



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



# Draft Terms of Reference for a Pilot Project : Lake Ohrid Watershed Management Plan

In the framework of:

Memorandum of Understanding  
for the Management of the Extended Transboundary Drin Basin

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

30 May 2017

The Coordinated Action for the implementation of the Memorandum of Understanding for the management of the Drin basin (Drin CODA) is supported by the GEF Drin Project. The latter is implemented by the United Nations Development Programme (UNDP) and executed by the Global Water Partnership (GWP) through GWP-Mediterranean (GWP-Med), in cooperation with the United Nations Economic Commission for Europe (UNECE). GWP-Med serves as the Secretariat of the Drin Core Group, the multilateral body responsible for the implementation of the Memorandum of Understanding.

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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”*.
3. The **ultimate goal** of the work in the Drin Basin is to reach a point in the future where the scale of management lifts from single water bodies to the hydrological interconnected system of the Drin Basin, eventually leading from the sharing of waters among Riparians and conflicting uses, to the sharing of benefits among stakeholders.

## The Drin Coordinated Action

4. 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.
5. 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.

6. 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

7. The Global Environment Facility (GEF)<sup>2</sup> supported Project “Enabling transboundary cooperation and integrated water resources management in the extended Drin River Basin” (GEF Drin Project)

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<sup>1</sup> [www.thegef.org](http://www.thegef.org)

<sup>2</sup> [www.thegef.org](http://www.thegef.org)

is aligned in content, aims and objectives with the Action Plan and the activities under the Drin CORDA .

8. 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 joint commissions and committees*. Albania, The Former Yugoslav Republic of Macedonia and Montenegro are the Project beneficiaries.
9. 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
10. The Project is implemented by UNDP and executed by the Global Water Partnership (GWP) through GWP-Mediterranean (GWP-Med) in cooperation with the United Nations Economic Commission for Europe (UNECE); GWP-Med is responsible for the realization of the Project. The Drin Core Group is the Steering Committee (SC) of the Project.
11. It is managed by a Project Coordination Unit (PCU), based in Tirana, Albania; staff is stationed also in Podgorica, Ohrid, Pristina, and Athens. The duration of the Project is four years.

## **B. Background:**

### ***The Lake Ohrid Basin***

(Additional background information on Lake Ohrid is presented in Annex 1 of this ToR)

12. Lake Ohrid, straddles the mountainous border between the southwestern part of the Former Yugoslav Republic of Macedonia and eastern part of Albania. The Ohrid Lake is divided between the two neighboring countries. Of the total surface area, 110 km<sup>2</sup> belongs to the former and 248 km<sup>2</sup> to the latter. It is one of Europe's oldest lakes, preserving a unique aquatic ecosystem that is of worldwide importance, with more than 200 endemic species. The importance of the lake was further emphasized when it was declared a World Heritage Site by UNESCO in 1979.
13. Lake Ohrid is the deepest lake of the Balkans, with a maximum depth of 288 m and a mean depth of 155 m. It contains an estimated 55.4 km<sup>3</sup> of water. It is 30.4 km long by 14.8 km wide at its maximum extent with a shoreline length of 87.53 km.
14. The lake drains an area of around 2,600 km<sup>2</sup> and is fed primarily by: underground springs on the eastern shore, St. Naum and Tushemist being the most significant ones (~ 50% of total inflow); rivers (~25% of total inflow); direct precipitation.
15. The catchment area of the lake has a population of about 170,000 people, with 131,000 people living directly at the lake shore (43,000 of which in Albania). The historic monuments, as well as the pristine lake environment make the area around Lake Ohrid a prime site for tourism. Even though most of the visitors are staying for a weekend only, tourism makes an important share of local economy.

### *Basin and Water Management Institutions*

16. The EU WFD has been transposed to the legislative framework of both littoral countries and guides the RBM planning.
17. The implementation of the WFD and pertinent EU Directives is lagging behind transposition of the legislation in both countries. Transformation of the legislation and the organizational and institutional setup is currently taking place. Strong international support is reflected in myriad of bilateral and multilateral donor supported projects on national and local level.

### *Basin Management Plan at Transboundary Level*

18. The two Lake Ohrid littoral countries are at different stages regarding RBM planning.
19. A RBMP is currently being developed in Albania for the part of the Drin Basin extending in its territory<sup>3</sup>. The geographical area that the plan will cover includes the Albanian part of the Ohrid sub-basin. No action has been taken to coordinate the development of the plan with the neighboring country.
20. An initial characterization of the Lake Ohrid (in accordance to the EU WFD – the same outcome has been achieved also for the Lakes Prespa and Shkodra/Skadar) has been developed, however not fully completed, under the GIZ “Conservation and Sustainable Use of Biodiversity program on the three lakes Skadar, Ohrid and Prespa”<sup>4</sup> (CSBL); furthermore, an initial attempt to set environmental objectives pursuant to the EU WFD has been made.

### **Objective of this assignment**

21. The objectives of this Pilot are to:
  - Develop the *Lake Ohrid Basin Management Plan* (hereinafter LOBMP) in accordance with the pertaining EU regulations -especially EU Water Framework Directive- and national laws;
  - Test and establish an **Approach** (in the form of ToR for the Extended Drin Basin) for the preparation of transboundary management plans in the rivers and lakes of the Drin basin and to develop a ToR for the development of the Extended Drin Basin Management Plan.

