026. https://doi .org/10.1061/(ASCE)HE.1943-5584.0001436

have also been a major contributing factor to low agricultural productivity, threatening community food security.

On the other hand, increased episodes of flash floods during rainy season lead to increased pollution of water sources and result in the outbreak of waterborne diseases such as diarrhoea, typhoid and cholera. For example, the rural communities in the flood plain lakeshore areas of Karonga and Nkhata Bay have in recent years experienced increased water-borne disease burdens due to exposure to polluted water. The floods have also displaced the communities, destroyed crops, infrastructure such boreholes and wells, stretching the adaptive capacity of these communities to the limit.

More importantly, climate variability has been exacerbated by deforestation and poor land use practices. Typical of many rural communities in Malawi, firewood is the main source of household fuel needs. In addition, sale of charcoal has become a significant alternative for sustaining livelihoods in the wake of food security challenges. Stacks upon stacks of charcoal are a common sight along major roads connecting urban areas. Thus, the project target areas have experienced extensive clearing of woodland and forests due to increasing demand for fuelwood in recent decade. A combination of deforestation, increased rainfall runoff, and accelerated erosion are a key feature contributing to land and water resources degradation on a large scale in the project target areas.

The degradation of catchment areas caused by deforestation and poor land use management have accelerated soil erosion and sedimentation or siltation problems in rivers and reservoirs. In low-lying areas of the lakeshore such as Karonga, Salima, Nkhotakota, Bwanje Valley, and the Lower Shire Valley, communities have been subjected to frequent flooding with the resultant loss of animals and crops and sometimes, human life. Local water boards including the Northern Water Board have been taking measures to protect forest reserves in water catchments by deploying Malawi Defence Force soldiers to guard catchment areas supplying water to the cities. However, a more integrated and holistic approach is needed to ensure sustainable management of water resources in the project areas. Adaptation, therefore, requires communities to progressively introduce fundamental changes in the structure of their technologies, livelihoods, consumption patterns and governance to be in greater consonance with the trends of a changing climate.

Overview of the Project Target Area(s)

The target project areas are Nkhata Bay, Mzimba, Rumphi, Karonga and Chitipa districts in northern Malawi. These districts are all facing high impact of climate change and remain vulnerable to further climatic shocks. The Table below gives some socio-economic indicators relating to water and sanitation in the project target districts. The data is largely

derived from socio-economic profile reports for respective districts. An important aspect on access to water is that most of the water points are non-functional due to lowering water table or are in state of disrepair due to scarcity of spare parts. For sanitation, the indicators relate to access to basic pit-latrine, which is almost akin to open defaecation as there are glaring hygiene issues. In other words, actual access to potable water and improved sanitation remains a far- fetched dream in the project target areas.

Districts	Population (% women)	Water Access)	Sanitation
Chitipa	126,799	45.0%	88%
Karonga	194,572	58.0%	71.0%
Mzimba	610,944	71.0%	93.0%
Nkhata Bay	164,761	57.0%	75.5%
Rumphi	128,360	71.0%	79.0%

Project / Programme Objectives:
List the main objectives of the project/programme.

The Project seeks to enhance resilience and adaptive capacity of rural communities that are peripheral to Nkhata Bay, Mzimba, Karonga, Rumphi and Chitipa urban areas in the northern Malawi. These communities are not connected to piped water supplied by Northern Region Water Board (a Malawi Government parastatal organisation responsible for urban water supply to the northern region of Malawi) - and yet, the communities not only have profound impact in safeguarding or destroying the water catchment areas, but also lack sustainable coping mechanisms to the impacts of climate change. The project will, therefore, seeks to improve livelihoods and environmental sustainability, which will be accomplished through introducing new adaptive technologies while promoting sustainable livelihood initiatives in selected project areas.

Specifically, the project will

(i) Improve adaptive capacity of vulnerable communities that have limited access to water supply through rooftop rainwater harvesting and storage in community reservoirs for domestic use.
(ii) Promote sustainability and resilience of water resources through catchment protection including afforestation and adoption of energy of efficient technologies.
(iii) Enhance knowledge management for replication of the interventions.

Project / Programme Components and Financing:

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

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

Project Components	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
Component 1. Rainwater Harvesting and Storage	Available clean drinking water during flood disasters and drought periods	Increased productivity through reduced time spent fetching water, reduced water borne morbidity and mortality	2,400,000.00
Component 2 Catchment Protection: Subcomponent 2.1: Afforestation and Reforestation Subcomponent 2.2: Improved community livelihoods through scalable energy options	Degraded subcatchments are restored through tree planting in selected buffer zones. Degraded river banks restored and buffer zones protected Community supported to establish and sustain woodlots as a climate change intervention Vulnerable communities accessing briquettes as other energy options	Long term provision of adequate and unpolluted water Scalable household energy supply	1,200,000.00 300,000.00
Component 3: Knowledge Management	Case studies, leaflets, project profiles and posters serving as knowledge management and dissemination streams such as stakeholder workshop and knowledge fairs utilised	Knowledge and experiences of best adaptation practice	27,000.00
5. Project/Programme Execution cost			370,000.00
6. Total Project/Programme Cost			**4,297,000.00**
7. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable)			365,000.00
Amount of Financing Requested			**4,662,000.00**

Projected Calendar:
Indicate the dates of the following milestones for the proposed project/programme

Milestones	Expected Dates
Start of Project/Programme Implementation	Jan 2020
Mid-term Review (if planned)	Feb 2022
Project/Programme Closing	Jan 2024
Terminal Evaluation	Mar 2024

PART II: PROJECT / PROGRAMME JUSTIFICATION

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

The Project will have three (3) focus areas.

Component 1: Building community water supply resilience and adaptive capacity

During the dry season, there is significant decline in river base flow and groundwater aquifers in the targeted communities. As a result, there is a corresponding reduction in discharge yields for existing boreholes and shallow wells. The situation is exacerbated during drought periods when the water sources completely dry up. On the other hand during flood events, the water points such as boreholes and shallow wells used for drinking water collapse and become heavily polluted since these water points are rarely constructed to withstand adverse climatic events. Open defaecation is still practised in many of these communities or where latrines are available, they are basic, such that during flood disasters, communities are exposed to polluted water. These exert stress on the vulnerable communities reducing significantly their per capita water use and coping practices. As access to adequate quantities and quality of water is a key driver to good hygiene and health, water related illnesses are not uncommon in these peri-urban/rural poor communities. The Malawi National Adaptation Programme of Action (NAPA) has identified water harvesting as a priority area for promoting resilience in light of climate change impact.

This intervention, therefore, seeks to demonstrate and promote best practices in resilience building through availing water storage for use during dry season and flood periods. This approach demonstrates the possibilities for water stressed rural communities to harness roof - top rainwater and store it in purposely built reservoirs for use during water stress periods. This will ease the burden that rural women suffer in search for water particularly during the dry months of August – October when rivers and wells dry up. Furthermore, peri-urban/rural communities in flood prone areas are exposed to increased disease burden when flooding occurs. Therefore, rainwater harvesting provides a cost effective adaptive option for safe drinking water compared to other in-situ water purification technologies.

The activities under this intervention will include:

i. Fabricating and installation of gutter systems for trapping all roof-top rain water
ii. Engaging a local contractor to develop and install a total of 50 storage concrete reservoirs, each of capacity up to 5,000 m^3, in the target communities covering a total population of up to 500,000 beneficiaries, 70% are expected to be vulnerable women
iii. Community capacity building on water use efficiency and management of the store water. Water point committees will be established to manage the infrastructure.

Component 2: Catchment Protection Activities

This project component aims to support adaptation measures that will rehabilitate and manage targeted sub-catchments areas, which will contribute to enhancing water storage potential of ecosystems, reducing soil erosion and improving livelihoods. Overall, the proposed activities will support water catchment and environmental sustainability as well as transformation of community livelihoods for an estimated population of more about 500,000 local communities in the targeted sub-catchment areas. The targeted catchments will be Nkhata River catchment in Nkhata Bay, Mzimba River catchment in Mzimba, Rumphi River catchment in Rumphi, Kalenge River catchment in Chitipa and North Rukuru River catchment in Karonga. These catchments have been identified since they serve as main water recharge areas for the rivers in addition to providing livelihood support for significant surrounding communities. While management plans are in place for Mzimba River catchment, no such plans have been developed for the rest of the catchments.

Subcomponent 2.1 : Afforestation and reforestation

The Malawi Intended Nationally Determined Contributions (INDC) recognise water resources and forestry management (afforestation and reforestation) as some of the key priority areas for building community resilience. In order to ensure long-term sustainability of the quantity and quality of water from the catchment areas, there will be need to protect catchments of Nkhata River, Mzimba River, Rumphi River, Kalenge River and North Rukuru. This sub-component will support rehabilitation of degraded forests largely through managing natural regeneration, and establish multi-purpose community nurseries and woodlots.

