

Terms of reference (ToRs) for the procurement of services above the EU threshold

CONFIDENTIAL

Project title:

Integrated Water Catchment Management and Landscape
Protection in Zambia (AWARE 2.0)

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Zambia

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Subject of the tender procedure:

Technical support for WDAA in 10 Lower Kafue water dispute
areas, Zambia.

Tender number:

10000521

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0. List of abbreviations

8NDP	Eighth National Development plan
AWARE 2.0	Integrated Water Catchment Management and Landscape Protection in Zambia
BMZ	German Federal Ministry for Economic Cooperation and Development
CBNRM	Community Based Natural Resources Management
CFMG	Community Forestry Management Group
DC	Development Cooperation
D-TL	Deputy Team Leader
DWRD	Department of Water Resources Development
EU	European Union
FAO	Food and Agricultural Organization of United Nations
GDC	German Development Cooperation
GIS	Geographical Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GPS	Global Positioning System
IWRM	Integrated Water Resources Management
LKSC	Lower Kafue Sub-Catchment
LoE	Level of Effort
MGEE	Ministry of Green Economy and Environment
MoA	Ministry of Agriculture
MoFL	Ministry of Fisheries and Livestock
MoLNR	Ministry of Lands and Natural Resources
MWDS	Ministry of Water Development and Sanitation
NAP	National Adaption Plan
NDC	Nationally Determined Contributions
NWRS	National Water Resources Strategy
SCC	Sub-Catchment Council
SCO	Sub-Catchment Office
SDGs	Sustainable Development Goals
TL	Team Leader
ToRs	Terms of Reference
UNZA	University of Zambia
WARMA	Water Resources Management Authority
WDAA	Water Deficit Availability Assessment
WRM	Water Resources Management
WUA	Water User Association
WWF	Worldwide Fund for Nature
ZEMA	Zambia Management Authority
ZESCO	Zambia Electricity Supply Corporation
ZNFU	Zambia National Farmers Union

1. Context

These Terms of Reference (ToRs) refer to the implementation of output 3 and output indicator 3.1 for the project “*Integrated Water Catchment Management and Landscape protection in Zambia*” (Communication title from a predecessor project: “Accelerate Water and Agricultural Resources Efficiency (AWARE)”). Output 3 focuses on improved capacities of Water Resources Management (WRM) governance structures to sustainably manage water resource disputes in the Lower Kafue Sub Catchment (LKSC) and output indicator 3.1, to conduct at least 10 water deficit/availability assessments for areas of water resources disputes in the LKSC. Data from these assessments will support the Water Resources Management Authority (WARMA) on water resources dispute mediation, negotiation and sustainable management. The overall objective of AWARE 2.0 is “Improved integrated management of water catchments including landscape protection with a focus on agriculture, forestry, biodiversity, water and climate change”.

The AWARE 2.0 project has five outputs which are all currently being implemented in an integrated approach by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. With regards to decentralised water resources management under output indicator 3.1 and output 3 this will be implemented by WARMA supported by a long-term consultant with international profile. During the inception phase WARMA with support from AWARE 2.0 identified 57 water disputes areas and mapped 13 as most critical. AWARE 2.0 is supporting WARMA to prioritise, select and validate 10 water dispute areas by March 2026.

1.1 National Context

The land area in Zambia is approximately 752.000 km², of which 56% is arable (420.000 km²). The country is located within the catchments of two of Africa’s major river basins: the Congo which is the second longest after the Nile, and the Zambezi which is the fourth longest river in Africa. In fact, approximately 40% of the Zambezi Basin lies within Zambia. The country is divided into six catchments of

which three – Zambezi, Kafue and Luangwa – are headwaters of the Zambezi River and the other three – Luapula, Chambeshi and Tanganyika – are headwaters of the Congo River. Zambia’s abundant water resources both surface and groundwater are threatened by effects of climate change such as the 2023/24 El Nino weather event. This is exacerbated by increasing population, industrialisation and energy needs among others. However, it is these (increasingly) competing demands along with effects of Climate Change and extreme weather events like El Niño, which have led to water stress.

Zambia is facing increasing environmental degradation and the escalating impacts of climate change, threatening its goal of becoming a prosperous middle-income nation as outlined in the

Figure 1: Major catchments in Zambia



8th National Development Plan (8NDP) 2022–2026. Although the country is endowed with substantial ground and surface water resources, water catchments, particularly in the southern regions, are under significant stress due to over-allocation, deforestation, encroachment, and unsustainable agricultural practices. Seasonal and spatial disparities in water availability are worsening, exacerbated by climate change, leading to more frequent and severe extreme weather events such as prolonged dry spells and floods.

In recent times, Zambia has been experiencing a severe drought, which has critically affected water availability for anthropogenic use, such as agriculture, hydropower generation, and domestic consumption. In response to this crisis, in February 2024 President Hakainde Hichilema declared the drought a national emergency, highlighting the urgent need for coordinated action to mitigate the drought's impacts. This current crisis underscores the vulnerability of Zambia to climate change, ranking 139 out of 181 countries in the 2022 ND-Gain Vulnerability Index.

Environmental sustainability is a key pillar in Zambia's 8NDP, aiming for socio-economic transformation through improved livelihoods. The government is committed to restoring degraded ecosystems, securing water resources, and enhancing food security thereby increasing agricultural productivity.

Investments in water management are central to this effort. The government has prioritized the development of groundwater resources, the management of water resources, and the protection of aquifers and headwaters to ensure sustainable water availability.

Climate adaptation measures are also emphasized, with particular focus on protecting and conserving water catchment areas. Community-based natural resource management (CBNRM) is being promoted to ensure that communities play an active role in sustainably managing their local environments.

These efforts align with Zambia's commitments under the Nationally Determined Contributions (NDCs), which include protecting water catchments through integrated landscape approaches and increasing investments in water capture, storage, and transfer. The country has also finalized its National Adaptation Plan (NAP) where water including water catchment management plays a key role.

Moreover, the Ministry of Green Economy and Environment (MGEE) launched the National Green Growth Strategy 2024 – 2030. The strategy is based on the five pillars: resilient and climate compatible growth, enhanced resource efficiency, enhanced natural capital, improved inclusivity and an enhanced green growth environment. To achieve resilient and climate compatible growth, the strategy stresses the need for strengthening policies, legislation, and strategies as well as promoting resilient water conservation and harvesting systems as supported by the AWARE 2.0 project. The strategy also outlines strengthened hydrological and water resources monitoring as necessary for increased resilience to shocks of the water sector.

Over the last year, the Ministry of Water Development and Sanitation (MWDS) also advanced the revision of the National Water Policy. This policy was launched in 2024 and puts strong emphasis on climate resilience and drought response, including rainwater harvesting. Further the MWDS is currently revising the selected sections of the Water Resources Management (WRM) Act to address some of the recent trends in the water sector.

1.2 Water Resources Management in Zambia

The management of water resources in Zambia is governed by the WRM Act No. 21 of 2011, which provides for the legal and institutional framework for integrated management and development of water resources. The WRM Act No. 21 of 2011 replaced the Water Act of 1949 and has remained in force since 2012. The Act establishes the Water Resources Management Authority (WARMA), an independent regulator responsible for the management, development, conservation, protection and preservation of water resources and its ecosystems in line with the principles of Integrated Water Resources Management (IWRM).

WARMA is mandated to regulate, manage, protect, and conserve water resources for sustainable development. Its functions include issuing and regulating water permits, ensuring compliance with standards, and facilitating equitable allocation of water for domestic, industrial, agricultural, and environmental needs among others. The Act provides for the establishment of Catchment Councils, Sub-Catchment Councils (SCC) and Water Users Association (WUA) structures which when effected will be responsible for carrying out various functions relating to water resources governance as well as enhancement of the participation of various stakeholders in the management of water resources. As WARMA is yet to establish these structures the contractor is encouraged to work with traditional leaders, existing community-based structures, local authorities, district level experts and ensure successful community participation.

The WRM Act is currently undergoing review of selected sections in order to align it to emerging issues. The review of the WRM Act is focused on provisions relating to water permitting, constitution of the Board of Directors for WARMA, constitution of Catchment Councils, SCCs and WUAs, strengthening of penalties relating to water pollution as well as general penalties, provide clear functions and roles relating to construction of water harvesting and storage infrastructure, international waters and development of ground water resources. It establishes the Water Development Trust Fund and the department responsible for the management of International Waters at the MWDS.

1.3 Lower Kafue Sub-Catchment (LKSC): A Critical Landscape

The LKSC is a vital region for Zambia's economy and environmental health. Covering approximately 49,867 km², it supports nearly six million people and is essential for all sectors of the economy.

The LKSC is home to both smallholder farmers and large commercial farms, including Zambia's largest sugar producer. Key crops produced in the region include millet, maize, groundnuts, soybeans, cotton, sugar cane, and wheat. However, the dominance of rainfed agriculture makes agricultural production vulnerable to climate variability and extreme weather events.

The hydropower sector is another significant factor within the LKSC containing three hydropower stations namely Kafue Gorge Upper, Kafue Gorge Lower, and Itzhi-Tezhi that collectively contribute over 50% of Zambia's hydro-electricity generation. For water supply, the LKSC through the Kafue River, provides approximately 44% of the water needs for Lusaka, Zambia's capital city (WARMA, 2024).

Further, the LKSC is ecologically important as it encompasses key ecosystems like the Kafue Flats wetlands. These wetlands are recognized under the Ramsar Convention for their global significance and provide a habitat for over 400 animal species, including endangered wildlife such as the Kafue Lechwe, Antelope and the Wattled Crane.

However, the LKSC faces severe environmental degradation. The catchment is increasingly water stressed, with 90% of allocatable water already permitted and per capita water availability below 1,700 m³ per year (WWF, 2018). High levels of deforestation driven by charcoal production, firewood collection and extension of agriculture fields coupled with reduced rainfall due to climate change compound forest degradation and result in reduced amount of ecosystem services produced. According to the Zambia Meteorological Department, climate change projections indicate a potential reduction in rainfall by up to 30% by 2050 and rising temperatures, that will ultimately lead to exacerbating drought conditions. Biodiversity loss is also a significant concern, with habitat degradation and invasive species threatening the region's rich biodiversity.

