



Global Water Partnership South Africa
Block A, Ground Floor Hatfield Gardens
333 Grosvenor Street
Pretoria South Africa

Date: 25th May 2023

REF: **Bid No: ITB No. T00015/2023/1**

Dear Sir/Madam,

SUBJECT: REQUEST FOR PROPOSAL (RFP)/BID

PROFESSIONAL CONSULTANCY SERVICES TO STRENGTHEN LIMCOM'S TECHNICAL CAPACITY FOR SEDIMENT TRANSPORT MONITORING

Global Water Partnership (GWPSA) NPC, on behalf of the beneficiary, The Limpopo Watercourse Commission (LIMCOM), is pleased to invite you to take part in a Request for Proposal (RFP)/BID for the **"PROFESSIONAL CONSULTANCY SERVICES TO STRENGTHEN LIMCOM'S TECHNICAL CAPACITY FOR SEDIMENT TRANSPORT MONITORING"** under the below conditions.

This opportunity has been advertised as an open tender process on the GWPSA Website and other water networking platforms and promotes equal opportunities among the research and development community. A quotation based on a fixed price and proposed activity schedule, is requested in the RFP/BID document **REF: Bid No: ITB No. T00015/2023/1**. The Bidder must submit two proposal documents in either PDF or word in a size that is transferrable via email to the GWPSA contact addresses in this Bid letter, i.e., one Full Technical proposal and one Full Financial proposal.

The deadline for submissions is **27 June 2023 at 12:00 midnight SAST** and it is our intention to award the contract shortly thereafter. The start date is estimated for **2nd week of July 2023** and is set for a duration of **160 calendar days** spread over **24 months**. Any Bid queries must be raised before **17:00hrs on 9th June 2023** and should be directed to gwpsaprocurement@gwp.org copied to eddie.riddell@gwosaf.org. Due to COVID-19 pandemic restrictions, Bids will be opened electronically and reviewed by the **30 June 2023 by the Technical Evaluation Committee**, including representatives from the GWPSA procurement team as well as Focal points from the four member states. Bids received after the final date of receipt of tenders will be disregarded. GWPSA may extend the final date for submission of bids for any reason it deems necessary and will notify all bidders in this event.



GWPSA NPC shall, in terms of section 58 of the Botswana Income Tax Act CAP 52:01 (Act) deduct a withholding tax at the default rate of 15% or 10% for residents of South Africa or as per the applicable Double Taxation Avoidance Agreement (DTAA) for any other country. The tax so deducted shall be remitted.

to the Botswana Unified Revenue Service and the company shall issue the payee/contractor with BURS' tax certificates, which may, depending on the tax laws of the country of residency of the contractor, be used to claim foreign tax credits. For the avoidance of doubt, this withholding tax applies on management or consultancy fees, which is defined in the Act as meaning, 'any amount payable for administrative, managerial, technical or consultative services or any similar services, whether such services are of a professional nature or not.' The said term may alternatively be referred to as technical fees in DTAA's.

GWPSA NPC will levy a mandatory fee for all GWP partnership networks who are engaged in consulting services with the regions. This fee will be applied at a rate of 2% of the total budget under the financial proposal and will be deducted from all invoice payments from the successful bidder. Kindly click on the "apply now" link below to register. [Apply Now - GWP](#)

PROPOSED STANDARD TECHNICAL PROPOSAL EVALUATION CRITERIA

The technical proposal contributes 80% of the total and final evaluation score whilst the financial proposal carries 20% of the weighted score. The Proposal that scores 75% and more will proceed to the financial evaluation stage. This addendum provides a detailed breakdown of how the technical proposals will be evaluated and scored.