Proposed activities include:

i) Training communites on tree nursery establishment and management
ii) Supporting communities with inputs such as polythene tubes, seeds and water cans to establish tree nurseries The Project will in turn buy the seedlings raised at a reduced priced that will be mutually agreed with the communities, taking into consideration the expenses incurred on the inputs.
iii) Restoration of degraded sub catchments through planting of the seedlings in selected buffer zones by the local communities.
iv) Supporting communities to establish and sustain community forest woodlots/plantations for their future use.

Subcomponent 2.2: Alternative livelihoods (scaling up energy options)

The use of firewood to provide fuel for cooking is more common in rural areas. As the population grows, more firewood is used. In urban areas, charcoal is the main source of energy. The use of firewood as fuel is one major factor in in the depletion of the country's woodlands, which serve as catchment areas for rivers and streams. Increasing adoption of fuel-efficient charcoal and firewood cookstoves presents the most immediate option for slowing deforestation and forest degradation.

Therefore, this project component will focus on promoting use of briquettes as an adaptation household energy option. A briquette is formed when combustible biomass material is compressed under high pressure to form square or round blocks and are used for heating purposes. The moisture content for a briquette can be as low as 4% whereas greenwood may be as high as 65%. Examples of biomass materials include sawdust, wood chips, maize and rice husks, or timber shavings and these materials more readily available.

Under this component, the following activities will carried out:

i) Provide community awareness on adoption of fuel-efficient cook – stoves and high energy briquettes
ii) Promote capacity building on preparation of high-energy briquettes.
iii) Provide pre-fabricated briquette and cook-stoves making equipment to existing vulnerable groups. The beneficiary groups will be the vulnerable groups registered with the District Community and Social Welfare Office. They include the female-headed families, child-headed and the disabled.

Component 3: Knowledge Management

This component will support generation and dissemination of best practices in climate change adaptation and resilience building. Knowledge management will, therefore, focus on promotion and publicity of lessons learnt. The project has been conceived as a demonstration mechanism to enhance capacities to implement measures directed to strengthen climate change adaptation at the community level. Different knowledge materials (manuals, website, leaflets, posters, calendars, presentations, etc.) will be produced for specific target groups (**policymakers, field workers, community groups and scientific community, etc.)**, integrating practical lessons on "how to reach more resilient livelihoods and a more sustainable water management" in targeted communities. The Project will facilitate the development of community adaptation activities through participatory workshops as a means of Knowledge dissemination at the local level to ensure a high level of community involvement, fostering empowerment and ownership of the Project, and thereby strengthening its long-term sustainability. Participatory workshops will serve to identify local conditions, understanding the community needs, especially in regards to vulnerability and adaptation, and identifying and prioritizing concrete adaptation activities.

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

Land tenure system in Malawi is divided into three categories and these are

- Customary land which is under the jurisdiction of traditional leaders who distribute the land to community members
- Public land, which is owned by the government for public developments.

- Private/leasehold land which is land that is leased to individuals or private firms for a determined period..

The Forestry resources in the traditional land tenure are the most stressed up in the target project areas. Forests have become the major source of socio-economic support for the communities in the target project area. In the wake of prevailing poverty, communities look at woodlands as natural resource available to them for income generation by cutting wood for firewood and charcoal to sell. Furthermore, fuel wood remains a vital source of energy for most households and is therefore being removed from the woodland much faster than it can grow. Therefore, primary forests on customary land have been lost, leaving the land almost bare. The Malawi Government encourages tree planting and management at village and household levels in an effort to increase customary land under forest cover. As part of initiatives to restore forest cover, the Government is further implementing afforestation projects under the Public Works Economic Recovery Programme

This Project also aims at ensuring all-year round water availability to vulnerable groups in Northern Malawi. Although northern Malawi generally receives more rainfall than the southern part, the rainfall distribution and intensity tend to vary between the highland plateau areas and the low lying and undulating plains serving as rain shadow areas. Thus, districts such as Mzimba, Rumphi and Chitipa which largely lie on the rain shadow area of Viphya and Nyika Plateaus receive little and erratic rains. These areas are characterised by dry spells and are prone to frequent droughts. The impact of such drought is felt more severely during the dry months of August, September and October when rivers and community shallow wells used for drinking water dry up completely. As a coping practice, communities move long distances in search for water. On the other hand, increased episodes of flash floods in the flood prone lakeshore areas of Karonga and Nkhata Bay Districts during rainy season cause disruption and pollution of water points such as boreholes and wells. Such exposure to polluted water results in the outbreak of waterborne diseases such as diarrhoea, typhoid and cholera. This further stretches the adaptive capacity of these communities. These extreme events are severely felt by women and girls who are traditionally responsible for collecting water for household use.

The project will further promote catchment protection through adoption of scalable household energy options as well as support reforestation of degraded areas. The use of firewood and charcoal to provide fuel for cooking are a common practice in both rural and urban areas. As the population grows, more firewood is used. The use of firewood as fuel is one major factor in in the depletion of Malawi's woodlands, which serve as catchment areas for rivers and streams. Increasing adoption of fuel-efficient charcoal and firewood cookstoves presents the most immediate option for slowing

deforestation and forest degradation. Furthermore, there is need to support rehabilitation of degraded forests largely through managing natural regeneration, and establish multi-purpose community nurseries and woodlots.

The Malawi National Development and Growth Strategy (2017 – 2022) recognizes access to water and sanitation, development of water infrastructure as key factors for the sustainable development of the Malawi. The Project will promote three types of adaptation intervention: 1) livelihoods enhancement and livelihoods diversification; 2) ecosystem protection and enhancement; and 3) community-level water infrastructure planning and actuation. These approaches will build up the financial, natural and social capital of communities. It is estimated that a total of **500,000** people will directly benefit from the project interventions. Considering that women and young girls are responsible for more than 80% of household chores of fetching drinking water and collecting firewood, and therefore most likely impacted by climate change, the project interventions are expected benefit a total of over 400,000 women in the target project areas.

The table below summarizes the anticipated economic, social and environmental benefits of the proposed project.

Project Component	**Co-Benefits**
Community water supply resilience and adaptive capacity	• *Economic*: Rainwater harvesting systems will create jobs for local artisans such as builders and local plumbers. Because of improved access to water, communities will be able to spend their time on more useful economic activities for their livelihoods. Furthermore, access to safe drinking will contribute towards reduction of water related illnesses and resources spent seeking on medical attention. • *Social*: Rainwater harvesting provides a reliable supply of water during droughts. Communities especially women and girls will spend less time collecting water. Thus, they will able to participate more actively in social activities including time spent in school for the girl child. Women will be able to engage in other income-generating activities. Improved access to water will also

	reduce community conflicts on scarce water sources during droughts. • *Environmental*: Water harvesting will reduce stormwater peak flow, thereby reducing the potential for soil erosion. This will reduce contamination of surface water with sediments and other toxic substances. Rainwater harvesting and storage will mitigate against over reliance on other water sources, thus contributing to ecosystem protection.
Climate smart alternative energy option	• *Economic*: Briquette making will be a source of income for the vulnerable communities. Cooking with briquettes will also enable communities spend less on cook energy since briquette produces higher energy than same quantity of charcoal or firewood. • *Social*: Use of briquette will also reduce health risks associated with indoor air pollution. Furthermore, there is little or virtually no soot on cooking pots when briquettes are used as heating energy, thereby promoting household and community hygiene. • *Environmental*: Because of the higher energy efficiency, use of briquette will reduce emissions of carbon – an important constituent of greenhouse gases. Secondly, adoption of briquette help curb deforestation through reduced dependence on fuelwood. Lastly, briquettes promote waste recovery, recycling and re-use.
Catchment protection through afforestation and reforestation	• *Economic*: Properly managed water catchments will guarantee long-term availability of clean water and therefore less costs for water treatment. Community woodlots will also be an important long-term livelihood proofing option since they will be able harvest timber and fruits to generate income. • *Social*: Since afforestation and woodlot establishment activities will be based on a community based participatory approach that will

	likely promote social cohesion and foster leadership and conflict management. • *Environmental*: Afforestation activities will enhance ecosystem resilience from impacts such as soil loss, siltation and biodiversity loss.

The project will initiate activities using diagnostic and rural planning techniques common for developing community-based interventions. Besides, several official agencies are targeted as institutional executing entities; local NGOs / community based groups are going to be selected as partners for local execution, due to their solid experience in these techniques and/or local communities where they operate.
Principles to be considered in all local interventions are, among others, the following:

i. Encouragement of participants to take responsibility;
ii. Respecting the diversity of the local population;
iii. Promote full involvement participation;
iv. Reconciling different interests, if any; and
v. Involving multidisciplinary approaches and teams

Children, women and elderly are frequently amongst the more vulnerable of the poor.
As women play key roles in the family health, education and income, the project will openly encourage women empowerment at all stages; including:

i. Discussing the need to integrate women into projects with community leaders;
ii. Opening subproject grants and specific work packages for women's associations;
iii. Strengthening their role in community relevant organizations on climate change; and
iv. Establishing a recognition and/or certified to outstanding women.

