



"Strengthening integrated transboundary management of the Incomati and Maputo River Basins."

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TERMS OF REFERENCE FOR PROFESSIONAL CONSULTANCY SERVICES FOR THE DETERMINATION OF ENVIRONMENTAL FLOWS (E-FLOWS) IN THE INCOMATI AND MAPUTO WATERCOURSES

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	Incomati and Maputo Watercourse Commission (INMACOM)
Location	The Incomati and Maputo River Basins in Eswatini, Mozambique and South Africa
Assignment Tenure	24 Months (Sep 2026 – Aug 2028) 200 Consulting days

1. PROJECT BACKGROUND

1.1 The Project

The Incomati and Maputo Watercourse Commission (INMACOM) is a transboundary river basin organization operating in the Incomati and Maputo basins. INMACOM was officially established on 18 November 2021. Prior to that, INMACOM existed as the Tripartite Permanent Technical Committee (TPTC) which was established in 1983. The formation of INMACOM as a River Basin Organisation (RBO) is aligned to SADC principles on the management of shared transboundary water resources.

The Incomati and Maputo River Basins are shared by Eswatini, Mozambique and South Africa and support the livelihoods, water security, food production and ecological integrity of approximately 3.4 million people across the two basins, including approximately 2 million people in the Incomati Basin and 1.4 million in the Maputo Basin, in addition to ecologically and economically significant estuarine and coastal systems, including Maputo Bay. The basins face mounting pressure from increasing water demand, upstream abstraction and impoundment, climate variability, and degradation of riparian and aquatic ecosystems, which collectively threaten the long-term sustainability of basin flows and the ecosystem services they support.

The GEF-financed project "Strengthening Integrated Transboundary Management of the Incomati and Maputo River Basins" is implemented by the United Nations Development Programme (UNDP) as GEF Implementing Agency and executed by the Global Water Partnership Southern Africa (GWPSA) on behalf of INMACOM.

The project is expected to run over 72 months, during which a suite of activities will be undertaken to support coordinated planning and management of terrestrial ecosystems with coastal and marine ecosystems. These activities will be implemented under five (5) project components:

- Component 1: Strengthening regional governance frameworks for transboundary basin management, including application of source-to-sea management approach
- Component 2: Facilitating a knowledge-based approach for source-to-sea management



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- Component 3: Support basin-wide and coastal zone strategic planning and investment mobilisation
- Component 4: Creating sustainable livelihoods through enhancing water, food, energy and environmental security
- Component 5: Knowledge generation, communication, and dissemination

The project aims to strengthen the legal, institutional and technical foundations for joint, equitable and sustainable water resources management between the three riparian states, while improving the resilience of basin ecosystems and the communities that depend on them.

1.2 The Rationale for Environmental Flow Determination

Under Component 2, Outcome 2.1 focuses on strengthening the scientific and technical knowledge base required for evidence-based, joint decision-making on water resources allocation across the Incomati and Maputo basins. A core technical gap constraining sound allocation decision is the absence of basin-wide, scientifically defensible environmental flow (E-flows) determinations – the flow regimes required to sustain riverine, floodplain, wetland and estuarine ecosystems in a specified ecological condition, while accommodating legitimate human water uses.

The project requires environmental flows for catchments in the basin to be determined and advanced through technical review, stakeholder consultation and validation and the appropriate INMACOM decision-making processes. The end of project target is for environmental flows to be proposed and agreed, with implementation, including monitoring and evaluation, started by project completion. The determinations will inform the basin-wide water resources yield model, the IncoMaputo Water Information System and Decision Support System (WIS/DSS) and the joint water allocation and water sharing processes. Reliable E-flow determinations are also a prerequisite for the basin Environmental Monitoring Framework and are directly relevant to UNDP Social and Environmental Standard 1 (Standard 1.11), given the project's support to water extraction, diversion and containment decisions across the basins.

