



Enabling  
& Transboundary Cooperation  
& Integrated Water Resources Management  
in the extended **DRIN RIVER BASIN**



**Terms of reference:**  
***Technical assistance to the Project  
Coordination Unit for the implementation  
of the Pilot Project “Preparation of  
Wastewater Management Decision  
Support Tool”***

In the framework of:

GEF Project “Enabling Transboundary Cooperation and Integrated Water Resources Management in the Extended Drin River Basin”

*Disclaimer: The document adheres to the UN rules and policies regarding the names and international status of countries and/or other geographical areas etc. The use of characterizations, names, maps or other geographical statements in this document in no way implies any political view or positions of the Parties which are executing and implementing the Project.*

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## Introduction

### The Drin Memorandum of Understanding

1. Coordinated action at the Drin Basin level has been absent until the development of the Shared Vision for the sustainable management of the Drin Basin and the signing of a related Memorandum of Understanding (Tirana, 25 November 2011) by the Ministers of the water and environment management competent ministries of the Drin Riparians i.e. Albania, The Former Yugoslav Republic of Macedonia, Greece, Kosovo and Montenegro. This was the outcome of the Drin Dialogue coordinated by the Global Water Partnership Mediterranean (GWP-Med) and UNECE.
2. The main objective of the Drin MoU is the attainment of the Shared Vision: *“Promote joint action for the coordinated integrated management of the shared water resources in the Drin Basin, as a means to safeguard and restore, to the extent possible, the ecosystems and the services they provide, and to promote sustainable development across the Drin Basin”*.

### The Drin Coordinated Action

3. A process called the “Drin CORDA”, Drin Coordinated Action for the implementation of the Drin MoU, was put in place after the signing of the latter.
4. Following the provisions of the MoU an institutional structure was established in 2012. It includes:
  - The **Meeting of the Parties**.
  - The **Drin Core Group** (DCG). This body is given the mandate to coordinate actions for the implementation of the MoU.
  - Three **Expert Working Groups** (EWG) to assist the DCG in its work:
    - Water Framework Directive implementation EWG.
    - Monitoring and Information exchange EWG.
    - Biodiversity and Ecosystem EWG.

The **DCG Secretariat** provides technical and administrative support to the DCG; Global Water Partnership – Mediterranean (GWP-Med) serves by appointment of the Parties through the MoU as the Secretariat.

5. An Action Plan was prepared to operationalize the Drin CORDA. This has been subject to updates and amendments in accordance with the decisions of the Meeting of the Parties to the Drin MoU and the DCG. The DCG and its Secretariat guides the implementation of the action plan while its implementation is currently being supported by the Global Environment Facility<sup>1</sup> (GEF); see below.

### The GEF Drin Project

6. The Global Environment Facility (GEF) supported Project “Enabling transboundary cooperation and integrated water resources management in the extended Drin River Basin” (GEF Drin Project) is aligned in content, aims and objectives with the Action Plan and the activities under the Drin CORDA.
7. The objective of the project is to *promote joint management of the shared water resources of the transboundary Drin River Basin, including coordination mechanisms among the various sub-basin*

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<sup>1</sup> www.thegef.org

*joint commissions and committees.* Albania, The Former Yugoslav Republic of Macedonia, Kosovo and Montenegro are the Project beneficiaries.

8. The GEF Drin project is structured around five components:
  - a. Component 1: Consolidating a common knowledge base
  - b. Component 2: Building the foundation for multi-country cooperation
  - c. Component 3: Institutional strengthening for Integrated River Basin Management (IRBM)
  - d. Component 4: Demonstration of technologies and practices for IWRM and ecosystem management
  - e. Component 5: Stakeholder Involvement, Gender Mainstreaming and Communication Strategies
9. The Project is implemented by UNDP and executed by the Global Water Partnership (GWP) through GWP-Mediterranean (GWP-Med) in cooperation with UNECE; GWP-Med is responsible for the realization of the Project. The Drin Core Group is the Steering Committee (SC) of the Project.