Summary of Technical Proposal Evaluation Forms		Score Weight	Points Obtainable
1	Expertise of Firm / Organization / Individual	30%	30
2	Proposed Methodology, Approach and Implementation Plan	40%	40
3	Management Structure and Key Personnel	30%	30
TOTAL		100%	100



Technical Proposal Evaluation (FORM I)		
Expertise of the Firm / Organization/Individual		Points Obtainable
1.1	Reputation of Organization and Staff / Credibility / Reliability / Industry Standing General Organizational Capability which is likely to affect implementation - Financial Stability - Loose consortium, Holding company or One firm - Age/size of the firm - Strength of the Project Management Support - Project Financing Capacity - Project Management Control	10
1.2	Extent to which any work would be subcontracted (subcontracting carries additional risks which may affect project implementation, but properly done it offers a chance to access specialized skills.) Quality assurance procedure, warranty	10
1.3	Relevance of: - Specialized Knowledge - Experience on Similar Programme / Projects - Experience on Projects in the Region - Work for major multilateral/ or bilateral programmes	10
SUB TOTAL		30

Technical Proposal Evaluation (FORM II)		
Proposed Methodology, Approach and Implementation Plan		
2.1	To what degree does the Proposer understand the task? Have the important aspects of the task been addressed in sufficient detail? Are the different components of the project adequately weighted relative to one another? Is the proposal based on a survey of the project environment and was this data input properly used in the preparation of the proposal?	15



2.2	<p>Is the conceptual framework adopted appropriate for the task?</p> <p>Is the scope of task well defined and does it correspond to the TOR?</p> <p>Is the presentation clear and is the sequence of activities and the planning logical, realistic and promise efficient implementation to the project?</p>	25
SUB TOTAL		40

Technical Proposal Evaluation (FORM III)		
Management Structure and Key Personnel		
3.1	<p>Team Leader – Sediment Transport & Monitoring</p> <p>General Qualification</p> <p>Suitability for the Project</p> <p>Experienced Fluvial Geomorphologist</p> <p>Experience in the SADC region river basin organisations (RBOs) and Limpopo basins with regards to scope of work</p> <ul style="list-style-type: none"> - Experience developing policy and knowledge products - Professional experience in the area of specialization - Facilitated learning and capacity transfer - Capacity building experience at ministry and grass-roots level 	15
3.2	<p>Fluvial Geomorphologist/Sediment Transport Modeller</p> <ul style="list-style-type: none"> - Fluvial Modelling systems - Experience disaggregating technical detail to inform local level monitoring - Integration of semi-quantitative and qualitative (incl citizen science) in geomorphic frameworks. 	15
SUB TOTAL		30
GRAND TOTAL		100



Bid submissions should be addressed to:

Procurement Department

Global Water Partnership South Africa

Block A, Ground Floor Hatfield Gardens

333 Grosvenor Street

Pretoria South Africa

and emailed to gwpsaprocmnt@gwp.org and copied to eddie.riddell@gwpsaf.org (**note email submissions should be in batches each less than 10Mb**)

The Work will be administered under a standard Consulting Agreement, compliant with the GWPSA NPC Procurement Policy.

We very much look forward to your response and appreciate your participation on this project. Yours Sincerely,

Mr Mark Naidoo

GWPSA Operations



TERMS OF REFERENCE FOR PROFESSIONAL CONSULTANCY SERVICES TO STRENGTHEN LIMCOM'S TECHNICAL CAPACITY FOR SEDIMENT TRANSPORT MONITORING

Financing Agency: Global Environment Facility (GEF)

GEF Implementing Agency: United Nations Development Programme (UNDP)

UNDP Executing Agency: Global Water Partnership Southern Africa (GWPSA)

Client/Project Responsible Party: Limpopo Watercourse Commission (LIMCOM)

Location: The Limpopo River Basin in Botswana, Mozambique, South Africa and Zimbabwe

Assignment Tenure: (24 months)

1. BACKGROUND

The Limpopo Watercourse Commission (LIMCOM) was established in 2003 to manage the shared transboundary waters of the Limpopo River Basin (LRB). The LRB covers four riparian countries, the Republics of Botswana, Mozambique, South Africa, and Zimbabwe - with an estimated catchment area of 408,000 km². The river flows to the northeast from South Africa, where it creates the border between South Africa and Botswana and then the border between South Africa and Zimbabwe, before crossing into Mozambique and draining into the Indian Ocean. The distance from the confluence of the Marico and Crocodile Rivers in South Africa to the Indian Ocean at Xai-Xai in Mozambique is estimated at 1,750 km. The LRB is home to an estimated 18 million people in the four riparian states and is expected to be over 20 million in 2040. The basin's population expansion is attributed to natural population growth estimated at around 2.3 per cent per year, as well as urban and transboundary migration, especially in Botswana and South Africa. The threats to the socio-economic and environmental services of the Limpopo River Basin, and their immediate underlying causes, can be summarized as follows:

- Increasing water scarcity and hydrological variability, exacerbated by climate change
- Water quality degradation
- Land degradation
- Increasing pressures on groundwater resources

Improved water resource management, including the equitable allocation of water between upstream and downstream areas and among urban and rural users, is a critical challenge for the future development of the Limpopo River Basin. The UNDP-GEF Limpopo Project *Integrated*



Transboundary River Basin Management for the sustainable development of the Limpopo River Basin whose objective is ***“To achieve integrated cross-sectoral, ecosystem-based management of the Limpopo River to uplift the living standards of the basin’s population and conserve the basin’s resources and ecosystems”*** aims to undertake a suite of activities designed to strengthen joint management and planning capacity and practices at the transboundary basin level. These activities will be implemented under five (5) project components:

Component 1: strengthening the capacities of LIMCOM Member States and the LIMCOM Secretariat to support IWRM implementation at the basin level.

Component 2: addressing critical information gaps that prevent effective IWRM implementation; developing information management tools to consolidate information and present it to policymakers and other audiences to raise awareness of issues critical to the sustainable management of the Limpopo River Basin.

Component 3: carrying out a Transboundary Diagnostic Analysis - Strategic Action Program (SAP) process to build trust among countries through joint development of information, approaches and strategies

Component 4: implementing pilot sustainable land management activities with the goal of reducing land degradation and demonstrating the link between SLM activities and reduced sedimentation, as well as promoting the replication of land degradation control activities in the basin; and,

Component 5: supporting knowledge exchange with other RBOs in the region to support the effective and efficient delivery of project results.

2. OBJECTIVES OF CONSULTANCY

LIMCOM’s vision and objectives are facilitated through the five-year joint Integrated Water Resources Management (IWRM) plans, the current being for 2018-22 and will be further guided by the output of the GEF program and other recent programs with a transboundary focus in the Limpopo basin. This assignment aims to consolidate the available information and seek specialist inputs to capacitate the LIMCOM Member States to undertake sediment transport monitoring in the LRB. The LIMCOM Secretariat, therefore, seeks to recruit a consultant with extensive experience in this field. The consultant will work in close cooperation with the LIMCOM Secretariat and the Project Management Unit of the GEF7 program implemented through the Global Water Partnership, Southern Africa (GWPSA) office. Specific objectives of this assignment to support key program outputs include:

Output 1.1.1 – Technical capacity in sediment transport monitoring of LIMCOM and Member States strengthened: LIMCOM has specialized Task Teams and Committees that are meant to provide the best technical advisory services on matters pertaining to the use, development and conservation of the resources of the LRB. These LIMCOM organs are groups of experts from the Member States who work together to build common understanding and recommend decisions (for approval by the



LIMCOM Commissioners) to facilitate unified action rather than unilateral actions in the basin. The USAID-funded Resilient Waters Program is supporting the work of several LIMCOM task teams (groundwater, flood forecasting, and legal), also helping to review the policies and TORs for these task teams and other LIMCOM governance structures; the proposed project will build on these advances as described below.

Under this output, the project will undertake capacity-strengthening activities in Sediment Transport Monitoring. The project will strengthen LIMCOM's technical capacity for sediment transport monitoring, either by expanding the scope of the existing Flood Forecasting Task Team or by establishing a new Task Team focused on this area, and providing training in the following: 1) suspended sediment concentration sampling techniques; 2) sediment samples analysis approaches; 3) bed load estimation techniques; and 4) reservoir sedimentation modelling.