1.3 Linkages to Other Project Outputs

This assignment does not operate in isolation. It is intended to generate technical inputs and defensible flow standards that directly feed the following related outputs and processes, with which the selected consultant/firm will be expected to coordinate closely with:

- **Output 2.2.3 (Environmental Monitoring Framework):** E-flow sites, hydrological, ecological and estuarine indicators and compliance thresholds established under this assignment will form a foundational input to the design of the basin-wide ecological and hydrological monitoring network.
- **Output 2.2.4 (IncoMaputo Water Information System – WIS):** all hydrological, ecological and geospatial data generated under this assignment must be quality-assured, documented and structured for direct upload into the WIS in formats agreed with the project's data management team.
- **Water demand and socio-economic appraisal activities under Outcome 2.2:** E-flow determinations must be reconciled with parallel assessments of current and projected water demand, water-allocation information, planned developments and agreed climate scenarios to support a balanced, basin-wide allocation approach.
- **Joint Basin Survey and groundwater workstreams:** the consultant shall align river segmentation, sites, indicators, sampling and metadata with the Joint Basin Survey, use relevant JBS results, and coordinate with the hydrogeological team where groundwater supports baseflow or groundwater abstraction could affect rivers, wetlands or estuaries. The assignment shall avoid duplicating work assigned to those workstreams (a joint technical working group will be formed to ensure alignment).
- **TDA, SAP, NAPs and Investment Plan:** the assignment shall provide E-flow inputs (through a thematic synthesis report), to the TDA causal-chain analysis, basin-wide strategic actions



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for the SAP, country-specific implementation actions for the three NAPs, and prioritised monitoring and implementation investments with indicative responsibilities and costs.

- **Component 1 governance structures:** technical outputs must be presented to, and endorsed by, INMACOM's Technical Task Teams, relevant basin-wide stakeholder processes and the Project Steering Committee. The consultant shall support technical validation and prepare decision-ready recommendations; however, formal agreement or adoption remains the responsibility of INMACOM and the competent Member State authorities.

2. OBJECTIVES OF THE ASSIGNMENT

The overall objective of this assignment is to determine scientifically robust, basin-appropriate environmental flows (E-flows) for priority river reaches, main tributaries and associated flow-dependent wetlands, together with preliminary estimates for the Incomati and Maputo estuaries; assess the implications of freshwater inflows for relevant ecological processes and allocation trade-offs in Maputo Bay; and support technical validation and preparation of the decision package required for consideration by INMACOM and its three Member States. The specific objectives of the assignment are to:

- Select and justify priority river reaches, wetlands and estuarine sites for environmental flow assessment, in consultation with INMACOM, and the riparian states and key basin stakeholders;
- Characterise the present ecological condition and define an agreed ecological or management objective for each selected site, using relevant categories appropriate to the selected sites using an internationally recognised environmental flow assessment methodology, appropriately adapted to data availability and basin context;
- Develop an up-to-date basin-wide hydrological baseline and water resources yield model to quantify the reliable supply of water under varying hydrological conditions.
- Determine environmental flow requirements (magnitude, timing, duration, frequency and rate of change of flows) for each priority site, covering low flow, high flow/flood and overall flow regime components, for at least the present day and all future abstraction scenarios considering a climate-altered future;
- Determine environmental flows for the Incomati and Maputo estuaries and their freshwater contribution to Maputo Bay, recognising the basin's source-to-sea linkages and the ecological and economic importance of estuarine and coastal systems;
- Translate E-flow determinations into operational rules, monitoring indicators, compliance thresholds and adaptive management triggers suitable for incorporation into the basin water resources yield model, water allocation planning, catchment operating rules and the Environmental Monitoring Framework;
- Build the technical capacity of INMACOM, member state water resources institutions, and the GWPSA Project Management Unit (PMU) to understand, apply, and where appropriate replicate or update E-flow methodologies in future; and
- Provide technical inputs to stakeholder review, validation and basin-wide endorsement processes of the E-flow determinations, culminating in formal recommendations for adoption by INMACOM and the three riparian states.

3. SCOPE OF WORK AND METHODOLOGY

The environmental flows must be considered in the context of source-to-sea management.

