TERMS OF REFERENCE FOR A JOINT BASIN SURVEY COORDINATOR IN THE TRANSBOUNDARY INCOMATI AND MAPUTO RIVER BASINS

Project Name: Strengthening Integrated Transboundary Management of the Incomati and Maputo River Basins

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: 18 Months (1.5 years)

1. BACKGROUND

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 the 18th 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 RBO is aligned to SADC principles on the management of shared transboundary water resources.

The United Nations Development Programme (UNDP)/Global Environment Facility (GEF) project, "Strengthening Integrated Transboundary Management of the Incomati and Maputo River Basins," seeks to advance integrated source-to-sea management across the Incomati and Maputo River Basins, the Lubombo Transfrontier Conservation Area, and adjacent coastal zones. The project aims to ensure environmental security while supporting inclusive and sustainable livelihoods, spanning the Kingdom of Eswatini, the Republic of Mozambique, and the Republic of South Africa.

The project is funded by the GEF and led by the UNDP as the GEF Implementing Agency, in partnership with the Global Water Partnership Southern Africa (GWPSA) as the Executing

Agency, while the Incomati and Maputo Watercourse Commission (INMACOM) serves as the focal custodian for project implementation.

The project is expected to run over the course of 72 months. During this period, 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
- 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

2. OBJECTIVES OF CONSULTANCY

The objective of this assignment is to consolidate the existing available information and seek specialist inputs to identify the capacity needs of the three member states of the Inco-Maputo River Basins to undertake joint environmental water management practices in terms of river health indicators, and aquatic ecosystem classification methodologies[, and to coordinate the design and preparation of the first Joint Basin Survey (JBS) for the Incomati and Maputo River Basins within a source-to-sea framework. The INMACOM Secretariat, therefore, seeks to recruit a consultant with extensive experience in these fields to serve as the Joint Basin Survey Coordinator for the 1st full joint Source-to-Sea survey of both the Incomati and Maputo River Basins, noting that:

- The Incomati River Basin is a well-studied basin and river health monitoring capacity already exists within mandated water & environmental institutions in the basin, including inter-alia: Inkomati-Usuthu Catchment Management Agency (IUCMA), Komati Basin Water Authority (KOBWA), Ara-Sul, South African National Parks (SANParks), Mpumalanga Tourism and Parks Agency (MTPA)
- Water quality and ecosystem health compliance criteria are already represented as gazetted Resource Quality Objectives and operationalised through river management

committees in several parts of the basin, although a fully harmonised approach across Member States is still required

- There are a range of current river basin monitoring and bio-informatics projects and platforms recently developed within member states or regionally underway that can enhance this effort
- The Maputo River Basin is less-well studied and the institutional mandates to support river health assessments require an incubatory phase
- Given the existing capacity greater coherent coordination is required to strengthen the transboundary capacity for Source-to-Sea ecosystems assessments and partnerships with complementary Transfrontier Conservation Area ecosystem assessments, noting that the Lubombo TFCA is a primary focal area for capacitation meanwhile the southern region of the Great Limpopo TFCA is within the Incomati basin.
- There is a need to design a highly innovative state of basin reporting approach that uses advanced field and analytical methods to catalyse private sector contributions to state of basin reporting, for instance through the Task Force for Nature-related Financial Disclosures (TNFD) or similar metrics.

The Joint Basin Survey Coordinator will work in close cooperation with the INMACOM Secretariat in Mbabane, Eswatini and the Project Management Unit (PMU) of the GEF8 program implemented through the Global Water Partnership, Southern Africa (GWPSA) office. The specific objective of this assignment is to support key program outputs under Components 2 which include:

Outcome 2.1 - Scientific baseline for source-to-sea based management of the basins established to enable science-based planning, development, and management of the Inco-Maputo River Basins.

Source-to-sea based management must consider all six key flows (water quantity and quality, biota, sediment, pollutants & emerging contaminants, materials and ecosystem services) connecting the continuum from land systems to open oceans. Outcome 2.1 aims at setting the scene to prepare a framework for elaborating a theory of change. Such change is required to design initiatives that will support healthy ecosystems. More specifically, this outcome will point out minimum requirements to maintain river ecosystem health, thus defining environmental flows/environmental water requirements as vital minimum requirements, accounting for both surface and underground water resources. This aspect will pay close attention to where EWRs have already been legislated for/implemented to facilitate a harmonised approach for future implementation at basin scale. The Joint Basin Survey (JBS)

will be conducted in close cooperation with the Lubombo TFCA – to ensure that key biodiversity issues are addressed – this will also include looking at ways to sustain the survey in the basin looking at research and tourism opportunities with private sector. Involvement of both women and men from different categories in data and information collection. Participation of women at all levels will be promoted – in data collection and analysis.