### **Demonstration Activities under the GEF Drin Project**

10. Within the context of the project, Pilot Demonstrations under Component 4 are intended to provide multiple benefits to allow countries to (i) accrue direct experience on approaches, technologies, practices and organizational settings novel to the region and test their cost effectiveness and feasibility in the regional context, (ii) test cooperative arrangements, (iii) feed into the SAP formulation process.
11. The Pilot Project *“Wastewater Management Decision Support Tool”* is one of the six Demonstration activities of the GEF Drin Project. The objectives of this Pilot are to:
  - Develop a Drin Wastewater Management Decision Support Tool to be used by competent authorities in the Drin Basin, for the identification of the most environmentally appropriate and cost-efficient solutions to address wastewater related problems in ecologically important areas.
  - To test the Drin Wastewater Management Decision Support Tool for the case of Shkodra city and identify the most environmentally appropriate and cost-efficient solutions in terms of wastewater treatment methodology and infrastructure to address wastewater related problems.
12. A Consultant Company (hereinafter *“the Consultant”*) has been hired to implement the Pilot Project *“Wastewater Management Decision Support Tool”* (WEMDST). **The ToR for the implementation of WEMDST is attached as Annex 1 while the Inception Report will be provided to the successful consultant. Both documents constitute integral part of this ToR.**
13. GWP-Med seeks to hire an International Expert / Team of Experts / Company (hereinafter *“the Expert”*) to support the PCU in performing quality control as well as in the oversight of the implementation of the Pilot Project.

The Assignment: *Technical assistance to the Project Coordination Unit for the implementation of the Wastewater Management Decision Support Tool Pilot Project*

**Objective of the assignment**

- 14. The objective of this assignment is to scientifically and technically support the Project Coordination Unit (PCU) to oversee the implementation of the Pilot Project “*Wastewater Management Decision Support Tool*” (hereinafter WEMDST) including reviewing and performing quality control of the Outputs/Deliverables.
- 15. In this framework, the Expert will review all milestone Outputs/Deliverables and Reports that the Consultant delivers and propose comments/recommendations for amendments in the approach, activities and documents to:
  - a. enable the milestone Outputs/Deliverables having the best possible quality.
  - b. are in accordance to the ToR and the Inception Report of the Pilot Project.
  - c. secure that these are in accordance to the provisions of the EU FWD, UWWTD and other EU related legislation.
- 16. The expected duration of this assignment is 1 year.

**Requested Services**

- 17. The International Expert will use as basis and background for the tasks and services described herewith, the ToR and the Inception Report of the Pilot project. The International Expert will provide input in the form of:
  - a. Written assessment of the services provided by the consultant and the deliverables/outputs/products that the consultant develops.
  - b. Comments to the reports provided by the consultant.
  - c. Guidance to the consultant -as necessary- for the improvement of the quality of the services and deliverables/outputs/products.
  - d. Advice on possible necessary steps and action to be undertaken with the aim to improve the quality of the deliverables/outputs/products.

**Tasks**

18. The table below summarises the tasks of the Expert vis-a-vis the tasks of the Consultant.

*Table 1 Tasks of the Expert*

TASKS OF THE CONSULTANT (IN ACCORDANCE WITH THE TOR and the INCEPTION REPORT OF THE PILOT PROJECT; A SUMMARY IS GIVEN HERE- THE FULL DESCRIPTION IS GIVEN IN THE TOR AND THE INCEPTION REPORT)	TASKS OF THE EXPERT UNDER THIS ASSIGNMENT
<b>TASK I: A Modelling Tool that will form the basis of the Drin WEMDST.</b>  <b>Outputs under this task:</b> - Report on Modeling Tool that will form the basis of the Drin WEMDST	➤ Review and comment the Report on WEMDST and the respective evidences. Provide advice with regard to the content and quality of products as well as on
Activity 1. Scenarios identification	