The main objective is to determine both E-flows in the Incomati and Maputo River Basins. The project will build on several studies that have been conducted especially on the South Africa side of the basin, most recently the Water Research Commission study on Ecological Risk and work done in e-flow implementation over the past 15 years in the rivers of the Kruger National Park and operationalised through the Inkomati-Usuthu Catchment Management Agency (IUCMA). The



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technical approach will consider data availability and past experiences in different parts of the basin. There has been partial implementation in the Sabie and Crocodile sub-catchments which provides a positive baseline for this project. Ways of strengthening and learning from what is already being done is also required in this project.

The E-flows assessment process should account for various scenarios regarding current and future water abstraction, planned development, and climate-altered hydrology on the one hand, and water quality and availability on the other hand. These scenarios will be developed in consultation with stakeholders to reflect on the ground realities and must be linked into an overall water resources yield model – noting the requirements of the tripartite water sharing agreement. Activities include:

- Critical appraisal of current knowledge on E-flows, and description of the reference state of the ecosystems to be used as a fixed benchmark from which change and impacts can be measured. This benchmark will be based both on available data and experts' analysis and will focus on biota and aquatic biodiversity in the River Basins, from a delineation of homogeneous segments in both Incomati and Maputo rivers as well as in main tributaries.
- Focused assessment on the present state of the estuaries using an estuarine health index which looks at a suite of abiotic and biotic characteristics.
- Qualitative and, where data permits, quantitative assessment of abiotic, biotic and socio-economic impacts of the agreed abstraction, development and climate scenarios, including impacts on flow-dependent ecosystem services, livelihoods and vulnerable groups.
- Determination of priority catchments and / or river segments for E-flows with respect to high density and/or level of environmental assets and fragility, altered-flow pressures, transboundary significance, development risk, estuarine/source-to-sea relevance – building on existing knowledge and experiences
- Participatory identification of sites to capture sex-disaggregated information on indigenous knowledge and experiences related to water management, ecosystem conservation and adaptation to environment challenges.
- Setting of flow requirements and thresholds of potential concern on abiotic and biotic indicators. The e-flow determination process on the Maputo and Incomati Rivers should include the estuary systems and directly link to a larger process which also examines the Maputo Bay as part of a whole system. This process will allow for a broader source to sea ecosystem-wide understanding to be established, and possible freshwater allocation trade-offs to be evaluated
- Definition of E-flows must be coherent with water requirements over the river basins: values will be compared both with natural and current flows, as well as with water demand for livelihood and socio-economic activities assessed through the related water-demand and socio-economic appraisal processes. The E-flow determination process must include those socio-economic/livelihood trade-offs in order to reach point of decision amongst member state and basin stakeholders

The assignment will be implemented in five sequential but iterative phases. The consultant/firm is expected to propose a detailed methodology in their technical proposal, building on the indicative approach below and drawing on internationally recognised environmental flow assessment frameworks, and an understanding of the current level eflow determination, legislation and implementation at member state level to ensure a harmonised commencement point for transboundary eflows in the Incomati and Maputo Basins. Methods shall be selected and justified according to the data availability and the decisions the results must support;



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PHASE 1: INCEPTION, SITE PRIORITISATION AND METHODOLOGY DESIGN

The consultant/firm will:

- Review the project document, and all available hydrological, ecological, water quality, estuarine, socio-economic, water-demand, allocation and modelling data for the Incomati and Maputo basins;
- Develop and apply transparent, multi-criteria screening to confirm a prioritised list of river reaches, wetlands and estuarine sites for assessment, in consultation with INMACOM Technical Task Teams, member state water resources institutions and basin stakeholders;
- Confirm, for each prioritised site, the appropriate level of E-flow assessment (desktop, rapid or comprehensive) based on data availability, ecological importance, degree of present or anticipated water resource development, and the level of decision-making the output must support;
- Identify and assess all relevant existing data (hydrological records, hydraulic surveys, water quality, biomonitoring, fish and macroinvertebrate surveys, geomorphology, riparian vegetation, estuarine and coastal data) and define a data-gap-filling plan, including any field surveys, hydraulic modelling or rapid biomonitoring required; and ensure that surveys are participatory and inclusive with involvement of communities, where applicable, to capture indigenous knowledge.
- Prepare an Inception Report setting out the confirmed site list, assessment methodology, data inventory and gap-filling plan; modelling and scenario plan; estuarine and socio-economic assessment plans; interfaces with the Joint Basin Survey, groundwater, TDA, SAP/NAP and Environmental Monitoring Framework workstreams; stakeholder engagement, peer-review and capacity-development plans; safeguards and field QA/QC requirements; a detailed work plan, stakeholder engagement plan, and risk/safeguards considerations, for review and approval by the PMU and INMACOM.

