Response to Adaptation Fund Initial Technical Review Comments

Questions	Review Comments	UNESCO Response to Comments
1. Does the project / programme provide economic, social and environmental benefits, particularly to vulnerable communities, including gender considerations, while avoiding or mitigating negative impacts, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	Partly unclear. Socio-economic benefits arising from sustainable groundwater management and enhanced resilience in that regard are clear. The environmental benefits, and any risks, including how to mitigate potential negative impacts, are not sufficiently discussed. **CR 1:** Please ensure that all the benefits and potential negative impacts, are mentioned. Possible mitigating measures should also be included in this discussion.	**CR 1:** This has been addressed and environmental impacts mentioned in the comments included. Component 4 has been strengthened to include ecosystem resilience projects.
2. Is the project / programme cost effective?	Unclear. The project concept currently states that a simple economic analysis was done to examine the benefits and costs of investments and to determine an internal rate of return. However, there is no information on whether groundwater exploitation will be sustainable in the long-term and if sustainability considerations are fully taken into account in the estimation of the internal rate of return. **CR 2:** Please provide further details on the factors that were taken into account when estimating the internal rate of return, and ensure that sustainability considerations of groundwater, including potential costs for monitoring and independent validation of groundwater levels, for instance, are reflected in the internal rate of return. **CR 3:** Please provide further rationale for the extremely high proportion of the funding that is being proposed towards assessments, studies, and other activities that do not constitute concrete adaptation action. **CR 4:** Please provide the background to the process that determined the choice of the groundwater extraction as the most optimal solution to the climate change problem identified. Please also supply evidence that alternative solutions were considered, such as surface water extraction, irrigation, rainwater harvesting, etc. and how they compared to the chosen solution. Please also see CR 3 and provide justification for the solution chosen in light of necessitating the base assessments and studies,	**CR 2:** The internal rate of return referred to the Climate Change response strategy and had been taken as indicative of climate change resilience projects in Zimbabwe. This section has been removed and will be addressed at full proposal stage when interventions and their locations will have been identified to enable detailed specification of project components, and hence costs. **CR 3:** The funding for these components have been drastically reduced and $6.8million allocated to concrete adaptation actions. Component 4 has thus been strengthened to show interventions at ecosystem level, community and household levels. **CR 4:** The choice of groundwater comes from the Climate Change Response Strategy, National Water Policy, and the Zimbabwe Agenda for Sustainable Socioeconomic transformation (ZimASSET) which is the current economic planning document. Through these instruments, government is already in the process of acquiring drilling rigs for each province and has a target of drilling at least four boreholes in each of the 210 constituencies in the country. However, it should be noted that groundwater in this Project is defined to include water harvested in the ground. Although this is the main focus, with deep storage wells favoured against boreholes because of their easy accessibility at household level and the scale of use by poor and

	according to the proposed project components.	vulnerable groups, rainwater harvesting was always included although there are question marks on whether they can sustainably supply water over a 7-month dry period in Zimbabwe. Surface water for arid areas suffers from high evaporation rates. Rainwater harvesting was mainly considered for in-ground and in-field storage and for temporary uses around the rainy season.
3. Does the project / programme meet the relevant national technical standards, where applicable, in compliance with the Environmental and Social Policy of the Fund??	Not clear. **CAR 1:** Please provide further information on the national standards concerning integrated water resources management. Specifically, please discuss the standards applicable for determining choice areas for groundwater extraction.	**CAR 1:** The standards for IWRM in Zimbabwe have been included. They do not explicitly address choice areas for groundwater extraction. Instead, they provide for the regulation of abstraction to avoid over-extraction especially in urban areas where borehole densities are very high. In rural areas we are talking of less than 0.1 boreholes/km^2.
4. Does the project / programme have a learning and knowledge management component to capture and feedback lessons?	Yes. However, the project could further benefit from linking up with the Center of Excellence for groundwater management and groundwater dependent ecosystems in the region, hosted by the University of the Free State, Bloemfontein, South Africa. This is true for knowledge management as well as design and implementation, more broadly.	The Centre was contacted in May and conceptnote shared with them. They expressed interest to be involved. Please note that this is the SADC Groundwater Management Institute mentioned as collaborating institution in the document.
5. Has a consultative process taken place, and has it involved all key stakeholders, and vulnerable groups, including gender considerations in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	Not clear. **CR 5:** Please provide information on the consultations that took place concerning the inclusion of gender considerations.	**CR 5:** The consultations done to date have been included in the document. These were national consultations to inform the National Adaptation Plan and covered two of the Project districts. The proposal writing team also had a number of workshops. Further consultative workshops are planned during the full proposal writing stage and the comments received from the Adaptation Fund on gender will be fully addressed.
6. Is the requested financing justified on the basis of full cost of adaptation reasoning?	Not clear. Please see the comments CR 2, 3, and 4 above.	Addressed through CR 2, 3, and 4 above.
7. Is the project / program aligned with AF's results framework?	Not clear. Please see the comments CR 2, 3, and 4 above.	Addressed through CR 2, 3, and 4 above.
8. Has the sustainability of the project/programme outcomes been taken into account when designing the project?	Not clear. **CR 6:** The project concept does not address the sustainability of groundwater extraction generally, for example what is the appropriate rate of extraction, over which period of time, and in light of projected climate change. The project concept currently does not seem to address sustainability	**CR 6:** The sustainability of groundwater extraction is addressed thoroughly in Component 2 on groundwater resource assessment and subsequent development of Groundwater Development Action Plans. These will quantify the resources, identify its vulnerabilities, assess demand, and make recommendations for its use and protection from an informed position.

	monitoring of groundwater levels, for instance, and does not seem to address governance issues such as ownership of groundwater and wells. Please clarify whether groundwater ownership is considered as part of land ownership, or if land and groundwater ownership are looked at individually. The governance issue will need to be carefully addressed as an integral part of the project. In addition to governance, the measurement of use and replenishment of groundwater, as well as, potential changes in river baseflow, will need to be addressed more practically.	Land tenure, rural areas governance and water governance systems have been included. The management of a borehole is done by a statutory Water Point Committee which has women as the majority. Water is owned by the President of Zimbabwe who has power to commandeer it in times of emergency. Primary use of water is free but secondary use is levied. Issues of yield, water demand, potential irrigation at household level using drip systems, and groundwater recharge have been addressed. Information on current and potential borehole densities have been included to highlight to potential scale of use envisaged. The project did not focus a lot on boreholes but on deep storage wells which are easily accessible at household level, and also on in-ground and in-field water harvesting. However, the environmental impacts of all this needs to be monitored by the sub-catchment councils.
9. Does the project / programme provide an overview of environmental and social impacts / risks identified, in compliance with the Environmental and Social Policy and Gender Policy of the Fund?	No, the project does not adequately consider environmental impacts, and information on social and gender impacts is also weak. **CR 7:** Please provide further information on the above, specifically with climate change (current and projected) in view.	**CR 7:** The table on this has been strengthened.

United Nations
Educational, Scientific and
Cultural Organization

UNESCO Regional Office for Southern Africa

Ref : HAR/DIR/2018/L0258

3 September 2018

Adaptation fund Board Secretary
c/o Global Environment Facility
Mail stop: N 7-700
1818 H Street NW
Washington DC 20433,
USA

Subject: Re-submission of Concept Proposal for a National Project for Zimbabwe

Dear Sir / Madam,

Please find attached the re-submission of UNESCO's Concept Proposal for a National Project for Zimbabwe entitles ***Strengthening local communities' adaptive capacity and resilience to climate change through sustainable groundwater exploitation in Zimbabwe*** developed in partnership with the Ministry of Environment, Water and Climate (MEWC) and supported with a copy of the Ministry's endorsement for the proposal.

Zimbabwe, a landlocked water-scarce country in Southern Africa, has experienced recurring devastating droughts (2001 to 2007 and 2011 to date) thus impacting negatively on agriculture, food and water security on vulnerable rural communities. The proposal seeks to strengthen food and water security and build long term resilience to climate change and variability in four (4) poverty-stricken and most vulnerable sub-catchments of Lower Gwayi, Upper Save, Lower Runde and Mwenezi in Zimbabwe.

We look forward to a favourable response regarding the pre-proposal and a recommendation for submission of a full project proposal.

Yours sincerely

Prof. Hubert Gijzen, PhD
Regional Director and Representative

P.O. Box HG435, Highlands
8 Kenilworth Road
Newlands,Highlands
HARARE, ZIMBABWE
Tel: +2634776775/9;
Mobile: 263772125550/1
Fax : +2634776055
e-mail: harare@unesco.org
http://www.unesco.org/harare

ADAPTATION FUND

NATIONAL PROJECT CONCEPT NOTE TO THE ADAPTATION FUND

PART I: PROJECT/PROGRAMME INFORMATION

Project/Programme Category:	Food Security and Water Management
Country:	Zimbabwe
Title of Project/Programme:	**Strengthening local communities' adaptive capacity and resilience to climate change through sustainable groundwater exploitation in Zimbabwe**
Type of Implementing Entity:	Multilateral Implementing Entity (MIE
Implementing Entity:	United Nations Education, Scientific and Cultural Organisation (**UNESCO**)
Executing Entity:	Ministry of Environment, Water and Climate
Amount of Financing Requested:	USD 9,982,000 (in U.S Dollars Equivalent)

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.

Introduction

Zimbabwe is a landlocked country which is located in Southern Africa with a total land area of 390,757km^2 and a population of about 14 million. Zimbabwe is generally a water-scarce country with an average annual rainfall of 657 mm, ranging from over 1,000 mm in the Eastern Highlands to around 300-450 mm in the lowveld in the south. Only 37% of the country receive rainfall considered adequate for crop cultivation. Some studies have suggested that average rainfall in Zimbabwe has declined by 10% or 100 mm during the last 100 years. The western side is generally arid, with little potential for dam sites because of the nature of soils and low rainfall. The country is prone to frequent droughts and flush flooding strongly correlated to El Niño events and this will be worsened by climate change. Around 80 percent of the population is concentrated in areas where rainfall is unreliable and previous studies and surveys have shown that those with limited access to productive water are extremely vulnerable to climate change impacts. The country has experienced recurrent devastating droughts (2001/02, 2002/03, 2004/05, 2006/07, 2011/12 and 2015/16 farming seasons) directly impacting agriculture, food and water security.

About 52% of Zimbabwe's population are females and about two-thirds of the population is below the age of 25. Poverty levels are very high in rural areas where about 70% of the population lives; the majority of whom are women. Gender inequality is evident in all spheres of life and it is supported and sustained by cultural and religious practices, patriarchal attitudes, power

imbalances and lack of knowledge and skills on gender mainstreaming. Gender equality and empowerment is important to achieve socio-economic transformation of women in light of climate change which widens the gaps and amplifies inequities between women and men and other vulnerable groups. About 85% of women in Zimbabwe depend on agricultural activities for their livelihoods and rural women make up the majority of smallholder farmers who are also dependent on rain-fed agriculture. Thus climate change negatively affects women smallholder farmers more than males because they have little or no adaptation capacity as they lack financial support and the available agriculture and irrigation technology is not gender-sensitive. In addition, rural women are poorly represented in water and irrigation management structures (irrigation committees, sub-catchment and catchment councils) and this affects women's equitable access to water. Furthermore, when water is not accessible within shortest radius, women will be forced to walk long distances to fetch water at the expense of other productive activities.

The strategic importance of groundwater resources in climate adaptation in Zimbabwe

Groundwater storage in Zimbabwe is believed to be quite extensive, and could act as a natural buffer against climate change and variability. However, the quantities that can be sustainably abstracted are unevenly distributed, and yields vary. Groundwater is the main source of water for more than 70% of the national population living in rural areas. Sparsely populated areas are particularly reliant on groundwater, with hand dug wells historically playing a major role in rural and peri-urban areas. Other sources are boreholes, springs, sand dams and riverbank abstractions. Groundwater is a finite resource that can be depleted if use is not properly regulated. Sustainable groundwater abstraction could play a major role in achieving the following Sustainable Development Goals (SDGs) in Zimbabwe: 1) end poverty, 2) end hunger and promote sustainable agriculture, 6) sustainable water and sanitation, 8) inclusive sustainable economic growth, and 13) combating climate change impacts. As water supply coverage improves, new sources will be required in difficult-to-reach locations and tough hydrogeological conditions where the risks of drilling a dry borehole are high.