### **Approach and Tasks**

22. The RBMP will be guided by a Steering Committee for this assignment, comprising of representatives of the competent institutions, local authorities, stakeholders. The membership will be decided by the competent ministries of the two countries and the PCU (Project

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<sup>3</sup> Project entitled “Preparation of River Basin Management Plans for Drin-Buna and Seman RBAs” coordinated by the Albanian institutions. It is in the framework of a World Bank technical cooperation project that started in 2012 assisting the competent Albanian Institutions in establishing a strategy on IWRM, two river basin management plans (Drin and Semani, with priority for the Drin river basin – the latter supported by Sida) and a cadastre on water uses and recharge. The time line of this project will be approximately 5 years.

<sup>4</sup> The GIZ supported CSBL has resulted in the following:

- A regional monitoring program that complies with the EU standards (first implementation phase) has been developed.
- An EU-compliant (EU Water Framework, Habitats and Birds Directives) transboundary fauna and flora monitoring schemes was developed.
- Fish quotas at Lakes Prespa, Ohrid and Shkodra/Skadar were set based on sound stock assessments.

A second phase of the project will among others entail the:

- Continuation of surveillance monitoring;
- Further analysis for the elaboration of environmental objectives.

Coordination Unit of the Drin Project). The latter will be technically guiding the implementation of the Pilot. An effort will be made for the Lake Ohrid Watershed Committee (LOWC) to be the Steering Committee of the LOBMP preparation.

23. The Consultant will present progress reports and outputs every three months to the Steering Committee. The meetings of the Steering Committee will be organized by the consultant in cooperation with the GEF Drin PCU. Related expenses will be covered by the consultant as part of the assignment and related contract described herein.
24. The Consultant shall seek the adoption of the LOBMP by the responsible Ministries in both countries.
25. The work under the current assignment should take into consideration the international obligations of the countries, the developmental plans of the national governments, local authorities as well as the management plans of protected areas, forests, fisheries etc. in Ohrid sub-basin as well as in the area that extends beyond the Ohrid sub-basin, downstream in the Black Drin Basin. The work should also take into consideration: all water needs, both consumptive and non-consumptive e.g. for the generation of hydroelectricity by the electricity companies as per existing plans; the relevant international agreements between the two countries regarding the management of basins and allocation of water.
26. The development of the LOBMP should consider, in addition to the need as per the EU WFD, requirements of the environment as an important water user, the following:
  - Regional perspectives within the Ohrid basin in each one of the two countries for economic development, and disparities in poverty and well-being across the basin areas and between rural and urban areas;
  - Inter-sectorial perspectives in terms of economic value of water used in the different sectors;
  - The need to analyze gender difference in access to, control of and use of water resources and plan accordingly;
  - The need to coordinate between the two littoral countries as well in each one of the countries, and sequence interventions, among others in the form of investments, to ensure sustainable and economical efficient water resources management in the basin.
27. The consultant is expected to utilise appropriate hydrological and land use models to identify - under different scenarios- the most appropriate interventions/measures in terms of environmental conservation and economic and social development.
28. Input for the preparation of the development of the LOBMP will come from the following<sup>5</sup> (this list is not exhaustive):
  - Work that has been done in the two littoral countries for the implementation of the legislation that transposes the EU-WFD as well as the EU Directives that relate to the management of water resources, basins, aquifers and ecosystems.
  - The outcomes of the:
    - i. GIZ supported “Conservation and Sustainable Use of Biodiversity” program on the three lakes Skadar, Ohrid and Prespa” (a.k.a. GIZ CSBL).
    - ii. GIZ supported “Climate Change Adaptation Program in Western Balkans”<sup>6</sup> (a.k.a. GIZ CCAP) that includes activities also in the Drin Basin.

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<sup>5</sup> Background studies and missions in the two countries will be used as appropriate.

<sup>6</sup> The aim is to improve adaptation to climate change including flood and drought risk management activities in the Drin Basin. The budget of the program is 3,500,000 EUR

- iii. "DIKTAS" project 2010-2014
      - The outcomes of the (on-going) Albanian Drin Management Plan preparation project.
      - Existing studies and information available to the institutions and research institutes in the littoral countries.
      - Strategic documents (sectoral, of local governments etc.) in the two littoral countries regarding the development of the area in the Lake Ohrid Basin, including spatial plans (eg. IPA 2013 project on "The Local Natural Heritage of Ohrid Lake 2014-2017")..
      - Experiences from the UNDP/GEF projects in the Danube River Basin to prepare EU WFD Characterisation Reports and River Basin Management Plans to guide the approach adopted.
29. Coordination should be ensured with the GIZ CSBL and GIZ CCAP projects as well as with the Albanian Drin Management Plan preparation project (ADMP) project. **With regard to the latter the consultant should make sure that it fully takes into consideration and builds on its findings and outcomes with the aim to avoid replication of activities as well as ensure compatibility and complementarity of actions and results.**
30. It is key to take into account that rural women in the area of focus are often excluded from decision-making processes related to basin/land/water management in general although they work and manage resources along-side men. This culture upholds by both men and women, but leads to a high risk if less informed decisions do not take women's priorities, needs or e.g. business ideas, into account. Involving women of different age groups is key to ensure a broad buy-in and efficient implementation of the measures to be developed under this assignment. It will be a requirement, that the consultant seek, wherever feasible, a broad inclusion. In this regard, the consultative process for the preparation of the LOBMP should ensure equal participation of men and women; one of the means to achieve this would be the organization of meetings in hours that women are available while the methodology to be used should be such that will allow everybody to be the opportunity to actively participate and be heard.
31. The process for the development of the LOBMP is expected to be highly participatory in accordance to the related guidance documents of the EU WFD and the best practices in this regard, and in line with the UNECE Water Convention and the ESPOO Convention. The groups of stakeholders, the active participation of which should be pursued, should include but not restricted to the following: national and local institutions and authorities in the field of the management of environment, water, natural resources, land, local authorities, developmental ministries, NGOs, private sector, academia etc. The following consultation workshops is expected to be organized:
- During the inception period:
    - i. An inception workshop at the Transboundary level involving stakeholders from both countries.
    - ii. A set of focus groups meetings in a number of cities/villages, to geographically cover the total of the Ohrid basin.
  - After the conclusion of the characterization of the basin aiming to revisiting the Vision and setting the objectives:
    - i. One meeting in each of the littoral countries
    - ii. One meeting at the transboundary level.
  - After the preparation of the draft LOBMP: One meeting at the transboundary level.
32. Under the supervision of the GEF Drin PCU and the responsible Project Officer(s), as well as regular coordination/communication with multiple stakeholders, the Consultant shall be responsible for carrying out the following 2 tasks:
- Task I: Drafting the Lake Ohrid Basin Management Plan (LOBMP)