In relation to water disputes, accurate water deficiency and availability assessments play a central role in dispute prevention, mediation, resolution and management. In the LKSC, disputes often arise between commercial agriculture, hydropower generation, mining, fisheries, and downstream communities, particularly during periods of drought or low flows. Transparent, evidence-based data on hydrological balances strengthens trust among stakeholders and reduces contestations by providing a scientific foundation for negotiations. Conversely, poor or contested data can fuel mistrust and exacerbate disputes, undermining IWRM governance structures. Thus, reliable assessments and transparent and easy to understand visualisation of data, does not only inform water allocation frameworks but also can serve as a conflict management tool—helping to align stakeholder expectations, safeguard ecological flows, support resilient and cooperation in water resources governance.

1.4. AWARE 2.0 in the context of German and EU Support to the Water Sector

The German Development Cooperation (GDC) has a long history of supporting the water sector in Zambia. GDC has been supporting the reform process (Water Policy 2024; Water Act 2011), as well as the development of institutional structures following reforms. Through the Sustainable Water Resources Management and Agricultural Water Use (AWARE 1) commissioned by the German Federal Ministry for Economic Development and Cooperation (BMZ), substantial support was rendered in terms of both technical and financial assistance to Water Resources Management Authority (WARMA) structural issues still hindered the successful decentralisation of WRM Governance in Zambia.

The Multi-Donor Action “Integrated Water Catchment Management and Landscape Protection (**AWARE 2.0**)” is cofinanced by the European Union (EU) and the Federal Ministry of Cooperation and Development (BMZ) and implemented by GIZ as part of the BMZ project “Integrated Water Catchment Management and Landscape Protection (AWARE 2.0)”. The duration of the Action is scheduled from 1st November 2023 to 30 April 2028 (54 months), with a total budget of EUR 16.5 million (EU contribution EUR 8 million and BMZ contribution EUR 8.5 million). This Action is part of and contributes to the overall EU Action ‘Green Partnership and Investment Programme along the Agriculture, Forestry, Biodiversity, Water and Climate Nexus’.

The overall Nexus Programme aims to:

- Enhance resilience of ecosystems and improve people's livelihoods based on landscape approaches along the agriculture-forestry-biodiversity-water and climate nexus;
- Increase participation of smallholder farmers, including women and youth farmers, in market-integrated environmentally sustainable, resilient, low carbon, circular and nutrition sensitive value chains; and
- Increase income opportunities through applied sustainable resource management practices by local communities.

AWARE 2.0 is addressing Output 1.2 of the Nexus Programme:

Enhanced capacities for watershed management, addressing forest degradation, biodiversity conservation, water resources management and climate resilience in selected target areas.

Under the overall objective “to enhance resilience of ecosystems and improve people's livelihoods in Zambia”, AWARE 2.0's specific objective is “Improved integrated management of water catchments including landscape protection with a focus on agriculture, forestry, biodiversity, water and climate”. AWARE 2.0 is a follow-on phase of the Accelerate Water and Agricultural Resources Efficiency (AWARE) project. Thereby, AWARE 2.0 also addresses the experiences and lessons learned of AWARE 1.0. AWARE 2.0 works on national and at decentral level with focus on the LKSC. The following are interventions area:

- Improved capacities of the central government to execute its mandate for the integrated management of water catchments, including landscape protection with a focus on climate adaptation
- Improved capacities of decentralised authorities to plan, protect and sustainably manage water catchment ecosystems with focus on climate adaptation in the selected landscape
- Improved capacities of Water Resources Management (WRM) governance structures to sustainably manage water resource disputes in the LKSC
- Scaled-up measures for water catchment management, landscape restoration and protection, and climate adaptation
- Improved access to water resources for communities in the LKSC

1.5 Integrated Landscape Approach

The AWARE 2.0 project employs a landscape-based and participatory approach that recognizes the interconnectedness of water, forestry, biodiversity, agriculture, and climate adaptation. By engaging stakeholders across multiple levels central and local governments, traditional authorities, community-based organizations, and the private sector the project aims to create scalable and sustainable solutions.

2. Tasks to be performed by the contractor

2.1. Term

The expected term of the contract for services must be specified in the 'Special terms and conditions of contract'. The definitive term and service delivery period are set out in the contract award notification.

Output Indicator 3.1 of AWARE 2.0 module

10 water deficit/availability assessments for areas of water resources disputes in the Lower Kafue Sub Catchments in Zambia

Effective management of water disputes in the LKSC requires accurate, timely, and location-specific data on seasonal water availability and deficits, that can be collected and managed with the existing resources at hand. By strengthening methodologies, integrating multiple data sources, and validating results with stakeholders, the assessments will provide WARMA and water resources governance actors with evidence-based tools for dispute management, water allocation, and long-term planning. For this reason, the contractor is expected to assess water resources deficits and availability in the LKSC, with a focus on the 10 water dispute areas of frequent or emerging water disputes between groups, such as local communities, agro schemes, hydropower producers and industrial water users or in between these groups

2.2. Objectives, indicators, tasks, milestones and deliverables

The contractor is responsible for achieving the objectives and indicators described in this document.

The objective of this consultancy is to prepare water deficit and availability assessments (WDAA) in 10 selected water dispute areas of Lower Kafue Sub-Catchment in Zambia. This will contribute to achieving as alluded above contributing to Output Indicator 3.1. 10 water deficit/availability assessments for areas of water resources disputes in the Lower Kafue Sub Catchments in Zambia

This section discusses the tasks to be performed by the Contractor over the implementation period of the consulting contract. These tasks provide important steps in reaching the objective of this assignment but may not be exhaustive.

The description of tasks is detailed in Section 2.2 below. This includes tasks of the experts provided by the Contractor (see section 4.0 assignment of experts) as well as tasks which shall be contracted out to subcontractors (see section 5.8, other costs, procurement of services)

The contractor will focus on achieving output indicator 3.1 of AWARE 2.0 to carry out Water 10 Deficit and Availability Assessments in the Lower Kafue Sub-catchment, including documentation of the methodology, and stakeholder inclusion used for each of the different assessments, classified into micro/community, meso/Local authority and macro/commercial scale. With this classification, the consultant will recommend an appropriate and cost-effective

approach per water dispute area. For instance, at micro /community level transparent visualisation of scientific data, knowledge and experience may be crucial to resolve disputes while at Macro scale scientific data is necessary to facilitate dialogue. This means that the consultant will engage different assessment methodologies, based on the above classification, at every water dispute area. The contractor will focus on generating accurate, evidence-based information to support water governance, equitable allocation, and disputes management. The assignment will begin with a comprehensive review of existing hydrological, meteorological, and water use data, including flow records, water abstraction data, infrastructure operations and climate variability patterns. WARMA will supply water flow data. This will be complemented by field data collection and stakeholder consultations to fill information gaps and capture local water-use dynamics across agriculture, hydropower, mining, fisheries, domestic supply, and ecological systems.

The contractor will further carry out quantitative assessments of water demand versus availability, modelling scenarios of water deficits under different climatic and usage conditions, and mapping of 10 critical hotspots of water stress. Based on these findings, the contractor will develop decision-support tools and recommendations that strengthen the capacity of existing community-based water resources governance structures to allocate water resources equitably, anticipate shortages, and mediate disputes. The scope also includes the organization of stakeholder workshops to validate results, and capacity-building sessions to ensure uptake by the Water Resources Management Authority (WARMA) and decentralized institutions and organizations.

The contractor will undertake the following tasks:

2.2.1 Task 1: Development of the scoping report

Objective

The objective of the scoping is to establish a concise operational plan and shared understanding of the consultancy's scope, approach, and expected outcomes for assessing water deficit and availability in 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment.

Sub-tasks:

- i) Hold inception meeting with GIZ and WARMA
- ii) Identify and verify 10 critical water disputes to conduct water deficit/availability assessments.
- iii) Organise workshop with WARMA at operational level; to discuss the scope and expectation from the assessment and communication protocol (This is essential for ownership purposes)
- iv) Undertake a rapid situational review of existing hydrological, climatic, socio-economic, and institutional information for the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment, working closely with WARMA.
- v) Identify critical data gaps and requirements for field investigations and modeling in the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment in liaison with WARMA
- vi) Validate the proposed methodology and work plan with WARMA and GIZ

- vii) Develop a detailed inception report that outlines agreed deliverables, milestones, timelines, and responsibilities.

2.2.2 Task 2: Data Collection & Review

Objectives:

The objective of this task is to; systematically gather, compile, and validate all relevant hydrological, climatic, socio-economic, ecological, and institutional data necessary for assessing water deficit and availability in the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment.

Sub-Tasks:

- i) Review existing datasets and reports from all possible sources, including government agencies, industries, communities, and research institutions for the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment.
- ii) Identify and fill critical data gaps through targeted field surveys, stakeholder consultations, and remote sensing techniques (for the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment).
- iii) Apply remote sensing techniques in areas where there is no flow data modelling
- iv) Check the quality, consistency, and reliability of collected information for the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment, ensuring active community engagement throughout the process
- v) Review WARMA's existing methodologies for water availability and demand assessments and see how they can be integrated and used in the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment.
- vi) Establish a consolidated and accessible baseline database that will support hydrological modelling, deficit analysis, and scenario planning in subsequent project phases in the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment.
- vii) Examine best practices from similar semi-arid and catchment management contexts in Africa and globally.
- viii) Compile hydrological and climate datasets in the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment.
- ix) Collect required field data (surface water flows and water quality) in 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment that will support stakeholders' engagement and concise documentation of methodology at micro/community, meso/Local authority and macro/commercial scale management of water resources disputes
- x) Review water abstraction permits and compliance records in the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment this will also include other water users who may not have permits.

2.2.3 Task 3: Water deficit and availability Assessment

Objective:

The objective of this task is to conduct a pragmatic and comprehensive evaluation of water resources by quantifying both water availability and demand across competing sectors, and determining the extent, drivers, and patterns of water deficit in 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment.