Over the past three decades, Zimbabwe has witnessed a significant increase in water wells and boreholes. These are financed by development programmes as well as investments by water users and local businesses. Not only do boreholes supply hand-pump water, but they also play a substantial role in small as well as larger rural piped water supplies. However, the occurrence of borehole water is dependent on deep aquifers whilst shallow and deep wells can be dug almost anywhere except rocky and Kalahari sand areas in Zimbabwe. Wells have generally been used for primary purposes such as household uses only. There are very promising prospects for sustainable groundwater use for secondary uses such as food production/processing and livestock farming. More use of groundwater for agriculture will increase abstraction while the application of fertilisers, herbicides and pesticides is likely to affect groundwater quality. Effective groundwater monitoring and management are thus essential to ensure that long-term domestic and agricultural demands can be met without depleting or damaging the resource. The lack of good scientific knowledge on groundwater resources in Zimbabwe, and Africa in general, undermines its potential to contribute to poverty reduction and economic development, and threatens its environmental sustainability. The required expertise and knowledge covers the extent and/or characteristics of shallow and deeper aquifer systems, including groundwater reserves in aquifer systems and the attendant pollution threats. It also includes recharge potential and dynamics and how these will be affected by climate change and landuse/landcover changes. How will these systems perform under unsustainable and increasing abstraction and climate change-induced changes in precipitation and changes in river flow regimes (natural or anthropogenic)?

In Zimbabwe, there is limited knowledge by policymakers on economic costs/benefits and potential contribution of groundwater to food security, health (domestic use), livelihoods and broader economic development. On the other hand, individual farmers are not well-positioned to address the wider implications of unsustainable use and groundwater depletion, and hence longer-term resilience. This project therefore seeks to demonstrate that knowledge-based and holistic catchment-based groundwater planning, sustainable use and management can overcome these constraints and significantly contribute to increased climate resilience. Sustainable groundwater management therefore requires improved understanding of available resources, their vulnerabilities and resilience potential, detailed hydrogeological and geophysical investigations (supply) and sectoral groundwater use inventories (demand). There is very little groundwater monitoring in Zimbabwe, and hence no information systems and flow models, despite the existence of statutory instruments and financial mechanisms to do this. Robust monitoring networks and systems are required to monitor and track the resource status and trends, and form the basis for the implementation of resilience measures.

The Project

This Project seeks to develop human, technical and institutional capacity through a framework for sustainably utilising groundwater for productive use in vulnerable rural communities in Binga, Buhera and Mwenezi districts of Zimbabwe. The population densities are 10.43/km^2 for Binga, 45.90/km^2 for Buhera and 12.64/km^2 in Mwenezi. The percentages of female populations are 54.2% in Binga, 53.6% in Buhera and 53.7% in Mwenezi. According to the Zimbabwe Poverty Atlas of 2015 and the Zimbabwe 2015/16 food security and vulnerability situation - Food & Livelihoods Insecurity (ZimVAC 2015 Results) these districts have the worst poverty prevalence and food insecurity and live in the worst agro-ecological regions of the country which receive less than 400 mm/year rainfall. Relevant details to justify the choice of these areas are given in a table below. Because these areas are arid or semi-arid, surface water storage is hampered by terrain, high temperatures in the dry season and high evaporation rates of >1,600 mm/year. The choice of groundwater for mitigating climate change is also informed by current Government thrust as per the Climate Change Response Strategy, Climate Policy, Water Policy and the National Water Resources Masterplan. A simultaneous assessment of district borehole density, poverty, food insecurity and agro-ecological regions shows that boreholes are having little impact in reducing vulnerability in low rainfall areas. Boreholes in areas such as Binga have saline water which has little use in productive purposes. There will therefore be less focus on boreholes, with most inventions centred on community and household exploitation of shallow aquifers, alluvial aquifers, in-ground and surface water harvesting, deep/shallow wells, springs, sand dams, etc. Rainwater harvesting will mainly focus on ground storage techniques. In this Project, groundwater includes water harvested in the ground.

District and Ward	Households	Population	Poverty Prevalence, %	Poverty Severity, %	GINI Index	Agro-ecological Region	Sub-catchment Council
Binga Ward 19	1,088	5,183	91.3	29.8	31.4	IV	Lower Gwayi
Binga Ward 25	879	3,963	90.4	28.5	31.1	IV	Lower Gwayi
Buhera Ward 20	1,607	7,194	81.4	20.3	32.6	IV	Upper Save
Buhera Ward 23	2,632	11,855	83.2	21.3	32.3	V	Upper Save
Mwenezi Ward 6	840	4,346	86.7	24.9	31.8	V	Mwenezi
Mwenezi Ward 13	5,801	29,057	79.4	19.9	34.2	V	Lower Runde
Total	12,847	61,598					

The Project philosophy is based on enhancing ecosystem resilience and reversing environmental degradation; improving food security through better water stewardship and climate-smart agriculture; enhancing income security through livelihood diversification to improve coping

mechanisms in times of extreme climatic events; and freeing up time and space of women and children for productive uses. To achieve this, the Project will develop key capacities at national, district and sub-catchment levels and mainstream groundwater, climate change and gender in sustainable sub-catchment planning and carry out pilot and demonstrations at local levels. The Project will complement current government efforts to develop a national water masterplan and regional groundwater initiatives through the SADC Groundwater Management Institute. The Project's national component will assess the groundwater resources in four sub-catchments of Lower Gwayi, Upper Save, Lower Runde and Mwenezi (these are related to the three districts mentioned above) and develop/tackle the critical shortage of skilled groundwater technicians, scientists and managers. The Project will establish a National Groundwater Development Centre with the primary function of training postgraduate and postdoctoral scientists in advanced hydrogeological sciences and related technologies, as well as improving knowledge of groundwater connectivity and policy, and management issues confronting water managers. At district and sub-catchment level, the Project will train extension workers, NGO and community leaders on adaptive groundwater management, in-ground water harvesting, climate resilient and gendered catchment planning and management. At local level, the Project will pilot and demonstrate differentiated solutions and best practices in climate-smart development using groundwater.

Project / Programme Objectives:

List the main objectives of the project/programme.

The ultimate goal of this Project is to increase local communities' adaptive capacity and resilience to climate change through increased groundwater exploitation for food security and other productive uses in rural areas of Zimbabwe. To sustainably achieve this, an array of actions are required starting at national to local levels and involving institutional reforms and modelling, resource characterisation and quantification, knowledge generation and capacity development, and awareness raising through piloting and demonstrations. Linked to this, the following specific project objectives are defined:

1. To strengthen technical, institutional and human capacity for improved and sustainable utilization of groundwater at national and local levels;
2. To conduct comprehensive assessments of groundwater resources in four poverty-stricken and most vulnerable sub-catchments of Lower Gwayi, Upper Save, Lower Runde and Mwenezi and thus develop sample plans for sustainable groundwater utilization in improving climate resilience;
3. To strengthen the capacity of water and land management institutions in Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments in developing integrated catchment management plans that promote and protect groundwater use;
4. To pilot and demonstrate concrete climate change adaptation measures based on sustainable groundwater exploitation for diversifying and strengthening livelihoods of the most vulnerable population in Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments;
5. To compile and disseminate lessons learnt to facilitate future upscaling and replication of good practices in groundwater extraction and management.

These objectives are in line with those set by the Adaptation Fund aiming to "reduce the vulnerability and increase adaptive capacity to respond to climate change impacts, including variability at local and national level."

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/Programme Components	Activities	Expected Concrete Outputs	Expected Outcomes	Amount (US$)
1. To strengthen technical, institutional and human capacity for improved and sustainable utilization of groundwater at national and local levels	1.1 Establish a National Centre for Groundwater Research and Training 1.2 Revamp local and national institutions for managing groundwater in particular, and water resources in general 1.3 Train at least 50 skilled groundwater technicians, scientists and managers at national and local levels in improved and sustainable utilization of groundwater 1.4 Develop practical guidelines and manuals for groundwater planning, development and management	Output 1.1 National Centre for Groundwater Research and Training Output 1.2 Revamped local and national institutions for managing groundwater in particular, and water resources in general Output 1.3 50 Skilled groundwater technicians, scientists and managers trained Output 1.4 Practical guidelines and manuals for groundwater planning, development and management	Improved knowledge and capacity at national and local levels on groundwater science, policy and participatory management issues	600,000
2. To conduct comprehensive assessments of groundwater resources in four poverty-stricken and most vulnerable sub-catchments of Lower Gwayi, Upper Save, Lower Runde and Mwenezi and thus develop sample plans for sustainable groundwater utilization in improving climate resilience	2.1 Develop four groundwater atlases for each of the four sub-catchments 2.2 Develop four Groundwater Development Action Plan for each sub-catchment	Output 2.1: Groundwater atlases for each of the four sub-catchments developed Output 2.2: Groundwater Development Action Plan for each sub-catchment developed	Sustainable utilisation of groundwater based on sound scientific resource inventory; science-based policy to better manage resources and further develop new groundwater-based resilience strategies and practical interventions.	800,000
3. To strengthen the capacity of water and land management institutions in Lower	3.1 Revise existing catchment management planning guidelines and structures to clearly	Output 3.1 Existing catchment management planning guidelines and structures revised to clearly mainstream	Increased participation by the wider stakeholder community, who are	300,000

Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments in developing integrated catchment management plans that promote and protect groundwater use	mainstream gender, climate change and groundwater 3.2 Revise Sub-Catchment Management Plans of Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments through stakeholder participation to address climate change and groundwater issues 3.3 Strengthen capacities of extension services and institutions at catchment level to support communities in the four selected sub-catchments to undertake climate change adaptation activities 3.4 Train at least 200 community members in project target areas on sustainable technologies	gender, climate change and groundwater Output 3.2 The Sub-Catchment Management Plans of Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments revised through stakeholder participation to address climate change and groundwater issues Output 3.3 Capacities of extension services and institutions at catchment level strengthened to support communities in the four selected sub-catchments to undertake climate change adaptation activities Output 3.4 Skills training for community members on sustainable technologies	aware of water resource management issues and have access to tailored information and guidelines that support better catchment planning and sustainable use of groundwater.	
4. To pilot and demonstrate concrete climate change adaptation measures based on sustainable groundwater exploitation for diversifying and strengthening livelihoods of the most vulnerable population in Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments	4.1 Look and learn visits to best practice projects in Zimbabwe or regionally 4.2 Pilot and demonstrate community-based ecosystem resilience and mitigation projects in six Project wards 4.3 Pilot and demonstrate community-based livelihood enhancement and climate resiliency projects in six Project wards 4.4 Pilot and demonstrate household livelihood enhancement, diversification and climate resiliency projects in six Project wards 4.5 Establish a food security and livelihood enhancement revolving fund	Output 4.1 Look and learn visits to best practice projects in Zimbabwe or regionally Output 4.2 Six pilot climate-smart ecosystem mitigation and resilience projects Output 4.3 Six pilot climate-smart water and food security projects using groundwater and rainwater harvesting at community level Output 4.4 Pilot climate-smart livelihood enhancement and diversification projects using groundwater, rainwater harvesting and renewable energy for about 4,000 households Output 4.5 Food security and livelihood enhancement revolving fund established	Livelihoods of communities in demonstration wards improved and diversified, reducing vulnerability to impacts of climate change	6,800,000
5. To compile and disseminate lessons learnt to facilitate future upscaling and replication of good practices in groundwater extraction and management	5.1 Establish web-based information sharing and exchange platform for project participants 5.2 Document and adopt good practices by key stakeholders	Output 5.1 Web-based information sharing and exchange platform established for Project participants Output 5.2 Good practices documented and adopted by key stakeholders	A framework for improved groundwater utilisation to reduce vulnerability to climate change developed and adopted	200,000
6. Project/Programme Execution cost				500,000
7. Total Project/Programme Cost				9,200,000
8. Project/Programme Cycle Management Fee charged by the Implementing Entity 8.5% - This total includes the costs over the five years of the Project Coordinating Units plus the M&E costs)				782,000
Amount of Financing Requested				9,982,000

Projected Calendar:

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

Milestones	Expected Dates
Start of Project/Programme Implementation	January 2019
Mid-term Review (if planned)	July 2021
Project/Programme Closing	December 2023
Terminal Evaluation	January 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 consists of five components reflecting actions to build capacity at national to local levels and concrete adaptation and resilience measures in four vulnerable sub-catchments (chosen because of highest food insecurity and poverty levels in the country and falling under worst agro-ecological regions IV and V). Interventions in these areas can be easily up-scaled to other wards at district level and to other sub-catchments and catchments at hydrological level. Zimbabwe has seven catchments and 47 sub-catchments.