- TASK II. Preparation of Terms of References (ToRs) for the preparation of a Basin Management Plan at the transboundary level.

33. The expected duration of this assignment is 1.5 years.

### 34. TASK I: DEVELOPMENT OF THE LAKE OHRID BASIN MANAGEMENT PLAN (LOBMP)

Following the requirements of the EU WFD, the pertaining national legal framework and regulations and European/regional best practices, the Consultant shall develop the LOBMP draft. Besides review of existing documentation, the characterization of basin may be supported by a data collection / monitoring expedition(s) that will be agreed upon by the PCU.

The following five phases need to be completed (**IMPORTANT NOTE: These phases need to be considered as provisional only. The Consultants may adjust their approach and present it as part of their proposed methodology consistent with meeting the requirements of the EU WFD and the needs of both countries. The list of EU WFD actions presented below is not exhaustive and consultants should refer to Directive 2000/60/EC for a complete guide**).

#### Phase 1. Inception phase (Task 1)

- 1.1. Assessment of data availability and quality leading to the identification of data gaps for the characterization of the basin in accordance to the EU WFD and the preparation of the LOBMP.
- 1.2. Identified data gaps will be presented to the Drin PCU and the national authorities. The Consultant will be required to present a tentative monitoring program/expedition(s) that will geographically cover the water bodies in the basin including the Lake's tributaries and the Lake itself, to address these gaps. In this regard, the consultant will prepare the respective Terms of Reference that would enable the PCU to contract local institutes for the implementation of the monitoring expedition(s) in the agreed proposed timeframe. The monitoring expedition(s) suggested should reflect the time-line of this assignment enabling gaps to be addressed and conclusions reflected in the basin characterization and the basin management plan;
- 1.3. Preparation of Inception Report including: Detailed Methodology for the preparation of the Basin Management Plan; detailed work plan with timeline; detailed list of planned activities and consultation meetings; detailed plan for additional monitoring; detailed list of deliverables such as reports, data sets, draft and final Plan etc.;
- 1.4. The Inception Report will be communicated to the PCU which reviews this along with the **Steering Committee** and the competent Ministries; comments of the latter should be incorporated and final Inception Report prepared;
- 1.5. Inception meeting -stakeholders from both countries to participate- to present the Inception Report to the stakeholders in the two littoral countries and discuss the Vision of the participating stakeholders for the management of the Basin;
- 1.6. Preparation of Stakeholders Analysis including mapping of stakeholders, their stakes and interests as well as characterization in terms of influence, power, interest, etc.;
- 1.7. Organization of a set of focus groups meetings (in a number of cities/villages to geographically cover the total of the Ohrid sub-basin) to identify the perceived by the stakeholders' issues



and related causes with regard to the management of the Basin. This is an essential element to initiate the public participation actions anticipated by the EU WFD process.

## **Phase 2. Data Collection and Analysis of Existing Conditions**

**2.1 Data collection based on review of existing (historical) documents and field visits, and a possible supplementary monitoring expedition(s)** (to be proposed – see point 33. Phase1, item 1.2), related but not limited to:

- Socio-economic conditions including development plans and policies
- Natural conditions (topography, geology, hydrogeology, meteorology, hydrology, environment, land-use, protected areas, etc.)
- Meteorological, hydrological and biological monitoring system
- Climate change scenarios for the sub-basin
- Topographical conditions (topographical maps, satellite images)
- Designation and typology of water bodies in the Ohrid sub-basin
- Present water use conditions, facilities and problems/issues
- Conditions of water related hazards – flood and sediment deposition
- Existing water control structures with assessment of their current working condition
- List of all relevant stakeholders involved in the water sector, including their roles, responsibilities, expectations, etc.

Collected data shall be combined with a GIS spatial analysis, to develop a series of different maps (in accordance to the existing legislation and international models/guidelines – for e.g. INSPIRE directive and WFD).