Sub-Tasks:

- i) Propose pragmatic hydrological modelling techniques (e.g. SWAT, WEAP, HEC-HMS, applied techniques that are also applicable on community level) for LKSC conditions in the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment. The model should capture different scales of water disputes such as Micro/community, Meso/Local authority, and Macro/industrial level.
- ii) Develop protocols for incorporating climate variability using historical rainfall–runoff data, remote sensing, and seasonal forecasts.
- iii) Standardize water demand estimation methods for key user sectors (domestic, agriculture, mining, hydropower, ecosystem needs).
- iv) Gather hydrological data (streamflow and reservoir levels from WARMA monitoring stations, if available).
- v) Integrate land use/land cover maps, catchment characteristics, and rainfall–runoff coefficients.
- vi) Apply the enhanced methodology to model water availability under current and projected conditions.
- vii) Calculate deficits for each zone by comparing water demand and availability.
- viii) Conduct hydrological modelling of water availability under different scenarios.
- ix) Map and visualize water deficits at community and industrial abstraction points.
- x) Integrate climate projections into water balance assessments.

2.2.4. Task 4: Validate Water Allocation Framework and contribute to Water assessment data to dispute Resolution Mechanism development

Objectives:

The objective of this phase is to validate and harmonize the current water allocation framework from WARMA with the results of the water assessment in task 3 and also contributed data in the development of water dispute resolution mechanism that ensures equitable, transparent, and sustainable management of water resources in the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment

Sub-Tasks:

- i) Review the current water allocation framework by the Water Resources Management Authority and identify allocation concerns from stakeholders and common misinterpretation in 10 water dispute areas of LKSC.

- ii) Align the current allocation framework with hydrological assessments and sectoral water demands.
- iii) Propose water allocation models for balancing micro, meso and macro scale water demands.
- iv) Contribute data to the development of standardized water dispute resolution mechanisms aligned with WARMA frameworks.
- v) Support WARMA to further, validate and harmonize the existing water allocation framework by including additional adequate mechanisms capable of guiding balanced water sharing, reducing conflicts, and strengthening participatory water governance in the sub-catchment.

2.2.5 Task 5: Capacity Building & Knowledge Transfer

Objective:

The objective of this task is to strengthen capacities for assessing, understanding and solving water dispute at different scales such as Micro/community, Meso/Local authority and Macro/Commercial level for sustainable water resources management in 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment, while ensuring long-term retention and application of the knowledge generated through the consultancy

Sub-Task:

- i) Develop guidelines and training manuals for ongoing water deficit and availability assessment.
- ii) Build the technical skills of WARMA as the main partner in this assignment as well as existing structures such as dam committees, community dispute resolution committees, water users in water deficiency and availability assessments in the 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment
- iii) Document and transfer methodologies (hands on experience) for different scales datasets, and decision-support systems to relevant existing structures as mentioned above to ensure continuity beyond the AWARE 2.0 project
- iv) Enhance stakeholder understanding of water deficit dynamics, allocation principles, and dispute resolution approaches;
- v) Promote peer-to-peer learning and participatory knowledge sharing platforms that foster collaboration, transparency, and adaptive water governance in the sub-catchment.
- vi) Train WARMA and Ministry of Water Development and Sanitation officials in LKSC (district officials) and community-based organizations in applicable water balance modelling and water availability and deficit assessments.

2.2.6 Task 6: Reporting & Dissemination of Water deficit /Availability assessment findings

Objective:

The objective of this task is to synthesize, package, and communicate the key findings of the water deficit and availability assessment in 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment based on Micro/community, Meso/Local authority and Macro/Commercial level.

Sub-Tasks:

- i) Produce practical and user-friendly technical reports that capture the methodology, results, and implications of the assessment;
- ii) Disseminate findings through stakeholder workshops, validation meetings, and targeted knowledge-sharing platforms to ensure broad accessibility and uptake;
- iii) Tailor reports and communication materials to different audiences, including policymakers, regulatory agencies (ZEMA & WARMA), industries, local communities, and development partners; using appropriate formats and languages;
- iv) Draft interim technical reports and final comprehensive assessment.
- v) Facilitate stakeholder workshops for validation and consensus-building.

2.2.7. Milestones and deliverable

As described in Section 2.2 above (Description of Tasks), various specific Milestones are to be achieved by the Contractor (including services provided by subcontractors) with various Deliverables to be produced. Some of those and their timing are suggested in Section 2.4 below. The Contractor is required to verify the suggestions and to determine additional Milestones related to key activities in the technical proposal. Milestones shall be integrated in the preliminary work plan according to section 2.2.9 below.

2.2.8. Deliverables

Key Deliverables for this assignment include the following:

- D1: Scoping Report
- D2: Baseline Data Report
- D3: Water deficit and availability assessment (WDAA) report covering 10 critical water dispute selected areas of the Lower Kafue Sub-Catchment (report format to be agreed with WARMA and GIZ during inception phase).
- D4: Concise documentation of low to medium cost water deficit and availability assessment methodology reflecting micro, meso and macro scale water assessment
- D5: Validated Water allocation framework
- D6: Training needs assessment report
- D7: Training and Capacity-Building Materials
- D8: Training and Capacity building report
- D9: Final and Closure report

Subject of the tender procedure:

Transaction number: 10000521

2.2.9. Milestones and Duration

This assignment is proposed to be implemented for 16 months.

Milestones and deliverables	Type of document	Schedule (# of months after contract award)
Task 1 Scoping		
Refined project scope and objectives report	Report to GIZ/WARMA	1
Detailed methodology, workplan and timelines also reflected in an inception report	Report to GIZ/WARMA	1
Detailed operational plan and clear milestones	Plan to GIZ/WARMA	1
Task 2: Data Collection & Review		
Data inventory report for LKSC	Report to GIZ/ stakeholders	3
Data gap assessment report	Report to GIZ/ stakeholders	3
Field Data Collection Outputs Raw and processed data	Publications	4&5
Consolidated baseline database	Report to GIZ/ stakeholders	5
Task 3: Water deficit and availability assessment		
Sectoral water demand assessment report specific to the classified water dispute areas.	Report to GIZ/ stakeholders	6
Water deficit and availability analysis report	Report to GIZ/ stakeholders	7
Water availability and deficit maps	Report to GIZ/ stakeholders	8
Calibrated and validated hydrological and water balance models for 10 water dispute areas	Report to GIZ/ stakeholders	10
Comparative analysis of alternative water allocation and management options report	Report to GIZ/ stakeholders	12
Task 4: Validate Water Allocation Framework and Dispute Resolution Mechanism		
Validated water allocation framework	Report to GIZ/ stakeholders	13
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Training needs assessment report	Report to GIZ/ stakeholders	3
Capacity building materials, training manuals and user guides	Report to GIZ	5
Hands on competence-based training	Report to GIZ	6
Final capacity building & knowledge transfer report	Report to GIZ/WARMA	14

Task 6: Reporting & Dissemination of Water deficit /Availability assessment findings

Draft comprehensive technical reports that capture the methodology, results, and implications of the assessment	Report to GIZ/WARMA	14
Tailor communication materials to different audiences	Report to GIZ/ stakeholders	15
Stakeholders' validation workshop report	Report to GIZ/WARMA	15
Final report	Reports to GIZ/WARMA	15

Table 1: Milestone, duration and required documentation

Table 1 indicates the tasks, duration, and required documentation by the consultant over the *implementation period of the consulting contract*. These tasks provide important steps in reaching the output and outcome indicators but may not be exhaustive.

Below is the distribution of the **estimation** of expert days is indicative, for ease of describing the scope of the tender, and defining offers. The Admin Assistant will be engaged for a total of 16 months.

#	Description of task	Indicative man-days			
		Int. LTE	Int. STE	Nat. LTE	Nat. STE
Overarching tasks					
A	Inception phase: inception meetings and report, mobilisation, workspace set up at WARMA, on boarding of team members	5		10	
B	Partner introductory meetings	5		5	
C	Operational planning with clear milestones	5		10	
D	Develop a detailed inception report	5		15	

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E	Planning, steering, Reporting, Monitoring and Evaluation	10		15	
F	Procurement and sub-contracting	5		15	
G	Procurement of equipment	5		10	
H	Monitor utilization and handing over of equipment	5		10	
Consultancy Tasks					
Task1	Scoping	15		30	
Task2	Data collection & review	10	5	35	5
Task3	Water deficit and availability Assessment	35	15	60	15
Task4	Validate Water Allocation Framework and contribute to Water assessment data to dispute Resolution Mechanism development	10		15	
Task5	Capacity Building & Knowledge Transfer	10		15	
Task6	Reporting & Dissemination of Water deficit /Availability assessment findings	15		15	

Table 2: Distribution of the estimation of man days

2.3. Project and knowledge management requirements

Requirements on the assignment of experts:

- The Contractor is responsible for selecting, preparing, training, and steering the experts assigned to carry out the advisory services.

Requirements on materials and equipment and operating costs:

- GIZ in collaboration with WARMA shall provide office space stationed at WARMA's Kafue catchment office in Lusaka including office furniture, conference room, cleaning service and equipment.
- The contractor will provide all consumables required for technical and administrative running of assignment on against evidence
- At an economical rate hire a 4x4 vehicle for all field operation and fuel against evidence at ZMW 4.07 per kilo meter
- All equipment and materials (section 5.4 of ToRs) that will be provided by GIZ, the contractor will account and hand over to GIZ at the end of contract

Requirements on expenditure management and cost control:

- The Contractor manages costs and expenditures, accounting processes and invoicing in line with GIZ requirements.