Component 1. To strengthen technical, institutional and human capacity for improved and sustainable utilization of groundwater at national and local levels

Output 1.1 National Centre for Groundwater Research and Training: This proposed Centre will build capacity in groundwater knowledge and tackle the shortage of skilled groundwater technicians, scientists and managers in Zimbabwe. The Centre will be established in collaboration with a state university and will be fully resourced by the Project. It will be linked to the Southern Africa Development Community Groundwater Management Institute (SADC-GMI), a regional centre of excellence on groundwater management hosted by the University of the Free State in Bloemfontein, South Africa, for synergies and sustainability. The Centre will train postgraduate and postdoctoral scientists in advanced hydrogeological and related technologies, as well as improving knowledge on groundwater science, policy and management issues confronting water managers. The Centre will also train district groundwater technicians, who will in turn train their district personnel. National manuals and guidelines for groundwater development and implementation will be developed. The Centre will act as an entry for groundwater technologies in the country and advise the government on groundwater issues.

Output 1.2 Revamped local and national institutions for managing groundwater in particular, and water resources in general: The National Water Policy of 2013, the Water Act (Chapter 20:24), and the new National Water Resources Masterplan currently being finalised, cover issues of groundwater management. However, relevant institutions need to be revitalized in light of the

current deficiencies in regulating and monitoring groundwater abstractions in view of climate change realities in the country. Groundwater regulation should go beyond boreholes and cover springs and wells as these are the predominant facilities in use in Zimbabwe. The aim will be to promote groundwater use not only for primary use, but mainly for secondary uses. Water ownership in Zimbabwe is not tied to land tenure as all water belongs to the President of the country who has the power to commandeer its use, especially in times of emergencies. The Project will look into impediments on water governance, especially for communally-owned facilities such as boreholes, springs and sand dams and how these will be monitored to ensure sustainability. This includes protection against livestock damage and financial contributions for repairs and maintenance.

Output 1.3 Skilled groundwater technicians, scientists and managers: The Project will provide seed funding for purchasing state-of-the-art groundwater equipment for the training of groundwater technicians, scientists and managers. Technicians will be trained in well and borehole siting, drilling and protection. Other areas are spring capture construction, sand dam construction and various techniques of surface and underground water harvesting, catchment protection, etc. Although the whole country will benefit from this in the medium to long-term, Project efforts will specifically emphasize on the target areas under the Project first.

1.4 Practical guidelines and manuals for groundwater planning, development and management: During the course of the implementation of the Project, at least five manuals and guidelines will be developed by the Centre in conjunction with the District Development Fund, the Zimbabwe National Water Authority, Ministry of Agriculture and the Ministry of Environment, Water and Climate. These will guide practitioners on groundwater planning and development, and the mainstreaming of gender and groundwater in climate resilient catchment development.

Component 2. To conduct comprehensive assessments of groundwater resources in four poverty-stricken and most vulnerable sub-catchments of Lower Gwayi, Upper Save, Lower Runde and Mwenezi and thus develop sample plans for sustainable groundwater utilization in improving climate resilience

The use of groundwater for productive purposes is limited although it is believed that some areas in Zimbabwe have high yielding boreholes (>20m^3/hr). Recent challenges caused by recurrent droughts have shown that groundwater could be a viable alternative water supply in agriculture. The maps that have been used for identifying groundwater potential areas are very old and not robust enough to represent a comprehensive picture of the situation on the ground. Modern technologies can now do this much better and cost-effectively (these include advanced geophysical equipment and remote sensing). Identifying and quantifying groundwater for different areas and providing for their sustainable exploitation is the first step in promoting increased exploitation of groundwater. Sustainable exploitation requires monitoring resource usage and impact, together with appropriate corrective actions. Also required is the mapping of groundwater quality and Binga, with its unique geology and salinity challenges, will offer an interesting case study on groundwater quality.

Output 2.1 Groundwater atlases for each of the four sub-catchments developed: In line with the current Water Resources Masterplan for Zimbabwe, the Project proposes to use modern technologies to carry out an extensive pilot study and mapping of groundwater potential, risks and vulnerabilities in the four proposed sub-catchments. Considering the huge costs for a national campaign, starting small will give an insight into the complexity of the task before scaling up the exercise in future. This part will be carried out by local experts and will be supervised by the Ministry of Environment, Water and Climate and the respective ZINWA sub-catchment councils. Backstopping will be provided by the SADC Groundwater Management Institute. The results will

enable catchment authorities to properly plan, regulate and monitor the use of groundwater as an adaptation measure against climate change whilst also avoiding over-exploitation of the resource. On the mitigation side, this component will look at various catchment management strategies for recharging shallow and deeper aquifers and develop guidelines for sustainable utilization. Included in this component is the establishment of groundwater monitoring sites in the target wards. The Zimbabwe Government is already in the process of encouraging the use of irrigation through its Command Agriculture project and this Project will also help to extend and promote the use of groundwater for productive purposes by peasant farmers in arid and semi-arid areas.

Output 2.2 Groundwater Development Action Plan for each sub-catchment: This is essentially an integrated land and water resources management plan aimed at enhancing ecosystem resilience and better water stewardship. Knowing the quantity and quality of groundwater is not enough if there is no action plan and rules on how it will be sustainably utilized. To support the National Water Masterplan, a Groundwater Development Action Plan which mainstreams gender, youth empowerment and climate change will be developed for each sub-catchment through comprehensive stakeholder consultations. This plan will provide for the technical and financial resourcing of the programme and provide solutions and models for use in different areas. The Action Plan will address governance issues for groundwater use, the measurement of use and replenishment of groundwater, as well as potential changes in river baseflow, Local community leadership: including councillors, chiefs, headmen, headmasters, *etc*, will be trained in practical skills for developing groundwater management plans and building climate resilience. Emphasis will also be on the targeted inclusion of women and youth leaders as these are more vulnerable to climate change and water scarcity. This process will be led by water experts, social scientists, gender experts and government officials.

Model groundwater management and utilisation plans, developed through local stakeholder dialogue and focusing on women and youth empowerment, will be developed for each sub-catchment and this will be used to design specific ward pilot schemes. These will address specific ward groundwater issues, exposure risks and food security, and should show innovation in approaches and technologies and show direct links to community livelihood enhancement and improved food security.

Component 3. To strengthen the capacity of water and land management institutions in Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments in developing integrated catchment management plans that promote and protect groundwater use

This component will focus on actions at district and sub-catchment levels, aiming to build capacity of selected four sub-catchments so that they can upscale activities to other sub-catchments that will not be covered under this project. The actions will be centred on six pilot projects in selected wards, under the four sub-catchments, that will be led by the Ministry of Environment, Water and Climate through the Zimbabwe National Water Authority (ZINWA).

Output 3.1 Existing catchment management planning guidelines revised to clearly mainstream gender, climate change and groundwater: Water resources specialist, climate change experts, social scientists and gender experts will be engaged to facilitate the revision of the catchment management planning guidelines by incorporating aspects of gender and climate change. Stakeholder consultative workshops will be conducted during revision of guidelines which will then be printed and disseminated to the different stakeholders through training workshops. Five workshops are planned including one national and four sub-catchment level workshops. The workshops will reflect gender profiles of the targeted communities.

Output 3.2 The Sub-Catchment Management Plans of Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments revised through stakeholder participation to address climate change and groundwater issues: In this Project, experts will be hired to facilitate the process of integrating climate change aspects and giving prominence to the role of groundwater in catchment outline plans. Stakeholder consultation workshops will be organised during the revision of the catchment outline plans, which will be printed and shared with all stakeholders. The plans will cover innovative systems and technologies such as: water chain approaches, water use efficiency, groundwater treatment, groundwater recharge, catchment protection, soil conservation, reduction of land degradation through supporting terraces, afforestation, *etc*.

Output 3.3 Capacities of extension services and institutions at catchment level strengthened to support communities in the four selected sub-catchments to undertake climate change adaptation activities: Capacity needs assessments will be conducted for key stakeholders (regional and local government staff, extension workers, catchment management councils, ward water committees). A consultant will be hired to determine the capacity gaps among the different stakeholders to inform their training. A detailed training plan will be developed to guide the capacity building program for the Project. The consultant will also develop a detailed training plan highlighting the specific content with relevant examples to the prevailing conditions in each of the six wards. Training modules for the training-of-trainers (TOT) and field level trainings to build capacity of stakeholders on a continuous basis will be conducted. TOT trainings will be undertaken to create a critical mass of trainers in prioritized adaptation and mitigation actions at community level. Information, Education and Communication (IEC) materials for awareness raising will be developed and disseminated.

Output 3.4 Skills training for community members on sustainable technologies: In each of the selected 6 project wards, gendered groups will be trained on groundwater technologies such as borehole maintenance, deep well digging and protection, technologies for water abstraction, spring capture, rainwater harvesting, drip irrigation systems, solar pump installations, windmill pumps, *etc*. The emphasis will be on women and youth trainees so as to empower vulnerable groups in society and thus increase their resilience. For easier upscaling and sustainability, the training will also be extended to other non-participating wards.

Component 4. To pilot and demonstrate concrete climate change adaptation measures based on sustainable groundwater exploitation for diversifying and strengthening livelihoods of the most vulnerable population in Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments

This component will focus on six wards in Binga, Buhera and Mwenezi districts which also coincide with the selected sub-catchments of Lower Gwayi, Upper Save, Lower Runde and Mwenezi where groundwater is available and communities are considered very vulnerable to climate change. These areas are arid or semi-arid, with very hot temperatures and low rainfall. Water development NGOs will be selected through competitive bidding to carry out the actual work. Expected actions will be groundwater development, water harvesting, livestock farming, installation of water-saving irrigation techniques and cultivation of a wide range of crops for income diversification.

Output 4.1 Look and learn visits to best practice projects in Zimbabwe or regionally: Farmers understand better by practical demonstration. Six gendered members from each proposed ward demonstration project will be sponsored to visits best practice and pilot projects locally or regionally.

Output 4.2 Pilot and demonstrate community-based ecosystem resilience and mitigation projects in six Project wards: Like the rest of Zimbabwean rural areas, the Project areas have suffered serious land degradation and environmental destruction due to many reasons; among them livestock overstocking, poor land husbandry practices, gully erosion worsened by cyclones, perennial veldfires, wanton cutting down of trees for firewood, etc. The net effect of this will be to reduce land productivity, affect local climates, diminish natural capital, and generally reduce resiliency to climate change. It is therefore proposed to reduce veldfires by training villagers in firefighting, control burning, and erection of fireguards. Deforestation will be addressed through better land planning with each family setting aside a certain portion of its land for tree planting. It also requires stronger intervention at household level to provide alternative sources of energy for cooking, heating and lighting. At communal level, landuse will be professionally planned, with land reserved for heritage sites, wetlands, grazing, cropping, forestry, communal game ranching, etc. Fencing and access control will be used to demarcate landuses, allowing for appropriate interventions in each use segment of the fenced areas.

Wildlife could be more resilient to climate change than crops in places such as Binga. Guidelines for streambank cultivation will be enforced by village heads and will inform Project interventions. Tree breeding places will be set up in each ward to provide seedlings for orchards and reforestation, with the Project providing professional expertise. Land degradation will also be addressed through gully protection and reclamation by using methods such as sisal planting, contour planting, gabions, etc. There are several methods for controlling gully erosion, which can be chosen depending on the materials available. If it is a small gully, vegetation can be planted in strips across the gully to slow the velocity of water, trap silt, and prevent further erosion. Dams can also be constructed using loose boulders, simultaneously contributing to rainwater harvesting.

Output 4.3 Pilot and demonstrate community-based livelihood enhancement and climate resiliency projects in six Project wards: Rural areas in Zimbabwe are termed communal areas because of the land tenure system whereby households have non-title land for housing development and crop cultivation whilst the rest is communally-owned. Village heads and chiefs are the custodians of the land on behalf of their communities. In some areas boreholes and springs are the main sources of water for villagers and their livestock. In such cases, the Project will focus on protection, fencing to control animal encroachment, drinking troughs for livestock, protection of borehole recovery/recharge areas, and sustainability of maintenance and repair functions. Where the yields are high, productive uses such as drip irrigation-based nutrition gardens, horticulture, poultry, piggery, brick-moulding, fisheries, etc, will be facilitated. The Project will provide for the regular monitoring of boreholes by sub-catchment councils to prevent groundwater depletion. Other initiatives include rainwater harvesting for irrigation and livestock and sand dam construction for orchards and livestock drinking. At community level, rainwater harvesting can be done through gully plugs, contour bunds, gabion structures, percolation tanks, check dam/cement plugs, recharge shafts, dugwell recharge, and ground water dams/subsurface dykes.