**2.2 Analysis of existing conditions**, including but not limited to (the lists presented below and the items contained therein are not exhaustive):

### **2.2.1 Hydrological, Hydrogeological and Hydro-morphological aspects**

- Analysis of current land-use (e.g., according to the Corrine classification)
- Analysis of surface water including mapping of water bodies and eco-regions, flooding, erosion etc.
- Analysis of groundwater including mapping of aquifers and assessing the availability of water, etc.
- Hydrological cycle analysis (rainfall, evapotranspiration, seasonal surface flow subsurface flow and lake oscillation patterns, groundwater, water-use)
- Analysis of hydro-morphological issues (diversions, dams, effects of in the lake and its tributaries)
- Climate change analysis (climate change scenarios)

### **2.2.2 Water body quality aspects**

- Identification of eco-regions and characterization of surface water body types
- Delineation of the surface and groundwater bodies
- Assessment of water quality (based on existing data and a possible supplementary monitoring expedition(s) that will be subject to a separate parallel contract)
- Identification of water quality issues and their causes
- Identification of point and diffuse sources of pollution
- Estimation of point and diffuse source pollution loads categorized per pollution sources
- Determination of ecological and chemical status of the surface water bodies (based on existing data and a possible supplementary monitoring expedition(s) that will

- be subject to a separate parallel contract)
  - Determination of chemical and quantitative status of groundwater bodies (based only on review of existing information from relevant institutions and studies; no field groundwater investigations are planned in the scope of this TOR).
- 2.2.3 Identification of significant pressures on the qualitative and quantitative status of water bodies as well as on the ecosystems.
- 2.2.4 Mapping of the protected areas.
- 2.2.5 Mapping of status and capacity of water infrastructure -including the ones planned- such as irrigation and hydraulic infrastructure.
- 2.2.6 Water status aspects
- Identification of reference conditions for the surface water body types
  - Development of type-specific classification of surface and ground water status (Annex V of WFD).

### **2.3 Proposal on monitoring programme for the Lake Ohrid sub-basin**

The Assessment of data availability and quality (see Phase 1, point 1.1) should also assess the adequacy of the monitoring of parameters specified in the EU WFD. The analysis should conclude a strategy and specifications for an enhanced and consolidated monitoring system in accordance to the EU WFD. The Project entitled “Preparation of River Basin Management Plans for Drin-Buna and Seman RBAs” should be used as information source in this regard. The consultant should ensure that the assessment and the proposed strategy / specifications for an enhanced and consolidated monitoring system is in accordance to the EU WFD and in line with the respective outcomes of the aforementioned project.

Based on the results from the preliminary characterization of Lake Ohrid Basin the Consultant shall propose a basin-scale monitoring programme and recommend training programmes to strengthen capacity on monitoring including the need for any inter-calibration exercises.

### **Phase 3: Summary of river basin characterization including:**

#### **3.1 Assessment of anthropogenic impacts to the status of surface and ground water bodies**

- Point source pollution, including identification of priority substances (based on existing available information and supplementary monitoring expedition(s)).
- Diffuse source pollution, including land-use.
- Pressures on the quantitative status of water including abstraction.

#### **3.2 Water utilization and demand as part of current and projected water balances**

- Assess water resources balances in the basin for the assessment of surface water and groundwater availability (annual and seasonal) and the present and future consumptive water demand by main water using sectors (including environmental flow requirements).
- Assess water flows/level necessary for such non-consumptive uses as hydropower (e.g. downstream in the Black Drin), fisheries and tourism, biodiversity conservation as applicable.
- The assessed balances should account for changes in the water inputs to the watershed due to projected (possible) impacts of climate change.

### 3.3 Location of protected areas

- Identification and mapping of protected areas designated for abstraction of water intended for human consumption.
- Areas designated for the protection of economically significant aquatic species.
- Bodies of water designated as recreational waters, including areas designated as bathing waters.
- Nitrate vulnerable areas as well as water bodies sensitive to urban wastewaters.
- Areas designated for the protection of habitats or species where the maintenance or improvement of the status of water is an important factor in their protection (including NATURA 2000 sites or other available ecological networks).

### 3.4 Mapping existing monitoring networks as well as results of monitoring activities for:

- Surface water (ecological and qualitative).
- Groundwater (qualitative and quantitative).
- Protected areas.

### 3.5 Assessment of water bodies of the Lake Ohrid Basin

- Surface waters
  - Delineation and mapping of the location and boundaries of water bodies and categorization of their status, including typology, reference conditions and quality classes' boundaries;
  - Mapping eco-regions and surface water body types within the basin.
- Groundwater
  - Delineation and mapping of the location and boundaries of ground water bodies (description of geology and characteristics of aquifers, table of main aquifers and their extent, yield and use, based on existing available information etc.)

### 3.6 Overview of the economic analysis of water use, trend projections and cost recovery of water services in the watershed

- Abstraction for use as potable water – volumes and revenue.
- Abstraction for use as groundwater – volumes and revenue.
- Abstraction for use for irrigation – volumes and revenue.
- Discharges to water bodies – volume and revenues
  - Municipal and industrial discharges, charges for discharge, estimates of revenue;
  - Diffuse pollution charges, estimate of revenue.
- Hydrological and morphological modifications charges, estimates of revenue.
- Water supply and water management organizations, annual budgets and sources of revenue.
- Etc.

### 3.7 Identification and establishment of environmental objectives for:

- Surface water.
- Groundwater.
- Protected areas.