PHASE 2: ECOLOGICAL AND HYDROLOGICAL CHARACTERISATION

The consultant/firm will:

- Undertake field surveys and/or desktop analyses, as confirmed in the Inception Report, to characterise the hydrology, hydraulics/geomorphology, water quality, riparian vegetation, and aquatic biota (fish, macroinvertebrates, where relevant) of each priority site;
- Determine the present ecological condition of each site against agreed ecological indicators, and define, through consultation with INMACOM, member states and stakeholders, the recommended ecological state reflecting an agreed balance between ecological protection and water resource development objectives;
- For data-scarce river segments and wetlands, where feasible, extrapolate results from comprehensively assessed reference sites within the same basin through, for example, the application of rapid or desktop E-flow methods.
- Characterise the freshwater, sediment and nutrient contributions of the Incomati and Maputo Rivers to their respective estuaries and to Maputo Bay and assess the ecological sensitivity of these systems to changes in freshwater inflow, salinity intrusion and sediment supply.
- Assess flow-dependent ecosystem services and livelihoods, including, where relevant and supported by data, domestic water use, irrigated and subsistence agriculture, livestock, fisheries, tourism, conservation and natural-resource use;
- Assess the socio-economic implications of the agreed abstraction, development and climate scenarios, using qualitative and quantitative methods appropriate to available data, and identify key water-allocation and ecosystem-service trade-offs;



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- Identify differentiated impacts on countries, sectors, women, men and vulnerable groups and propose socio-economic indicators relevant to implementation and monitoring.

PHASE 3: ENVIRONMENTAL FLOW AND ENVIRONMENTAL WATER REQUIREMENT DETERMINATION

The consultant/firm will:

- Determine the environmental flow requirements for each prioritised river/wetland site, expressed as a flow regime (low flow, high flow and flood components, with associated magnitude, timing, duration, frequency and rate-of-change requirements) corresponding to the agreed Recommended target condition;
- Determine environmental water requirements for the Incomati and Maputo estuaries and the freshwater contribution required to sustain ecologically important processes in Maputo Bay, accounting for seasonal variability and saline intrusion dynamics;
- Assess the implications of climate change and projected water demand growth on the achievability of recommended E-flows, drawing on available climate projections and basin water demand information, and propose adaptive management options where trade-offs are unavoidable;
- Review existing basin models and update or develop an up-to-date basin-wide hydrological and water resources yield model to quantify the reliable supply of water under varying hydrological conditions. The model shall represent, as data permit, reference/naturalised and present-day hydrology, major reservoirs and operating rules, abstractions, transfers, return flows, current and projected demands, E-flow constraints and anticipated climate scenarios. The consultant shall document data sources, assumptions, calibration and validation, uncertainty, software and licensing requirements, model ownership and transfer arrangements, and provide user guidance and practical training. This model will serve as the analytical foundation for assessing trade-offs between ecological water requirements and water demand for livelihood and socio-economic activities uses.
- Develop and model, in consultation with INMACOM and Member States, realistic present-day, future-demand, development, drought and climate-altered scenarios to evaluate the impacts of different levels and patterns of abstraction on river system yields and ecological flow regimes ensuring that any recommended environmental flows are both scientifically robust and practically implementable within the broader framework of integrated water resources management.
- Define a set of practical E-flow compliance indicators, monitoring sites, baseline values, reporting frequencies, institutional responsibilities and threshold values suitable for adoption within the project's Environmental Monitoring Framework.