<b>TASKS OF THE CONSULTANT (IN ACCORDANCE WITH THE TOR and the INCEPTION REPORT OF THE PILOT PROJECT; A SUMMARY IS GIVEN HERE- THE FULL DESCRIPTION IS GIVEN IN THE TOR AND THE INCEPTION REPORT)</b>	<b>TASKS OF THE EXPERT UNDER THIS ASSIGNMENT</b>
<ul style="list-style-type: none"> <li>- Selection and fine-tuning of the modelling tools. Identification of up to 7 scenarios (related to: storm water management in the city, wastewater treatment, pollution control, water and nutrients reuse) that will be simulated and analysed under Task II and embedded in the WEMDST.</li> </ul>	<p>possible necessary steps and action to be undertaken with the aim to improve these.</p>
<p><b>Activity 2. Wastewater sources (loads) and treatment models.</b></p> <ul style="list-style-type: none"> <li>- Set up of load calculation module, passing information to a database of several potential wastewater treatment technologies appropriate for Shkodra city and later the WEMDST. Parameters to be taken into consideration under each technology: treatment efficiency for pollutants, investment costs (CAPEX), operational and maintenance costs (OPEX), and environmental impacts.</li> </ul> <p>This model incorporates the basic criteria defined by the UWWTD enabling modelling of scenarios, which are aligned with the EU regulatory framework.</p>	<p>➤ Review the Modelling Tool for Drin. Provide advice with regard to the content and quality of the product as well as on possible necessary steps and action to be undertaken with the aim to improve this.</p>
<p><b>Activity 3. Hydrology/hydraulic model for storm water.</b></p> <ul style="list-style-type: none"> <li>- This model will include storm water and wastewater, i.e. modelling of runoff and sewer systems in the city, including different scenarios for sustainable urban drainage system (SUDS), their impact on sewer overflows etc. Appropriate tool for such analysis is SWMM. This model will be linked to HEC RAS (1D, optionally 2D) model for modelling flood events.</li> </ul>	
<p><b>Activity 4. Development of catchment model for the entire Drin river basin</b></p> <ul style="list-style-type: none"> <li>- The model will perform calculation of nutrients and organic matter loads to Drin and Bojana river and evaluation of their impact to the Drin river. This model will simulate pollutants not only from Shkodra, but also other agglomerations (estimated) and land uses such as agriculture and industry.</li> <li>- The freeware software QGIS will be used for GIS analysis, upgraded with nutrient modelling from catchments. This modelling component will incorporate some key concepts of the WFD defining RBMPs, definition of surface water bodies and basic criteria for their “good ecological status”.</li> </ul>	
<p><b>Activity 5. Development of the MT that will form the Drin WEMDST.</b></p> <ul style="list-style-type: none"> <li>- This tool will integrate developed models.</li> </ul>	

<b>TASKS OF THE CONSULTANT (IN ACCORDANCE WITH THE TOR and the INCEPTION REPORT OF THE PILOT PROJECT; A SUMMARY IS GIVEN HERE- THE FULL DESCRIPTION IS GIVEN IN THE TOR AND THE INCEPTION REPORT)</b>	<b>TASKS OF THE EXPERT UNDER THIS ASSIGNMENT</b>
<p><b>Task II. Testing and validation of Modelling Tools (MT) - Modelling, assessments and recommendations for the Shkodra city.</b></p> <p><b>Outputs under this task:</b></p> <ul style="list-style-type: none"> <li>- <b>Report (in English and in Albanian) - results and recommendations on WW Management in the city of Shkodra.</b></li> <li>- <b>Report (in English) of the testing of the MT describing among others the adjustments to the MT as a result of its application in the city of Shkodra and the water bodies receiving the urban wastewater.</b></li> <li>- <b>Technical stakeholder's consultation meeting in city of Shkodra.</b></li> <li>- <b>Drin WEMDST in the Shkodra city and the Skadar/Shkoder Lake and Buna/Bojana River.</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Review and comment the Report on results and recommendations on WW Management in the city of Shkodra and the respective evidences. Provide advice with regard to the content and quality of products as well as on possible necessary steps and action to be undertaken with the aim to improve these.</li> <li>➤ Review and comment the Report of the testing of the MT describing among others the adjustments to the MT as a result of its application in the city of Shkodra and the water bodies receiving the urban wastewater. Provide advice with regard to the content and quality of products as well as on possible necessary steps and action to be undertaken with the aim to improve these.</li> </ul>
<p><b>Activity 1. Testing the MT and at the same time production of the outputs that will be used by the national and local authorities for the management of wastewater in the Shkodra city</b></p> <ol style="list-style-type: none"> <li>1.1 Development of a model-based determination of the appropriate quality of treated effluents from Shkodra city in order to fulfil the quality objectives at the Skadar/Shkoder Lake and Buna/Bojana River and estuary, the coastal zone and the public health risk objectives from the spread of pathogens in flood events.</li> <li>1.2 Determination of the appropriate management scheme for wastewater and storm water in the city of Shkodra in order to ensure high standards for health safety for the population and the ecosystems in the receiving water bodies.</li> <li>1.3 Assessment and identification of the alternative options for the treatment of urban wastewaters, eventually in combination with industrial effluents.</li> <li>1.4 Identification of alternative flood scenarios and prediction of public health risks from the spread of water-borne pathogens in the city, the lake and downstream, as well as ways to prevent their spread.</li> </ol>	<ul style="list-style-type: none"> <li>➤ Review the Drin WEMDST in the Shkodra city and the Skadar/Shkoder Lake and Buna/Bojana River. Provide advice with regard to the content and quality of the product as well as on possible necessary steps and action to be undertaken with the aim to improve this.</li> </ul>
<p><b>Activity 2. Organisation and preparation of technical workshop</b> with Authorities and stakeholders, where final results will be presented and discussed.</p>	
<p><b>Activity 3. Preparation of a final draft of the results and recommendations,</b> which will be presented to a stakeholders' meeting to enhance the public acceptability and ownership of the proposed solutions.</p>	
<p><b>Activity 4. Refinement and finalization of the MT</b> on a basis of outcomes of the MT testing Application of modelling tools on Shkodra city case.</p>	
<p><b>Task III. Application and dissemination of the Drin WEMDST</b></p> <p><b>Outputs under this task:</b></p> <ul style="list-style-type: none"> <li>- <b>Drin WEMDST completed and operational.</b></li> <li>- <b>Report (in English) on elaboration of the methodological aspects and the replication potential of the pilot project.</b></li> </ul>	<ul style="list-style-type: none"> <li>➤ Review the WEMDST. Provide advice.</li> <li>➤ Review and comment the Report on elaboration of the methodological aspects and</li> </ul>