Output 2.1.3 – Sediment Transport and Monitoring and Modelling capacity strengthened: Sediment transport modelling and monitoring are critically important for the sustainable management of the LRB for several reasons. Dam construction alters sediment transfer processes across the entire basin, with widespread impacts on physical, chemical and biological processes, as dams change fluvial sediment transport processes by reducing sediment loads downstream (due to the sediment trapping function of dams) and creating sinks of fluvial sediments in areas upstream of dams. These processes, coupled with unsustainable land management practices in areas upstream of dams, are among the main reasons why several dams in the LRB have experienced declining productivity/capacity due to sedimentation over the past several decades. In addition, the reduced sediment loads downstream of dams create river flows that are sediment “hungry” and produce increased erosive capacity in downstream areas, leading to river channel scouring and increased riverbank erosion, potentially reducing the extent of available agricultural lands along floodplains, and causing damage to downstream infrastructure. In addition, decreased sediment discharge to lower reaches changes the grain size composition of suspended sediments, thereby affecting sediment dispersal patterns at the mouth of the Limpopo River and thus modifying coastal morphology and the productivity of estuarine and coastal ecosystems (for example, reduced sediment loads to estuarine systems can undermine the maintenance or build-up of subaquatic habitats such as the bottom foundation for mangrove ecosystems, which in turn reduces the ability of such ecosystems to provide the required breeding ground for crustacean species such as the prawn populations that are critical for the livelihoods and economies of coastal communities in Mozambique). To scientifically validate these threats, and to identify cost-effective ways to implement countermeasures, the project will support LIMCOM to develop and implement sediment transport and deposition modelling and monitoring activities.

The pilot sites for sediment monitoring will be linked to the pilot Sustainable Land Management (SLM) activities under Component 4 that are designed to reduce erosion and sediment flows at



selected pilot sites, thereby enabling the project to determine the extent to which the SLM demonstration activities might reduce sedimentation levels, providing a valuable model for potential up-scaling and replication in the LRB. The monitoring of sediment dynamics in the context of SLM will focus on building an understanding of the extent to which various SLM practices undertaken by communities who rely on small-scale subsistence agriculture and animal husbandry, or by commercial farms, game ranches and mining operations, will have the potential to reduce sediment loads in river systems, including in areas upstream of existing small and large dams, where high dependencies exist. Measuring the effectiveness of SLM interventions in reducing sedimentation (to the extent that this is possible within the project timeline) will also provide useful information to explore various options for creating potential Payment for Ecosystem Services (PES) schemes based on sedimentation control (see Component 4), with quantifiable data that will help to determine whether such PES schemes have a strong potential to work. Sites to collect data to support sediment modelling will be identified for the entire basin (some of these may overlap with the sediment monitoring sites described above), building on the baseline information developed in the Limpopo Monograph.

The objective of this consultancy is therefore for the consultant to develop a conceptual basin-wide sediment transport model and a basin-wide monitoring program and implementation plan working closely with the relevant LIMCOM Task Teams. The consultant is also expected to develop local-scale sediment transport and monitoring conceptual models, monitoring programs and implementation plans for the four Sustainable Land Management (SLM) pilot projects to be implemented in the four Member States. Importantly, these outputs will also be incorporated into the LIMCOM Environmental Monitoring Framework.

3. SCOPE OF ASSIGNMENT

The scope of the modelling framework will be carefully tailored to the critical management issues of the LRB and will be linked to specific objectives for sediment modelling as defined in consultations with stakeholders. The modelling framework to be utilized remains to be determined and will be based upon realistic expectations of the type, volume and quality of data that can be acquired, as well as the available capacity of the involved institutions. This approach will institutionalize sediment transport data collection toward building consistent time series, consolidated from the pilot sites, that at a later stage can assist in the establishment of sediment transport rating curves correlated with river discharge volumes. The objective of the project is not to establish a highly mechanistic, fine-resolution sediment modelling framework, but rather to develop a conceptual framework which responds to the conditions of data availability, existing expertise, and capacity and sustainability considerations. This approach will enable the sediment monitoring and modelling to be undertaken with a limited budget and for longer-term institutional roll-out. The project will give a clear recommendation of how LIMCOM can then build on the framework in subsequent project phases,



and this initial data collection and monitoring exercise will serve as input to possible proposed SAP/IWRM actions to enhance and optimize the overall sediment monitoring and modelling framework going forward. This assignment is also expected to work on the refinement of the currently available soil erosion hazard map for the LRB produced by UNEP, inclusive of more detailed mapping of potential sediment source areas applying the RUSLE and/or the SLEMSA Model.