## **Phase 4: Development of Programme of Measures**

4.1 **A Programme of Measures (PoM) has to be developed** for the achievement of the objectives for LOBMP, considering the results of the basin characterization. PoMs should take account of potential climate change scenarios. As required by WFD, the PoM shall include:

- Basic measures

- Supplementary measures (as required)

4.2 Priorities for the proposed measures in space and time should be set as part of the PoM. Further, cost analysis for the implementation of the proposed measures shall be provided (e.g., organized by sectors like agriculture, industry, urban development, power generation).

### **Phase 5: Formulation of a Draft and Final Lake Ohrid Basin Management Plan**

5.1 Using the outputs of the phases 1-4, the Contractor shall:

- Develop the draft Lake Ohrid Basin Management Plan (considering the outcomes/outputs of characterisation of the basin done under Phase 4, including socio-economic, stakeholder feedback, climate change considerations, etc.)
- Present the draft LOBMP to the stakeholders in consultation meetings (including public participation in the development of the draft and final basin management plans) to ensure broad acceptability of the plan (see under “Approach and Tasks”).
- Formulate the draft final LOBMP integrating comments by the stakeholders.
- Present the draft LOBMP to the Steering Committee and the competent Ministries of the two littoral countries.
- Integrate eventual comments and present the final LOBMP.

### **35. TASK II. Preparation of Terms of References (ToRs) for the preparation of a Basin Management Plan at the transboundary level.**

The experiences and lessons learned during the preparation of the Plan LOBMP will be used for the development of a generic ToR document and workplan that will form an approach for the preparation of BMP in other water bodies of the Drin Basin and for the overall Drin Basin.

The specificities and realities in the extended Drin basin and its sub-basins across the five riparian states should be taken into consideration for the development of this ToR. The output of this work shall be a final draft ToR document that will be used for the procurement of services for the development of the Drin River Basin Management Plan in accordance to the WFD.

### **36. Main Outputs**

- i. Inception Report (in English)
- ii. Terms of Reference that would enable the PCU to contract local institutes to implement monitoring expedition(s) to generate data to be used for the preparation of the LOBMP
- iii. Inception meeting
- iv. Progress and other short reports as required (in English only)
- v. Consultation meetings and related reports
- vi. Draft Lake Ohrid Basin Management (in English, extended summary in both country languages)
- vii. Final Lake Ohrid Basin Management (in English, and in the two country languages)
- viii. Generic Terms of Reference (ToR) Template for the preparation of a Basin Management Plan at the transboundary level (in English)
- ix. Terms of Reference (ToR) for the preparation of the Drin River Basin Management Plan (in English)

## **Qualification Requirements**

37. **The Consultant – a company** shall have extensive experience in developing and managing complex projects in the area of water resources / watershed management, environment or sustainable development. It will have a record of minimum 5 projects of comparable nature and degree of complexity (e.g., river basin management plans; development of complex water resources projects such as irrigation / drainage or dam projects / studies, optimization of water resources systems; feasibility studies for complex environmental investment projects that include water-related issues).
38. The consultant shall have experience with elaboration of RBM plans according to WFD.
39. A list of projects shall be submitted along with contact details for reference checking purposes (please indicate the e-mail addresses or fax numbers of contact persons).
40. The scope of work requires an **interdisciplinary team** of skilled **experts** with previous experience in similar RBM planning and environmental/water resources/watershed management projects. Team members will possess excellent relevant technical and drafting skills in order to successfully implement the assignment.
41. The team of experts shall be able to respond to the requirements of a number of mandatory areas of expertise described in the table below (*NOTE: there is no limitation on the number of experts per area of expertise. In your proposal please clearly indicate the name of experts per the area of expertise, and the actual number of man-days that each expert is allocated for each of the proposed areas of expertise. The inclusion of experts able to respond to all areas of expertise defined in the table below is mandatory. Failure to provide relevant expertise for each of the proposed areas is considered a ground for disqualification*).
42. In addition, the Consultant may propose -as deemed appropriate- other experts that cover specific area of expertise, e.g. Hydrology and Hydrogeology; River Basin Modelling; Ecology/Biology; IWRM; Irrigation; Water quality; Environmental Management; Climate change resilience; Water resources economics; Environmental Law; Social Sciences; Stakeholders participation and consultation; Gender analysis and mainstreaming, etc.
43. As the assignment is of trans-boundary nature, national and local expertise is strongly encouraged and will be considered a strong asset. The team of experts has to demonstrate ability to cooperate with local/national organizations and relevant institutions in both riparian countries in data collection. Specific experience in Drin River Basin and Ohrid Lake environmental/water management projects and activities will be considered as asset.

	<b>Team members and/or areas of expertise</b>	<b>Qualification requirements</b>	<b>Work-load (in expert-days)</b>
<b>1.</b>	Team Leader	<ul style="list-style-type: none"> <li>○ Minimum M.Sc. in relevant field (Water Resources Management, Environment, Civil / Hydraulic Engineering, Ecology or similar), PhD will be considered a strong asset.</li> <li>○ Minimum 12 years of professional experience in similar assignments (development and management of complex environmental / water resources / watershed / sustainable development projects)</li> <li>○ Relevant experience from at least 5 projects of</li> </ul>	