TASKS OF THE CONSULTANT (IN ACCORDANCE WITH THE TOR and the INCEPTION REPORT OF THE PILOT PROJECT; A SUMMARY IS GIVEN HERE- THE FULL DESCRIPTION IS GIVEN IN THE TOR AND THE INCEPTION REPORT)	TASKS OF THE EXPERT UNDER THIS ASSIGNMENT
- <b>Drin WEMDST user guide (in English and in Albanian).</b>	
Activity 1. <b>Preparation of the Drin WEMDST – Internet – based DSS tool</b> - Develop and enable open access to the identified pressures, existing collection and treatment infrastructure (sewerage, treatment plants). DSS support will be incorporated regarding the possible treatment scenarios where users will be guided to the most appropriate treatment option based upon the modelling tools developed. - Proposal of a database structure and implemented in the MS SQL environment on internet server.	the replication potential of the pilot project. Provide advice with regard to the content and quality of the product as well as on possible necessary steps and action to be undertaken with the aim to improve this.
Activity 2. <b>Training workshop</b> for users (Water Sewerage Company of the City of Shkodra) – using WEMDST feature, uploading to WEMDST.	➤ Review and comment the Drin WEMDST user guide. Provide advice with regard to the content and quality of the product as well as on possible necessary steps and action to be undertaken with the aim to improve this.
Activity 3. <b>Making Drin WEMDST available to the competent authorities</b> of the project countries with two days training of the EMDST.	
Activity 5. <b>Preparation of a simple Drin WEMDST users’ guide.</b>	

## Deliverables

19. The expected Deliverables of the Expert under this assignment are the following:

- a. Expert review, assessment, comments and advise as described above under “**Tasks**” and “**Requested Services**”.

The deliverables will be in prepared in English.

## Responsibility and Communication

20. The Expert will report to and work under the overall guidance of the Project Coordinator/Chief Technical Advisor. Comments and advise will be delivered to the Project Coordinator and responsible Project Officer, who will in turn transmit these to the Consultant.

## Monitoring and Progress Controls

21. Deliverables will be verified by the designated staff of the PCU for integrity, comprehensiveness and quality.

## Contract Price, Schedule of Activities, Deliverables and Payment

22. The Expert will be paid a fixed amount and payments will be made based on deliveries (see below). Claims for payment will be made through an invoice accompanied by proof of delivery.

23. The maximum fee for this assignment is 15,000 USD.

24. This amount includes all other costs, income taxes and any other amount payable or cost that may be required for the completion of the work/service.