Monitoring and reporting requirements:

- The contractor undertakes contributions to the overall results-based monitoring of the project regarding the status of water dispute and availability assessment as it will be agreed upon in the beginning of the contract.
- In addition, regular monitoring activities regarding this contract implementation must cover at least the following areas:
 - Degree to which activities are implemented by ground level actors
 - Degree to which the objectives, indicators and milestones listed in section 2.2 of these ToRs have been achieved
- In addition to deliverables under section 2.2, the Contractor shall submit the following reports (note: all reports shall be prepared in English language):
 - A Scoping report (up to 20 pages plus Annexes) shall be compiled within 4 weeks of the inception meeting, including outcomes of the kick-off meeting (meeting minutes); workflows and methodologies; any clarifications, changes or additions following the kick-off meeting in terms of deliverables; communication, roles and responsibilities
 - Brief quarterly reports on the implementation status of the project (approx. 5 pages) shall be provided on the status of work, and difficulties encountered, risks of delay, and planned or requested remedies as well as other arising tasks.
 - The final implementation report (up to 10 pages plus Annexes) shall be provided in line with work packages detailed above.
 - Further, the contractor shall organize and moderator regular meeting with WARMA, DWRD and GIZ

Requirements for company-wide learning, knowledge and innovation:

- The Contractor shall provide support in contributing to project evaluations, if necessary, with special emphasis on ensuring the effectiveness of the knowledge management process (if applicable).

- The contractor's experts are actively involved in GIZ's sector networks. Specify the corresponding sector network and work involved (frequency of meetings, location of meetings, additional working group activities if applicable) and include the costs in the cost calculation
- Optional: (Virtual) debriefing with the commissioning unit (name of project or organisational unit) and the responsible Competence Centre KC4 of the GIZ Sectoral Department at the end of the contract term as well as submission (in a single package) of the materials developed and interim and final reports to the Competence Centre.
- The contractor expresses willingness, if required, to support project assistants or staff members on temporary placements who, in the context of GIZ's separately financed training programmes for junior employees, work in and undertake special tasks for the project.

Visibility and representation requirements

EU Communication and visibility guidelines, with the specifics of the Green NEXUS Programme have to be strictly followed. The contractor team will become part and represent the project team in front of partners, thus it is expected that the respective experts do not introduce them as consultants of the contractor but as part of the Project Team, closely following the agreed communication approach.

Backstopping requirements:

The Contractor ensures appropriate backstopping. The following services form part of the standard backstopping package. In accordance with GIZ's General Terms and Conditions for supplying services and work on behalf of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, these services – as well as the ancillary personnel costs – must be priced into the fee schedules of the staff listed in the tender:

- The contractor's responsibility for its own staff
- Ensuring the flow of information between GIZ and the contractor's field staff
- Process-oriented technical and conceptual steering of the consulting services
- Steering adaptations to changing framework conditions
- Performance monitoring
- Ensuring the administrative management of the project
- Ensuring compliance with reporting requirements
- Technical support by the contractor's staff for its personnel on the ground
- Making local use of and sharing the lessons learned by the contractor with the GIZ team

2.4. Data protection and information security

The performance of the contract may be associated with the processing of personal data by the contractor, such as (but not limited to) names and contact information. The contractor alone would define the nature of such data and how such processing would be carried out. In such cases, the contractor shall act as an independent DATA CONTROLLER and must alone comply with ALL applicable data protection obligations, including those stemming from regional and local laws. The contractor shall process personal data only when a given goal cannot be reasonably attained without such data. The data protection principles such as lawfulness, data minimization, accuracy, purpose limitation, storage limitation, transparency, integrity and confidentiality, and accountability, as well as the numerous rights of the data subject must be paid due attention. The GDPR's data transfer rules must be considered whenever personal

data leaves the EU for a third country. The GIZ is NOT in any way responsible for such processing.

Whenever the contractor executes the instructions of a partner to the GIZ with regard to such processing, the partner shall be the data controller, and the data processing shall be carried out in accordance with the partner's instructions as well as laws and standards to which it is subject.

If the contractor is not subject to the GDPR and the applicable laws do not contain any explanation on the data protection principles and rights mentioned here, the definitions and meanings provided by the GDPR (Regulation (EU) 2016/679) could be helpful. The GIZ is available to support the contractor whenever need arises.

2.5. Other requirements

Safeguards and gender measures with specific reference to services:

In order to promote gender equality and avoid or mitigate possible unintended negative impacts in its area of responsibility, the contractor should implement the following measures:

- Gender equality:
All activities within this assignment (workshops and trainings) shall take social (including gender), environmental and governance aspects into consideration
- Environmental protection and climate action (climate change mitigation/adaptation):
State of the art procedures and requirements shall be considered to minimize environmental impacts and to mitigate risks related to climate change
- Context sensitivity:
The design and implementation of all activities shall observe do no harm principles. The contractor's staffing profile should best be balanced in terms of gender and age.

3. Technical-methodological concept

In this section, the tenderer is required to reflect on the objectives and terms of reference of the tender at hand, describe the partner system and its processes in the area of responsibility and present the technical-methodological concept for completing the tasks listed in section 2 and achieving the set objectives. In addition, the tenderer must describe the design of the project management process.

3.1 Interpretation of objectives (section 1.1 of the assessment grid)

The tenderer is required to interpret the objectives for which it is responsible. Simple repetition of the objectives formulated in section 2 of the ToRs is not desired. Rather, the contractor is to describe and interpret the changes in the partner system that are to be directly achieved by

the object of the tender procedure. The resulting positive impact on the partner system (section 1.1.1 of the assessment grid) should also be presented.

The contractor must undertake a critical examination of the tasks (section 1.1.2 of the assessment grid), by:

- assessing the technical concept
- undertaking an assessment of the appropriateness of the personnel concept for implementing the scheduled tasks
- providing an assessment of the results hypotheses for achieving the objectives and possible risks in implementation

Suggested number of pages: 3

3.2 Processes and actors in the partners systems (section 1.2 of the assessment grid)

Processes describe actions or sets of tasks that are necessary in order to render specific services in a sector or in the cooperation/partner system. Specific actors are given responsibility for determining and implementing these actions and sets of tasks in line with the regulations. Actors are usually institutions such as ministries, local governments, associations and chambers, non-governmental organisations, companies in a sector or individual businesses, universities or banks, but may also be individuals (e.g. a person with higher decision-making authority).

The tenderer is required to describe, using existing documents where possible, the processes in the sector or partner system that are relevant to the services put out to tender (section 1.2.1 of the assessment grid).

The tenderer is required to present the actors (partners and others) who are relevant for the tender in the form of a map of actors. As far as possible, it should list the actors by name. Their mandates as well as strengths, weaknesses and interests with respect to the services put out to tender are also to be briefly presented (section 1.2.2 of the assessment grid).

In addition, the tenderer is required to describe the interaction between the actors mentioned above. This can consist of a description of the specific collaboration between individual actors in the processes listed above, of the dependencies or conflicts between the actors and their consequences or of existing dialogue and communication formats (section 1.2.3 of the assessment grid).

Suggested number of pages: 3

3.3 Strategy (section 1.3 of the assessment grid)

Suggested number of pages: 5 (total for 3.3.1 through 3.3.4)

The strategy for delivering the services in the tender is the core element of the technical-methodological concept. It is composed of the following elements:

- Procedure for achieving the objectives stated in section 2.2 of these ToRs
- Development of partnerships with the relevant actors

- Approaches for leverage effects and measures for scaling-up
- Consideration of environmental and social compatibility requirements (including gender equality)
- Appropriate consideration of further requirements

3.3.1. Strategic approach to achieving the objectives mentioned in the ToRs (section 1.3.1 of the assessment grid)

The tenderer is required to describe and justify the approach it plans to adopt in order to achieve the milestones, objectives and results (see section 2) for which it is responsible.

This shall focus on the detailed approach for achieving the tasks for each of the tasks described in chapter 2 above. This should particularly include a detailed description and reasoning of the modelling approach suggested.

3.3.2 Building partnerships with the relevant actors
(section 1.3.2 of the assessment grid)

The tenderer is required to develop and describe a strategy for developing the cooperation with the actors in the partner system who are relevant for the implementation of the services in the tender. The project partnerships already mentioned in section 1 should be considered.

3.3.3 Approaches for leverage effects and measures for scaling-up
(section 1.3.3 of the assessment grid)

The tenderer is required to state whether there are promising approaches for leverage effects beyond the measures mentioned in section 2 (for example through targeted measures in the field of 'knowledge management') and to describe them. In doing so, the tenderer is required to present and explain measures that promote both horizontal and vertical scaling-up. In particular, the tenderer must submit proposals on how innovations that have been developed in the context of implementation can be disseminated beyond the sphere of influence of the project.

3.3.4 Consideration of environmental and social compatibility requirements
(section 1.3.4 of the assessment grid)

Gender equality

The tenderer is required to outline in the tender how it can prevent negative impacts on gender equality in its area of responsibility and how it can contribute to improving gender equality through corresponding measures (see also relevant requirements in section 2.5).

Environmental protection and climate action (climate change mitigation/adaptation)

The tenderer is required to outline in the tender how it can prevent negative impacts on the environment in its area of responsibility and, in addition, how it can contribute to improving the

environmental and climate situation through corresponding measures (see also relevant requirements in section 2.5).

Conflict and context sensitivity

The tenderer is required to outline in the tender how it is planning its activities for context-sensitive implementation (see also relevant requirements in section 2.5).

Human rights

The tenderer is required to outline in the tender how it can prevent negative impacts on the human rights situation in its area of responsibility and how it can contribute to improving the human rights situation through corresponding measures (see also relevant requirements in section 2.5).

Requirement: 'Gender equality':	3 points out of 10 (maximum)
Requirement: 'Environmental protection and climate action (climate change mitigation/adaptation)':	3 points out of 10 (maximum)
Requirement: 'Conflict and context sensitivity':	2 points out of 10 (maximum)
Requirement: 'Human rights':	2 points out of 10 (maximum)

**3.4 Project management
(section 1.4 of the assessment grid)**

In this section, the tenderer presents the operational plan for implementing the services in the tender, describes the procedure for coordination with GIZ or the project and the project partners, and explains its backstopping strategy and the monitoring procedure.