Focus will also be on communal livestock protection through water supplies for dip tanks, and chemicals for tsetse-fly control and other diseases so as to maintain adaptive capacity of communities. In Binga, which is a wildlife-infested district, protection from wildlife animals will be introduced via solar-powered electric fencing whilst modalities on benefit sharing from wildlife revenues will be pursued through the CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) project. At public facilities such as schools and hospitals bio-digesters can be constructed based on feedstock from piggery, poultry and cattle dung. The gas can be used for cooking, lighting and refrigerating medicines and food, whilst the residues will be

ploughed back into the fields as fertiliser. This will improve income security of these institutions and potentially generate employment opportunities.

Output 4.4 Pilot and demonstrate household livelihood enhancement, diversification and climate resiliency projects in six Project wards: At household level, water security and food security are both important and interdependent. If water supply fails, food security will be affected and households will then require income security to cope with impacts of climate extremes. In this section it is assumed that positively improving the asset base of a household will enhance adaptive capacity, and increase the ability of the household to positively respond to climate change impacts, thus reducing overall vulnerability. 'Asset base' refers to the financial, physical, natural, social, political and human capitals necessary to prepare a system to best respond to a changing climate. This category incorporates the importance of different kinds of capital, often informal, non-monetary or reliant on social networks.

Household access to water is crucial as even the long distances travelled by women and children to fetch water cuts into the time that could be used for income generation. Boreholes are only good for households if there are no alternatives within homesteads as borehole water is mainly used for primary purposes only. This Project emphasizes secondary uses which will guarantee income security and diversified livelihoods. The Project will therefore encourage protected deep wells with large storage volumes to also cater for livestock drinking and other productive purposes such as poultry, piggery, fishery, orchards, etc. The yield of wells can be improved by groundwater recharge. The available household rainwater harvesting techniques to augment groundwater include: roof top rainwater, run off harvesting through recharge pits, recharge trenches, tubewells, and recharge wells. In-ground rainwater harvesting can also be used directly for crop cultivation. The in-field rainwater harvesting (IRWH) technique conserves limited rainfall for longer periods and is thus a sustainable technique that contributes to climate change adaptation through increased plant available water, buffering during dry spells, increased yields and better rainwater productivity enabling food production. Drip irrigation will be used wherever possible in conjunction with high value crops, orchards or horticulture, whilst short-season crop varieties and small grains (sorghum, rapoko, millet) will be encouraged in view of the prevailing rainfall patterns. Climate-smart agricultural techniques such as intercropping with legumes, mulching, crop rotation, greater crop diversity and improving storage and processing, and improved feeding strategies, rotational grazing, grassland restoration, integrated crop and livestock, and manure management will be piloted and demonstrated.

Within the strategy to diversify livelihoods and coping mechanisms against extreme climatic events, the Project will support household utilisation of timber and non-timber forestry products such as timber sculptures, ornamental furniture, charcoal production, honey production, medicinal herbs, livestock feed production, etc. It will also support food preservation projects such as low-cost preservation technologies for preservation of vegetables, domestic and wild fruits, and grain protection structures.

Household energy needs consume considerable time for women and children in fetching firewood and it destroys forests and the environment. Women spend up to eight hours a day in household chores whilst the young children stay with them. Inefficient use of biomass in the traditional stoves coupled with insufficient ventilation causes severe health hazards, and most of it affects women and girl children. More than 98% of households in rural Zimbabwe use firewood as a source of fuel for cooking and heating. Women often spend as long as four hours per day on average in collecting fuelwood, and leaf fodder which leaves them with no time to take some income generating activities. Children are significantly involved in collecting firewood, this in turn also induces lower levels of schooling and child health. Paraffin (kerosene) is also a major source of

lighting in rural Zimbabwe, and is expensive and also leads to ill health. Indoor air pollution from paraffin lamps can cause fatal respiratory problems over time. The Project will support energy security through a variety of interventions such as smokeless energy efficient stoves to reduce firewood demand and solar lighting. Examples include beehive briquettes which are mainly charcoal briquettes made from char and clay mud mixed in certain proportion. Mud acts mainly as binding agent and reduces the rate of burning. Dried beehive briquettes produce a smokeless blue flame during burning for 2.5 to 3 hrs. It can be used for cooking and space heating. This could be an eco-friendly alternative clean source of household fuel to save electricity and wood fuel. Emission of harmful gases from burring briquette is very low as compared to wood and woody biomass which are commonly used by rural people. Agricultural residues are produced in abundance after harvesting and biomass charcoal briquetting techniques will be used for generating an alternative fuel which is cost effective and environmentally friendly and can also add income to the family. Bio-digesters, discussed in 4.3 above, are also a viable option at household level. Gender friendly technologies like biogas, improved cooking stoves, solar lanterns can empower rural women in many ways.

Output 4.5 Food security and livelihood enhancement revolving fund established: The population in the six Project wards is 62,000, consisting of more than 13,000 households. A revolving fund will be established for farmers using rainwater harvesting and groundwater for productive purposes and financial experts will guide on the amount per family, repayment period, and grant/loan apportionment. Agronomists and extension workers will guide the farmers on good practice farming so that they will be able to pay back the loan. The evaluation of the project would include its social, gender and environmental impacts in line with the Adaptation Fund policies. Other livelihood projects will also be assessed in relation to climate resilience. The revolving fund will ensure sustainability of project actions beyond the Project lifetime.

Component 5. To compile and disseminate lessons learnt to facilitate future upscaling and replication of good practices in groundwater extraction and management

Lessons learnt and good practices will be continuously documented and field shows conducted to share experiences among the demonstration projects. Multimedia and written documents/manuals will be prepared, validated and disseminated to key stakeholders. Professional multimedia personnel and authors will be hired to do this.

Output 5.1 Web-based and social media information sharing and exchange platform established for Project participants: A web administrator will design an internet-based platform for Project participants to upload information for sharing. Social media such as Facebook, Whatsapp or Twitter will also augment information sharing and dissemination.

Output 5.2 Good practices documented and adopted by key stakeholders: Good practices and lessons from project interventions will be identified, documented (case studies, bulletins, drama, poems, videos, etc) and disseminated. The knowledge and information will also be shared through the use of existing and popular platforms e.g. social media, SMS platforms and other forms that are easily accessible by the stakeholders.

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.

This Project will seek to train community members on climate change impacts and the whole array of actions they can take at personal and community levels to reduce their vulnerability. It will use role plays, scenario developments and group discussions to explain and demonstrate the phenomenon of climate change and thus encourage communities to take appropriate action. Well-trained social scientists and gender experts will be used for the training. The rate of poverty in Zimbabwe more than doubled from 25 percent to 63 percent when the political and economic climate began to decline. Since then poverty levels in Zimbabwe have reached alarming proportions, with a recent authoritative survey revealing that in some parts of the country as many as 96 percent of villagers live on less than a dollar a day. According to the Zimbabwe Poverty Atlas of 2015 - a research carried out by Zimstat, the World Bank and the United Nations Children's Fund (UNICEF) - areas such as Nkayi in Matabeleland North Province have a shocking poverty prevalence of 95.6 percent. The cause of this can be traced back to the many problems plaguing the agricultural industry.

The Project several economic and social benefits. It will provide additional water supply to the targeted communities and thus reduce the time spend by women and children fetching water. This time could be used for productive purposes such as working in fields and attending school. The increased water availability will be used for productive purposes thereby enabling the vulnerable communities, particularly rural women who are the majority and most affected by climate-related shortages of water, to diversify their income, thus building more resilience to climate effects. The anticipated productive uses of water include cultivation of high value crops, fruit trees, animal husbandry, poultry farming, market gardening, etc. A revolving fund will be set up to kick-start these activities, with the Project catering for offsite investments such as drilling boreholes, drip irrigation kits, etc. Based on experiences elsewhere, this should improve income levels and reduce poverty levels. Thus, the project will mitigate the negative socio-economic impacts of drought such as water shortages, food shortages, absenteeism from school and loss of income by ensuring sustainable access to reliable domestic water supply as well as access to water for productive uses. The Project will also address the energy needs of rural communities through wood saving and smokeless stoves, biogas production for cooking, heating, lighting and powering refrigerators. This will also substantially reduce wanton cutting down of trees, indoor air pollution, and the time women and children spend fetching firewood. In addition, the Project seeks to diversify livelihoods beyond the use of groundwater so that households have asset bases to support them in times of food shortages due to extreme climatic events.

Zimbabwe's environmental situation in rural areas has continued to deteriorate over the past two decades due to poor land husbandry practices. Challenges relate to lack of proper soil and water management especially in newly resettled areas. Poor soil management techniques also result in loss of fertile top soils, further impacting on agricultural productivity. In some cases, over-grazing is prevalent. Wetlands have been invaded for crop cultivation, affecting water flows and water quality. Veld fires are quite common and illegal mining rampant. A lot of mines have also closed without following appropriate mine closure procedures. The Project areas are faced with rampant ecosystem and environmental degradation, soil loss, and reduction in biodiversity, which contribute to low resilience to climate change with high risk floods. The Project will foster good land husbandry and water stewardship through improved landuse planning, separation of wildlife and grazing areas, protection of wetlands and heritage sites, recycling of agricultural residue as fertiliser after bio-digestion, gully protection and restoration, etc. Current borehole density in the three districts is less than 0.06/km^2. To avoid groundwater mining, the Project will avoid intensive drilling of boreholes and will mostly depend on deep wells which will be sparsely populated (>10/km^2) to have a significant impact on groundwater quantity. The land area that can be irrigated from a deep well rarely exceeds 1,000 m^2. Using drip irrigation, this area can be safely irrigated

by wells with yields of more than 2 m^3/day, with allowance for other household water uses. Rural household wells are rarely less than 100 m apart. Where absolutely necessary, networks for monitoring groundwater depletion could be established.

The Project will result in the realization of further environmental benefits such as ecosystem protection and restoration through various catchment management activities (agroforestry, afforestation, groundwater recharge, gully control and restoration, contour ridges, terracing, etc), improved water availability through promotion of water saving irrigation technologies (drip irrigation), groundwater recharge and in-ground rainwater harvesting. In addition, the project will result in improved biodiversity and protection of wetlands through protection of water sources. Through these activities, the project will mitigate the potential negative environmental impacts of groundwater use such as over-extraction of the water resource, land degradation (due to livestock traffic to water sources), loss of biodiversity and destruction of wetlands. The project will thus stimulate the sustainable use of natural resources and improve the natural-resource base of the communities, which are still the main assets for income generation for vulnerable communities. The Project will reduce environmental damage from veldfires through community training on firefighting, control burning and erection of fireguards. The establishment of household tree plantations will help mitigate greenhouse gas emissions.

The activities proposed in this Project for enhancing groundwater recharge and in-ground rainwater harvesting will help to make water available even in times of droughts thereby mitigating the environmental impacts of drought on agricultural productivity, domestic water supply and groundwater dependent ecosystems The availability of food will thus be improved by increased availability of water for irrigation systems and this will also enable crop cultivation throughout the year. The irrigation systems will also aim at cost-effectiveness and productivity enhancement by providing low-cost but efficient technologies to beneficiary families. The selection of beneficiaries will also ensure the poorest and most vulnerable in society are properly selected and targeted. The project will improve access to food by focusing on enhanced productivity and promotion of climate-friendly crops for different regions. It will work with organisations working on producing drought-tolerant maize and other crop varieties such as sorghum, millet and rapoko. Farmers will also be trained on post-harvest loss management in order to maximise their profits.
The use of food will be improved by promoting better sanitation, especially in view of the availability of water for personal hygiene. Extension workers will be trained to ensure dissemination of good practices. Improved incomes from irrigation will also be used to finance household water supply and sanitation. Irrigation projects at schools will be used to finance sanitation and hygiene improvements in schools. The losses suffered by farmers due to exposures to droughts will be greatly reduced by irrigation using groundwater and rainwater harvesting. The use of drought-tolerant varieties will also improve harvests. These varieties should be broadly tolerant to diseases but the need for additional pests and weeds control will be catered for by proceeds from irrigation and improved productivity in other project action areas. Awareness raising campaigns will be used to reduce veld fires and land degradation.

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

The general problem in Zimbabwe on groundwater utilisation is lack of technical and institutional capacity. The project will therefore use a portion of Project funds to address this under Components 1 and 2, which together are allocated US$1.4 million. This will build critical mass at national level that will be able to take the Project forward beyond the requested funding period.