PHASE 4: REVIEW, STAKEHOLDER VALIDATION AND CAPACITY BUILDING

The consultant/firm will:

- Submit draft E-flow determinations and supporting technical reports to the PMU for facilitation of review by stakeholders including member states, as well as to respond formally to all review comments;
- Present draft findings and recommendations to INMACOM Technical Task Teams, relevant member state institutions and the basin-wide stakeholders, incorporating feedback into final determinations;
- Design and deliver a capacity development implementation plan, including delivery of at least capacity-building workshop (with language translation) for PMU, INMACOM and member



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state technical staff on E-flow concepts, the methodology applied, field techniques, interpretation of results and their use in water allocation decision-making; and

- Ensure all stakeholder engagement, validation and capacity-building activities are conducted in a gender-responsive and socially inclusive manner, consistent with the GEF project's Gender Action Plan and Stakeholder Engagement Plan and are delivered with interpretation/translation support where required.

PHASE 5: FINALISATION AND SUPPORT TO FORMAL ADOPTION

The consultant/firm will:

- Finalise all technical reports, datasets, geospatial layers and the E-flow Implementation and Monitoring Guideline, incorporating comments and stakeholder feedback, and prepare an Initial Implementation Package identifying priority operational nodes, institutional responsibilities, baseline and threshold values, reporting arrangements, recurrent costs and feasible actions to initiate implementation and monitoring;
- The Initial Implementation Package shall specify the first practical actions that can be initiated within the project period, which may include confirmation of initial monitoring sites, baseline measurements, reporting templates, institutional assignments, operational testing of selected compliance rules and an adaptive-management procedure. The consultant shall distinguish these actions from longer-term implementation responsibilities of INMACOM and the Member States;
- Prepare a concise policy brief and presentation materials summarising the recommended E-flows and their implications for water allocation, suitable for submission to the Project Steering Committee and onward transmission by INMACOM to the three riparian states for formal endorsement; and include high-resolution GIS mapping of all assessed areas and proposed monitoring stations.
- Hand over all final data, models, reports, scripts, field photography, configuration files and metadata to the PMU in formats compatible with the IncoMaputo Water Information System (WIS), accompanied by the model manual, software/licensing note and handover record.

4. EXPECTED OUTPUTS

The assignment is expected to produce the following outputs, in addition to the detailed deliverables and payment schedule set out in Section 5:

- An evaluation of existing E-flow implementation within the river basins in order to strengthen that implementation as well as for lessons learnt that can improve the outputs from this project.
- A validated, justifiable list of priority sites informed by objective-setting with stakeholders and the approved E-flow assessment methodology;
- Ecological, hydrological and socioeconomic characterisation reports (ecological states) for each priority site;
- Environmental flow determinations for each priority river, wetland and estuarine site, including the Incomati and Maputo estuaries and their freshwater contribution to Maputo Bay;
- Up-to-date basin-wide hydrological and water resources yield model (s), incorporating current and future demand, agreed climate scenarios and E-flow constraints;
- Model-ready E-flow datasets scenario results, operational rules, compliance criteria and uncertainty statements;
- A set of E-flow compliance indicators, monitoring sites, thresholds, institutional responsibilities, adaptive-management triggers and monitoring recommendations for the Environmental Monitoring Framework;



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- An E-flow Implementation and Monitoring Plan and Initial Implementation Package for use by INMACOM and member states;
- Capacity-building plan, training materials and a workshop report; and
- A policy brief and presentation package to support formal review and adoption of the E-flow determinations by the Project Steering Committee, INMACOM and the three riparian states; inputs to the TDA, SAP, three NAPs and associated investment planning; and, a complete WIS/DSS-compatible data and model handover package.

5. DELIVERABLES AND PAYMENT SCHEDULE

Executive summaries of the Inception Report, Final E-flow Determination Report and Policy Brief must be submitted in both English and Portuguese to support engagement with Mozambican stakeholders. All outputs should incorporate socio-economic, Gender Equity and Social Inclusion (GESI) considerations as required by UNDP/GEF and guided by the project's Gender Action Plan and Stakeholder Engagement Plan and should reflect a source-to-sea framing consistent with the basin TDA/SAP process.