Suggested number of pages: 4 (total for 3.4.1 through 3.4.4, including operational plan)

**3.4.1 Operational plan
(section 1.4.1 of the assessment grid)**

The tenderer is required to draw up and explain an operational plan for implementing the strategy described in section 3.3, including a plan for the assignment of all the experts included in the tender. The operational plan must include the assignment times (periods and expert days) and assignment locations of the individual experts, the milestones as presented in section 2 and describe all the necessary work stages in detail and in chronological order. The tenderer can define further milestones beyond those prescribed in section 2 and map them out in the plan of operations.

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3.4.2 Coordination with GIZ or the commissioning project

(section 1.4.2 of the assessment grid)

In the tender, the tenderer is required to describe the procedure for coordinating with GIZ or with the commissioning project.

3.4.3 Steering or coordination of measures with the relevant implementing partner

(section 1.4.3 of the assessment grid)

In the tender, the tenderer is required to name the implementing partners relevant for implementing the services and to describe and explain the procedure for steering or coordinating the measures with them.

3.4.4 Monitoring

(section 1.4.4 of the assessment grid)

In the tender, the tenderer is required to describe how it will regularly capture and document the status of completion of the tasks, the achievement of objectives, the results achieved and the risks in the area for which it is responsible in accordance with the specifications set out in section 2.

3.5 Further requirements

(section 1.5 of the assessment grid)

Suggested number of pages: 1

- The tenderer is required to explain and, as far as possible, provide specific evidence of how it will make use of national resources (for example national institutions, network partners etc.) in the context of service delivery.
- The tenderer is required to describe its backstopping strategy. A CV must be provided for the positions for technical and, where appropriate, administrative backstopping.

4. Personnel

The tenderer is required to provide 'experts' for the positions referred to and described (scope of tasks and qualifications) in this section on the basis of corresponding CVs. **The requirements on the format and content of the CVs are described in section 6.**

The qualifications mentioned below correspond to the requirements for achieving the highest number of points in the technical assessment.

'One year of professional experience' is therefore defined as a cumulative 12 expert months with at least 18 expert days per month, provided no diverging definition is specified for individual qualifications.

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The Team of Experts shall work under the steering and coordination of the GIZ Project Management and shall be responsible to deliver the tasks specified in Section 2.

The Team of Experts shall consist of two key experts (i.e. Expert 1 and 2). Gaps in technical expertise of the key experts shall be supplemented by short term expert pools (i.e. Expert 3 and Expert 4).

Key-Expert 1: Team Lead - Water Resources Management Specialist with international and local experience (section 2.1 of the assessment grid).

This position is a key expert.

Tasks of Key-expert 1 (Team Lead)

- Advisory and strategic direction on water deficit/availability assessment in 10 water dispute areas with LKSC
- Overall responsibility for indicator 3.1 incl. services provided through subcontractors.
- Overall responsibility for the timely, high-quality implementation of all processes implemented and deliverables submitted to GIZ.
- Overall responsibility for close integration of activities under this contract into the wider AWARE 2.0 project; communication with GIZ.
- Overall responsibility of contractual management incl. procurement of equipment and services and supervision of subcontractors.
- Ensuring the coherence and complementarity of the Contractor's services with other services delivered by the AWARE 2.0. project at local, regional and national level.
- Design, implementation, monitoring and evaluation of all work packages
- Staff management, identifying the need for short-term assignments within the available budget, planning and managing the assignments of experts.
- Regular reporting in accordance with deadlines.
- Compliance monitoring including the prudent allocation and utilisation of funds and financial planning in consultation with the officer responsible for the commission at GIZ.

Qualifications of key-expert 1 (Team Lead)

Education/training (section 2.1.1 of the assessment grid):	Master's degree in water resources management, water resources engineering, environmental engineering/management or equivalent
Language (section 2.1.2 of the assessment grid):	Proficient language skills in English (level C1 according to Common European Framework of Reference for Languages)
General professional experience (2.1.3 assessment grid):	10 years of professional experience in water resources management or river basin management (7 out of 10 points), including 3 years in the water assessments sector (3 out of 10 points)

Specific professional experience (section 2.1.4 of the assessment grid):	Having carried out 5 water deficit and availability assessments (7 out of 10 points) and 3 years of professional experience in water resources dispute management (3 out of 10 points).
Leadership/management experience (2.1.5 assessment grid):	15 years of management experience in projects, companies or other organisations with disciplinary leadership responsibility for 100 people (7 out of a maximum of 10) and with annual budget responsibility for 100,000 EUR (3 out of a maximum of 10) 7 years of management experience in projects, companies or other organisations with disciplinary leadership responsibility for 50 people (7 out of a maximum of 10) and with annual budget responsibility for 100,000 EUR (3 out of a maximum of 10)
International professional experience outside the country/region of assignment (section 2.1.6 of the assessment grid):	10 years of professional experience in 5 countries outside the region of assignment
Professional experience in the country/ region of assignment (2.1.7 of the assessment grid):	10 years of work experience in Sub-Sahara Africa (3 out of 10 points), of which 3 years in Southern Africa or East Africa (7 out of 10 points).
Experience in the field of development cooperation (section 2.1.8 of the assessment grid):	7 projects in the field of development practice.
Other (section 2.1.9 of the assessment grid):	Participation in 2 capacity building training/workshops for water users in Zambia in the last 3 years

Table 3: Qualification key expert 1

Key-Expert 2: Deputy team lead - Long-term Hydrologist/Hydrogeologist specialist

This position is a key expert.

Tasks of key-expert 2

- Deputise the Team Leader.
- Support the Team Leader in the contracting of the STEs.
- Conduct water balance studies, hydrological modelling, and groundwater-surface water assessments.
- Analyse rainfall variability, drought patterns, and climate change impacts on water resources.
- Evaluate storage, infrastructure, and distribution options for water augmentation.
- Conduct spatial mapping of water resources, land use, and drought monitoring using Remote Sensing & GIS.
- Assess water demand for various water uses (thus environment, agriculture, energy, industry etc) and propose efficiency improvements to WARMA.

- Responsible for day-to-day steering of the implementation, monitoring and evaluation of task 1, 2, 3 and 4 locally, including monitoring of sub-contractors.
- Management of all procurements to be conducted under this output.
- Ensuring the coherence and complementarity of the Contractor's services with other services delivered by the project in Zambia.
- Responsible for any administrative tasks occurring, e.g. accounting and other administrative processes locally.
- Support Team Leader in formulating reports.

Qualifications of expert 2

Education/training (2.2.1 of assessment grid):	Master's degree hydrologist/hydrogeologist, Natural Resources and environmental engineering / management or equivalent
Languages (2.2.2 of assessment grid):	Proficient language skills in English (3 out of 10 point), level C1 according to Common European Framework of Reference for Languages and level C1 in Tonga (3 out of 10 point), Illa (2 out of 10 point) and Nyanja (2 out of 10 point)
General professional experience (2.2.3 of assessment grid):	10 years of professional experience in the water resources management and environmental sector
Specific professional experience (2.2.4 of assessment grid):	Having carried out 3 Water Deficit and Availability Assessments (WDAA) (7 out of 10 points) and 1 year of professional experience in water resources dispute management (3 out of 10 points).
Leadership/management experience (2.2.5 of assessment grid):	5 years of management experience in projects, companies or other organisations with disciplinary leadership responsibility for 50 people (7 out of a maximum of 10) and with annual budget responsibility for 50,000 EUR or more (3 out of a maximum of 10)
International professional experience outside the country/region of assignment (section 2.2.6 of the assessment grid):	5 years of professional experience in 2 countries outside the region of assignment
Professional experience in the country/ region of assignment (2.2.7 of the assessment grid):	5 years of work experience in Sub-Saharan Africa (7 out of 10 points), of which 3 years in Southern Africa or East Africa (remaining 3 out of 10 points).
Experience in the field of development cooperation (section 2.2.8 of the assessment grid):	4 projects in the field of development practice.
Other (section 2.2.9 of the assessment grid):	Involved in 1 training/workshop on water permitting/allocation (5 out of 10 points) and capacity building/knowledge transfer (5 out of 10 points) in Zambia in the last 5 years

Table 4: Qualification key expert 2

Expert 3: Short-term expert with international experience

One expert to supplement the expertise of the key experts to ensure that all tasks specified in Section 2 will be addressed in high quality for successful completion.

Tasks of Expert 3:

- Provide technical input related to tasks and deliverables under this assignment which are not sufficiently covered by key experts.
- Provide input in water resources modelling/scenarios and water balance.

Qualifications for Expert 3:

Education/training (2.3.1 of assessment grid):	University degree (MSc) in Remote Sensing and GIS
Language (2.3.2 of assessment grid):	Proficient language skills in English (level C1 according to Common European Framework of Reference for Languages)
General professional experience (2.3.3 of assessment grid):	8 years of professional experience in the application of GIS and remote sensing in water resources management
Specific professional experience (2.3.4 of assessment grid):	Having carried out 3 remote sensing (7 out of 10 points) and 2 GIS mapping (3 out of 10 points)
Leadership/management experience (2.3.5 of the assessment grid)	7 years of management experience in projects, companies or other organisations with disciplinary leadership responsibility for 50 people (7 out of a maximum of 10) and with annual budget responsibility for 50,000 EUR or more (3 out of a maximum of 10)
International professional experience outside the country/region of assignment (section 2.3.6 of the assessment grid):	10 years of professional experience in 6 countries outside the region of assignment
Professional experience in the country/ region of assignment (2.3.7 of the assessment grid):	10 years of work experience in Sub-Sahara Africa (3 out of 10 points), of which 3 years in Southern Africa or East Africa (7 out of 10 points).
Experience in the field of development cooperation (section 2.3.8 of the assessment grid):	5 projects in the field of development practice.
Other (section 2.3.9 of the assessment grid):	Participation in 1 remote sensing (8 out of 10 points) and 2 GIS (2 out of 10 points) training/workshops in Zambia in the last 3 years

Table 5: Qualification Short term expert 3 with international experience

Expert 4: Short-term expert with local experience

One expert (Environmental and GIS) to supplement the expertise of the key experts to ensure that all tasks specified in Section 2 will be addressed in high quality for successful completion.