Using the Project funding and government allocations, two Post-docs, 5 PhDs and ten MPhils will be trained and these would form the nucleus to train more people in future. Project Component 3 will build capacity at local level and will train about 20 people, who will in turn train about 200 people in the next ten years based on demand and government funding. About US$0.1 million will be allocated to Component 3 which will also establish robust frameworks for climate resilient catchment management. Furthermore, US$0.1 million will be allocated to Component 3, for building capacities of institutions and communities and for knowledge management.

The Project will allocate about US$6.8 million to Component 4 for implementing concrete adaptation actions for resilient and sustained ecosystems, groundwater development, improving agricultural productivity and hedging it against climate change and other livelihood systems. Component 4 is the most critical as it will ensure that concrete investments in climate change adaptation are implemented in the four sub-catchments. The benefits of these investments would include improved economic productivity and better livelihoods as a result of sustainable groundwater development, reduced catchment degradation, good agricultural practices, improved water infiltration and water harvesting.

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 Government of Zimbabwe (GoZ) has established a five-year economic plan (2013 - 2018) called the “Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZimAsset)”. The plan’s vision is to move “towards an empowered society and a growing economy”, execution of which is “to provide an enabling environment for sustainable economic empowerment and social transformation to the people of Zimbabwe”. These points affirm an integrated, holistic approach to raising productivity, increasing food security and diversifying income in recognition of the complexity of rural development. It is important to note that ZimAsset identifies agriculture as a key sector for economic growth and employment creation. Value addition activities should be implemented to revitalize the agricultural sector and grow the economy rapidly; as such, agriculture is tasked with a 12.5% growth target for 2018. Additionally, an Agriculture Investment Plan and an Irrigation Development Master Plan, intended to reduce national dependence on rain-fed agriculture for sustained food security, have been developed by the Ministry of Agriculture, Mechanization and Irrigation Development.

To respond to and manage growing climate risks and hazards, the Government of Zimbabwe has formulated a number of key policies and plans, as well as strengthened the corresponding institutional frameworks. The GoZ has submitted an Intended Nationally Determined Contribution (INDC) to the UNFCCC that summarizes climate vulnerabilities and identifies long-term and near-term adaptation visions, goals and targets. In its INDC, Zimbabwe commits to promoting adapted crop and livestock development and climate-smart agricultural practices; strengthening management of water resources and irrigation in the face of climate change; and promoting practices that reduce risks of losses in crops, livestock and agricultural incomes, among other priorities. In addition, Zimbabwe submitted three national Communications to the UNFCC in 1998, 2013 and 2017. The third communication presents up to date information on climate change issues in Zimbabwe focussing on climate change impacts, mitigation, vulnerability and adaptation, research and technology transfer and climate change education, training and awareness.

The GoZ has developed a National Climate Policy (2016) and a costed National Climate Change Response Strategy (2015) and has established a Climate Change Management Department in the Ministry of Environment, Water and Climate to coordinate and guide the national response to climate change. In light of the climate change impact on water resources, Zimbabwe is also receiving support from the World Bank to develop a National Water Master Plan. Zimbabwe is currently developing a National Adaptation Plan (NAP) with readiness funding from the Global Climate Fund. The GoZ has initiated a stocktaking exercise supported by UNDP for the National Adaptation Plan, which it expects to finalise in 2018 and this involved consultations on gender for climate change adaptation which were used in developing this conceptnote. The stocktaking exercise will inform the development of the NAP. Zimbabwe is also planning the formulation of a Low Emission Development Strategy for 2018, supported by the UNDP-Russia Trust Fund for Development.

The proposed Project has a very high level of support from the Zimbabwean government as the proposed interventions are an integral part of GoZ priorities as outlined above. Zimbabwe identified water resources management and climate change adaptation as key priority areas in its national policies or program documents. The Government is prioritising groundwater exploitation in arid and semi-arid areas and is aiming to drill at least four boreholes in each constituency. To address the various water resources related challenges, Zimbabwe adopted the principle of Integrated Water Resources Management (IWRM) which will be the basis for interventions underpinning this proposal. The GoZ has also developed several guiding policies that are aimed at mitigating the adverse impacts of climate change and variability and to achieve reduction in poverty through environmentally sustainable development.

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 project will be implemented following the national standards of Zimbabwe related to environmental, water (surface and groundwater), wetlands and ecosystems management. Some project resources will be used to meet relevant standards for the management of critical natural resources taking into account the threats to critical ecosystems, water quality and quantity and also land degradation. The standards applicable to the Project include Environmental Impact Assessment (EIA) and Ecosystem Protection Regulations (2007), Catchment and Sub-catchment statutory requirements, Standards for drilling boreholes (SAZ ZWS6182013), Water Quality regulations (SI6 of 2007), Wetland management guidelines and River Systems Outline Plans Others are with location of toilets versus boreholes and wells (30 m), streambank cultivation (30 m), and maximum walking distances to water sources (500 m) Since the project is mainly aiming at improving the state of the environment of the Gwayi, Mzingwane, Runde and Save catchments, it will not generally have negative environmental impacts. It is clearly expected to have positive environmental impacts by improving the ecosystem of the areas, through improving sustainable management of water and other natural resources, addressing issues of community resilience to climate change and improving community livelihoods.

The Water Act of 1998 and the National Water policy of 2013, Zimbabwe has entrenched integrated water resources management as the principal management philosophy for water resources. Water is managed through seven catchment councils and below them are 57 sub-

catchment councils. The drilling of borehole is controlled by sub-catchment councils and an annual monitoring fee is charged. Drillers should be registered. There are no regulations specifically dealing with where boreholes are drilled but the quality of the water should meet national standards. Motorised boreholes are considered as non-primary use of water which should be charged at prescribed rates. Other forms of groundwater such as springs and wells are not strictly regulated. Communal boreholes are managed by local Water Point Committees which are responsible for their repairs and maintenance through user contributions.

.

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

The Project design and consultative processes have ensured that the project is not duplicating current efforts in Zimbabwe. Instead, the Project seeks to complement other projects, including those by GoZ, UNDP, UNICEF, FAO, UNESCO-SADC-WIN, Plan International, *etc*. The Project also recognises that the Zinwa Act provides for the preparation of River System Outline Plans by each catchment and that these were prepared nearly a decade ago. It therefore supports the revision of these at sub-catchment level in four main catchments with targeted inclusion of gender, groundwater and climate change resilience.

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

The Project has considered capacity building and knowledge management and learning as one of its main components as demonstrated by Components 1, 2 and 5. Important processes and lessons from project implementation will be properly documented and shared among stakeholders. These activities will be included as regular part of M&E and will be used in adjusting future project implementation. This component will also facilitate joint learning and experience sharing among various stakeholders. Moreover, selected wards falling under Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments will be used as demonstration sites for others to learn from experiences of the Project. The Project design is such that the participating wards will be backed by their district superiors for upscaling to other wards, whilst the sub-catchments will also be backed by their superiors at catchment levels for upscaling to other sub-catchments. There are operational lessons the project can learn through other on-going and past projects. This includes projects on rural livelihoods, on-farm improvements, afforestation, wood-efficient cooking stoves, sanitation and hygiene improvements, *etc*. The project will also look up to gap analysis studies from such projects and build a library of knowledge on good practices.

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.

Responding to impacts of climate change requires a multi-disciplinary, multi-sectoral and multi-institutional approach because climate change is cross-cutting, affecting various sectors and groups of societies. The adopted project design facilitates multi-stakeholder participation and collaboration starting right from its development up to its implementation. It promotes consultations, participatory processes and dialogues among the various stakeholders of central government, NGOs, CBO, private sector, development partners, research/academics, catchment and Subcatchment councils, and local communities at ward and village levels. To this end,

UNESCO together with the Ministry of Environment, Water and Climate, which is the National Designated Authority for the Adaptation Fund in Zimbabwe, have worked in close coordination during the formulation of this project concept. The first consultation meeting was held on 22 February 2018 between UNESCO and the Ministry of Environment, Water and Climate personnel to conceptualize the project. It was at this meeting that groundwater assessment and sustainable exploitation of groundwater by vulnerable communities were agreed on as activities which could reduce adverse impacts of and risks posed by climate change in the country. This was informed by outcomes from consultative workshops conducted earlier for the development of the National Adaptation Plan in Buhera, Chiredzi, Chimanimani, Tsholotsho, Gwanda, Matobo and Mwenezi. These district visits were conducted between 28th of May to 7th of June 2017. The consultative workshops in Mwenezi and Buhera districts which are some of the areas targeted in the project were attended by a total of 122 participants (52 Females and 70 Males) from various government ministry departments (Water, Agriculture, Health, Climate, Forestry, Environment and Local Government), NGOs, Universities and representatives from the communities. From the discussions, it was noted that although communities were practising many adaptation interventions, gaps and needs were identified such as the need for education and awareness, capacity building (strengthening local institutions, training of farmers and technical support) and research to improve adaptation options as well as research publications to communicate climate change impacts for the context of Zimbabwe. Prioritization of adaptation options was given to rain water harvesting, groundwater, capacity building, rehabilitation of irrigation schemes and the use of efficient irrigation methods and investment in early warning systems. The importance of making sure climate change interventions go hand in hand with good management practices was also highlighted.

Other consultative workshops were held after the conception of the project idea to select and discuss the project components on 22 February and 10 April 2018. The workshops were attended mainly by key stakeholders from the various departments in the Ministry of Environment, Water and Climate, Universities and other water and climate-related institutions.

It is important to note that there will be longer and wider consultative and participatory processes at various levels during the full project development stage which will include national stakeholders in the capital Harare, Binga, Buhera and Mwenezi district key informants, and local stakeholders at ward and catchment/sub-catchment levels. The main proposal design and development committee will be composed of experts from UNESCO, Chinhoyi University of Technology, University of Zimbabwe, Ministry of Environment, Water and Climate, Ministry of Agriculture, Zimbabwe National Water Authority and Upper Manyame Sub-catchment Council.

The following issues, among others, will be comprehensibly covered during consultations:

- The nature of the project and its specific role in enhancing climate resilience of the most vulnerable communities
- The activities focusing on adaptation measures to be included by the project
- Defining key stakeholders, their roles, responsibilities and contribution during Project implementation
- Project management structures
- Issues of sustainability and ownership, especially by communities and local government
- Recognition of the role of women and youth in the implementation of the project
- Issue of coordinating and collaborating with other existing projects
- Identification of priority problems/issues and possible solutions
- Identification of risks and/or possible conflicts and resolution mechanisms

- Identification of projects/initiatives for possible synergies.

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

The Climate Change Response Strategy of Zimbabwe makes an initial attempt to estimate the cost of national adaptation strategies to climate change, which is estimated at US$10 billion. However, there generally is limited detailed data for Zimbabwe on the projected economic costs of climate change and the additional costs and benefits of adaptation. Assessments undertaken so far in Africa indicate high benefits incurred by adaptation compared to costs. For example, appropriate adaptation measures could reduce the economic costs of climate change in Africa from ~2 to 1% of GDP by 2040 and from 10 to 7% of GDP in Zimbabwe by 2100 (GoZ, 2015). Adaptation measures need to be carefully planned for and managed to reduce the negative effects of climate change on socio-economic returns in Zimbabwe. It is estimated that in Zimbabwe, climate change, water-related disasters, such as floods, landslides, windstorms and hailstorms, contribute well over 80% of the natural disasters and destroys many hectares of crops annually, resulting in huge economic losses.

The Project targets building adaptive capacity and enhancing climate resilience of local communities through implementing concrete adaptation and mitigation actions. Unlike the usually sectoral oriented projects, the proposed Project is designed to employ a more integrated and holistic approach of supporting communities in Binga, Buhera and Mwenezi districts in their efforts to increase their resilience to droughts and improve their adaptation capacity to those risks while at the same time improving their livelihoods strategies and enhancing food security. The project starts by improving the enabling environment through strengthening of policies, institutions and human capacity. It then develops mitigation and adaptation measures at ecosystem level, before dealing with community and household livelihood enhancement, diversification and resilience projects. Community-based climate adaptive actions on the ground will improve sustainable natural resources management and hence agricultural productivity by these communities. Climate-responsive agronomic practices such as conservation agriculture, water harvesting schemes and sustainable groundwater exploitation will not only improve agricultural productivity, but also make production more reliable, contributing to household food security. The adaptation activities of Component 4 therefore do not only increase the resilience of ecosystems and agricultural production systems to the risk of droughts, but also enhance the food security of the livelihoods in the catchments. The inclusion of sustainable energy will help to reduce wanton cutting down of trees, and will reduce the time spent by women and children in fetching firewood at the expense of other productive uses of time.