In order to mitigate and/or avoid negative impacts, specific indicators on key economic, social and environmental variables will be integrated in the results-framework, therefore assuring compliance with the Adaptation Fund's Environmental and Social Policy (ESP). These indicators will be monitored and evaluated regularly throughout the project, and will be reported in order to prevent violation. Field teams will regularly interact with relevant persons and organizations of targeted areas to resolve any possible conflicts.

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

There are limited options for key institutions and communities in Malawi on alternative actions to build climate resilience for the rural poor. The Project thus proposes a combination of interventions for promoting and strengthening rural livelihoods with integrated climate risk management that take into account local development needs of the targeted communities. The proposed interventions thus focus on developing adaptive capacity and strengthening livelihood resilience through practical and locally appropriate "soft" adaptation measures as more cost-effective than "hard" engineering measures assuming that soft measures can adequately withstand the impacts of future climate change even under worst scenarios.

Therefore, in comparison with heavy physical infrastructures such as drilling and construction of boreholes, biogas plants and engineered soil stabilization practices such as terraces and check dams, an approach that utilizes smart practices such as rainwater harvesting, use of briquettes and planting of trees in bare and denuded water catchment areas and river banks is thought to be a cost-effective way to reduce the vulnerability in the Project's targeted areas. This approach is consistent with the *Malawi National Resilience Plan and the Malawi National Adaptation Programme of Actions* that state that on the basis of consultation with key stakeholders, cost-effective adaptation to climate change of the vulnerable communities should include the promotion of activities such as rainwater harvesting, forest's restoration and conservation and, adoption of alternative energy options. The Project has been conceived based on such elements, which reflect national priorities and strategies.

The main principle of the Adaptation Fund (condition *that must to be changed* through its implementation) is to develop practical climate change adaptation experiences and capacities to ensure that vulnerable communities can be made resilient to the increase of the frequency and intensity of the droughts and other climate risks over the coming years. The proposed Project is considered as a catalytic initiative to set the course of climate finance in a right direction.

The proposed project budget will support:

i. Acquisition of the best technical expertise available to help vulnerable communities build resilience towards climate change
ii. Design and construction of infrastructure (rainwater harvesting facilities with capacity of up to 5,000 m^3) to improve the water supply and access in the context of climate changes for 50 communities groups translating to more than 500,000 beneficiaries
iii. Provide briquette and cook-stove making equipment to 50 vulnerable community groups, translating to more than 500,000 beneficiaries

iv. Raising and planting a total of **4,800,000** tree seedlings in the river sub-catchments and surrounding communities in the project target areas

The project three-pillar approach is essential to the full replication of the adaptation measures in any vulnerable communities in the future. For climate resilient roof-top rainwater harvesting systems, with an investment of **$2.4 million**, implementation of briquette intervention costed at **$0.3 million** and the measures for water conservation under climate impacts (i.e., catchment/river bank, re-afforestation schemes, etc.) costed at **$1.2 million,** the project will benefit at least 500,000 local communities. Considering that such investment will help contribute towards resilience building, this will translate to a cost of **$3.9 million.**

Considered alternatives will lead to the following discounted costs:

i. Drilling and constructing a total of 200 boreholes to supply equivalent volumes at **2.0 million**. This excludes maintenance costs associated with disruptions of use during flood events as well as drying up during droughts. In many of these project targeted areas, boreholes have also been observed to discharge salty water, with total salt content of up to 5000 mg/l against World Health acceptable limits of up to 1000 mg/l
ii. Promotion and construction of 50 biogas plants at average cost of **$ 1,000** for a 6 m^3 capacity community digester plant. It is also hard to attain sufficient quantities of feedstock (which in most cases are household wastes) for biogas plants. The safety aspects for the plants are also a concern for rural communities;
iii. Construction of rock and earth dams **($100 / dam)** to check soil erosion. Therefore, for effective checking of soil erosion, a number of these check dams would be required and the cost of such investment would obviously be huge. These dams are liable for wash away during storms and floods.

As the proposed investments will also allow the 500,000 beneficiary communities satisfy their domestic water and heating energy needs (WHO estimates per capita water need as 50 to 100 litter/day/person), the investments are more cost effective than the alternatives. Similarly, with a cost of $3.9 million, the project will contribute to improving health for the 500,000 target beneficiaries, contribute to water catchment area stabilization and improve community livelihoods. The cost-effectiveness analysis of these options will be improved more during the preparation of the full proposal. The main indicator of vulnerability reduction will be changes in access to water, diversification of livelihoods activities and income generation in the project target communities.

In order to improve the implementation environment, the project proposes to establish Climate Change Adaptation Committee as part of the project governance structure. The Committee will periodically review progress of implementation of the activities.

Furthermore, on-the-ground cost-effectiveness of the project will be reflected at the operational level through the following approaches:

i. Throughout the project, resources will be aligned with the financing and delivery of programme outputs that have competitive procurement components to ensure best value for money. In this regard, the project will apply best practices identified by other, ongoing climate change adaptation projects in the Country and the region.
ii. The project will utilize existing government structures and processes for implementation. By building on existing government and institutional structures, the project will also harness in-kind support and contributions from offices at the national and local levels (office space, staff time, communications, etc.)
iii. The project will build on existing programmes supporting women's groups with training in conservation and seedling cultivation for re-afforestation as a potential area for livelihood diversification. Some of such existing programmes include the Community Savings and Investment Promotion (COMSIP) and the Improved Households Stove. The COMSIP programme aims at empowering local communities through various interventions. The range of interventions include seedling cultivation for re-afforestation, value addition of non-wood forest products such as fruit processing and bee-keeping for honey production. The Improved Households Stove (locally named "Chitetezo Mbaula meaning Energy Conservation stove) aims at promoting efficient use of biomass for cooking as one important way to save energy and conserve biomass.
iv. Through the existing network of stakeholders, the results framework of the project, will be able to utilize existing baseline surveys of line agencies and harness existing delivery mechanisms such as the GEF Small Grants Programme, if applicable. This will further expand the reach and replicability of outputs.
v. The bulk of the project funds will be directed to community-level activities and, hence, bring opportunities for local procurement of goods and services with it.

D. *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 builds on national and sub-national plans and strategies that seek to contribute to sustainable development in Malawi. These policies, strategies, plans and programs are entry points for improved resilience to climate change impacts. They include:

-District Socio-Economic Profile Reports (2009 – 20220: The District Socio-Economic Profile (SEP) reports provide baseline assessment of socio-economic situation in the districts and form basis of short to long-term developmental planning and aspirations for the districts in line with the overall national development agenda. Among others, the reports provide the prevailing socio-economic conditions and planned development priorities. The five SEP reports are for Nkhata Bay, Mzimba, Karonga, Rumphi and Chitipa which are the target project areas.

- Vision 2020: This is Malawi's national long-term development perspective. It is the basis for short and medium term plans to achieve the vision that Malawians see in 2020.
- **Malawi Growth and Development Strategy III (MGDS) 2017-2022**: The Malawi Growth and Development Strategy III is the fourth and final medium-term national strategy to contribute to attainment of Malawi's long term development aspirations enshrined in Vision 2020. The overarching theme for MGDS III is "Building a Productive, Competitive and Resilient Nation". The strategy aims to improve productivity, turn the country into a competitive nation and develop resilience to shocks and hazards. It is being implemented from 2017 – 2022.

-National Resilience Plan (2010): The plan seeks to help make Malawi resilient to disasters and break the cycle of food insecurity by among others:

i. Promoting catchment protection and management;
ii. Reducing effects of floods and occurrence of drought;
iii. Enhancing effective early warning systems

- Malawi Climate Change Policy (2012): The Policy demonstrate Malawi's commitment towards climate change mitigation and adaptation. .The goal of Malawi Climate Change Policy is to ensure a harmonized and coordinated approach towards a climate resilient and sustainable low-carbon development path for Malawi. The overall policy objective is to ensure that all stakeholders address climate change impacts and their causes through appropriate measures, while promoting sustainable development.

-The National Water Policy (2005): This policy provides an enabling framework for integrated water resources management (IWRM) in Malawi. The policy is tailored at tackling any issues in the sector in an integrated manner, through involvement of all concerned stakeholders, including communities. In general, the policy advocates for

protection of water resources from unsustainable utilization, which may result in its depletion and degradation through pollution.

-The National Forest Policy (1996): The policy seeks to promote sustainable contribution of national forests, woodlands and trees towards improvement of the quality of life in Malawi; by encouraging conservation for the benefit of the nation. The Policy prohibits changes in land-use practices which promote deforestation, or endanger the protection of forests with cultural or biodiversity significance, or water catchment conservation values. It discourages excisions in gazetted forest, except in cases of environment friendly public utility, for which suitable inter-sectoral and local consultations will be established. The Policy further highlights the need for preparing and implementing management plans through mutually acceptable agreements with local communities.
The proposed project will have to prioritize protection of forests and support the communities to rehabilitate degraded areas.