Tasks of Expert 4:

- Provide technical input related to **environmental assessment** tasks as well as **spatial mapping** tasks.
- Gather geospatial data using various methods such as satellite imagery, remote sensing, and field surveys. Analyse this data to understand environmental conditions, changes, and trends.
- Monitor environmental factors such as land use, vegetation, water quality, and climate change. This includes tracking deforestation, carbon levels, and other ecological indicators
- Assessing the impact of development projects on the environment and suggesting mitigation measures.
- Creating detailed maps and visualizations to represent environmental data. These maps help in understanding spatial relationships and patterns in environmental data.

Qualifications for Expert 4 :

Education/training (2.4.1 of assessment grid):	University degree (MSc) in environmental related disciplines and / or GIS
Language (2.4.2 of assessment grid):	Proficient language skills in English (level C1 according to Common European Framework of Reference for Languages)
General professional experience (2.4.3 of assessment grid):	7 years of experience in environmental assessments or spatial mapping
Specific professional experience (2.4.4 of assessment grid):	Having carried out 5 environmental assessments or spatial mapping with respect to water resources management
Leadership/management experience (2.4.5 of the assessment grid)	2 years of management/leadership experience
International professional experience outside the country/region of assignment (section 2.4.6 of the assessment grid):	5 years of professional experience in 2 countries outside the region of assignment
Professional experience in the country/ region of assignment (2.4.7 of the assessment grid):	5 years of work experience in Sub-Sahara Africa (7 out of 10 points), of which 3 years in Southern Africa or East Africa (remaining 3 out of 10 points).
Experience in the field of development cooperation (section 2.4.8 of the assessment grid):	2 projects in the field of development practice.
Other (section 2.4.9 of the assessment grid):	Involvement in 1 environmental assessment (8 out of 10 points) and GIS (2 out of 10 points) training/workshops in Zambia in the last 3 years

Table 6: Qualification short term expert 4 national experience

UN DESA regions are defined as East Africa, Central Africa, North Africa, Southern Africa, West Africa, South America, the Caribbean, Central America, North America, Central Asia, East Asia, South Asia, Southeast Asia, West Asia/Middle East, Eastern Europe, Northern

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Europe, Southern Europe, Western Europe, Australia, Melanesia, Micronesia and Polynesia; refer to [USND methodology](#) for country assignment.

The tenderer must assign all the proposed experts to the required qualifications and clearly present them in a separate table preceding the CVs. The summary presentation must mention only qualifications that are actually indicated in the CVs. Professional experience must be evidenced by meaningful references in the CVs. It is advisable to make explicit reference to each example of professional experience.

Soft skills of team members

In addition to their specialist qualifications, all team members are also expected to have the following qualifications:

- Team skills
- Initiative
- Communication skills
- Sociocultural and intercultural skills
- Efficient partner- and client-oriented working methods
- Interdisciplinary thinking

Soft skills are not evaluated.

5. Costing requirements

5.1 Assignment of experts

In your tender, please do not deviate from the specification of quantities required in these ToRs (the number of experts and expert days, the budget specified in the price schedule), because this is part of the competitive tender and is used to ensure that the tenders can be compared objectively. The proposed composition of the team of the Contractor and the estimated level of effort (LoE) for experts is summarized in the table below. The number of expert days corresponds to the working days. Please note that these expert-days are already prefilled in the template to the price sheet.

Please note: only services that were commissioned by GIZ and rendered by the contractor will be remunerated. We would also like to point out that it may not be necessary to make use of the total number of proposed expert days.

Experts	Expert days in the country of residence /remote	Availability of expert in the country of assignment * (Zambia) in expert days	Expert days in total	Consecutive stay > 3 months	Number of international flights	Number of national flights
Key-Expert 1: Team Lead	90	50	140	No	6	0

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Key-Expert 2: Hydrologist	0	260	260	Yes	0	0
Expert 3: Short-term expert with International experience	10	10	20	No	2	0
Expert 4: Short-term expert with National experience	0	20	20	No	0	0

Table 7: Tabulation of expert days and their locations

5.2 National administrative staff

GIZ/AWARE 2.0 is establishing the contractor's operational office within the WARMA Kafue Catchment Office premises, from where the contractor will execute the assignment. Consequently, the engagement of an Office Assistant will not be required. However, an Administrative Assistant will be engaged to provide support on administrative and finance-related matters associated with the assignment.

The following national administrative staff are needed:

1 administrative assistant to support administrative and finance related tasks for **16 months**

5.3 Travel expenses

5.3.1 Travel – sustainability considerations

GIZ would like to reduce greenhouse gas emissions (CO₂ emissions) caused by travel. When preparing your tender, please incorporate options for reducing emissions, for example by selecting the lowest-emission booking class (economy) or using means of transport, airlines and flight routes that are more CO₂-efficient. For short distances, travel by train (second class) or e-mobility are the preferred options.

CO₂ emissions caused by air travel must be offset. GIZ specifies a budget for this, through which the carbon offsets can be settled against evidence.

There are many different providers in the market for emissions certificates, and they have different climate impact ambitions. The [Development and Climate Alliance](#) has published a [list of standards](#) (only in German available). GIZ recommends using the standards specified there.

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5.3.2 Travel expense requirements

The travel expenses must be costed as follows by the contractor:

Travel expenses item	Quantity/budget
Total number of international flights	8
Total number of regional/national flights	0
CO ₂ offsets for flights	2,080.00 EUR (8*260.00) An unalterable budget for CO ₂ offsets - settlement against evidence is specified.
Transport costs (rail travel, car travel, public transport)	Not applicable, please see section 5.5 "Operating costs in the country of assignment"
Per-diem allowances	207 travel days
Accommodation allowances	157 travel nights
Other travel expenses (visa, project-related travel expenses outside the place of business etc.)	1,000.00 EUR An unalterable budget for other travel expenses - settlement against evidence is specified.
Travel expenses for national administrative staff	0

Per-diem allowances are reimbursed as a lump sum up to the maximum amounts permissible under tax law for each country as set out in the country table in the circular from the German Federal Ministry of Finance on travel expense remuneration (download at <https://www.bundesfinanzministerium.de>).

In addition, for the following items, reasonable costs can be settled against evidence up to the proposed amount.

- Flight costs
- Other travel expenses

Notes on the settlement of accommodation allowances outside Germany:

For the country Zambia, tenderers may offer accommodation allowances **up to EUR 78.75**. This is 75% of the maximum amount permissible under tax law as per the BMF circular on travel expense reimbursement. The expenses will be reimbursed **on a lump-sum basis** in the contractually agreed amount.

5.4 Materials and Equipment

GIZ will procure the listed equipment specified in **Table 5** below as recommended by WARMA. No material or equipment will be procured by the contractor.

Equipment	Specification / Model	Purpose
Current Meter (Propeller or Electromagnetic)	Portable model with wading rod and cable reel	Stream velocity and discharge measurement in rivers and canals
Acoustic Doppler Current Profiler (ADCP) (<i>Available, no need to procure</i>)	Version 2.0 and above (upgradeable software, BT/RTK GPS option)	Flow profiling in wide channels and deep sections; hydraulic modelling validation
Dumpy Level with Tripod and Staff	Optical or auto level with precision bubble	River cross-section and bench-mark surveys
Hand-Held GPS (GPSMAP 65 or equivalent)	Multi-band GNSS (accuracy ≤ 3 m)	Site positioning and spatial data collection
Measuring Tape / Laser Distance Meter	30–50 m steel tape / Class II laser	Channel width and distance measurement in field

Table 8: Required equipment, specifications and purpose

5.5 Operating costs in the country of assignment

The contractor's office will be located at the partner office. It has been agreed that the partner will also offer office support such as cleaning, security, water bills and electricity

The specified lump sums per month are the maximum amounts the tenderer can include in the tender. In other words, the tenderer can offer lower individual lump-sum amounts. The corresponding lump sums are to be entered into the price schedule by the tenderer. **Higher lump sums are not to be included in the tender.**

	Months	Lump sum per month up to
Office operating costs (communication services like internet (data bundles) and mobilephone)	16	100.00
Vehicle operating costs (renting of 4x4 vehicle and related fuel costs)	16	1,625.00

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5.6 Workshops, education and training

Workshop budget: EUR 25,200.00 (against evidence)

The fixed, unalterable budget given above is earmarked for workshops and entered in the price schedule.. Plan to have a total of 7 workshops; 3 workshops in town (Mazabuka, Mumbwa and Choma) urban areas and the rest 4 workshops at community level.

The budget includes the following costs relating to the planning and running of workshops:

- Room hires
- Technical systems
- Moderation services
- Travel expenses for partner experts (subsistence, accommodation, travel costs)
- Other costs relating to the workshops
- Translation/interpreting
- Catering
- Workshop materials

The Contractor shall implement the measures in line with GIZ procedures and requirements. Costs shall be reimbursed based on documentary proof of expenditure.

The budget does not include the fees and travel expenses for the Contractor's experts incurred in connection with the planning and running of the workshops. These are covered by the corresponding number of expert days and travel expenses (see sections 5.1 and 5.3 above).

5.7 Local contributions

– Not applicable –

5.8 Other costs

Subcontract water quality assessment services: EUR 50,000.00

The fixed, unalterable budget given above is earmarked in the price schedule for other costs. Settlement against evidence.

The Contractor shall procure and manage a qualified local subcontractor to conduct detailed water quality assessments in the selected water dispute areas of the Lower Kafue Sub-Catchment (LKSC), including sampling, laboratory analysis, data interpretation, and submission of technical reports in accordance with applicable national standards and project requirements.

Compliance with international technical and safety standards must be ensured. The Contractor shall prepare a detailed concept and cost estimate for each of the proposed measures detailed in Section 2.3 of those Terms and Reference. Following approval of the concept by the GIZ project management, the Contractor shall prepare tender documents for the procurement of services through subcontractors. The selection of the subcontractor is carried out by the

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contractor in accordance with section 2.4.2 of the General Terms and Conditions, public procurement regulations and Zambian Laws.

Implementation and monitoring shall be covered by the team of experts provided by the Contractor. The Contractor shall be responsible for the performance of tasks and outputs related to subcontractors.