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

A project risk assessment exercise will be carried out and this will also cover environmental impact assessment of proposed project activities in line with environmental regulations of Zimbabwe. The Project will consider monitoring and evaluation of environmental changes as part of the regular project M&E system. The economic sustainability of the Project will be hinged on the participatory and consultative process to build ownership of the Project by communities, local authorities and other key stakeholders. This process is expected to mobilize some resources for the implementation of the Project (including in-kind) and the continuity of the activities after the end of the Project. Technical, logistical, material and political support is expected from the different

stakeholders and will be ensured through the various stakeholder coordination and collaboration structures that will be created by the Project. Project interventions such as irrigation schemes, water harvesting structures and technologies to reduce firewood usage (land degradation) will continue to provide benefits to communities beyond the Project lifespan so as to meet their current and future demands. Investment plans and budgets developed will ensure future investments are implemented with ease based on available financial information and costing of investments.

The creation of stakeholder coordination and collaboration structures will ensure that technical expertise and experiences are continuously shared and utilized during implementation of activities in the sub-catchments, hence contributing to technical and technological sustainability. The introduction of some technologies will be undertaken through a credit arrangement (revolving fund) linked to catchment management that contributes to better technology adoption by communities while ensuring environmental protection. Communities will also be engaged in the local production of introduced technologies for easy dissemination.

Issues of social, cultural and other social values of local communities will be considered in proposing interventions. Recognition of the role of women and youth in the implementation of the project by all stakeholders is also expected to contribute to sustainability. The Project appreciates the differences in livelihoods, social systems and identified interventions in response to those differences. The project activities will be further refined by communities through consultation and participatory processes before full scale implementation is undertaken. This will create ownership by communities to project interventions and also to their sustainability.

Institutional sustainability will be achieved through the management structure included in the project design. The project will be executed through already existing government structures at national, catchment, and local levels. The structures and personnel will ensure sustainability of the project results beyond project lifecycle because institutions are permanent and will continue to execute their mandates after the Project and their capacities would have been built by the Project. Lastly, the Project Monitoring and Evaluation system, including mid-term review and phasing out strategy, will also contribute to sustainability of Project interventions.

All relevant national social and environmental standards of Zimbabwe, such as borehole drilling standards, river protection, irrigation policy, water policy, climate change policy and water quality regulations will be respected while implementing the Project. The monitoring system of the project will therefore include monitoring environmental performance of the project through conducting environmental audits and reviewing project reports. It is also envisaged that for some specific interventions of the project at the initial phase of the project, some project resources will be used to undertake environmental and social impact assessments for selected project activities, based on the guidance obtained from the Environment Management Agency (EMA) of Zimbabwe.

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

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance

Compliance with the Law	Yes. The project complies with domestic law and policies and meets important environmental standards such as the Environmental Impact Assessment (EIA) and Ecosystem Protection Regulations (2007)	No negative impacts are anticipated but the project is expected to have positive environmental impacts. Where Project interventions are large enough to warrant an EIA, this will be done to comply with the law.
Access and Equity	Yes. The project promotes fair and equitable access to benefits of the project, although it tries to promote women, youths and marginalised groups in communities. The Project identifies activities that disadvantage women such as fetching water and household energy requirements in rural areas and seeks to mitigate this so that the burden is reduced or eliminated.	Further assessment is required as the project may not be sufficiently accessible to all groups The project will closely monitor the targeting of all project beneficiaries to assure equal access of men, women youth and the most vulnerable. Indicators in this regard are included in the M&E scheme.
Marginalized and Vulnerable Groups	No initiatives are identified with orientation or execution that could generate a negative impact on marginalized and/or vulnerable groups. Project interventions are actually targeted at the vulnerable and marginalised groups and the activities do not have any negative impacts on these groups. A revolving fund is proposed so that vulnerable groups will have somewhere to start from. They will also benefit from livelihood and energy diversification projects.	The Project intervention activities and other conservation methods need to be monitored closely in order to assure that these measures are accompanied by livelihood improvement projects. Indicators in this regard will be included in the M&E scheme.
Human Rights	No activities are identified whose execution is not in line with the established national and international human rights. Project objectives promote basic human rights for equitable access to services and groundwater for irrigated agriculture and capacity building as well as access to information. The Project will be guided by the Zimbabwean constitution and other relevant laws which protect human rights.	Continuous monitoring will be required to ensure that the Project does not, at any time, violate human rights
Gender Equity and Women's Empowerment	The activities of the project deliberately promote a fair and equal access of men and women. The project promotes equal participation in decision-making processes by assuring women majority representation in all water-related committees, establishing participatory platforms for all stakeholders, balancing representation in the forums. The selection of beneficiaries will deliberately target women.	All project activities will be screened and analysed in order to take gender aspects into consideration. An in-depth gender analysis of the involvement of men and women in the options proposed as concrete adaptation activities will be undertaken in the initial project phase.
Core Labour Rights	The project respects the Zimbabwe Labour Relations Act and international labour standards as identified by ILO.	Further assessment is required, to ensure that the labour rights are strictly protected. This will be included in the M&E scheme.
Indigenous Peoples	The Project promotes and respects the rights and responsibilities set forth in the United Nations Declaration on the Rights of Indigenous Peoples.	Further assessments will be done to ensure that the culture and traditions of the indigenous people in the project areas such as the Tonga and Shangani people are respected

Involuntary Resettlement	Generally the Project interventions do not require any resettlement of the target population.	The project will closely monitor the targeting of the project beneficiaries, particularly to assure that those people who have encroached on protected natural resources have access to the revolving fund and are involved in income generating activities. Indicators in this regard are included in the M&E scheme.
Protection of Natural Habitats	Project activities will not generally have negative impacts. It is clearly expected to have positive environmental impacts by improving the ecosystem of the areas. This includes protection and preservation of wetlands, protection and restoration of gullies, reforestation, control of veldfires, reduction in use of firewood, and demarcation of wildlife areas.	During the implementation of the all activities related to protection and management of wetlands, grasslands, forests shall be closely monitored to evaluate if the expected impact is achieved or if any unexpected negative side effects turn up. Indicators in this regard will be included in the M&E scheme.
Conservation of Biological Diversity	Project activities will not have a negative impact on biodiversity conservation as the project interventions are aimed at conserving biodiversity. In as much as the objective of the project is to conserve biodiversity, unintended environmental impacts may arise.	Consideration of direct and indirect project-related impacts on biodiversity will be conducted. Activities resulting in habitat loss, degradation and fragmentation, over exploitation, hydrological changes, nutrient loading and pollution will be assessed and management plans to mitigate impacts will be developed.
Climate Change	The project does not have any negative impact on climate change. The project interventions are actually aimed at addressing adverse effects of climate change. The reforestation projects will help to mitigate the impacts of climate change.	There is need to climate proof all project interventions. A criteria list will be prepared to screen all intervention actions to assure that they are climate smart.
Pollution Prevention and Resource Efficiency	Project is aimed at environmental conservation activities that will improve the natural-resource base of the communities. Thus the project will not generate any pollution. Instead the Project will reduce indoor pollution by adopting smokeless and efficient heating systems and biogas generation. It will reuse agricultural residues for bio-digestion and the sludge used as organic fertiliser. Water use efficiency will be assured by drip irrigation systems.	Salinization and chemical pollution from agricultural activities to be monitored. Groundwater quality monitoring will identify any pollution.
Public Health	No adverse impact on public health is envisaged as the project interventions such as improved sanitation, hygiene and nutrition are expected to contribute to improvement of public health.	Irrigation could result in damp ground and mosquito breeding and would need to be monitored and mosquito-repellent plants cultivated.
Physical and Cultural Heritage	The project aims to protect physical and cultural heritage; thus activities will not be implemented in such sites where there are physical and cultural heritages.	Local leadership will be kept engaged to ensure no violation of physical and cultural heritages.
Lands and Soil Conservation	Project interventions aimed at conserving the land and soil thus no	Soil erosion from cattle trampling to be monitored and managed.

	negative impacts are expected. Climate smart agricultural techniques will be used to avoid land degradation and soil retention measures will be applied.	

PART III: IMPLEMENTATION ARRANGEMENTS

A. Describe the arrangements for project / programme implementation.

The project will be implemented by UNESCO and executed by the Ministry of Environment, Water and Climate (Zimbabwe) in close collaboration with key stakeholders such as the National Committee of the International Hydrological Programme, SADC Groundwater Management Institute, and other relevant government ministries in charge of gender, youths, agriculture, and local government. The role of the UNESCO as the implementing entity of the project is to bear full responsibility for the overall management of the project, including the financial, monitoring, and reporting responsibility. UNESCO will receive the funds and channel them to the Ministry of Finance and Economic Development. The Ministry of Environment, Water and Climate (MoEWC) in Zimbabwe will be responsible for project management and execution. The MoEWC through its Directorate of Water Resources Planning and Development and ZINWA will take the lead in executing the project. ZINWA will coordinate local activities through the catchment and sub-catchment councils selected for this Project. ZINWA, through the various catchment councils, has already established governance structures in the four sub-catchments and these will be strengthened and used for coordination of project implementation. At the local level, four project execution offices will be based at the respective sub-catchment council offices. The project execution offices will closely collaborate with local district structures in the execution of the project in line with the catchment planning guidelines.

A Project Manager will be appointed and stationed at the MoEWC and ensure liaison on project activities among and between the government ministries, the Project sub-catchment councils, the field offices, local governance structures and other stakeholders. The project will be guided by various committees including the Project Coordination Unit, Project Execution Teams, and Focal Persons at sub-catchment councils, and Support Team at the Ministry. In addition, existing structures such as the ward councillors, the catchment and sub-catchment council structures and Zimbabwe IHP Committee will provide the necessary guidance to the project and ensure that the needs for the local communities are met.

In the recruitment of Project staff, gender expertise as an important area of technical expertise will be included in the terms of reference. All Project personnel will be trained in gender concepts such as a gender mainstreaming approach and with respect to the sectors in which this Project is taking place. Sufficient gender capacity within the Project supervision function of UNESCO is available to fulfil its oversight in working with executing entities as implementing partners on the ground.

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

A number of financial and project risks are anticipated in this Project and measures will be taken to manage the identified risks. The risks and mitigation measures are described in the table below.

Identified Risks	Level (H, M, L)	Risk Management Measures
Change in government or responsible Minister may result in delay in implementation of project	M	The project team will engage the new government or Minister so that they understand the need to carry out the project and its associated benefits.
Communities fail to support project activities and they are not informed	M	The project will carry out awareness campaigns and hold stakeholder meetings to explain the project to the communities. Local leadership will be involved in these meetings.
Inadequate funding to complete the project (e.g. due to costs increases)	L	The project will explore various channels to secure resources, consider alternative implementation approaches or restructure the project in consultation with AF.
Changes in the political environment	H	The project might defer project activities until conditions are suitable or restructure project and choose areas which are least affected priority areas.
Human capacity	M	The project will make use of expertise from UNESCO's Centres of Excellence in cases where available human capacity is not sufficient.
Climate change	H	Effects of climate change such as flooding may make some areas in accessible. The project will be designed in such a way that activities in flood-prone areas will be carried out before or after the rainy season.
Competing interests between different stakeholders regarding accessing and use of water and other natural resources	L	Establish multi-stakeholders' dialogue forum.
High expectations by communities and local government for quick investments on the ground	H	More awareness raising programs for understanding the policy-practice linkage helps.
Mismatch between the catchment and administrative boundaries	L	Promote catchment-based management and development.
Inadequate baseline data/resource potential	M	Establish baseline situation during implementation.
Low technology adoption rate by communities	L	Promotion and demonstration of new technologies and practices.
Local communities with limited participation and willingness to promote project initiatives	L	Increase sensitization at local community level, working with available local structures, active involvement of community organizations in project implementation.
Collaboration amongst the relevant technical institutions	M	The relevant institutions should be involved right from the project inception and continuously be involved in planning, implementation, Project review, and reporting.
Project resource capture	L	Follow transparent and participatory process (using catchment management structures) in selecting beneficiaries of the project using some agreed criteria. E.g., defining criteria and process to select community members that are eligible to access the revolving fund.
Project financial management	L	The project will have clear separation of roles and strengthen accountability and auditing
Delay in project implementation due to government bureaucracy, long and inefficient procurement processes.	L	Do proper planning (including developing a procurement plan). Negotiate with Government to get a special support or treatment that can facilitate implementation.