		<p>comparable nature and degree of complexity (environmental / water resources / watershed / river basin projects)</p> <ul style="list-style-type: none"> <li>○ Demonstrated experience in preparation of basin management plans in accordance to EU WFD</li> <li>○ Experience as a team leader from at least 3 relevant projects (environmental / water resources / watershed / river basin projects)</li> </ul>	
<b>2.</b>	Integrated River Basin Management	<ul style="list-style-type: none"> <li>○ Minimum M.Sc. in relevant field (Water Resources Management, Environment, Civil / Hydraulic Engineering, Ecology or similar)</li> <li>○ Minimum 10 years of professional experience in projects related to preparation of river basin management plans, flood risk management plans, water resources management plans, feasibility study including water issues, water quality monitoring and management programmes or similar, preferably in an EU context</li> <li>○ Relevant experience from participation in at least 5 projects of comparable nature and degree of complexity (river basin management plans, flood risk management plans, water resources management plans, feasibility study including water issues, water quality monitoring and management programmes or similar), preferably in an EU context</li> <li>○ Demonstrated experience in preparation of basin management plans in accordance to EU WFD</li> </ul>	
<b>3.</b>	Water Quality Monitoring and Management	<ul style="list-style-type: none"> <li>○ Minimum M.Sc. in chemistry or PhD in chemistry, biology, environment or similar</li> <li>○ Minimum 10 years of professional experience in development and implementation of water quality monitoring programmes, ecological characterization of river basins or similar</li> <li>○ Relevant experience from at least 5 assignments that involve development and/or implementation of water quality monitoring programmes, analysis of water quality monitoring data or similar, characterisation of water bodies (assessment of chemical/physico-chemical status of water bodies) based on EU WFD requirements</li> <li>○ Demonstrated experience in the preparation of basin management plans in accordance to EU WFD</li> </ul>	
<b>3.</b>	Biology/Ecology	<ul style="list-style-type: none"> <li>○ Minimum M.Sc. in biology, ecology, aquatic ecosystems or similar</li> <li>○ Relevant experience from at least 5 assignments related to assessment of ecological status of water bodies in accordance to the EU WFD requirements</li> <li>○ Demonstrated experience in the preparation of basin management plans in accordance to EU WFD</li> </ul>	
<b>4.</b>	Hydrology, Hydrogeology, Hydraulic Engineering	<ul style="list-style-type: none"> <li>○ Advanced university degree in civil/hydraulic engineering, hydrology, hydrogeology, flood risk management;</li> <li>○ Relevant experience / assignments that involve floods /</li> </ul>	

	and Flood Management	<p>hydraulic modeling, flood risk management planning projects, preparation of hydrological / water balance studies (minimum 3 required)</p> <ul style="list-style-type: none"> <li>○ Demonstrated experience in the preparation of basin management plans in accordance to EU WFD</li> </ul>	
5.	Land-use	<ul style="list-style-type: none"> <li>○ Minimum M.Sc. in agriculture, forestry, land-use, soil science or similar</li> <li>○ Minimum 10 years of professional experience from land-use planning projects and/or agriculture</li> <li>○ Relevant experience from at least 5 projects that involve land-use planning, agricultural development, irrigation</li> </ul>	
6.	Economics	<ul style="list-style-type: none"> <li>○ Minimum university degree in Economics, Engineering or similar</li> <li>○ Minimum 10 years of professional experience in economic and social policies development, regional/sectoral economics and sustainability, economic forecasts, capital markets, local financing, willingness-to-pay / willingness-to-accept analyses, economic valuation studies, complex feasibility studies or similar)</li> <li>○ Relevant experience from at least 5 relevant projects (economic and social policy development, economic forecasts, capital markets, local financing, willingness-to-pay / willingness-to-accept analyses, economic valuation studies, complex feasibility studies or similar)</li> <li>○ Demonstrated experience in the preparation of basin management plans in accordance to EU WFD</li> </ul>	
7.	Database and GIS management	<ul style="list-style-type: none"> <li>○ Minimum university degree in engineering, computer science, geo-spatial sciences or similar</li> <li>○ At least 5 years of professional experience from projects/assignments as a GIS/database management expert</li> <li>○ Relevant experience from at least 3 projects as a GIS/database management expert</li> </ul>	
8.	Institutional Development	<ul style="list-style-type: none"> <li>○ Minimum university degree in political science, law or similar</li> <li>○ At least 7 years of experience in capacity assessment, preferably in the area of water/environment</li> <li>○ Experience from projects that involve institutional development, capacity development support, technical assistance on environmental matters, organizational / institutional setup or similar (min. 3 projects required)</li> </ul>	

**NOTES:**

- There is no limitation on the number of experts per area of expertise, but the detailed evaluation / scoring of the team will be applied to the lead experts only (they must meet the minimum qualification requirements). Thus, please indicate the lead experts per areas of expertise.
- In case that two experts from the two riparian countries are proposed as lead experts in the same area of expertise, then their combined score will be taken as grounds for evaluation.
- If the qualifications of certain expert correspond to the requirements of more than one area of expertise, that expert can be proposed also for the respective areas

- Additional experts, as specified in Para 42 above, covering a range of related expertise will be considered as asset.
- The number of planned man-days per expert/area of expertise need to be indicated in companies' proposals, as well as for each of the experts.
- **Failure to provide adequate expertise all areas of expertise is considered grounds for disqualification**
- **Failure to include local experts at a level that will guarantee communication with local authorities for the collection of data is considered grounds for disqualification**
- The estimated number of required expert-days per areas of expertise should be indicated as in the table above. Companies may adjust the expert-days number in accordance with their proposed methodologies and qualifications of team members.