5.9 Flexible remuneration item

Budget for flexible remuneration: **EUR 40,548.00**

The fixed, unalterable budget given above is earmarked in the price schedule for flexible remuneration. Flexible remuneration is intended to facilitate the flexible management of the contract by the officer responsible for the commission at GIZ. The Contractor can make use of the funds in accordance with section 3.6.5.7 of the General Terms and Conditions.

6. Requirements on the format of the tender

The structure of the tender must correspond with the structure of the ToRs. It must be legible (font size 11 or larger) and clearly formulated. The technical tender must be written in **English**.

The technical-methodological concept of the tender (section 3 of the ToRs) must not exceed **16 pages** (not including the cover page, list of abbreviations, table of contents, brief introduction and CV for the backstopper).

The CVs of the staff proposed in accordance with section 4 of the ToRs must be in the EU-format and not more than four pages in length. The CVs must be submitted in **English**. We strongly request that the tenderer does not exceed the number of pages specified.

As indicated in Chapter 4.2 for the Team Lead, references may be attached demonstrating quality of written outputs.

The CVs must clearly and unequivocally show what position the proposed person held, which tasks they performed and how long they worked during which period in the specified references. **The references contained in the CVs must therefore include the following information:**

- Name of the company/organisation/referenced projects in which the expert worked
- Position held and task(s) performed by the expert in the company/organisation/reference project
- Work outcomes or products produced by the expert, or expert's contribution to the completion of these outcomes and projects (if relevant)
- Duration of the expert's assignment in the company/organisation/reference project per calendar year in full-time expert days, weeks or months (*for example: 2023: 2 months, 2024: 10 months, 2025: 1 month*)
- Leadership experience/management: clear information on the reference projects or fixed positions within the company/organisation in which the requirements specified in

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section 4 were fulfilled (for example, period, number of persons for whom the expert had disciplinary responsibility, project budget) (if relevant)

- International professional experience/professional experience in the country of assignment: clear information on the reference projects or fixed positions in the company/organisation in which the requirements specified in section 4 were fulfilled (for example, actual duration of assignment on the ground in full-time expert days, weeks or months) (if relevant)

In order to facilitate the assessment, we request that you number the references sequentially and provide only references that are clearly related to the object of this tender.

7. Options or follow-on contract

7.1 Option to expand the service content/extend the contract term pursuant to section 132 (2) no. 1 German Act against Restraints of Competition (GWB)

GIZ can exercise the following option if it wishes to expand the tendered services. This is described in detail below.

Nature and scope:

While retaining the overall character of the contract, there is a possibility of GIZ continuing to obtain the services specified in section 2 of these Terms of Reference and/or of expanding the contract to include further services of the same kind. The overall contract term must not exceed three times the original contract term, and the overall contract value must not exceed twice the original contract value.

Precondition:

GIZ's commissioning party extends and/or provides additional funding for the current project or commissions a follow-on project and/or an agreement is concluded to provide cofinancing for the measure.

7.2 Option to procure materials and equipment pursuant to section 132 (2) no. 1 German Act against Restraints of Competition (GWB)

Nature and scope:

GIZ may increase the total budget of the contract for the procurement of materials and equipment. After the exact needs and technical specifications for the equipment have been defined with GIZ, it is possible to add an additional budget for the procurement of the following goods: Staff gauges (manual level readings), automatic water level recorders / data loggers, pressure transducers, measuring tapes, wading rods. The materials and equipment are needed in order to support water deficit and availability assessment.

Maximum budget for the procurement of these materials and equipment: **EUR 4,000.00**

Preconditions:

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The scope and classification of the waterdispute areas is determine, so that the needs for materias and equipments can be defined.

Approval must be given by the commission manager and the Procurement and Contracting Division.

8. Annexes

Annex 1: AWARE 2.0 Project description

The annexes to the present ToRs, as listed below, include AWARE 2.0 Description of Action, Logical framework and fact sheet.

Annexes 5 (Report of water resources assessments in the Luangwa catchment), 6 (Comprehensive EFlows Assessment of the Lower Kafue Sub-catchment vol.1), 7 (Comprehensive EFlows Assessment of the Lower Kafue Sub-catchment vol.2) and 8 (Comprehensive EFlows Assessment of the Lower Kafue Sub-catchment vol.3) are shared separately.

Annex 2: AWARE 2.0 Logical framework

Intervention logic	Indicators	Baseline (incl. <reference year>)	Targets (incl. <reference year>)	Sources and means of verification	Assumptions
Overall objective (Impact) To enhance resilience of ecosystems and improve people's livelihoods in Zambia	Agricultural, and pastoral ecosystems where sustainable management practices have been introduced (ha)	TBD in inception period	TBD in inception period	TBD in inception period, i.e. reports of the respective line Ministries incl. MoA, MoFL, Integrated Land use Assessment Report (FAO, Forestry Department)	<i>No assumptions in this row</i>
	Areas of terrestrial, freshwater and groundwater ecosystems under a) protection b) sustainable	TBD in the inception period_	TBD in the inception period	Reports of the respective line ministries incl. MWDS, MoGEE, MoLNR, WARM A bi-annual water resource bulletins, UNZA	

	management (ha) GERF 2.9			publications and maps.	
Specific objective (Outcome) Improved integrated management of water catchments including landscape protection with a focus on agriculture, forestry, biodiversity, water and climate.	1. # people benefiting from protection and restoration measures in the Lower Kafue Sub-Catchment (LKSC)	36,000 (2023) in areas supported by AWARE 1.0 in LKSC, thereof 50 % women	140,000 people, thereof 50 % women (2028) in LKSC, includes the baseline which is supported by AWARE 1.0	Baseline 2024 and 2028 (end evaluation)	The government of Zambia undertakes continuous policy of decentralisation of gender sensitive integrated catchment management, including landscape protection, focused on climate change.
	2. # hectares (ha) of the Lower Kafue Sub-Catchment (LKSC) that are protected; disaggregated into land, forest and water areas	173,000 ha of legally protected land, forest water and wetland areas, thereof 0 ha of water resource protection areas in the LKSC (2023)	213,000 ha protected areas, thereof additional 10,000 ha of water resource protection areas (2028)	Baseline 2024 and 2028 (end evaluation)	The experience and lessons learned of the intervention are rolled over by the government and development partners,
	3. Improved management of # water disputes in the LKSC	5 water disputes managed without standard procedures (2023)	10 water disputes managed with improved procedures (2028)	Documentation of dispute management and improved procedures, Baseline in 2024 and end evaluation in 2028	
	4. Status of the rainwater harvesting strategy with focus on gender-responsive climate adaptation	None by 2023	Launched by GRZ by 2026	Final Document signed and launched by the respective GRZ partners	
	5. Volume of private and public investment for protection and conservation of water	TBD in inception period 2023	TBD in inception period 2023	Baseline in 2024, annual reporting of government institutions, end evaluation in 2028	

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	resources in the LKSC				
Output 1 Improved capacities of the central government to execute its mandate for the integrated management of water catchments, including landscape protection with a focus on climate adaptation	1.1 # recommendations of mandate mapping report implemented by government institutions with support of the project	No mandate mapping and 0 recommendations (2023)	1 mandate mapping in 2024 5 recommendations implemented in 2028	The mapping report, documentation of validation process, annual reporting, midterm (2026) and final evaluation (2028).	Government institutions mandated to work on the framework conditions for the integrated management of water catchments including landscape protection provide sufficient resources for the implementation of recommendations of mapping report, the development and endorsement of strategies.
	1.2 Status of the draft strategy for financing of integrated management of water catchments and landscape protection	No strategy for financing (2023)	The Strategy for financing is validated (2024) and promoted by the relevant stakeholders	The draft strategy, documentation of validation process, annual reporting, midterm (2026) and final evaluation (2028).	Relevant public and private sector actors are willing to share information about their current financings and future financing plans.
Output 2 Improved capacities of decentralised authorities to plan, protect and sustainably manage water catchment ecosystems with focus on	2.1 # of draft integrated decentralized plans are enhanced with focus on gender-responsive climate adaptation	0 plans (2023)	8 decentralized plans enhanced (2027)	The draft plans, documentation of the validation process, annual reports, mid-term (2026) and end evaluation (2028)	Community-based natural resource management and Integrated Water Resources Management governance structures, local authorities and traditional leadership are interested and provide

climate adaptation in the selected landscape					resources for the revision and development of plans. Integrated decentralized plans are supported by central government.
	2.2 # of representatives of district and local authorities trained by the project with improved skills for integrated planning for water catchment management, including landscape management, with focus on climate change, disaggregated by sex, institution, locality	75 representatives of MoA, MWDS, MoFL trained in WRM under AWARE 1.0, thereof 25 women; Choma District: 6, Mazabuka District: 16, Monze District: 25, Mumbwa District: 20, Pemba District: 8 (2023)	TBD in the inception phase (2026)	Pre- and post-training assessments, training documentation, annual reports, mid-term (2026) and end evaluation (2028).	Decentralized actors such as traditional authorities, local, District and Provincial authorities have sufficient human resources to be trained and support the implementation of measures.
Output 3 Improved capacities of WRM governance structures to sustainably manage water resource disputes in the LKSC	3.1 # of water deficit/availability assessments for areas of water resources disputes in the selected landscape	0 water deficit/availability assessments for LKSC, but 1 for Lunsemfwa Catchment (outside of the selected landscape) supported under AWARE 1.0 (2023)	10 water deficit / availability assessments for areas of water resource disputes in the selected landscape (2025)	The assessment reports, documentation about their use and dissemination, annual reports, midterm evaluation (2026) and final evaluation (2028)	The intervention timely receives adequate data and statistics for analysis, studies and producing the outputs. Ministry of Water Gazettes regulations required to formally establish WUAs and sub-catchment council.