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

As shown before, the Project complies with domestic law and policies. In general the Project promotes fair and equitable access to benefits of the project. No initiatives are identified with orientation or execution that could generate a negative impact on marginalized and/or vulnerable groups. Some activities, such as the livelihood improvement projects, irrigation and animal husbandry are targeting women, single-headed households and marginalized groups. No activities are identified whose execution are not in line with the established international human rights. Project objectives promote basic human rights for equitable access to service and water for irrigated agriculture and capacity building as well as access to information. The Project promotes equal participation in decision-making processes by assuring women representation in all committees, establishing participatory platforms for all stakeholders, balancing representation in the forums.

The Project respects the labour standards as identified by ILO. The Project promotes and respects the rights and responsibilities set forth in the United Nations Declaration on the Rights of Indigenous Peoples. In some local communities exist different tribes, but no sharp distinction between indigenous and non-indigenous people can be made. The Project does not only increase the adaptation capacity of the local population and the resilience of the ecosystems, but also reduces greenhouse gas emissions through the introduction of improved stoves and reforestation initiatives. The Project will contribute to energy efficiency (e.g. solar pumping, introduction of energy-efficient cooking stoves), efficient use of water, prevention of water pollution, monitoring water quality. Furthermore the Project will minimize material resource use. The Project will not have negative impacts on public health, but will actually contribute to improved health conditions of the communities by reducing smoke out of traditional cooking stoves, improving living environment (healthy surroundings). The Project will not have any activity that affects physical and cultural heritages. Their protection/conservation will rather be promoted by the Project. Soil conservation, reduction of land degradation through supporting terraces, afforestation and catchment management are covered in Component 3 of the Project.

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

The M&E system for the Project will be developed and used to closely monitor and evaluate the Project. Monitoring and evaluation will be done through production of annual reports, quarterly implementation reviews, technical reports and regular supervision missions to enhance success. A baseline survey will be carried out at the beginning of the project to prepare a detailed M&E plan that will streamline project objectives, indicators and methodologies of data collection. A joint review mission to the project sites will also be planned to be conducted twice in a year. UNESCO as implementing entity supervises the M&E activities of the project, ensuring that the Ministry of Environment, Water and Climate and its agencies undertake the evaluation and prepare the yearly reports. The MoEWC will set up Project structures headed by a Project Manager. Quarterly Progress Reports will be prepared by the Project team and verified by the UNESCO. Annual Project Reports will be prepared to monitor progress covering:

- Progress made towards project objectives and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative);
- Project outputs delivered per project outcome (annual);

- Lessons learned/good practices;
- Annual expenditure reports;
- Reporting on project risk management.

In terms of financial monitoring, the Project Team will provide UNESCO with certified periodic financial statements. Audits on the project will follow UNESCO financial regulations and rules as well as applicable audit policies. Annual Work Plans and Quarterly Work Plans will be used to refine project delivery targets and re-align project work in close consultation and endorsement by UNESCO. An independent Mid-Term Review is planned for June 2021, midway through project implementation, to determine progress made in achieving outcomes and identify any adjustments required. An independent terminal evaluation will also be conducted.

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

The Results Framework of the project is shown below and defines success indicators for project implementation and the respective means of verification. An M&E system for the project will be established, based on the indicators and means of verification. This Results, including its indicators, targets and means of verification, will be reconfirmed during the Inception Phase of the Project. Any changes to the Results Framework require approval by the Project Steering Committee.

Project Results framework

Project Strategy	Indicator	Baseline	Target	Source of Verification	Risk and Assumptions
The ultimate goal of this Project is to increase local communities' adaptive capacity and resilience to climate change through increased groundwater exploitation for food security and other productive uses in rural areas of Zimbabwe	% of households exploiting groundwater for food security and other productive uses	The communities currently lack the capacity to adapt and resilience required to overcome impacts of climate change	By the end of the project cycle, 4,000 out of the 13,000 households in the project areas will have increased their adaptive capacity and resilience to climate change	Baseline survey report Annual report End of project reports	Climate-smart interventions introduced by the project will result in greater difference compared to conventional practices Groundwater will be available closer to beneficiaries in adequate amounts
Outcome 1: Improved knowledge and capacity at national and local levels on groundwater science, policy and participatory management issues	Number of technical, institutional and human capacities strengthened for improved and sustainable utilization of groundwater at national and local levels	The current knowledge and capacity on groundwater science, policy and participatory management issues is weak and inadequate at both national and local levels	The knowledge and capacity on groundwater science, policy and participatory management issues at national and local levels will be improved	Annual and end of project reports Technical reports Implementation reviews	Beneficiaries interested in training and willing and capable to absorb and apply training and capacity strengthening
Output 1.1	A National Centre for Groundwater Research and Training established	There is currently no centre dedicated for groundwater research and training in Zimbabwe	By the end of the project cycle, a fully functional National Centre for Groundwater Research and Training will be established	Annual and end of project reports Technical reports Implementation reviews	All the required technical expertise and financial resources are available
Output 1.2	Number of revamped local and national institutions for managing groundwater in particular, and water resources in general	The current local and national institutions for managing groundwater are weak and inefficient	By the end of the project cycle, all the local and national institutions for managing groundwater will be revamped	Annual and end of project reports Technical reports Implementation reviews	There is cooperation from the responsible authorities to implement identified changes
Output 1.3	Number of skilled groundwater technicians, scientists and managers trained	There is lack of human capacity in groundwater management	By the end of the project cycle at least 50 groundwater technicians, scientists and managers will be trained	Implementation reviews End of year reports Training manuals Training reports	Beneficiaries interested in training and willing and capable to absorb and apply training and capacity strengthening

Project Strategy	Indicator	Baseline	Target	Source of Verification	Risk and Assumptions
Output 1.4	Number of practical guidelines and manuals for groundwater planning, development and management developed	There is no comprehensive guidelines and manuals on groundwater planning, development and management	A set of practical guidelines and manuals will be developed and distributed to all relevant institutions	Annual and end of project reports Technical reports Implementation reviews Practical guidelines and manuals	Expertise is available to develop the manuals and guidelines
Outcome 2: Sustainable utilisation of groundwater based on sound scientific resource inventory; science-based policy to better manage resources and further develop new groundwater-based resilience strategies and practical interventions	Number of sub-catchments where comprehensive assessments of groundwater resources are carried	The assessments of groundwater resources are not comprehensive in the project target areas	Four comprehensive assessment reports on groundwater resources will be produced in the four target sub-catchments	Annual and end of project reports Technical reports Implementation reviews Assessment reports	Human capacity and expertise is available to carry out the groundwater assessments
	Number of sample plans for sustainable groundwater utilization in improving climate resilience developed	Currently, there are no plans for sustainable groundwater utilization in the project target areas	Four sample plans for sustainable groundwater utilization will be developed in the project target areas	Annual and end of project reports Technical reports Implementation reviews Sample plans	Human capacity and expertise is available to carry out the groundwater assessments
Output 2.1	Number of groundwater atlases for each of the four sub-catchments developed	There are no groundwater atlases available for the four sub-catchments	Four groundwater atlases will have been developed for the four sub-catchments	Annual and end of project reports Technical reports Implementation reviews Groundwater atlases	Local human capacity and expertise is available to develop the groundwater atlases
Output 2.2	Number of Groundwater Development Action Plans developed	There is currently no comprehensive Groundwater Development Action Plans	Four Groundwater Development Action Plans will be developed for Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments	Annual and end of project reports Technical reports Implementation reviews Groundwater Development Action Plans	Human capacity and expertise is available to develop the Groundwater Development Action Plans
Outcome 3: Increased participation by the wider stakeholder community, who are aware of water resource management issues and have access to tailored information and guidelines that support better catchment	% of beneficiaries who participate in water resource management issues	The current level of participation by stakeholders in water resource management issues in target areas is low	Level of participation by stakeholders in water resource management issues in target areas will improve by 80%	Annual and end of project reports Technical reports Implementation reviews Training reports	Beneficiaries are willing to participate in water resource management issues
	% of beneficiaries who have access to information and guidelines that support	% of target beneficiaries in project target areas who have access to information and	All the beneficiaries will have access to information and guidelines that support	Annual and end of project reports Technical reports Implementation reviews	Beneficiaries are interested in accessing the information and guidelines that support

planning and sustainable use of groundwater.	better catchment planning and sustainable use of groundwater	guidelines that support better catchment planning and sustainable use of groundwater is very low	better catchment planning and sustainable use of groundwater	Assessment reports	better catchment planning and sustainable use of groundwater
Output 3.1	Number of catchment management planning guidelines revised	The current catchment management planning guidelines are outdated and do not reflect the emerging issues of climate change, gender and groundwater	Four catchment management planning guidelines will be revised for Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments	Annual and end of project reports Technical reports Implementation reviews Catchment management planning guidelines	Human capacity and expertise is available to revise the catchment management planning guidelines
Output 3.2	Number of Sub-Catchment Management Plans revised	The sub-catchment management plans are outdated and do not reflect the emerging issues of climate change, gender and groundwater	Four sub-catchment management plans will be revised for Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments	Annual and end of project reports Technical reports Implementation reviews Sub-catchment management plans	Human capacity and expertise is available to revise the catchment management planning guidelines
Output 3.3	Number of extension services and institutions with strengthened capacities	Capacities of extension services and institutions at catchment level are inadequate to support communities in the four selected sub-catchments to undertake climate change adaptation activities	Capacities of extension services and institutions at catchment level will be strengthened to support communities in the four selected sub-catchments to undertake climate change adaptation activities	Annual and end of project reports Technical reports Implementation reviews Training manuals Training reports	Human capacity and expertise is available to build and strengthen capacities of extension services and institutions
Output 3.4	Number of community members trained on sustainable technologies	Awareness and knowledge about sustainable technologies is very low	At least 200 community members will have received training on sustainable technologies	Annual and end of project reports Technical reports Implementation reviews Training manuals Training reports	Beneficiaries interested in training and willing and capable to absorb and apply training and capacity strengthening
Outcome 4: Livelihoods of communities in demonstration wards improved and diversified, reducing vulnerability to impacts of climate change	Number of pilot and demonstration projects established in project target areas in order to demonstrate concrete climate change adaptation measures	Livelihood options of communities in target areas are limited and not resilient to effects of climate change	Six pilot water and food security demonstration projects using groundwater, water harvesting and renewable energy for climate-smart irrigation projects established	Annual and end of project reports Technical reports Implementation reviews Photos of projects Videos	Beneficiaries are interested in carrying out the pilot and demonstration projects
Output 4.1	Number of look and learn visits to best practice projects in Zimbabwe or regionally made	Few look and learn visits to best practise projects in Zimbabwe and in the region have been made	At least three look and learn visits will have been made in Zimbabwe and two in the region	Annual and end of project reports Technical reports Implementation reviews	Authorization is given to visit the different places

Output 4.2	Number of pilot and demonstrate community-based ecosystem resilience and mitigation projects	Massive land degradation resulting in loss of natural capital (forestry resources, wetlands, groundwater) for climate resilience and mitigation	At least one ecosystem protection project in each Project ward	Annual and end of project reports Technical reports Implementation reviews Photos and video clips	Beneficiaries appreciate benefits and are interested in carrying out ecosystem protection projects
Output 4.3	Number of pilot climate-smart water and food security projects using groundwater and rainwater harvesting at community level	Food security in target wards is hampered by insufficient water and inappropriate farming methods which do not take into account climate change	At least six pilot climate-smart water and food security projects using groundwater and rainwater harvesting at community level	Annual and end of project reports Technical reports Implementation reviews Photos and video clips	Beneficiaries appreciate benefits and are interested in carrying out ecosystem protection projects
Output 4.4	Number of households participating in livelihood enhancement and diversification projects using groundwater, rainwater harvesting and renewable energy	Food security in target wards is hampered by insufficient water, inappropriate farming methods and energy requirements which do not take into account climate change	Pilot climate-smart livelihood enhancement and diversification projects using groundwater, rainwater harvesting and renewable energy for about 4,000	Annual and end of project reports Technical reports Implementation reviews Photos and video clips	Beneficiaries appreciate benefits and are interested in carrying out ecosystem protection projects
Output 4.5	Amount of money set aside for the food security and livelihood enhancement revolving fund established	There is currently no revolving fund targeted for food security and livelihood enhancement programmes	Revolving fund will be established	Annual and end of project reports Technical reports Implementation reviews Bank account	Beneficiaries identify viable projects and there is buy-in from financial service providers
Outcome 5: A framework for improved groundwater utilisation to reduce vulnerability to climate change developed and adopted	A sustainable framework for improved groundwater utilisation to reduce vulnerability to climate change developed and adopted	Currently there is no framework for improved groundwater utilisation to reduce vulnerability to climate change	A framework for improved groundwater utilisation to reduce vulnerability to climate change will be developed	Annual and end of project reports Technical reports Implementation reviews Framework	Human capacity and expertise is available to develop the framework
Output 5.1	An information sharing exchange platform established	Information sharing mechanisms are very weak	A web-based information sharing and exchange platform will be established	Annual and end of project reports Technical reports Implementation reviews Web-based information exchange platform	Human capacity and expertise is available to develop the platform and beneficiaries are keen to access information
Output 5.2	Number of good practices documented and adopted by key stakeholders	Documentation of good practices in groundwater extraction and management is poor	Good practices in groundwater extraction and management will be documented and adopted	Annual and end of project reports Technical reports Report on good practices	Stakeholders are willing to adopt the good practices