Malawi National Adaptation Programme of Actions (NAPA) 2006: This serves as a key instrument to guide adaptation activities. The NAPA identified priority **investment activities** for climate adaptation options, which include:

i. Sustaining life and livelihoods for the most vulnerable communities,
ii. Developing food ad water reserves for disaster preparedness and response and
iii. Improving energy access and security in rural areas.

Malawi's Nationally Determined Contributions (NDC): Demonstrates Malawi' commitment and priority areas towards climate mitigation and resilience building. These priority intervention areas proposed include:

- Integrated catchment conservation and management programme
- Promotion of water-harvesting technologies at all levels
- Support an expanded programme of constructing multipurpose dams to enhance water storage
- Develop and enhance climate information and early warning.

-United Nations Sustainable Development Goals (SDGs) 2015 – 2030: Goal 13 calls upon UN member states to" Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all". Therefore, the interventions in this proposed project are consistent with these frameworks and strategies.

The Bonn Challenge (2011 – 2030): Malawi is party to the Bonn Challenge to restore 350 million hectares of degraded land by 2030 worldwide. As part of this commitment, the Malawi Government developed a plan to restore 500,000 hectares of deforested or degraded forest by 2030. It also aims to plant 20 million

trees along rivers and streams by 2020. Malawi also aims to increase the size of community forests and woodlands to encourage community user groups especially women to establish and manage woodlands as economically viable businesses. Therefore, the forest restoration activities in this proposed project are consistent and will contribute towards achievement of the Malawi national forest restoration plan.

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

The Malawi National Environment Management Act (1996) is the key legal instrument to guide management of the environment and sustainable utilization of natural resources. The Act also prescribes the types and sizes of projects that should be subjected to an EIA. The proposed project shall comply with the National Environmental Management Act (1996) and accompanying EIA Guidelines (1997). The EIA process is structured into six steps, namely screening phase (planning/project conception), scoping stage (pre-feasibility study); EIA study phase (Feasibility study); Contract procurement (compensation); Defects liability period (environmental monitoring); and Operation and maintenance phase (compliance audit).

Other policy framework applicable to the project include the Malawian national policies related to water, forestry and sustainable natural resources management. This includes the National Constitution of the Republic, The National Environmental Action Plan (2002), The National Environmental Policy (NEP, 2004), The National Water Policy (2005), The National Gender Policy (2015), The National Climate Change Policy (2012) etc. Relevant legislations in this respect include the Land Act (2016), The Water Resources Act (2013), The Water Works Act (1995), Local Government Act (1998), The Occupational Safety Health and Welfare Act (1997), Forestry Act (1997), National Parks and Wildlife (Amendment) Act, 2017, The Town and Country Planning Act, 2016, The Employment Act, 1999, The National Gender Equality Act (2013). Malawi is also signatory to other international conventions relevant to water resources management and biodiversity conservation

The programme will ensure that all its process, materials and products meet the nationally prescribed technical standards. For example, the proposed cook-stove will comply with the Malawi Standard, MS 158: 1995, which specifies technical requirements for solid fuel cook-stoves. Similarly, the stored drinking water will comply with Malawi Standard, MS 214: 2013 that specifies the physical, chemical and biological characteristics for drinking water. Furthermore, the activities and processes will meet the Malawi Standard, MS 714:

2005, which gives requirements for occupational health and safety management system for control of organizational OS&H risks. Malawi Standard, MS–ISO 1405: 2001 will also constitute a relevant standard as it provides guidance on how to conduct an environment assessment including determining environmental issues and their business consequences.

Consistent with the above national regulations and the Fund's ESP, an environmental and social impact assessment shall be conducted to assess the potential risks that may be associated with the proposed adaptation project's interventions. This will be accompanied by an environmental and social management plan that would elaborate the mitigation measures that will be taken to ensure consistency with the ESP Principles and Malawian laws and regulations. The ESMP shall be prepared in line with the Government of Malawi as well as the Adaptation Fund environmental and social requirements and will guide/ ensure effective management of environmental and social risks during and after implementation of the project activities. The Environmental Affairs Department (EAD) exercises the primary responsibility of enforcing and regulating environmental protection requirements. The responsibility of implementing different parts of the ESMP is that of the contractor and the implementing agency. As such, a critical path to achieving the objectives of the ESMP is the inclusion of the envisaged activities in the contractors' scope of work. The Contractor shall be provided with the ESMP during bidding and upon award of the project, shall be required to develop a Construction ESMP

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

The project target activities have received no duplicated funding from other funding sources. Thus, the proposed interventions will fully be implemented with financing from the Adaptation Fund. By seeking to enhance adaptation capacity for the rural vulnerable communities, the proposed Project provides complementarity to scope of Nkhata Bay Town Water Supply and Sanitation Project funded by the African Development Bank which targets the urban centres only. The proposed Project activities are also distinct with emphasis on building rural community resilience to impacts of climate change. The activities are premised on the fact that rural communities within the catchment areas play an important role in conservation of the catchment areas, yet they rarely benefit from improved water supply provided to the urban communities downstream. Therefore, the proposed Project activities seek to contribute towards improving socio-economic conditions of the vulnerable rural communities.

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

Knowledge management (KM) will be a key feature of the proposed project. This is an important area considering the great need for accountability, visibility, innovation, replication and scaling up. The project has been conceived as a demonstration mechanism to enhance capacities to implement measures directed to strengthen climate change adaptation at the community level. In this regard, identification of lessons learned will be a key activity of the project. Knowledge management will, therefore, focus on

(i) Lessons learned where knowledge products will include case studies, project profiles and technology demonstration sites. Different knowledge materials (manuals, website, leaflets, posters, calendars, presentations, etc.) will be produced for specific target groups (policymakers, field workers, community groups and scientific community, etc.), integrating practical lessons on “how to reach more resilient livelihoods and a more sustainable water management” in targeted communities. The Project will facilitate the development of community adaptation activities through participatory workshops as a means of Knowledge dissemination at the local level to ensure a high level of community involvement, fostering empowerment and ownership of the Project. Participatory workshops will serve to identify local conditions, understanding the community needs, especially in regards to vulnerability and adaptation, and identifying and prioritizing concrete adaptation activities.

(ii) Policy influence where knowledge products will include best community practice and community empowerment models. To secure long-term sustainability of knowledge products (beyond the life of the project), all knowledge products will be transferred to key institutions (not only as training or capacitation but also introducing the climate change adaptation into the decision making process) in order to become Project main outcomes as regular process for institutions and communities. For example, in the preparation of every written guide there will be included two consultations steps, the first to capture the existing knowledge of interest to be disseminated (particularly in the reported more experienced persons of the community), and the second one, to verify the adequacy of the guide design, by using a preliminary version to be tested with community members.

H. *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.*

The formulation of this Project Concept has aligned with the development of the baseline African Development Bank project for Nkhata Bay Town Water Supply and Sanitation Project, which has involved consultation with a range of stakeholders. The consultation process included meetings, and working sessions that encompassed various stakeholders including technical staff and beneficiaries.

i. Technical Working Sessions: Technical staffs at the national and town levels were involved in the planning and provision of data on the existing water and household energy challenges, which helped identify the needs and selection of interventions of the proposed project. The technical working session closely adopted the Adaptation Fund “gender mainstreaming Policy” to ensure that the proposed project interventions are gender responsive.

ii. Field visits and Meetings: These were conducted to engage with local governments and stakeholders to establish their level of involvement in the planning process and to better understand the environmental and climate change issues. The meetings also considered proposed project activities and objectives with respect to water resources and climate risk management. During the meetings, stakeholders expressed demand for the proposed interventions and indicated an overwhelming interest in the proposed project, which was deemed critical to address water scarcity and climate change risks and other environmental concerns, particularly amongst women who spend time collecting water and caring for their families.

iii. Community Awareness and Sensitisation: These were open awareness sessions conducted with local communities in selected target project areas. The sessions were meant to gauge whether communities considered roof-top water as a welcome alternative to support their water needs. It is noted that Malawi has made significant strides in promoting roof-top rainwater harvesting as a coping mechanism to impacts (droughts and flood) of climate change. Not surprisingly, local communities ranked roof-top rainwater harvesting as a quick-fix intervention especially in times of water stress. Several members corroborated that they always endeavor to harvest and store rainwater from roof-tops. They perceive that rainwater is generally clean and therefore drinkable. This is unlike water from boreholes and wells which are prone to pollution and sometimes discharge salty water. They also indicated that boreholes do not only suffer from frequent mechanical breakdown, but also tend to reduce in discharge volume or dry up completely as dry season ensues. However, the communities in the target Project area felt that maintaining sufficient storage for rainwater from roof-tops has been a main constraint.

Further consultations with the Rainwater Harvesting Association of Malawi (RWHAM) yielded two positive revelations:

- Several neighbouring countries such as Zambia, Tanzania, Kenya and South Africa are implementing roof-top rainwater harvesting technologies. In Malawi, some institutions such as Pirimiti Rural Hospital in Zomba District are already storing rainwater collected from rooftops and used during lean months with great success.
- The Malawi National Resilience Plan (2017) promotes adoption of rainwater harvesting technologies.