Output 4 Scaled-up measures for water catchment management, landscape restoration and protection and climate adaptation	4.1 # ha of land, forest, water and wetlands area under gender-responsive restoration and protection measures in the selected landscape through project support	5000 ha under restoration measures in AWARE (2023)	50,000 ha under implementation (2028)	Baseline (2024), midterm (2026) and final evaluation (2028), annual reports	Community members actively participate in the planning and implementation of water catchment protection and restoration measures.
	4.2 # of partnerships for sustainable resource mobilization and financing facilitated through project support	1 partnership in AWARE 2.0 (2023)	6 partnerships (2027)	Documentation on partnerships, agreements on investing resources between the partners; joint action plans with budgets	Decentralized actors such as traditional authorities, local, District and Provincial authorities have sufficient human resources to support the implementation of measures. Private and public sector actors are interested and capable to participate in partnerships.
Output 5 Improved access to water resources for communities in the LKSC	5.1 # of small-scale infrastructure measures implemented for access to water resources for communities in the selected intervention areas	6 small-scale infrastructure measures implemented for access to water resources within the selected intervention areas (AWARE 1.0)	18 small-scale infrastructure measures implemented for improved access to water resources in the selected landscape (2027)	Implementation and completion report by partners (e.g. DWRD) and project reports	Decentral partner structure has sufficient technical and human resource to support the implementation.

Annex 3: List of possible stakeholders

1. Government and Regulatory Authorities

- Ministry of Water Development and Sanitation – overall water policy and regulation.

- Water Resources Management Authority (WARMA) – catchment-level water allocation, permits, and dispute resolution.
- Ministry of Green Economy and Environment – climate change and environmental impact oversight.
- Ministry of Agriculture – water for irrigation and smallholder farming.
- Local Government (District Councils within Lower Kafue Sub-Catchment) – service delivery and community engagement.

2. Community Stakeholders

- Local Communities and Traditional Leaders – directly affected by water scarcity and disputes.
- Community-Based Organizations (CBOs)
- Small-Scale Farmers and Irrigators' Associations – key users of water for livelihoods.
- Fishing Communities – particularly in areas depending on Kafue River fisheries.

3. Large Industrial and Commercial Water Users

- Zambia Sugar Plc (Illovo Sugar) – one of the largest industrial water users in the Lower Kafue.
- Kaleya Small holding Company- one of the largest out grower scheme in Zambia
- Other Agro-Industries (e.g., commercial farms, plantations, breweries).
- Mining Companies operating in the region that draw from the sub-catchment (Nickle Mine LTD.
- Hydropower Operators (ZESCO, Kafue Gorge Lower & Upper, Itezhi tezhi power company) – for water flow regulation and electricity production.
- Commercial cattle ranchers such as Zambeef

4. Civil Society, NGOs, and Development Partners

- WWF
- World Bank / African Development Bank – programs on water resources and infrastructure.
- Local NGOs involved in water, sanitation, and environmental advocacy include Enviro, Chibila, Kaleya, Magoye, Mutama-Bweengwa and Nangoma Water Users Association, among others.

5. Academic and Research Institutions

- University of Zambia (School of Engineering, School of Natural Sciences, and Institute of Economic and Social Research) – technical expertise, data analytics, and spatial modelling.
- Copperbelt University
- Mulungushi University
- Research Institutions working on hydrology, climate change, and Dispute resolution.

6. Private Sector and Industry Associations

- Zambia National Farmers Union (ZNFU) – representing commercial and small-scale farmers.
- Chambers of Commerce and Industry – representing business water users.

7. Other Key Stakeholders

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- Community Water Trusts / Water User Associations (WUAs) – directly managing communal water points.
- Local Media

Kindly note that the list of stakeholders is not exhaustive.

Terms of reference (ToRs) for the procurement of services above the EU threshold

Annex 4: List of 13 Most Critical Water Users Disputes areas

Bidders are encouraged to prioritise the first 10 for budgeting purpose

Location (River, stream, dam etc.)	Chiefdoms involved	Village	District	Description of Water Users Disputes	Parties Involved	Classification/ Scale
Chibila Headwaters	Mumba, Kaindu, Moono	Various	Mumbwa	Encroached (forest) protected area that is critical for water protection.	Mumbwa district administration, water utilities & water users	Macro
Lutale headwaters	Mulendema, Chibuluma, Kabulwebulwe	Many villages	Mumbwa	Encroached (forest) resources protected area that is critical for water protection - upstream Lutale.	District authorities, traditional leaders & water users	Macro
Mweembeshi Lower	Liteta, Shakumbila, Mungule	Many villages	Shibuyunji	Deforestation and riverbank cultivation	Water users, charcoal burners & traditional leaders	Micro
Kaleya headwaters	Mwenda, Mwanachingwala	various villages	Chikankata, Mazabuka	Communities downstream of Kaleya are unable to access water due damming/ diversion	Community vs commercial vs. KASCOL	Macro

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Kafue flats	Kaingu, Shezongo	various villages	Itezhi-Tezhi, Mazabuka, Kafue	Various users, Local community complaining of fishing camps being used as children injustice centers. Flooding regime of water in Kafue	Fish camps vs Itezhi Tezhi local community; ZESCO vs. downstream communities	Macro
Ngwezi river	Hanjalika	Ngwezi block	Mazabuka	Over abstraction of water upstream, resulting in no water down stream	Commercial farmers vs. Local community	Meso
Nkala headwaters	Chikanta	Nkala area	Itezhi-Tezhi	Nkala headwaters river need protection due to high sediment erosion	Community vs. farmers near the stream	Macro
Nanzila river	Chikanta, sipatunyanya	Many villages	Kalomo/ITT	Over abstraction of water upstream, resulting in no water down stream	Commercial farmers vs. communities	Micro
Mungashiya	Musungwa	Musungwa	Itezhi-Tezhi	Human-animal conflict on access to water resources (over 15,000 people involved). This is attributed to limited available surface water in the National	Wildlife vs. local residents	Micro

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				Park. Animals stray in search of water.		
Magoye upper	Hanjalika/Mwanachingwala	along Magoye	Mazabuka	Deforestation in water catchment areas and riverbank cultivation	Authorities vs. communities along the headwaters	Macro
Bweengwa lower	Choongo, Mungaila	Many villages	Monze/Namwala	The proposed Mbeza irrigation scheme is in the water recharge zones and cattle watering point.	Authorities vs. communities down stream	Micro
Chongwe Lesser	Entire catchment	various villages	Kafue	Complaint from various communities on ZESCO and other water users	ZESCO vs. Water Users	Meso
Kasaka lower	Choongo, Mwanachingwala	TBA	Monze/Mazabuka	Access to water resources for livestock & domestic purposes. The Farm (MGM) fenced access points to the river.	MGM farm vs. Community	Meso

Terms of reference (ToRs) for the procurement of services above the EU threshold

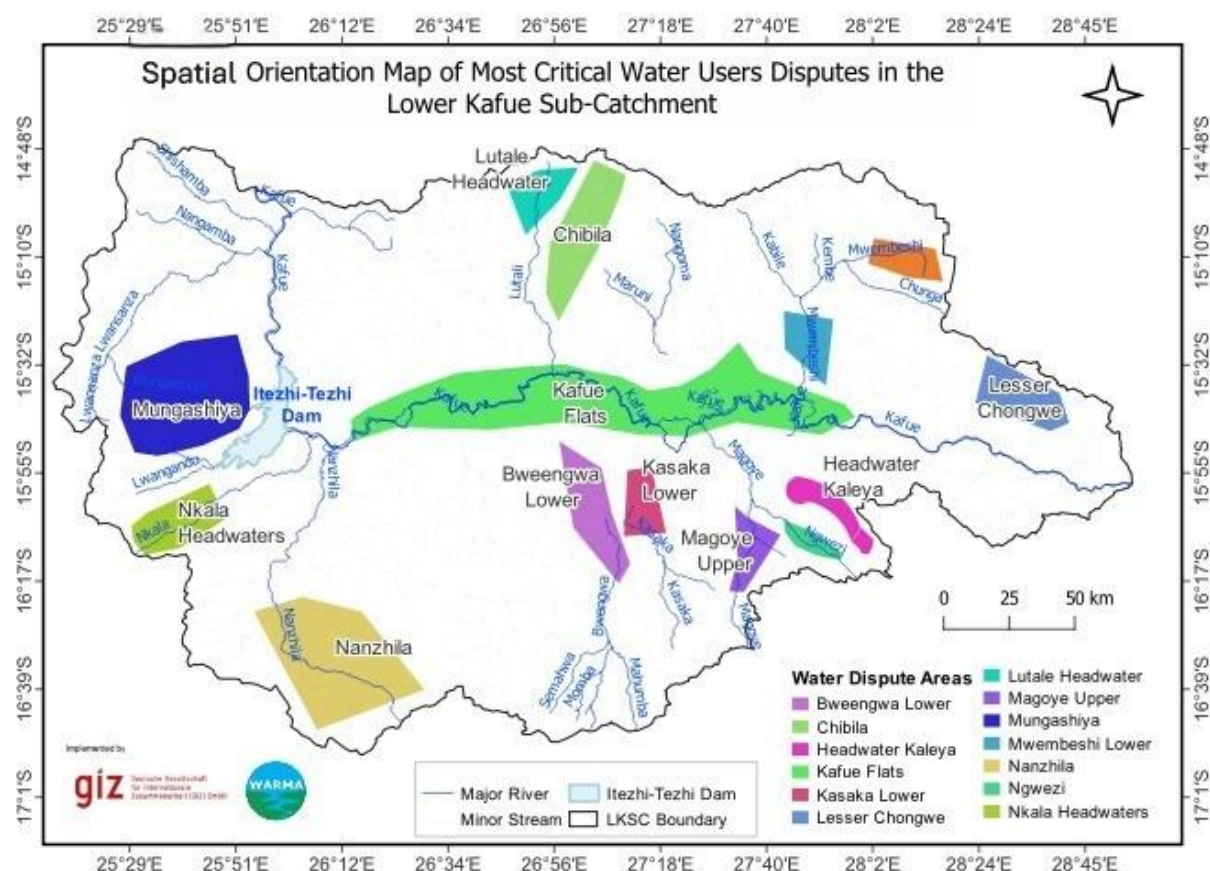


Figure 2: A spatial orientation map of most critical water users disputes areas in Lower Kafue Sub catchment.

Source: Water Resources Management Authority 2024