Project Milestone Time Framework

		Year 1				Year 2				Year 3				Year 4				Year 5			
		Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Inception Workshop																					
Component 1	To strengthen technical, institutional and human capacity for improved and sustainable utilization of groundwater at national and local levels																				
Expected Outcome 1	Improved knowledge and capacity at national and local levels on groundwater science, policy and participatory management issues																				
Activity 1.1	Establish a National Centre for Groundwater Research and Training																				
Activity 1.2	Revamp local and national institutions for managing groundwater in particular, and water resources in general																				
Activity 1.3	Train at least 500 skilled groundwater technicians, scientists and managers at national and local levels in improved and sustainable utilization of groundwater																				
Activity 1.4	Develop practical guidelines and manuals for groundwater planning, development and management																				
Component 2	To conduct comprehensive assessments of groundwater resources in four poverty-stricken and most vulnerable sub-catchments of Lower Gwayi, Upper Save, Lower Runde and Mwenezi and thus develop sample plans for sustainable groundwater utilization in improving climate resilience																				

Expected Outcome 2	Sustainable utilisation of groundwater based on sound scientific resource inventory; science-based policy to better manage resources and further develop new groundwater-based resilience strategies and practical interventions.																					
Activity 2.1	Develop four groundwater atlases for each of the four sub-catchments																					
Activity 2.2	Develop four Groundwater Development Action Plans for each sub-catchment																					
Component 3	To strengthen the capacity of water and land management institutions in Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments in developing integrated catchment management plans that promote and protect groundwater use																					
Expected Outcome 3	Increased participation by the wider stakeholder community, who are aware of water resource management issues and have access to tailored information and guidelines that support better catchment planning and sustainable use of groundwater.																					
Activity 3.1	Revise existing catchment management planning guidelines to clearly mainstream gender, climate change and groundwater																					
Activity 3.2	Revise Sub-Catchment Management Plans of Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments through stakeholder participation to address climate change and groundwater issues																					
Activity 3.3	Strengthen capacities of extension services and institutions at catchment level to support communities in the four selected sub-catchments to undertake climate change adaptation activities																					
Activity 3.4	Train at least 3, 000 community members in project target areas on sustainable technologies																					

Component 4	To pilot and demonstrate concrete climate change adaptation measures based on sustainable groundwater exploitation for diversifying and strengthening livelihoods of the most vulnerable population in Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments																				
Expected Outcome 4	Livelihoods of communities in demonstration wards improved and diversified, reducing vulnerability to impacts of climate change																				
Activity 4.1	Look and learn visits to best practice projects in Zimbabwe or regionally																				
Activity 4.2	Pilot and demonstrate community-based ecosystem resilience and mitigation projects in six Project wards																				
Activity 4.3	Pilot and demonstrate community-based livelihood enhancement and climate resiliency projects in six Project wards																				
Activity 4.4	Pilot and demonstrate household livelihood enhancement, diversification and climate resiliency projects in six Project wards																				
Activity 4.5	Establish a food security and livelihood enhancement revolving fund																				
Component 5	To compile and disseminate lessons learnt to facilitate future upscaling and replication of good practices in groundwater extraction and management																				
Expected Outcome 5	A framework for improved groundwater utilisation to reduce vulnerability to climate change developed and adopted																				
Activity 5.1	Establish web-based information sharing and exchange platform for project participants																				

Activity 5.2	Document and adopt good practices by key stakeholders																				
End of year project evaluation																					
Mid-term project evaluation																					
End of project evaluation																					

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

Project Alignment with the Results Framework of the Adaptation Fund

Project Objective(s)[1]	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
1. To strengthen technical, institutional and human capacity for improved and sustainable utilization of groundwater at national and local levels	1.1. Fully functional National Centre for Groundwater Research and Training will be established 1.2. All local and national institutions for managing groundwater revamped 1.3. At least 50 groundwater technicians, scientists and managers trained 1.4. A set of practical guidelines and manuals on groundwater use developed and distributed to all relevant institutions	**Outcome 2**: Strengthened institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses **Outcome 7**: Improved policies and regulations that promote and enforce resilience measures	2.1. No. and type of targeted institutions with increased capacity to minimize exposure to climate variability risks 7. Climate change priorities are integrated into national development strategy	600,000
2. To conduct comprehensive assessments of groundwater resources in four poverty-stricken and most vulnerable sub-catchments of Lower Gwayi, Upper Save, Lower Runde and Mwenezi and thus develop sample plans for sustainable groundwater utilization in improving climate resilience	2.1. Four groundwater atlases developed for the four sub-catchments 2.2. Four Groundwater Development Action Plans developed for Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments	**Outcome 5**: Increased ecosystem resilience in response to climate change and variability-induced stress	5. Ecosystem services and natural assets maintained or improved under climate change and variability-induced stress	800,000
3. To strengthen the capacity of water and land management institutions in Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments in developing integrated	3.1. Four catchment management planning guidelines and structures revised for Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments	**Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses	300,000

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

catchment management plans that promote and protect groundwater use	3.2. Four sub-catchment management plans revised for Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments 3.3. Capacities of extension services and institutions at catchment level strengthened to support communities in the four selected sub-catchments to undertake climate change adaptation activities 3.4. At least 3,000 community members received training on sustainable technologies		3.2. Modification in behavior of targeted population	
4. To pilot and demonstrate concrete climate change adaptation measures based on sustainable groundwater exploitation for diversifying and strengthening livelihoods of the most vulnerable population in Lower Gwayi, Upper Save, Lower Runde and Mwenezi sub-catchments	4.1. At least three look and learn visits made in Zimbabwe and two in the region 4.2. Six pilot climate-smart ecosystem mitigation and resilience projects 4.3. Six pilot climate-smart water and food security projects using groundwater and rainwater harvesting at community level 4.4. Pilot climate-smart livelihood enhancement and diversification projects using groundwater, rainwater harvesting and renewable energy for about 4,000 households 4.5. Revolving fund established and functional	**Outcome 4:** Increased adaptive capacity within relevant development and natural resource sectors **Outcome 6:** Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	4.2. Physical infrastructure improved to withstand climate change and variability-induced stress 6.1 Percentage of households and communities having more secure (increased) access to livelihood assets 6.2. Percentage of targeted population with sustained climate-resilient livelihoods	6,800,000
5. To compile and disseminate lessons learnt to facilitate future upscaling and replication of good practices in groundwater extraction and management	5.1. A web-based information sharing and exchange platform established 5.2. Good practices in groundwater extraction and management documented and adopted	**Outcome 3:** Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	3.1. Percentage of targeted population aware of predicted adverse impacts of climate change, and of appropriate responses 3.2. Modification in behaviour of targeted population	200,000

Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
1. Improved knowledge and capacity at national and local levels on groundwater science, policy and participatory management issues	1.1 The knowledge and capacity on groundwater science, policy and participatory management issues at national and local levels improved	***Output 2.1***: Strengthened capacity of national and regional centres and networks to respond rapidly to extreme weather events ***Output 7:*** Improved integration of climate-resilience strategies into country development plans	2.1.1. No. of staff trained to respond to, and mitigate impacts of, climate-related events 7.1. No., type, and sector of policies introduced or adjusted to address climate change risks	600,000
2. Sustainable utilisation of groundwater based on sound scientific resource inventory; science-based policy to better manage resources and further develop new groundwater-based resilience strategies and practical interventions.	2.1 Four comprehensive assessment reports on groundwater resources produced in the four target sub-catchments 2.2 Four sample plans for sustainable groundwater utilization developed in the project target areas	***Output 5:*** Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability	5.1. No. and type of natural resource assets created, maintained or improved to withstand conditions resulting from climate variability and change (by type of assets)	800,000
3. Increased participation by the wider stakeholder community, who are aware of water resource management issues and have access to tailored information and guidelines that support better catchment planning and sustainable use of groundwater.	3.1 Level of participation by stakeholders in water resource management issues in target areas improve by 80% 3.2 All the beneficiaries have access to information and guidelines that support better catchment planning and sustainable use of groundwater	***Output 3***: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. and type of risk reduction actions or strategies introduced at local level	300,000
4. Livelihoods of communities in demonstration wards improved and diversified, reducing vulnerability to impacts of climate change	4. Six pilot water and food security demonstration projects using groundwater, rainwater harvesting and renewable energy for climate-smart irrigation projects established	***Output 4:*** Vulnerable physical, natural, and social assets strengthened in response to climate change impacts, including variability ***Output 6:*** Targeted individual and community livelihood strategies strengthened in relation to	4.1.2. No. of physical assets strengthened or constructed to withstand conditions resulting from climate variability and change (by asset types) 6.1.1.No. and type of adaptation assets (physical as well as	6,800,000

		climate change impacts, including variability	knowledge) created in support of individual-or community-livelihood strategies 6.1.2. Type of income sources for households generated under climate change scenario	
5. A framework for improved groundwater utilisation to reduce vulnerability to climate change developed and adopted	5. A framework for improved groundwater utilisation to reduce vulnerability to climate change developed	***Output 3***: Targeted population groups participating in adaptation and risk reduction awareness activities	3.1.1 No. and type of risk reduction actions or strategies introduced at local level 3.1.2 No. of news outlets in the local press and media that have covered the topic	200,000

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.

The project is still at conceptual stage, so a detailed budget is not yet available.

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

The project is still at conceptual stage, so a disbursement schedule is not yet available.

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

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

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

(Enter Name, Position, Ministry)	Date*: (Month, day, year)*
Mr. Washington Zhakata *Director, Climate Change Management Department* *Ministry of Environment, Water, & Climate Government of Zimbabwe*	Date*: April 10, 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 (ZimAsset) 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.	
Professor Hubert Gijzen *Regional Director and Representative* *UNESCO Regional Office for Southern Africa* *(Implementing Entity Coordinator)* 	
Date: *September 03, 2018*	Tel.:+263-4-776775/9 Email: h.gijzen@unesco.org
Project Contact Person: Dr. Peggy Oti-Boateng Senior Programme Specialist and Head of Science *UNESCO Regional Office for Southern Africa*	
Tel.: +263-4-776775/9 Email: p.oti-boateng@unesco.org	

[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.

From the Office of the Secretary for Environment, Water and Climate

All communications should be addressed to "The Secretary for Environment, Water and Climate"

P Bag 7753 Causeway, Zimbabwe
Telephone: 701681/3, 701691/2, Fax: 701551

Our Ref.: NRB/53

ZIMBABWE

MINISTRY OF ENVIRONMENT WATER AND CLIMATE
Kaguvi Building, 11th Floor
Corner 4th Street/Central Avenue
Harare

10 April 2018 The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

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

SUBJECT: ENDORSEMENT OF 'INCREASING LOCAL COMMUNITIES' ADAPTIVE CAPACITY AND RESILIENCE TO CLIMATE CHANGE THROUGH INCREASED GROUNDWATER EXPLOITATION IN ZIMBABWE' PROPOSAL

In my capacity as the Designated National Authority for the Adaptation Fund in Zimbabwe, I confirm that the above national project concept is in accordance with the Government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the country.

Accordingly, I am pleased to endorse the above project concept to the Adaptation Fund. If approved, the project will be implemented by UNESCO Regional Office for Southern Africa and executed by Ministry of Environment, Water and Climate.

DIRECTOR-CLIMATE CHANGE MANAGEMENT
Min. of Environment, Water & Climate
10 APR 2018
P/BAG 7753, CAUSEWAY, HARARE
TEL: 04-701681-2/701691-3

W. Zhakata
Director, Climate Change Management Department
Adaptation Fund Focal Point
For: Secretary for Environment, Water and Climate

c/o **afbsec@adaptation-fund.org**