Consultations **will continue** and shall remain at the core of the development of the full project proposal. During further consultations, the affirmative approach as advocated by the Adaptation Fund Gender Policy (2016) will be adopted. For example, during selection of participants to consultation sessions, deliberate effort will be taken to ensure that there is sufficient representation of the marginalised and vulnerable groups including women. Furthermore, the vulnerable groups will be allowed equal opportunity to contribute to the discussions.

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

In general there are limited options available in terms of alternative actions to build climate resilience in the household water resources sectors. The following analysis therefore provides justifications regarding funding requested:

Component 1: Building community water supply resilience and adaptive capacity
Baseline Scenario (with no Adaptation Funds resources and support)

Currently, the project target community faces hurdles to access water for domestic uses. The challenges become more pronounced during droughts or floods when water supply infrastructures either dry up or become disrupted. Women and girls are more particularly impacted as they bear the blunt of walking long distances in search for water. Secondly, when climate related disasters occur, the communities are exposed to polluted water due to disruption of water infrastructures. This deprives them of opportunities to meaningfully participate in social and other development activities. As a result, the drive and purpose required for climate-resilience is lost and unsupported by
local communities.

Programme Scenario (with support from Adaptation Funds)

The project will implement climate – related water resilient interventions. This will ease the burden that vulnerable communities face in accessing water, enabling them long-term participation in social – economic activities. An estimated number of 500, 000 local communities from fifty (50) village development planning and management committees across 5 district councils will be able to access clean drinking. This intervention will provide communities with the capacity in their ability to adapt to climate change impacts, including increasing prevalence of droughts and flooding. The adaptation funding will therefore support supply and construction of community water harvesting and storage reserviours of up to 5,000 m^3 capacity. Lessons learned from the intervention and disseminated to key stakeholders across the entire northern Malawi and other regions.

Component 2: Catchment Protection

Subcomponent 1: Supporting adaptation actions for improved community resilience through afforestation and reforestation

Baseline Scenario (with no support from Adaptation Fund)

Under a baseline scenario targeted areas, communities will continue to be reliant on firewood and charcoal for their livelihoods. The degraded forests in the river catchments will continue to negatively affect other ecosystem services due to soil erosion. This consequently promote siltation and disturbs water quality. In this context, socioeconomic scenarios point at increasing risks of poverty-related problems such as water shortages, food insecurity, health or social welfare. This weakens community resilience particularly when coupled with other climatic shocks such as droughts and floods.

Programme Scenario (with Adaptation Funds resources and support)

The project will support restoration of degraded areas that serve as sub catchments. A total of 4.8 million tree seedlings are expected to be raised and planted along river catchments and community woodlots in the project target areas. While intended to sustain available water as an adaptation option, the restored catchment will help reduce impacts of climate related hazards such as floods. The adaptation funding will, therefore, support capacity building in tree nursery establishment as well as supply necessary inputs such as seeds and polythene tubes.

Subcomponent 2: Climate smart alternative household energy options

Baseline Scenario (with no support from Adaptation Fund)

Currently, rural communities in the project target areas are largely reliant on firewood as a source of energy for heating. As population grows, more and more firewood is used. Communities do not have the capacity to diversify their energy options, due to among others, limited institutional capacity and limited resources available to adopt energy options. This is contributing to extensive destruction of forests. Furthermore, the low

combustion efficiency means that there is significant emission of greenhouse gases that responsible for depletion of ozone layer and therefore contributing to climate change. In the wake of extensive deforestation, woodlands that provide the fuelwood are on the decline. This situation, while further aggravating the impact of climate change, is likely to weaken community resilience on household energy need.

Project Scenario (with support of Adaptation Fund)
The Project will promote use of briquettes as an adaptive option for sustaining energy needs in the target areas. The briquettes are either round or square blocks made from compressed biomass and due to low moisture content have higher combustion efficiency than ordinary fuelwood. The briquettes will be made from such materials as maize husks, rice husks, sawdust and wood shavings which are readily available in the project areas. Adoption of briquette is a viable option towards reducing greenhouse gases while ensuring long- term community resilience towards impact of scare fuelwood. The adaptation funding will therefore support capacity building in preparation of briquettes and cook-stoves as well as supply and delivery of briquettes and cook-stoves making equipment.

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

The sustainability of the project outcomes will be reflected in capacity building which will provide permanent benefits after the project phases out: trained local community groups such as Catchment Management Committees and Water Users Associations will have positions strengthened, and may participate in future adaptation and/or development projects, or continue improving its efforts related to climate adaptation.

Sustainability will also be promoted through deliverance of the proposed outcomes with enough quality and transparency to constitute -by itself- the best practices for community-based adaptation. The project will also take into account needs of the local organizations, respecting their cultural and legal frameworks, avoid conflicts and be useful enough to creating an end-user ownership. The project will also build upon existing best practices and local knowledge, and will make use of instruments that it will develop, to identify cost-effective practices that can be replicated beyond the life span of the project, thereby incorporating adaptive technologies into the current spectrum of conservation and development instruments in use.

Since plumbing constitutes an important component of roof-top rain water harvesting, the Project will train local artisans to carry out inspections and repairs of plumbing works. In neighbouring Tanzania Republic, long-term sustainability of rain-water harvesting

technology has been due to availability of trained artisans who undertake regular inspection and maintenance of plumbing works. In Dahka City of Bangladesh, sustainability of rainwater harvesting technology is promoted through monitoring of the quality of stored water at regular basis. This approach will also be adopted for the proposed Project. The Ministry responsible for Environment and Climate Change will ensure that communities continue to be significantly supported in scaling-up the good practices after project phases out. The project will also endeavor to demonstrate how investments in climate-resilient livelihoods can be profitable, thereby promoting the extension of similar activities beyond the targeted sites.

As part of entrenching long term sustainability of the interventions, the Project will build on some of the activities implemented under the Climate Adaptation for Rural Livelihoods and Agricuture Project (2010 – 2016) that was implemented in the 3 selected districts of Chikwawa, Dedza and Karonga. The project sought to improve resilience to climate variability by developing and implementing adaptation strategies for improved rural livelihoods. In addition to improving agriculture productivity, the project focussed on enhancing afforestation activities as well as groundwater capture and water recycling***.***

The Project has additional opportunity for future upscaling particulary in some districts of Central Malawi such as Kasungu and Mchinji. These districts also experience persistent droughts that are, to an extent, influenced by their proximity to the Viphya Highlands and Dzalanyama Highlands rainshadow areas. Similarly, the lakeshore district of Salima is also prone to flooding which compromises adaptive capacity of local communities to the climatic impacts.

Monitoring and Evaluation will also be an important and integral aspect of the project. M&E of implementation of the activities will aim at reducing the risk that project beneficiaries may be unsatisfied with the interventions.

In summary, the following aspects of the project sustainability have been identified:

Capacity Development: Capacity development at district council level will provide a central focus for all activities. Climate related training will be developed with a focus on community based adaptation and water ecosystem restoration activities. These will be designed with a replicability in mind and remain after project completion as a continuing key resource for authorities and other sectoral agencies.

Financial Sustainability: Through Knowledge management, the Project will demonstrate how investments in climate-resilient livelihoods can be profitable, thereby promoting the replication of similar activities beyond the targeted sites. With increased

awareness of the market opportunities related to adaptation to climate change, the project will promote further investments in adaptation.

***Institutional Sustainability*:** The project will build capacity of Executing Entity as well as local communities to develop and implement further adaptation plans in the wake of climate change. The project will influence District Councils to incorporate Adaptation Plans into District Development Plans, for the greater benefit of vulnerable communities and other agencies working beyond the project areas. Through Knowledge Management Approach, the project is also expected to trigger policy change that will support and strengthen livelihoods options for the communities.

Social Sustainability: The capacity building activities, networking and field-level presence will help achieve social sustainability of the project. The build-up of trust through dialogues and stakeholder consultations and stakeholder mobilization done through capacity building will help to achieve sustainability. A strong focus on building local knowledge, capacities and incentives – as well as strong project focus on ensuring gender equity in all operational matters are expected to lead to social sustainability.

Environmental Sustainability: The project focus on climate change adaptation within the targeted areas is expected to lead to better environmental sustainability and enhanced natural resources management. Reforestation and the proposed "*soft*" measures being adopted to protect water catchments will stabilize the physical environment. The improved catchment areas translate into reduced soil erosion, effectively sustained cleaner rivers and streams.

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

The proposed project seeks to fully align with the Adaptation Fund's Environmental and Social Policy (ESP) and Malawi safeguard laws. Based on available information and evaluation of the proposed activities against the AF environmental and social principles (see E&S risks matrix), the project interventions can be classified as category B in accordance with the Adaptation Fund ESP, this is also consistent with the Malawi EIA categorization for projects of this nature.