#	Deliverable	Description
1	Inception Report	Confirmed priority site list with clear objective-setting rationale/site-selection criteria and ecological importance ranking; methodology selection and justification; data inventory and data-gap-filling plan (including any field survey requirements); assessment plans; coordination, stakeholder engagement, risk/safeguards considerations, QA/QC and capacity-development arrangements; and detailed work plan.
2	Ecological, Hydrological and Socioeconomic Characterisation Report	Present ecological condition and target state for each priority site; hydrological, hydraulic/geomorphological, water quality, biological and socioeconomic characterisation; characterisation of freshwater/sediment contributions to the Incomati and Maputo estuaries and Maputo Bay.
3	Draft Environmental Flow / Environmental Water Requirement Determination Report	Documented review, update or development of the basin-wide hydrological baseline and water resources yield model, including data, assumptions, calibration/validation with current and future water demands, reservoir and abstraction representation, agreed climate scenarios, E-flow constraints, uncertainty, model files and user documentation. Site-specific E-flow determinations (flow regime components, magnitude/timing/duration/frequency); estuarine and Maputo Bay environmental water requirements; ecological and socio-economic scenario consequences; climate change and water demand sensitivity analysis; model-ready datasets, compliance rules, thresholds and initial implementation implications, estuarine E-flow determinations.
4	Stakeholder Validation and Capacity-Building Plan	Record of stakeholder comments, and consultant responses to review comments; record of validation sessions with INMACOM Technical Task Teams, member state institutions and basin-wide stakeholders; capacity-building plans and evidence of implement: training materials, attendance records and workshop reports, field reports, etc.



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#	Deliverable	Description
5	Final E-flow Determination Report, Implementation and Monitoring Guideline, and Policy Brief	Final, peer-reviewed and stakeholder-validated E-flow Determination Report incorporating all comments; E-flow Implementation and Monitoring Strategy and Initial Implementation Guideline; compliance indicators and monitoring recommendations for the Environmental Monitoring Framework, TDA/SAP/NAP and investment-planning inputs; policy brief and presentation package for the Project Steering Committee and INMACOM; full data and metadata handover compatible with the IncoMaputo WIS.

All deliverables are subject to review and written approval by the GWPSA Project Management Unit (PMU), in consultation with INMACOM, prior to payment release. The Work will be administered under a standard Consulting Agreement, compliant with the GWPSA NPC Procurement Policy.

Payments will be made in accordance with GWPSA's standard procurement and financial procedures, against a fixed-price contract, upon satisfactory delivery and acceptance of each output.

6. TEAM COMPOSITION, ASSIGNMENT DURATION

This is a multi-disciplinary assignment intended for a consulting firm (or a consortium/joint venture of firms and individual specialists) able to demonstrate the full range of expertise required across hydrology, aquatic and riparian ecology, estuarine/coastal science, socio-economics, basin water-resources modelling, stakeholder engagement and GESI, with access to hydraulic, geomorphological, water-quality, GIS and other specialist inputs as required. The proposed team shall include demonstrable national or local expertise covering Eswatini, Mozambique and South Africa. Applicants proposing one individual consultant will not be considered responsive.

The indicative team composition is set out below. Bidders shall propose and justify the level of effort for each expert and may optimise the team structure provided all required disciplines, local knowledge, quality assurance and the approved budget envelope are fully covered:

Bidders shall distinguish professional fees from direct costs. Major field equipment, model software/licences, laboratory analysis, interpretation/translation, workshops, independent peer review and travel shall be itemised separately. The tender data shall identify items to be provided or procured directly by the project and the required handover and ownership arrangements for equipment, data and software. Bidders may propose adjustments provided the overall technical coverage and budget envelope are maintained and justified:

Team Leader / E-flows Specialist

Estuarine Specialist

Aquatic Ecologist

Hydrologist

Water Resources Modeller

Socio-economist/Resource Economist

The assignment is expected to run over approximately 24 months from contract signature.

7. SUPERVISION AND REPORTING ARRANGEMENTS

The consultant/firm (through its designated Team Leader) will report to, and work under the direct technical supervision of, the GWPSA Project Management Unit. The Environment/Water



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Resources Specialist will serve as the primary point of contact for day-to-day technical and contractual matters.