These TORs, therefore, relate to the specialist team that will contribute to the development of a sediment transport and monitoring framework which will subsequently inform the development of a concurrent Transboundary Diagnostic Analysis (TDA) and an updated shared water resources strategy, i.e. the Strategic Action Programme (SAP) and Environmental Monitoring Framework for joint ecosystem-based management of the LRB. It will be expected that there will be cross-engagement with other workstreams under the GEF7 program, guided by the Project Management Unit (PMU). These workstreams will include *inter alia*: e-flows harmonisation, Joint Basin Survey, Flood Forecasting and Early Warning System (FFEWS), and TDA-SAP development.

The Sediment transport and monitoring expert is expected to mobilise a team of specialists and develop and implement a comprehensive sediment transport and monitoring framework in the Limpopo basin whilst being cognisant of similar recent transboundary assessments in the basin. The team carrying out the sediment transport and monitoring is expected to be multidisciplinary, consisting of the following specialist areas: Water quality, Sediments, Fluvial Hydraulics, Hydrogeology, Water Resources and Hydrology.

Under this output, the team will undertake the following activities:

- Facilitate information/learning exchanges at the Technical Specialist level within the LIMCOM Technical Task Teams, with other River Basin Organizations to learn about their sedimentation transport monitoring and modelling practices (possibly including RBOs in the Okavango, Nile, Volta, or Mekong River basins, depending on which systems have similar sediment transportation characteristics to the LRB).
- Provide training, equipment and materials to build the capacity of key national stakeholders (water resource managers and communities through citizen science) and stakeholders involved in the four Sustainable Land Management (SLM) pilot projects to 1) carry out sediment monitoring at selected sites downstream of the SLM pilot sites, and 2) collect data to support sediment modelling at selected key locations in the basin.
- Develop models for sediment transport in the LRB, measuring parameters such as Suspended Sediment Concentration (SSC – Kg/m³); Suspended Sediment Load Discharge (t/Yr); Bedload Discharge (t/Yr); etc.



- The capacity-building component of the assignment will be cognisant of and report against Gender Equity and Social Inclusion targets as specified by the GEF/UNDP reporting requirements and cognisant of its overarching Stakeholder Engagement and Gender Action Plans.
- Propose a basin wide conceptual modelling framework and validate it with stakeholders.
- Promote citizen science through community involvement in sediment monitoring.

3.1. Tasks

1. *Needs Assessment*

- Capacity needs assessment and development of training materials for sediment transport and monitoring.
- Identification of equipment and materials for sediment transport and monitoring.
- Prepare materials for presentation at the technical workstream integration workshop.

2. *Rapid desktop assessments of other RBOs' sediment transport and monitoring activities*

- Facilitate information/learning exchanges with other River Basin Organizations to learn about their sedimentation transport monitoring and modelling practices (possibly including RBOs in the Okavango, Nile, Volta, or Mekong River basins, depending on which systems have similar sediment transportation characteristics to the LRB).
- Develop a comprehensive basin-wide sediment transport and monitoring program and implementation plan.

3. *Comprehensive sediment transport and monitoring modelling*

- Propose a basin wide conceptual modelling framework and validate it with stakeholders.
- Provide training, equipment and materials to build the capacity of key national stakeholders, water resource managers & communities at the pilot sites (citizen science) to 1) carry out sediment monitoring at selected sites downstream of the SLM pilot sites, and 2) collect data to support sediment modelling at selected key locations in the basin.
- Finalise specialist reports and the synthesis report for sediment transport and monitoring.
- Inform the development of a sediment transport and monitoring regulatory framework, including legal texts, data exchange operational procedures, and enforcement (LIMCOM Environmental Monitoring Framework and other transboundary institutional arrangements).



4. Building Practice for sediment transport monitoring implementation plan at the transboundary level

- Engage various stakeholders from the LIMCOM Member States to develop a comprehensive sediment transport and monitoring framework.