## Terms and Conditions

### *Language*

44. The language of the required deliverables/outputs is indicated in the Main Outputs section above. All produced documents shall be subject to proofreading by qualified translators, while the quality of the final versions is subject to Drin approval by the PCU.

### *Legal requirements*

45. The content of the requested documents shall conform to the pertaining relevant legislation in the countries and the international best practices and models.

### *Sources of data*

46. All necessary data shall be collected by the Consultant. Drin Project team will support the Consultant and the experts in the data and info collection process by liaising with relevant national and transboundary sources of information and reports. The Consultant shall also be responsible for identifying and collecting additional information necessary for carrying out the assignment.

### *Review and quality assurance*

47. Review of the work carried out by the Consultant throughout the implementation of the assignment as well as review of the draft Lake Ohrid Basin Management Plan may be carried out by an independent external expert or expert team.
48. Review of the draft Lake Ohrid Basin Management Plan will be carried out by relevant Expert Working Groups.
49. All relevant comments and suggestions made by the reviewer(s) will have to be taken into consideration by the Consultant and integrated in the final versions of the deliverables.

### *Duration of the assignment*

50. Maximum available time for development of the Plan is 1.5 years upon signing of contract.

### *Methodology*



51. Interested bidders must develop and include as part of their offer/proposal a methodology describing all the steps which will lead to the successful completion of all tasks. Besides the detailed elaboration of the company's approach in fulfilling the requirements of the TOR, the technical offer/proposal should provide information on the name of expert(s) per area of expertise and the total number of man-days for each expert allocated for each area of expertise.

#### *Reporting requirements*

52. The expert team will report to Drin PCU. The Consultant shall submit brief monthly progress reports in English. In addition, other reports may be suggested by the Consultant depending on the proposed methodology and approach. Also, other reports highlighting certain important issues may be requested by Drin PCU at various stages of work.

#### *Submission of data, reports and other material produced*

53. All primary data, reports, and other documentation produced during this assignment shall be made available to Drin Project in electronic format on CDs. All data acquired and products developed during the assignment will be in the ownership of Drin Project and cannot be used by the Contractor and its team without prior written permission.
54. All data, reports, other documentation and the GIS files produced in electronic format should be compatible to the Drin Project database and formats set by the Information Management System - IMS.

#### *Cooperation requirements*

55. The Consultant is expected to work closely with other experts, expert teams and the Expert Working Groups within the Drin Process.

#### *Public consultations / meetings*

56. The responsibility for organizing workshops and working meetings will be shared between the Consultant and the Drin Project. The Contractor shall be responsible for: preparation of working material and agenda, ensuring participation of the key team members as required, preparation of minutes etc. The Drin Project will be responsible for: distributing the invitations and ensuring adequate participation, selecting the workshop venue, and for covering various associated costs such as rental of venues, travel and accommodation of local stakeholders, printing, refreshment, or similar.

#### *Payment schedule*

57. The payment will be process in instalments based on the milestones defined in the contract and in accordance to the company's proposed methodology and approach.

**Annex -1:        *Additional background on Lake Ohrid Basin***

58. Lake Ohrid, straddles the mountainous border between the southwestern part of the Former Yugoslav Republic of Macedonia and eastern part of Albania. The Ohrid Lake is divided between the two neighboring countries. Of the total surface area, 110 km<sup>2</sup> belongs to the former and 248 km<sup>2</sup> to the latter. It is one of Europe's deepest and oldest lakes, preserving a unique aquatic ecosystem that is of worldwide importance, with more than 200 endemic species. The importance of the lake was further emphasized when it was declared a World Heritage Site by UNESCO in 1979.
59. Lake Ohrid is the deepest lake of the Balkans, with a maximum depth of 288 m and a mean depth of 155 m. It contains an estimated 55.4 km<sup>3</sup> of water. It is 30.4 km long by 14.8 km wide at its maximum extent with a shoreline length of 87.53 km.
60. The lake drains an area of around 2,600 km<sup>2</sup> and is fed primarily by underground springs on the eastern shore – St. Naum and Tushemist being the most significant ones (about 50% of total inflow), with roughly 25% shares from rivers and direct precipitation. The largest tributaries are rivers Sateska on the North side and Cerrava on the south. Over 20% of the lake's water comes from the Lake Prespa, that sits about 10 km (6.2 mi) to the southeast and at 150 m higher altitude than Lake Ohrid. Water leaves Lake Prespa trickling through underground watercourses in the karstic landscape, where it joins mountain range precipitation and eventually emerges in numerous springs along the eastern shore and below the water surface of Lake Ohrid (see above). The water leaves Lake Ohrid by evaporation (~40%) and through its only outlet, the Black Drin River, which flows in a northerly direction into Albania and thus to the Adriatic Sea. The relatively dry, Mediterranean climate and the small drainage basin of 2,600 km<sup>2</sup> (catchment/lake surface ratio of ~7) of Lake Ohrid results in a long hydraulic residence time scale of ~70 yr.
61. Both in terms of nutrient concentration (4.5 µg L<sup>-1</sup> of phosphorus), as well as biological parameters, Lake Ohrid qualifies as oligotrophic. Thanks to this oligotrophy and the filtered spring inflows, the water is exceptionally clear with transparencies to a depth of as much as 22 meters (66 feet). Lake Ohrid lacks an annual deep water exchange which in other lakes can bring complete overturn; plunging rivers are also absent. Despite this, dissolved oxygen never drops below ~6 mg /l.
62. While Lake Ohrid is special as such, by far the most spectacular quality is its impressive endemism. Similar to Lake Baikal or Lake Tanganyika, Lake Ohrid harbors endemic species covering the whole food-chain, from phytoplankton and sessile algae, over plant species, zooplankton, cyprinid fish, to predatory fish and finally its diverse endemic bottom fauna, with particularly large endemism among crustaceans, molluscs, sponges and planarians. A number of 68 species of freshwater snails from the Lake Ohrid basin has been reported. 73.5% (50 species) of the total freshwater gastropod fauna appear to be endemic to the Lake Ohrid basin. Whereas the endemic species list cited above is based on morphological and ecological characteristics, some recent applications of molecular genetic techniques underline the difference of the fauna from common European taxa, as well as the old age of the lake.
63. A number of non-endemic species are found in Lake Ohrid. This includes species, which are mobile (e.g., via water birds) or migratory, such as the European eel.
64. In total, seven introduced fish species are known from the lake. Exotic species do not seem to be a major issue in Lake Ohrid, although they have been recorded in small populations for several decades or exist in nearby rivers or lakes. The reason lies very probably in the ideal adaptation of the endemic species to the specific conditions in the lake, such as low nutrient availability,