Under the above Outcome there is Output 2.1.1: Joint Basin Survey for key ecosystem health parameters carried out including women and women-led organisations. Under this output, the project will undertake the following activities:

- Identification and characterization of all six key flows from a baseline assessment, mainly regarding the importance of connecting segments of the continuum regarding water use and environmental needs and acceptability. If necessary, hypotheses should be made where data are missing from experts' knowledge and from comparison with reference segments of rivers in the region. Such hypotheses will be emphasized and mentioned as gaps for future monitoring.
- Delineation of reference watersheds and/or river segments where health is not endangered by human activities and water retention systems in the river basin
- Identification of representative biotas, habitats and relevant species to assess ecosystem health in the IncoMaputo River Basins, including in estuaries.
- Definition of surveys to measure current key ecosystem health parameter values.
- Selection of priority flows considering current threats, potential means of actions or instruments to efficiently mitigate harmful impacts.
- Explore the use of eDNA techniques and other advanced analytics to enhance traditional survey methods and ensure complementarity.
- Definition and implementation of survey campaigns, including data analysis and presentations.
- Inclusion of both females and males in the survey team to deal with gender related issues mainly at the stakeholder level.
- Develop a strategy/plan for private sector involvement in the survey during implementation and to establish potential sustainability options for post survey monitoring of river basin health.
- Maximise the potential for academic collaborations during the Joint Basin Survey with local universities, research institutions (especially Eduardo Mondlane University, University of Eswatini, University of Mpumalanga, University of Zululand and

University of KwaZulu-Natal) and NGOs, especially through citizen science and environmental outreach

- Gather experiences from other RBOs and TFCAs in the region to ensure the sustainability of JBS – linked with research and tourism activities.

The Coordinator's role shall focus on coordination, readiness assessment, harmonisation of approaches, survey design, implementation planning and identification of specialist support needs.

3. SCOPE OF ASSIGNMENT

These TORs relate to a coordination specialist, ideally based within or within close proximity to the Incomati and Maputo basins who will provide the coordination mechanisms for a 1st Joint Basin Survey (JBS) with mandated government institutions, academia and non-governmental institutions focusing on freshwater ecosystem health work in the basins. Importantly, this will be informed by a capacity needs assessment and equipment/materials need assessment upfront (Phase 0).

The joint basin survey coordinator is also expected to identify where there may be a lack of specialist skills. Furthermore, there should be, as far as possible, alignment to determinations and progressive implementation in some sub-basins river health and EWR implementation of the member states that have recently been completed or currently underway. Therefore, the coordination consultant is required to develop the implementation road-map so that a JBS can be successfully undertaken with existing competencies during the late summer, post rain season and winter low flow season during 2026-27. Moreover, this provides the basis for a harmonised eflow implementation approach through a coordinated stakeholder platform, being cognizant of existing platforms that exist.

3.1. Joint Basin Survey (JBS) Approach

The project will develop its programmes for Joint Basin Survey (JBS) activities based on successful models from RBOs in the region, e.g. OKACOM, ORASECOM and LIMCOM's and various other examples of well-established JBS programmes, transboundary research expeditions being conducted by National Geographic in the Okavango basin, WWF's Basin Health Report Card approach that goes beyond the river into the catchments and is jointly

developed with basin stakeholders, etc. The river health indicators will be aligned with national requirements, and with SADC-wide reporting and assessment procedures, and with the UN SDGs and other Multilateral Environmental Agreement reporting efforts.

The indicators, which will be similar in scope to those utilized in other RBOs JBS programmes (which uses the categories Water Quality and Quantity; Management and Governance; Society and Culture; Human Health and Nutrition; Landscapes and Ecology; and Economy), will likely include groundwater measurements; flow rates (to determine pollutant loading, mixing and river assimilation); and aquatic ecosystem health, such as biological indicators (macroinvertebrates, fish, diatoms, riparian vegetation, habitat integrity) and in situ water quality & water chemistry (total suspended solids, pH, total dissolved solids, dissolved oxygen, nutrients, hydrocarbons, heavy metals, and salinity).

Drawing from the experiences in other RBOs, the Joint Basin Surveys will be participatory and educational not only for resource managers and researchers but also for local communities (e.g., resource/water user associations; selected schools along the basin transect) through associated education and outreach activities. At the discretion of the PMU other partners may be invited to support this work.