Technical quality assurance and strategic guidance will additionally be provided by the GWPSA Technical Advisors and independent technical peer reviewers as needed. The consultant/firm will be required to engage regularly and substantively with:

- The INMACOM Secretariat and its Technical Task Teams, who will provide basin-level technical guidance and facilitate engagement with member state institutions;
- Designated technical focal points within the relevant water resources institutions of Eswatini, Mozambique and South Africa;
- Basin-wide stakeholders, for validation of findings and ensuring representation of civil society, private sector and community interests; and
- The project's Project Steering Committee (PSC), to which final recommendations will ultimately be presented for endorsement and onward transmission to the three riparian states for formal adoption.

All deliverables will be reviewed by the PMU with comments to be incorporated by the consultant/firm prior to final acceptance and payment.

8. DURATION OF ASSIGNMENT AND DUTY STATION

The assignment is expected to run for approximately 24 months from commencement, concluding by approximately September 2028, subject to the contract signature date and the detailed work plan agreed at inception. The consultant/firm will be home-based, with travel required to Eswatini, Mozambique and South Africa for field assessments, stakeholder consultations, validation workshops and presentations to INMACOM and project governance structures, as detailed in the agreed work plan and budget.

9. QUALIFICATIONS AND EXPERIENCE REQUIRED

9.1 Firm/Consortium Requirements

- Demonstrated corporate experience in undertaking environmental flow / environmental water requirement assessments in at least three (3) river basins, at least one of which should be a transboundary basin, with evidence that recommendations were linked to water-resources planning or policy processes;
- Demonstrated experience applying internationally recognised E-flow methodologies across a range of data availability contexts, including data-scarce environments;
- Demonstrated experience in estuarine and/or coastal environmental water requirement assessment;
- Prior experience working with river basin organisations, transboundary water commissions, or UNDP/GEF-financed water resources projects in Southern Africa is highly desirable, together with demonstrable collaborations or access to national or local expertise in Eswatini, Mozambique and South Africa;
- Proven capacity to deliver multidisciplinary and multi-country assignments, with multi-stakeholder validation processes and technical capacity-building in a multilingual (English, Portuguese) environment.

9.2 Key Personnel Requirements

Team Leader / E-flows Specialist

- Postgraduate qualification (Master's or PhD) in hydrology, water resources engineering, aquatic ecology or a closely related field;
- Minimum 12 years' professional experience in environmental flow / environmental water requirement assessment, including leadership of at least three comparable assignments;



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- Demonstrated experience in integrating hydrological, ecological, estuarine, socio-economic specialist inputs into an integrated E-Flows framework for transboundary river basin contexts; Southern African basin experience strongly preferred;
- Excellent technical report writing and presentation skills in English; working knowledge of Portuguese an advantage.

Estuarine Specialist

- Postgraduate qualification in estuarine science, coastal ecology, hydrology or related field;
- Demonstrated experience in estuarine present-state or health assessment, freshwater-inflow requirements, salinity dynamics and ecological responses to altered river inflows;
- Minimum 8 years' relevant experience, including PES/REC assessment and estuarine ecological assessment;
- Familiarity with the ecology of Southern African or comparable subtropical river and estuarine systems.

Hydrological Modeller

- Post graduate qualification in hydrology, water resources engineering or a related field;
- Minimum 8 years' relevant experience in hydrological data quality control, naturalised/reference and present-day flow analysis, flow alteration, reservoir and abstraction assessment and preparation of E-flow hydrological inputs;
- Experience in transboundary basin-scale hydrological models

Water Resources Modeller

- Postgraduate qualification in water-resources engineering, hydrology, systems analysis or a related field;
- Minimum 8 years' relevant experience in basin water-resources yield or allocation modelling, including model calibration/validation, reservoirs, abstractions, demands, environmental-flow constraints and scenario analysis;
- Demonstrated ability to document and transfer model files, assumptions, software/licensing arrangements and user guidance to client institutions.
- Regional experience in Eswatini, Mozambique and/or South Africa is highly desirable.