During preparation of the full project proposal, detailed assessment will be undertaken to elaborate the scale, scope and location of these activities, identify pertinent E&S while considering the Adaptation Fund principles that may be associated with the proposed project interventions as introduced in the table below. The table below constitutes of a preliminary assessment of environmental and social risks relevant to the project. All items

marked as "*potential impacts and risks"* - "*further assessment and management required for compliance*" will be included in the Project's results-framework, and compliance with Adaptation Fund's regulations (including the Environmental and Social Policy) will be monitored and evaluated (M&E) during project duration using specific, verifiable and time-bound indicators.

Checklist of environmental and social principles	**No further assessment required for compliance**	**Potential impacts and risks – further assessment and management required for compliance**
Compliance with the Law	*Project will comply with all international and national laws and regulations for water, energy and environment protection currently in force in Malawi*	None
Access and Equity	*The intervention logic of the Project is to provide potential beneficiaries in target communities with fair and equitable access to project activities and equipment throughout both planning and implementation phases. All vulnerable groups which request participation will have an equal opportunity to benefit from the adaptation activities proposed by the Project. Eligibility criteria of the Project will be clear and transparent, and defined together with all relevant stakeholders, including traditional authorities. For the project interventions, it is planned to include: difficulty of access to water in the area; vulnerability in terms of biophysical and climate risks; social vulnerability as selection criteria. Project screening and vulnerability assessment will be carried out at commencement to determine extent of vulnerability and impact. Through these criteria, the Project will assure the participation of less empowered groups, including women, minorities and other vulnerable groups. The Project's results framework will measure developments related to 'access and equity for vulnerable groups' throughout the project cycle.*	None
Marginalized and Vulnerable Groups	*The project will not have a disproportionately negative impact on marginalized populations and vulnerable people: children, women and girls, the elderly, indigenous peoples, tribal groups, displaced persons, refugees, and people with disabilities. The poor, women, young, old will have the opportunity to*	None to low risk

	improve their incomes and living conditions through the project.	
Human Rights	*The Project affirms the fundamental rights of people in the intervention areas, and thus does not affect their freedom. Furthermore, the project does not integrate any activities contrary to custom law or traditions. Participation in the project cycle will be participatory and voluntary.*	None
Gender Equity and Women's Empowerment	*Participation for women and women's associations will be promoted so they can benefit directly from the project. In particular, the project proposes to support women to develop sustainable income generating activities and improve their living conditions, therefore also empowering them in the context of a largely traditional and male dominated society. Participation of women and empowerment will also be a key focus of the project M&E Framework*	Very low
Core Labour Rights	*Core labour rights concern gender aspects, respect for workers; maximum work hours; child labour; etc. The project will ensure that national working standards are respected on construction sites. The project will also ensure that appropriate wages will be paid per assigned task, and that no child labour will be employed. Social security standards (i.e., access to first aid) will also be respected and enforced*	None to low risk
Indigenous Peoples	*The project will not create any negative impact on the indigenous people but rather enhance their quality of life*	None
Involuntary Resettlement	*There will be no involuntary resettlement as a result of the project. While preliminary assessment of the proposed construction activities for the rainwater reservoirs have indicated use of government-public owned lands, the project will ensure potential sites are selected only on the condition that there will be no land acquisition, resettlement or disruption of stakeholder's access to land.*	None
Protection of Natural Habitats	*The project will facilitate protection of natural habitats including the critical watersheds of rivers*.	None to low risk
Conservation of Biological Diversity		*None to low risk. Project activities will enhance conservation of biological diversity in the target catchments. Furthermore, the project will not introduce any exotic or invasive species in the targeted areas. Consultations and environmental assessment*

		as part of the development of the full proposal will further highlight the ecosystem of biodiversity services available for beneficiary populations in the project area.
Climate Change	*Project activities will not result in a significant or unjustified increase in greenhouse gas emissions or other drivers of climate change. Instead, the project will minimize the production of greenhouse gases by adopting efficient energy briquettes and cook-stoves. The project is aligned with the climate change adaptation plans at the national and community levels*	None
Pollution Prevention and Resource Efficiency	*The project will support pollution prevention; unsustainable practices that impair water quality and issues of river pollution will be managed. The project aims to combat climate change the GHG emissions, particularly from use of charcoal and firewood as source of household energy*	None to low risk
Public Health	*Improved access to water will enhance support a healthy environment and reduced incidence of water-borne diseases.*	*Potential impacts could arise during the implementation of the project including noise, dust, water-related diseases, etc. An environmental and social management plan will identify and mitigate these impacts.*
Physical and Cultural Heritage	*The project and its components will not be implemented in an area known for having physical cultural resources, cultural sites and sites with unique natural values. If cultural resources are discovered, the relevant technical office will be* notified.	None to low risk
Lands and Soil Conservation	*The project will have positive impacts on the landscape of the intervention areas through afforestation activities. The project interventions will support sustainable soil and land management practices*	Limited impact

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project / programme implementation.

B. Describe the measures for financial and project / programme risk management.

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

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

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

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

Project Objective(s)[3]	**Project Objec Indicator(s)**	**Fund Outcome**	**Fund Outcome Indicator**	**Grant Amount (USD)**
Project Outcome(s)	**Project Outcome Indicator(s)**	**Fund Output**	**Fund Output Indicator**	**Grant Amount (USD)**

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

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.

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

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

A. Record of endorsement on behalf of the government[4] *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:*

Peter K Simbani Chief Director of Aid and Budget Ministry of Finance, Economic Planning and Development Box 30136, **Lilongwe 3, MALAWI**	Date: July 3rd, 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 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.	
Ayanleh DAHER ADEN  Implementing Entity Coordinator	
Date: *January, 7th, 2019*	Tel. and email: (+225) 20 26 43 47; a.daheraden@afdb.org
Project Contact Person:	
Tel. And Email:	

[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: Report on the preliminary consultations for the AF Concept Note

Preliminary Consultation Session

The overall objective of the meeting, which was held on 23rd June 2018, was to increase the level of ownership of the project by stakeholders and representatives of local communities.

Specifically, there was talk on (i) present the draft concept note with a view to collecting stakeholder input; and (ii) prepare the next steps for the formulation of the full project proposal to be submitted to the Adaptation Fund.

Mr. Lewis Banda, Coordinator of the Adaptation Preparation Project Team, thanked all the participants for their presence at this first meeting which started at 13:30 hours. He presented the general context of the project and the various components before presenting the goal of this meeting. According to his remarks, this meeting was aimed at taking the stakeholders' views into account in the project formulation process. This process should be inclusive and participatory. He also invited the participants to introduce themselves and presented the program of the meeting.

1. Presentation on the Adaptation Fund Concept and Guiding Principles

Mr. Peter Simbani, the Malawi National Designated Official for the Adaptation Fund, highlighted that among others only those UN member states that ratified the Kyoto protocol on Climate Change are legible to apply for funding under the Adaptation Funds. He further indicated that the Fund supports projects that target poor communities who tend to be more vulnerable to impacts of climate change such as extreme droughts and flooding. He, therefore, emphasised on the fact that the project to be submitted to the Adaptation Fund is intended to support adaptive capacity of the vulnerable rural poor communities who are unable to benefit from the water projects that the Northern Region Water Board is implementing in the urban and semi-urban areas of the Northern Region.

Mr GAC Mwale, Scheme Coordinator for Chitipa, thanked the project team for their willingness to involve all the stakeholders and local communities at the design stage of the project.

2. Presentation and discussions of the concept note

Mr Lewis Banda of the Project Proposal Team presented the draft concept note to be submitted to the Adaptation Fund. In his presentation he supported the remarks of the Focal Point for Adaptation for Malawi by stating that the project to be submitted should aligned with the country's development objectives. The actions identified in the NAPA

require a range of practical, measurable activities which should make it possible to operationalize the MGDS, which has been at the heart of several consensus, particularly in the three vulnerable sectors of forest management, water resources and energy.

Mr Lettow Chilongo, the Manager for South East Water supply zone**,** enquired about what motivated the choice of rainwater harvesting instead of drilling of boreholes for implementation area of the project.

The Project Team Coordinator, in response, indicated that it is being observed that many communities are abandoning use of boreholes provided under past similar project in the study area. The reasons for such abandonment point to either low discharge yields due to dwindling aquifers or water becoming salty. In other instances, the boreholes become non-functional as they have completely collapsed. The Rainwater Harvesting Association of Malawi is now advocating roof-top rainwater harvesting as providing unique alternative towards supporting community resilience towards water stress due to changing climate.

Mr. James Mughogho of Chilumba asked: How does the project involve the elderly? Are they taken into account as vulnerable people? Answer: We expect from you, the stakeholders, concrete proposals based on the actions of the NAPA, it is up to you to propose actions that take into account the areas that you consider indispensable. You can also integrate targets according to your activities.