The JBS shall be designed as a harmonised but fit-for-purpose source-to-sea assessment process that builds on existing national systems, recognises different levels of institutional maturity between the Incomati and Maputo basins, and is capable of being repeated in future survey cycles

The JBS coordinator is expected to have multidisciplinary experience, consisting of the following specialist areas;

i. *Socio-economics:* Natural resource use and resource economics, Policy and Governance
ii. *Ecosystems:* Water quality, Sediments, Vegetation, Ecosystem Services
iii. *Hydrological:* Hydraulics, Hydrogeology, Water Resources, Hydrology
iv. *Biomonitoring:* Water quality, macro-invertebrates, diatoms, eDNA, Sediments, Vegetation
v. *Outreach:* Citizen Science and environmental education

The Coordinator is not expected to be the lead technical specialist in all of these disciplines, but shall have sufficient multidisciplinary understanding to coordinate specialist inputs, identify technical gaps, and ensure a coherent overall JBS design and implementation process.

4. DETAILED SCOPE OF WORK

4.1. Tasks for the Joint Basin Survey Coordinator

The following tasks are organised across sequential work phases. The consultant is also required to ensure that the specific Output 2.1.1 technical activities listed under Section 4.1.4 get undertaken.

Phase 0: Needs Assessment (Tasks 4.1.)

4.1.1. Capacity needs assessment and identification of existing training materials for Joint Basin Surveys

4.1.2. Identification of new equipment and materials for joint basin surveys that does not yet reside within the mandated institutions

4.1.3. Identification of specialist skills gaps and institutional readiness constraints affecting implementation of the JBS.

4.1.4. Assessment of advanced analytics readiness, including eDNA capacity and related partnership or laboratory needs.]

4.1.5. Assessment of Gender Equity and Social Inclusion considerations relevant to participation, training, field deployment and institutional strengthening.

Phase 1: Desktop Review (Tasks 4.2)

4.2.1 Rapid desktop appraisal of other RBOs established JBS programmes, and analysis of approaches and outcomes of similar initiatives e.g. transboundary research expeditions conducted by The National Geographic in the Okavango basin and WWF's Basin Health Report Card approach, including other programmes of relevance in the SADC region.

4.2.2 Identification of water quality hotspots and parameters to be measured within the basin in consultation with all the relevant stakeholders.

4.2.3 Desktop assessment of existing bio-informatics systems that could be used for data archiving in Decision Support Systems and reporting within the region and basin management institutions

4.2.4 Consolidation of existing information relevant to water quality, ecosystem health, aquatic biodiversity, EFlows/EWR, groundwater linkages, estuarine considerations and other source-to-sea dimensions needed to support JBS design.

4.2.5 Identification of opportunities to align the JBS with river health and EWR implementation work already completed or underway in relevant sub-basins.

Phase 2: Co-development of a Comprehensive Joint Basin Survey (Tasks 4.3)

4.3.1. Co-develop with the mandated institutions a comprehensive joint basin-wide water quality and freshwater ecosystem health assessment in a source-to-sea context

4.3.2. Develop a JBS implementation plan and repeatable protocol that maximises alignment with existing national monitoring systems, relevant TFCA initiatives, and approved stakeholder platforms.

4.3.3. Identify existing competencies within the mandated institutions where specialist JBS reports and synthesis report for the joint basin survey can be produced.

4.3.4. Contribute to audio-visual outputs aligned with the INMACOM communications plan

4.3.5. Identify representative survey themes, priority sites, water quality and biomonitoring locations, and practical institutional roles for field implementation.

4.3.6. Identify pathways for long-term sustainability of the JBS, including academic partnerships, citizen science, research opportunities, tourism linkages and private-sector participation.

4.3.7. Support the design of an innovative state-of-basin reporting approach informed by JBS findings and advanced field and analytical methods.

Output 2.1.1: Technical Activities to be Undertaken During JBS Implementation (Task 4.4)

Under Output 2.1.1, the project will undertake the following activities, for which the Coordinator is responsible:

- Identification and characterization of all six key flows from a baseline assessment, mainly regarding the importance of connecting segments of the continuum regarding water use and environmental needs and acceptability. If necessary, hypotheses should be made where data are missing from experts' knowledge and from comparison with reference segments of rivers in the region. Such hypotheses will be emphasized and mentioned as gaps for future monitoring.
- Delineation of reference watersheds and/or river segments where health is not endangered by human activities and water retention systems in the river basin.
- Identification of representative biotas, habitats and relevant species to assess ecosystem health in the IncoMaputo River Basins, including in estuaries.
- Definition of surveys to measure current key ecosystem health parameter values.
- Selection of priority flows considering current threats, potential means of actions or instruments to efficiently mitigate harmful impacts.
- Explore the use of eDNA techniques and other advanced analytics to enhance traditional survey methods and ensure complementarity.