**Table 2 Tentative payment schedule**

<b>Task of Consultant</b>	<b>Tentative period *</b>	<b>Deliverables of the Expert</b>	<b>Deadline</b>	<b>Date of payment</b>	<b>Payment</b>
		-	Upon contract signature		20%
<b>TASK I: A Modelling Tool that will form the basis of the Drin WEMDST.</b>	Q1 2019	<ul style="list-style-type: none"> <li>➤ Review and comment the Report on WEMDST and the respective evidences. Provide advice with regard to the content and quality of products as well as on possible necessary steps and action to be undertaken with the aim to improve these.</li> <li>➤ Review the Modelling Tool for Drin. Provide advice with regard to the content and quality of the product as well as on possible necessary steps and action to be undertaken with the aim to improve this.</li> </ul>	March 2019	April 2019	15%
<b>Task II: Testing and validation of Modelling Tools (MT)</b>	Q2 2019	<ul style="list-style-type: none"> <li>➤ Review and comment the Report on results and recommendations on WW Management in the city of Shkodra and the respective evidences. Provide advice with regard to the content and quality of products as well as on possible necessary steps and action to be undertaken with the aim to improve these.</li> <li>➤ Review and comment the Report of the testing of the MT describing among others the adjustments to the MT as a result of its application in the city of Shkodra and the water bodies receiving the urban wastewater. Provide advice with regard to the content and quality of products as well as on possible necessary steps and action to be undertaken with the aim to improve these.</li> <li>➤ Review the Drin WEMDST in the Shkodra city and the Skadar/Shkoder Lake and Buna/Bojana River. Provide advice with regard to the content and quality of the product as well as on possible necessary steps and action to be undertaken with the aim to improve this.</li> </ul>	April 2019	May 2019	25%
<b>Task III: Application and dissemination of the Drin WEMDST</b>	Q3 2019	<ul style="list-style-type: none"> <li>➤ Review the WEMDST. Provide advice.</li> <li>➤ Review and comment the Report on elaboration of the methodological aspects and the replication potential of the pilot project. Provide advice</li> </ul>	September 2019	October 2019	40%

		<p>with regard to the content and quality of the product as well as on possible necessary steps and action to be undertaken with the aim to improve this.</p> <p>➤ Review and comment the Drin WEMDST user guide. Provide advice with regard to the content and quality of the product as well as on possible necessary steps and action to be undertaken with the aim to improve this.</p>			
<b>Total:</b>					100%

*\*Exact timeline to be adjusted following the detailed schedule of Deliverables /Outputs to be prepared under the contract to be established with the Consultant that will prepare the Lake Ohrid Management Plan.*

### Duration of the Contract

25. The Expert will commence work on March 2019 and continue until completion but no later than 31 December 2019. The assignment may be extended if further work is required or unexpected delays occur.

### Location and Language of the Assignment

26. The location of the assignment will be the location that the Consultant lives. The language for all documents and reports as well as for all communication is English.

### Qualification and Experience

#### 41. Academic Qualifications/Education

An advanced university degree (at least Masters) in Engineering, Hydraulic engineering, environmental engineering or equivalent is required.

#### 42. Required Experience

The Consultant is required to have:

- Minimum 10 years of professional experience in models in the area of water/wastewater management, waste water treatment, sludge management, environment or sustainable development and preparation of related reports; experience on the application and use of mathematical modelling to support the decision-making process and preparation of related reports.
- Experience in the design of wastewater treatment facilities.

#### 43. Key Competencies

The Consultant is required to have the following competencies and skills:

- Very good understanding of the EU directives related to Urban waste water management.
- Excellent written and spoken English.



## Evaluation Procedure

Applications will be examined by an evaluation committee as follows:

- A) The Committee will examine the submitted documents received in relation to the qualifications and experience listed in the TORs. Applications which do not meet the required qualifications and experience will be excluded from further evaluation. The remaining applications will be further evaluated by the Evaluation Committee, concluding with a short list.
- B) The candidate to be selected will be the one evaluated and determined as:
- Responsive to the procedure described herein;
  - Compliant to the ToR of the post;
  - Having received the highest score out of a pre-determined set of weighted criteria (see below)

### Criteria - max. 100 points:

- Academic Qualifications/Education as indicated under the ToR section entitled “Qualifications and Experience” **(max points: 10)**
- Required Work Experience as indicated under the ToR section entitled “Qualifications and Experience” **(max points: 70)**
  - Minimum 10 years of professional experience in models in the area of water/wastewater management, waste water treatment, sludge management, environment or sustainable development and preparation of related reports **(Max points: 25, Minimum 10 points and 3 points for each additional year of experience).**
  - Experience on the application and use of mathematical modelling to support the decision-making process and preparation of related reports. **(Max points: 25, 3 points for each Study/Report).**
  - Experience in the design of wastewater treatment facilities. **(Max points: 20 , 4 points for each design of wastewater treatment)**
- Key competencies as indicated under the ToR section entitled “Qualifications and Experience” **(Max points: 20)**

The score of each one of the offers received will be calculated with the following simple formula:  $Sx=Cx/Ex$ , where:

- **Cx** is the amount of the Financial Offer
- **Ex** is the total sum of the evaluation criteria points
- **Sx** is the final score round it up to the first digit.