conditions in greater depth -high water transparency and oxygen content- as well as subaquatic spring inflows.

65. The lakeshore reed beds and wetlands provide critical habitat for hundreds of thousands of wintering water birds, including rare and threatened species such as the Dalmatian pelican, ferruginous duck, swan, spotted eagle, and eastern imperial eagle.
66. The catchment area of the lake has a population of around 170,000 people, with 131,000 people living directly at the lake shore (43,000 of which in Albania). The population in the catchment has increased greatly by 100,000 people in the last half century, putting the lake's fragile ecosystem under pressure. The historic monuments, as well as the pristine lake environment make the area around Lake Ohrid a prime site for tourism. Even though most of the visitors are staying for a weekend only, tourism makes an important share of local economy (~1 visitor/inhabitant).
67. Shore habitats are under particular pressure from human activities. Particular threats are the building of tourist facilities directly at the shore, destroying of reed belts to gain agricultural land and intense pollution close to the mouth of tributaries. Although the effects of these human impacts have not been evaluated in detail they are of great concern, as the shallow water sites are particularly rich in endemic bottom fauna and form important spawning grounds for several endemic fish species. Moreover, reed belts have great importance for water birds.
68. Commercial fish yield, i.e. the two endemic trout species, has dropped significantly over the past decades. The most probable reason is overfishing and possibly destruction of spawning grounds.
69. Given the population growth over the past 50 years, a particular concern is the potential eutrophication of currently oligotrophic Lake Ohrid from increased pollution. Still, the lake is in a comparably good state at the moment. However, it may take more than a decade to see the effects of today's pollution level in the lake, because of its long water residence time. Moreover, it was shown that the negative effects from eutrophication would be significantly amplified by global warming. Although there is time to react, computer simulations indicate that at least a 50% reduction in phosphorus input must be reached to keep the deep water oxygenated for the next 50 years at predicted atmospheric warming.

#### *Basin and Water Management Institutions*

70. The EU WFD has been transposed to the legislative framework of the Drin countries and guides the RBM planning.
71. The implementation of the WFD and pertinent EU Directives is lagging behind transposition of the legislation in both countries. Transformation of the legislation and the organizational and institutional setup is currently taking place in both countries at the moment. Strong international support is reflected in myriad of bilateral and multilateral donor supported projects on national and local level

*Basin Management Plan at Transboundary Level*

72. The two Lake Ohrid littoral countries are at different stages regarding RBM planning.
73. A RBMP is currently being developed in Albania the development for the part of the Drin Basin extending in its territory<sup>7</sup>. The geographical area that the plan will cover includes the Albanian part of the Ohrid sub-basin. No action to has been taken to coordinate the development of the plan with the neighboring country.

An initial characterization of the Lake Ohrid (in accordance to the EU WFD – the same outcome has been achieved also for the Lakes Prespa and Shkodra/Skadar) has been developed under the GIZ “Conservation and Sustainable Use of Biodiversity program on the three lakes Skadar, Ohrid and Prespa”<sup>8</sup> (CSBL); furthermore, an initial attempt to set environmental objectives pursuant to the EU WFD has been made

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<sup>7</sup> Project entitled “Preparation of River Basin Management Plans for Drin-Buna and Seman RBAs” coordinated by the Albanian institutions. It is in the framework of a World Bank technical cooperation project that started in 2012 assisting the competent Albanian Institutions in establishing a strategy on IWRM, two river basin management plans (Drin and Semani, with priority for the Drin river basin – the latter supported by Sida) and a cadastre on water uses and recharge. The time line of this project will be approximately 5 years.

<sup>8</sup> The GIZ supported CSBL has resulted in the following:

- A regional monitoring program that complies with the EU standards (first implementation phase) has been developed.
- An EU-compliant (EU Water Framework, Habitats and Birds Directives) transboundary fauna and flora monitoring schemes was developed.
- Fish quotas at Lakes Prespa, Ohrid and Shkodra/Skadar were set based on sound stock assessments.

A second phase of the project will among others entail the:

- Continuation of surveillance monitoring;
- Further analysis for the elaboration of environmental objectives.