- Definition and implementation of survey campaigns, including data analysis and presentations.
- Inclusion of both females and males in the survey team to deal with gender related issues mainly at the stakeholder level.
- Develop a strategy/plan for private sector involvement in the survey during implementation and to establish potential sustainability options for post survey monitoring of river basin health.
- Maximise the potential for academic collaborations during the Joint Basin Survey with local universities, research institutions (especially Eduardo Mondlane University, University of Eswatini, University of Mpumalanga, University of Zululand and University of KwaZulu-Natal) and NGOs, especially through citizen science and environmental outreach.
- Gather experiences from other RBOs and TFCAs in the region to ensure the sustainability of JBS – linked with research and tourism activities.

5. SUMMARY OF DELIVERABLES

i. Inception Report – highlighting the institutional coordination mechanism methodology for the Joint Basin Survey.
ii. Consolidated desktop review and benchmarking note on relevant RBO JBS programmes, comparable regional initiatives, and applicable basin health reporting approaches.
iii. Existing institutional capacity assessment to undertake the INMACOM JBS, inclusive of Gender Equity and Social Inclusion
iv. Advanced analytics including eDNA capacity assessment
v. Freshwater ecosystem survey equipment inventory within institutions and specialist equipment needs assessment
vi. Joint coordination report for JBS fieldwork, detailed workplan and budget for identified water quality and biomonitoring sites.
vii. Joint Basin Survey implementation plan.
viii. JBS Review report
ix. 'Coffee Table style" JBS book for public dissemination under INMACOM
x. Repeatable JBS protocol covering survey design, institutional roles, implementation sequencing, outreach and reporting arrangements.

The assignment will be undertaken over a period of eighteen (18) months from the commencement of the contract. The consultant is expected to commence work not later than 2 weeks from the date of the notice to proceed. The consultant must deploy the necessary manpower, logistics and all other necessary items to complete the assignment within the stipulated time. The assignment will include a high degree of consultation with basin stakeholders, and deliverables and reports will undergo an approval process that includes the basin countries and Project Steering Committee. The coordinator should therefore allow for sufficient time for the discussion and approval of the various reports including ensuring that there is knowledge transfer and capacity building. Importantly, the assignment will also be cognizant of the Gender Equity and Social Inclusion (GESI) important for building the INMACOM JBS capacity and Project Gender Action Plan.

6. TIMELINE

It is anticipated that the coordinator will be a part-time position with an assignment duration from 1 June 2026 to 31 December 2027. Anticipated number of days expected is 100 for the duration of assignment. The Consultant shall organise the assignment in a manner that allows sufficient time for Phase 0 assessment, technical consultations, seasonal survey preparation, stakeholder review processes, and knowledge transfer across the three Member States.

7. WORKSTATION

The coordinator is expected to travel to the INMACOM countries (Eswatini, Mozambique, South Africa), as necessary. When necessary, office space can be provided by the hosting institutions. All travels require prior authorization by the GWPSA.

8. QUALIFYING REQUIREMENTS FOR THE COORDINATOR

8.1. Eligibility

8.1.1. A minimum of an MSc degree in Aquatic Ecology, Water Resources Management, or other related fields. A PhD will be an added advantage.

8.1.2. At least 10 years' experience working with governments and international agencies.

8.1.3. Sound understanding of International River Basin Management principles and approaches.
8.1.4. Demonstrated experience in working with participatory methodologi
8.1.5. Knowledge or experience in working on issues of governance, policy development, and strategy formulation, and demonstrating where these outputs have been applied
8.1.6. Excellent and demonstrated communication, consultation, editing and drafting skills.
8.1.7. Working experience and production of documents in English. Portuguese language skills are an asset.
8.1.8. Knowledge of transboundary issues in the SADC region is a distinct advantage.

9. 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 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: **"JOINT BASIN SURVEY COORDINATOR IN THE TRANSBOUNDARY INCOMATI AND MAPUTO RIVER BASINS"** through email to gwpsaprocurement@gwpsaf.org with a copy to Ms Nontobeko Mlangeni Nontobeko.mlangeni@gwpsaf.org no later than the **15 July 2026.**