Mr Augustine Ngwale of Nkhata Bay District Executive Committee proposed that the project could scale up on activities on forests restoration. This is because there is a strong link between forest conservation and groundwater recharge. This will influence long term availability of clean water within rivers and streams within the sub catchments.

Mr Stanford Msongole, from Karonga District Executive Committee, inquired on whether projects such as mini-hydro plants could not be considered since some of the project targeted areas there is potential for hydro-station.

Responding to this question, the Project Coordinator indicated that, although a full cost analysis will be done at full proposal development, the project was designed to target the “soft” interventions instead of “hard engineering” interventions for ease of replication to other areas in future.

Mr Wilfred Chimbayo of Mzimba District Executive Committee, also pointed out the importance of establishing reference situations in the chosen project areas.

Miss Memory Mwale, who is responsible for Environmental and Social Safeguards in the Mzimba Integrated Water and Sanitation Project, would like to be assured that no invasive alien species of plants are introduced into the project targeted areas.

Mr. Chifundo Mtenga of the Water Monitoring Division proposed to carry out periodic review of stored water quality during project implementation to assure high quality throughout the storage period.

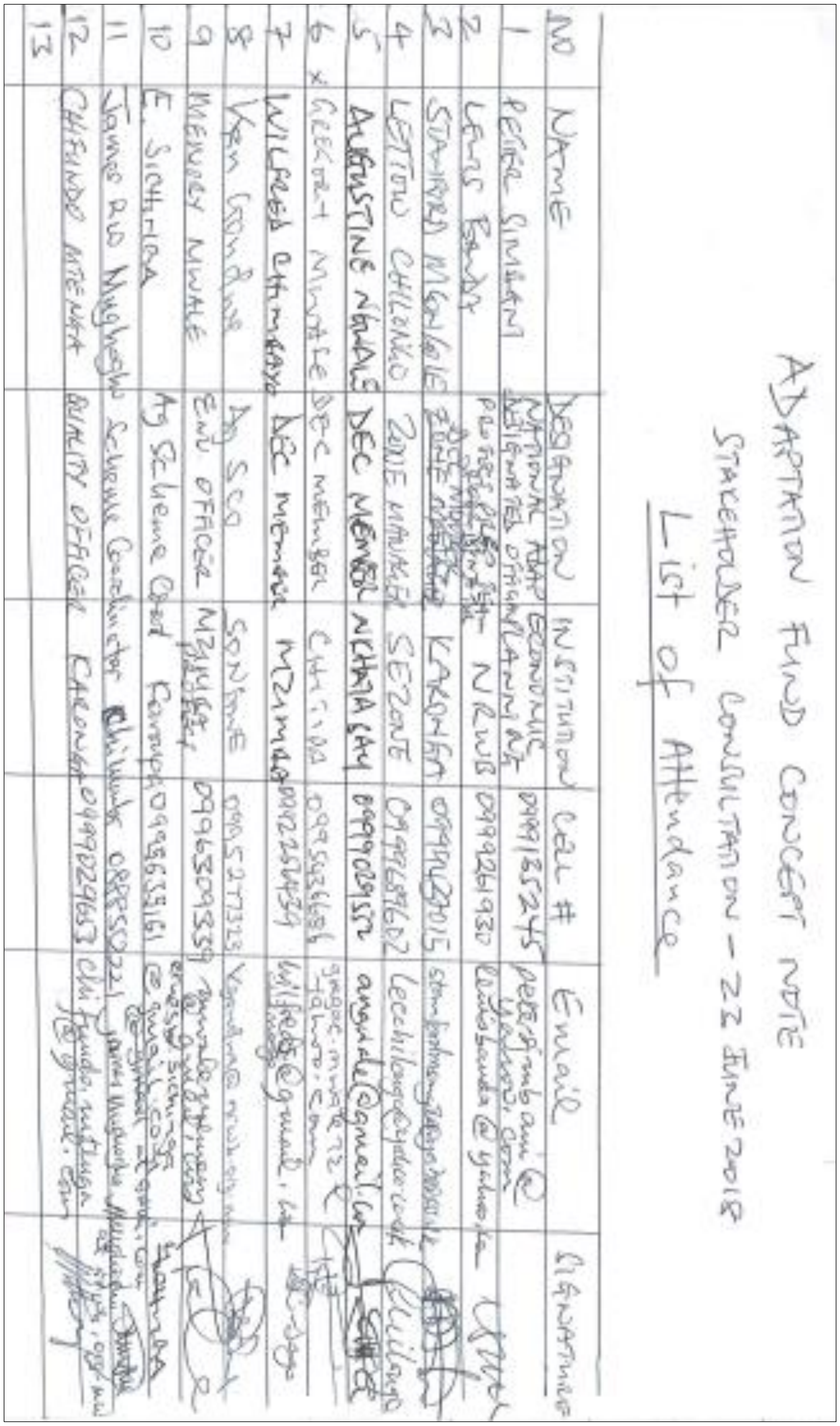
Closing

The meeting ended with the thanks from the Coordinator of the Project Proposal Preparation Team. He also stressed that the focal points should take ownership of the project and submit their proposed activities according to the project
.
The meeting ended at 16:20.

Attendance List of Stakeholders Consultation meeting (23rd June 2018)

Name	Designation	Institution	Cell #	E-mail
Peter Simbani	National Designated Official	Economic Planning	+265 999135245	*petersimbani@yahoo.com*
Lewis Banda	Project Team Coordinator	Northern Water Board	+265 999261930	*lewisbanda@yahoo.com*
Stanford Msongole	DEC Member	Karonga	+265 999 437 015	*stanfordmsongole@yahoo.com*
Lettow Chilongo	Zone Manager	South-East Zone	+265 999689602	*lecchilongo@yahoo.co.uk*
Augustine Ngwale	DEC member	Nkhata Bay	+265999029552	*angwale@gmail.com*
Gregory Mwale	DEC member	Chitipa	+265 995436686	*Gregac72@yahoo.com*
Wifred Chimbayo	DEC member	Mzimba	+265 992 256 439	*wilfredz@gmail.com*
Ken Gondwe	Scheme Coordinator	Songwe	+265 995 277 323	*kgondwe@nrwb.org.mw*
Memory Mwale	Environmental Officer	Mzimba Water and Sanitation Project	+265 996 309 339	*mwalememory@gmail.com*
L Sichinga	Ag Scheme Coordinator	Karonga		*lsichinga@nrwb.org.mw*
James Mughogho	Scheme Coordinator	Chilumba	+265 888 552 221	*jmughogho@nrwb.org.mw*
Chifundo Mtenga	Quality monitoring Officer	Karonga	+265 999029653	*Chifundo.mtenga@gmail.com*

Annex 2: Stakeholder consultation attendance list - 23 June 2018



ADAPTATION FUND CONCEPT NOTE

STAKEHOLDER CONSULTATION – 23 JUNE 2018

List of Attendance

NO	NAME	DESIGNATION	INSTITUTION	CELL #	Email	SIGNATURE
1	PETER SIMBANI	NATIONAL ADAP DESIGNATED OFFICER	ECONOMIC PLANNING	0999135245	petersimbani@yahoo.com	
2	LEWIS BANDA	[illegible]	NRWB	0999261930	lewisbanda@yahoo.[illegible]	[signature]
3	STANFORD MGHOGHO	ZONE MANAGER	KARONGA	0999[illegible]015	[illegible]	[signature]
4	LETTOW CHILONGO	ZONE MANAGER	SEZONE	0999689602	lecchilongo@yahoo.co.uk	[signature]
5	AUGUSTINE NGWALE	DEC MEMBER	NKHATA BAY	0999029552	angwale@gmail.com	[signature]
6	GREGORY MWALE	DEC MEMBER	CHITIPA	0995436686	gregoc.mwale72@yahoo.com	[signature]
7	WILFRED CHIMBAYO	DEC MEMBER	MZIMBA	0992260439	wilfredc@gmail.com	[signature]
8	Ken Gondwe	Ag SCO	SONDWE	0995277323	[illegible]	[signature]
9	MEMORY MWALE	ENV OFFICER	MZUZU AGRI PROJECT	0996309339	[illegible]@gmail.com	[signature]
10	E. Sichinga	Ag Scheme Coord	Fwamp	0995635161	ernest.sichinga@gmail.com	[signature]
11	James Rio Mughogho	Scheme Coordinator	Chiweta	0888552221	james.mughogho@[illegible]	[signature]
12	CHIFUNDO MTENGA	QUALITY OFFICER	KARONGA	0999029653	chifundo.mtenga@gmail.com	[signature]
13						