4. SUMMARY OF DELIVERABLES

- 4.1. Development of Terms of Reference for all specialists for sediment transport and monitoring in consultation with LIMCOM and GWPSA to optimise synergies with *inter alia*: eflows harmonization, Joint Basin Survey, TDA-SAP, and other workstream processes to ensure overall project resource use efficiency. (This will include preparing materials for and attending a technical workstream integration workshop organised by LIMCOM and GWPSA).
- 4.2. Detailed workplans and budgets for sediment transport monitoring. Including equipment and software needs assessment
- 4.3. Inception Report – highlighting the approach/methodology for sediment transport monitoring
- 4.4. Reviewed specialist reports for basin and SLM sediment transport monitoring.
- 4.5. Development of a basin-wide sediment transport conceptual model and monitoring program for the basin and on SLM sites.
- 4.6. Recommendations for fieldwork, detailed workplan and budget for sediment transport and monitoring.
- 4.7. Basin and SLM sediment transport and monitoring report.
- 4.8. Tracking study delivery in accordance with the Limpopo GEF7 Sustainable Land Management (SLM) Pilot sites.
- 4.9. Monitoring and modelling framework tested and established for LIMCOM institutionalization and roll-out.

5. TIMELINE

It is anticipated that the consultancy will run from 15th July 2023 to 30 June 2025. The anticipated number of days expected is 160 for the duration of the assignment.



6. WORKSTATION

The consultancy is expected to travel to the LIMCOM countries (Botswana, Mozambique, South Africa and Zimbabwe), as necessary. When necessary, office space can be provided by the hosting institutions. All travels require prior authorization by the GWPSA.

7. QUALIFYING REQUIREMENTS FOR THE CONSULTANT

7.1. ELIGIBILITY

The International consultant should be a registered entity or individuals with proven experience in the development and implementation of sediment monitoring frameworks preferably in a transboundary context. The consultant should have the following qualifications and experiences:

- 7.1.1. A minimum of an MSc degree in Hydraulics/Hydrology. A PhD will be an added advantage.
- 7.1.2. At least 15 years of experience working with governments and international agencies, preferably within Southern Africa.
- 7.1.3. Sound understanding of and 10 years of experience in undertaking sediment transport and monitoring, preferably within Southern Africa.
- 7.1.4. Sound understanding of International River Basin Management principles and approaches.
- 7.1.5. Demonstrated experience in working with participatory methodologies.
- 7.1.6. Knowledge or experience in working on issues of governance, policy development, and strategy formulation, and demonstrating where these outputs have been applied.
- 7.1.7. Excellent and demonstrated communication, consultation, and report writing skills.
- 7.1.8. Excellent report writing skills in English. Portuguese language skills are an asset. Knowledge of transboundary issues in the Limpopo region is a distinct advantage.

7.2. SUPPORT TEAM

- 7.2.1. The team leader is expected to identify and recommend other skills that may be required in the successful development of a sediment transport and monitoring framework. To the extent that this is possible, the team should include representation from each of the basin countries.
- 7.2.2. The team leader will provide guidance to the PMU and other specialists who will take part in the development and acceptance of the sediment transport and monitoring



framework. The capacity development plan should be clear on the activities linked to this.

7.2.3. The team leader is expected to engage various thematic areas of the GEF7-IW Limpopo program, initially through a project integration workshop to ensure synchrony with other key outcomes of the program overall.

8. APPLICATION FOR CONSULTANCY

The applicant is expected to submit separate Technical and Financial Proposals clearly detailing the total number of days to complete work and daily rates inclusive of all anticipated costs in United States Dollars (USD) during the period of the assignment. The term “all-inclusive” implies that all costs (professional fees, communications, consumables, VAT etc.) that could be incurred by the consultant in completing the assignment are already factored into the daily fee submitted in the proposal. However, travel costs should be identified separately in line with proposed activities and allocated consulting days.

Electronic Technical and Financial proposals should be submitted in the English Language with a subject line clearly titled: “DEVELOPMENT OF A SEDIMENT TRANSPORT AND MONITORING FRAMEWORK FOR THE LIMPOPO BASIN” through email to gwpsaprocurement@gwp.org with a copy to eddie.riddell@gwpsaf.org by no later than the 27 June 2023.