Socio-economic/Resource economics Specialist

- Postgraduate qualification in economics, environmental economics, socio-economics, development studies or a related field and at least 8 years' relevant experience;
- Demonstrated experience assessing flow-dependent livelihoods and ecosystem services, water-use and allocation trade-offs, distributional impacts, and gender and vulnerable-group dimensions in water-resources planning;
- Experience in Southern African transboundary or basin-planning contexts is highly desirable.

The list of team members does not preclude the Consultant from enhancing or optimising the team as necessary. The proposal shall clearly identify national/local experts for Eswatini, Mozambique and South Africa as part of the team.



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10. EVALUATION CRITERIA

Proposals will be evaluated using a combined technical and financial scoring methodology, with technical proposals weighted at 80% and financial proposals weighted at 20% of the total score. Only firms/consortia scoring a minimum of 75% on the technical evaluation will have their financial proposals considered and evaluated.

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		10
	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		
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.)		10
	Quality assurance procedure, warranty		
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?		15
	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?		
2.2	Is the conceptual framework adopted appropriate for the task?		25
	Is the scope of task well defined and does it correspond to the TOR?		
	Is the presentation clear and is the sequence of activities and the planning logical, realistic and promise efficient implementation to the project?		
SUB TOTAL			40
Technical Proposal Evaluation (FORM III)			
Management Structure and Key Personnel			
3.1	Team Leader – Environmental Flows Determination		
	General Qualification/		



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	Suitability for the Project	15
	- Demonstrated experience in large scale transboundary freshwater and estuarine ecosystem assessments (aquatic ecosystem assessment, systemic water quality assessment, hydraulic habitat characterisation, etc)	
	- Experience in river health assessment	
	- Experience in e-flow determination processes	
	- Experience in the SADC region with river basin organisations (RBOs)	
	- Experience in consolidation existing hydrological and ecological data in a systemic manner	
	- Experience translating scientific output for policy formulation at RBO Commissioners level	
	- Training experience in multi-sector environment with demonstrated capacity transfer, grass roots level an advantage	
	- Demonstrated experience on e-flow implementation practice	
	- Demonstrated experience in water resource planning processes	
3.2	- Language qualification for the region	15
	Estuarine and Freshwater Ecosystem Team including inter alia: estuarine ecologist, eco-hydrological modeller, etc	
SUBTOTAL		30
GRAND TOTAL		100

Firms must submit a detailed, itemised Financial Proposals which will be evaluated for completeness, cost-realism against the proposed methodology and team composition, and overall value for money. The lowest-cost responsive financial proposal will receive the maximum financial score, with other proposals scored proportionately.

11. SUBMISSION REQUIREMENTS

Interested firms/consortia should submit the following as part of their proposal:

- A technical proposal detailing the proposed methodology, work plan, team composition and management arrangements, and a summary of relevant corporate experience;
- CVs of all proposed key personnel, clearly indicating relevant qualifications, experience and proposed role and input (in days);
- A detailed, (separate document) itemised financial proposal in USD, separately showing professional fees and direct costs for travel, field surveys, laboratory analyses, workshops, interpretation/translation, equipment, software/licences and other operational inputs, and clearly identifying assumptions about any project-provided resources;
- At least three (3) references for comparable assignments completed in the last seven (7) years, including contact details of the client;
- Company registration documents and evidence of good standing/tax compliance, as required by GWPSA procurement procedures; and
- A signed statement of exclusivity and availability of proposed key personnel for the duration of the assignment.



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Electronic Technical and Financial proposals should be submitted in the English Language with a subject line clearly titled:

"PROFESSIONAL CONSULTANCY SERVICES FOR THE DETERMINATION OF ENVIRONMENTAL FLOWS (E-FLOWS) IN THE INCOMATI AND MAPUTO WATERCOURSES"

Proposals should be submitted electronically to: (note email submissions should be in batches each less than 10Mb)

- Procurement – gwpsaprocurement@gwpsaf.org
- Ms Nontobeko Mlangeni – nontobeko.mlangeni@gwpsaf.org

Late submissions will not be considered. Queries regarding this Terms of Reference should be directed in writing to the same email addresses, with responses circulated to all prospective bidders to ensure transparency and equal treatment.

Deadline for submission: Thursday 17 September 2026 12:00 midnight SAST