Annex 3: Community Meeting at Kalenge in Chitipa – Attendance list and photo

NORTHERN REGION WATER BOARD

KALENGE MANAGEMENT MEETING

ATTENDANCE REGISTER – 12TH NOVEMBER, 2018

NO	NAME	POSITION / DESIGNATION	LOCATION	EMAIL ADDRESS/PHONE NUMBER	SIGNATURE
1	Boniface Mwanabanga	DNA / ADC Secretary	Kaporo	bmwanabanga@gmail.com	
2	Gift Mwandambula	Gvh	Chibula		
3	Give Nyirenda	GVH	Nyirenda		
4	Manuel Mwafongo	SGVH	Chipoela		
5	Jonas Mlenga	Committee	Chimsamba		
6	Sosten Shumba	Committee	Chisankisi		
7	Lewis Kalonga	Committee	Chimsinsi		
8	Willy Sikumbili	Committee	Kaporo		
9	Worthy Mkandawire	Forestry	Forestry	Box 33, Mzuzu 0888	

10	MSENGA MSUKWA	police	GNAYENIYENI	M. MSUKWA	
11	Lipia Kanyika	committee	yeniyeni	L Kanyika	
12	Rabeka Mulungu	Treasure	yeniyeni	R. MULUNGU.	
13	Julius Msukwa	Secretary	Yeniyeni	[illegible]	
14	Eneya Kaira	Komi timende	Chipule	E Kaira	
15	Lidness Kayuni	Chairperson	Chipwera VDC	L. Kayuni	
16	Lida Bikalale	Chairperson	Kabembela VDC	L Bikalale	
17	Baster Simbeye	member	Kabembela	B Simbeye	
18	Moses Mulinga	Police	GV Mitrekeni	M Mulinga	
19	BORN Kitha	member	GV Yeneyene	B Kitha	
20	King Kamwela	Chairperson	GV Yeneyene	K [illegible]	
21	Moses Kabaghe	Member	GV Yeneyene	M Kabaghe	
22	ELYSON KANYIKA	member	GV Yeneyene	E Kanyika	
23	Maclean Kayange	Member	GV Yeneyene	M Kayange	
24	GAFTEN MLENGA	MEMBER	CHIPWERA	G MLENGA	
25	NOWAH MUSUKWA	MEMBER	CHIPWELA	N. Msukwa	
26	Lenson Mlenga	Chairperson	CHIPWELA	L Mlenga	

27	Clement Simukonda	Forestry Assistant	Misuku	Mkonda	
28	Wiston Chumo	Forestry	Chisansu	W Chumo	
29	BATIMAGHE UANYIKA	SCE	CHISANSU	BCK	
30	Moses Ndaba	Chairperson	Chisansu	M [illegible]	
31	Alfred Chibili	Member	Chibule	A. Chibili	
32	Emele sichai	membes	chisansu	E sichai	
33	Ryna Mwangonde	Member	nyeninyeni	P. Mwangonde	
34	Luness Mulenga	Member	Kabatola	L. Mulenga	
35	Faja Ng'ambi	member	chipwela	F. Ng'ambi	
36	christina Maikwa	Treasure	chisansu	C. Maikwa	
37	moyines kamisa	member	kabutola	M. kamisa	
38	Myulina Kayange	Sectary	chipwera	M. Kayange	
39	JOSIA NGONYA	Treasure	Kabatola	[illegible]	
40	MOSWELI MUSUKWA	Member	Kabatola	[illegible]	
41	masiano Kabaghe	sectary	yeniyeni	M Kabaghe	
42	James Mulukwa	Secretary	Kabatola	[illegible]	
43	Katolika mulenga	member	chisansu	Kamulenga	

44	Alinafe MSAKU	Comite	Chisansu	088 2808 230	A MSAKU
45	Kiston Silumbu	Chairperson	Govt Kabadolo	0882501747	K. Silumbu
46	Joan Silumbu	Acemto	NRWB	0888146959	[illegible]
47	Duncan Malonga	Plumbing supervisor	NRWB	0993621503	[illegible]
48	Sitwell C Banda	DFO	Forestry	0999 600238	[illegible]
49	[illegible]	Loc Govt	Misuku	0993853399	[illegible]

Annex 4: Community Meeting in Mpamba, Nkhata Bay – Attendance list and photo

ATTENDANCE REGISTER FOR LUDUSO WATER USERS ASSOCIATION ANNUAL GENERAL MEETING

19TH SEPTEMBER 2018

NO	NAME	POSITION / DESIGNATION	PHONE NUMBER	SIGNATURE
1.	Samuel W. Gondwe	Councillor	[illegible] 0996080226	[illegible]
2	[illegible]	[illegible]	0997623460	[illegible]
3	[illegible]	[illegible]	0884387634	[illegible]
4	[illegible]	GVH	0888866355	[illegible]
5	[illegible]	Luduso B. Secr	0880680954	[illegible]
6	ARTHUR CHIRWA	SNR Block Leader	0996418467	[illegible]
7	Joyce T.C Kaunda	Deputy Head teacher	0885722181	JTC Kaunda
8	[illegible]	HEADTEACHER	0999952850	[illegible]
9	Alex WP Ghambi	Headteacher	0888328553	[illegible]
10	GERARD CHIMA	HEADTEACHER	0884773302	[illegible]
11	Cassius Nyirenda	Ex-officio LUWA	0888712702	[illegible]
12	Henry B Ngulube	Board member	0884395167	[illegible]
13	Emily Mundhali	Board Treasurer	0996856571	[illegible]
14	DONALD GONDWE	EX. OFFICIAL	0881055494	[illegible]
15	SOFIA Chihana	VICE CHAIR Luduso	0888856177	[illegible]
16	Eddes Mundhali	B. Member	0999331436	E. M.

17	Margret Manda	Board member	0888340854	M. Manda
18	Wisdom A. Kambendama	Block leader	0993604235	[illegible]
19	Mani Chimaliro	General Assembly	0997079709	MC.
20	Eliza Mkandawire	General Assembly	0996731797	E.Mkandawire
21	Lea Moyo	General ASSembly	0884276598	L. Moyo
22	Chrissy Kazeze	Block leader	0881888947	C. Kazeze
23	Ester Mgemezulu	General Assembly	–	E. Mgemezulu.
24	Gladys Gondwe	Block leader	0884577772	G. Gondwe
25	Linly Banda	general ASSembly	0882777582	L Banda
26	Tasiyana Tchuwa	General Assembly	0882908600	T. Tchuwa
27	Dyna msowoya	General Assembly	0884792699	D. msowoya.
30	Jenifa Thera	General assembly	0888211537	J. Thera
31	William Singini	Operator	0883383A429	[illegible]
32	Martha Gonguani	Operator	0886974466	M. Gonguani
33	Brenda Kaira	operator	0882670166	B. Kaira
34	Anna Lungu	General assembly	088254831	A. Lungu
35	Mali MPata	General asembly	0888196469	M. MPata
36	Faith Jungwana	General Assembly	0886432657	F. Jungwana
37	Elizabeth Mhango	General ASSembly	0885690562	E. Mhango
38	ELLEN NKANJE	General assembly	0884826788	E. NKANJE
39	Violia chima	General assembly	0886898754	V. CHIMA
40	ONWARD Ngulube	G Assembly	0885273794	O. Ngulube
41.	Sarah Mhango	General assembly	0995592644	[illegible]

42	David Phiri	General Assembly	0888088685	Phiri
43	Lilian Mhone	Water user	—	L Mhone
44	[illegible]	Block leader		[illegible]
45	Tandulechi Kawonga	Operator	0884329881	T. Kawonga
46	Chosa Msiska	General Assembly	0881017524	[illegible]
47	Foster Gondwe	Block Leader	0888202456	[illegible]
45	Isaac Soko	N.H	0881352054	[illegible]
46	Chancy Zulu	Nlembahuba	0884451215	[illegible]
47	Martin Zgambo	V/H Chirambo	0886652669	[illegible]
48	James B Kayira	V.H Giliyeru	0885784077	[illegible]
49	Franco Mwenda	Block leader	0882204521/0991558[illegible]	[illegible]
50	Dick [illegible]	V.H Mwenga	0881988680	[illegible]
51	Naomie Mhango	V.H Matayo	0881407[illegible]	N. M
52	Mzaza Nqumbe	V/H Mzaza	—	[illegible]
53	Linnet Malenga	V/H Mwafulirwa	0884178342	L Malenga
54	Charles Chinoko	V/H Chinoko	0884199468	C.Chinoko
55	Kushani Jere	V/H Kamangilira [illegible]	0881175459	[illegible]
56	Danford Zimba	V/H Chimmia	0885223546	[illegible]
57	Stella Shonga	V/H Kamuzoma Gondwe	—	S Shonga
58	ALfred Chima	V H Bokosichima	0995763567	A.Chima
59	V.H Kazangali	VH Kazangali	0881386349	[illegible]
60	Joseph kapenda	Water user Chinoko	0880111121	J. kapenda
61	Shadreck	V.H	0884715499	S.M

63	TDZ. MTEGHA	" "	0995159353	
64	V H Matuta	Village Head	0888189322	
65		V·H	—	
66		V.H -		
67		G V H		
68	GVH MAMBUBIRA			
69		Castor Advisor		
70		GVH		
71				
72		Board Chairperson		
73		Reporter - Mana		
74		NRWB		
75	Lydia T Jere	NRWB		
76		NRWB