European Union Water Initiative Plus for the Eastern Partnership (EUWI+ 4 EaP) Ukraine

TERMES OF REFERENCE FOR LOCAL CONTRACTOR "DEVELOPMENT OF DRAFT RIVER BASIN MANAGEMENT PLAN FOR DNIPRO RIVER BASIN IN UKRAINE: PHASE 1, STEP 1 - DESCRIPTION OF THE CHARACTERISTICS OF THE RIVER BASIN"

29 March 2018

1. Financing

European Union (ENI/2016/372-403)

2. Procedure

Competitive Negotiated Procedure according to EU PRAG

3. Contracting Authority

International Office for Water (IOW)

4. Nature of contract

Service contract

5. Time period of implementation

May 2018 – December 2018

6. Contract amount

Maximum 25,000 Euros

7. Background information

The EUWI+East project addresses existing challenges in both development and implementation of efficient management of water resources. It specifically supports the Eastern Partnership[1] countries to move towards the approximation to EU acquis in the field of water management with a focus on trans-boundary river basin management as identified by the EU Water Framework Directive (WFD).

The overall objective of the project is to improve the management of water resources in the EaP countries.

[1] The Eastern Partnership (EaP) is a policy initiative launched at the Prague Summit in May 2009. It aims to deepen and strengthen relations between the European Union and its six Eastern neighbours: Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine.

The specific objective is to achieve convergence of national policies and strategies with the EU Water Framework Directive, Integrated Water Resource Management (IWRM) and relevant Multilateral Environmental Agreements (MEAs).

The EUWI+East project is divided into three result areas as follows:

- Result 1: Legal and regulatory frameworks improved in line with the WFD, IWRM and MEAs;
- Result 2: River Basins Management Plans designed and implemented in line with the WFD principles;
- Result 3: Lessons learnt regularly collected, shared and communicated to stakeholders.

This assignment will contribute to the implementation of the Result 2, activity 2.3.2. "Technical Support in the elaboration and implementation of the pilot River Basin Management Plans (RBMPs)" and activity 2.3.6. "Development and strengthening of national databases on water related issues & ensure compliance of data with SEIS principles for collection and sharing of data".

This assignment concerns the production of the first steps of the draft RBMP for the Dnipro river basin in Ukraine (289,000 km², see map in annex 1) in line with annex 7 of the WFD (Directive 2000/60/EC) and Decree from the Cabinet of Ministers of Ukraine (CMU) of 18 May 2017 on the preparation of River Basin Management Plan Plan and the Order of the Minister of Environment and Natural Resources of Ukraine (MENR) of 26 January 2017 on Basin Councils.

8. Scope of works & deliverables

8.1. Scope of works

The main objective of this assignment is to produce the elements for the draft of the RBMP in line with the Water Framework Directive and the Decree from the CMU, based on a review of available data, information and literature, meetings with stakeholders, data formatting and exploitation, brainstorming, experts' judgement, etc. No field survey neither census is asked at these first steps of the planning process. Therefore, data collection and formatting represents an important task.

The breakdown of the main output will be as follow:

- Characteristics of the River Basin (note that delineation of water bodies is subjected to another tender).

The outputs will be part of the future RBMP. All the results of this assignment will be used for the following steps of planning (pressures & impact assessment, economic analysis, programme of measures, environmental objectives) which will be launched with other following tenders.

During the assignment, with the significant support of the project team, the consultant will propose methodologies in line with the European Guidance documents developed in the Frame of the Common Implementation Strategy.

See http://ec.europa.eu/environment/water/water-framework/facts_figures/guidance_docs_en.htm

The traceability of data used will have to be ensured.

In parallel, assignments concern water bodies delineation. The assignments will be steered in an interactive way that they complement each other in consistency.

8.2 Deliverables

The deliverables will include:

- 1 Technical report: Characteristics of the River Basin;
- All datasets used described and uploaded.

Results will be presented at basin level, sub-basin level, water body level, and/or at "water management unit" level. Results will be mapped for the whole Dnipro basin in Ukraine, eventually divided into the 5 official sub-basins, in accordance with the Order of the Ministry of Ecology and Natural Resources of Ukraine from 3 March 2017 № 103 on approval of the boundaries of river basin districts, sub-basins and water areas. Collection of data and information will be steered at the smaller geographical unit in order to facilitate further combination.

Template of the proposed table of contents is shown below that gives idea of the minimum information required for each section (subject to data and information availability). Each subject will have to be localized and mapped if possible (example of maps proposed in annex 2).

1. Description of the characteristics of the river basin
1.1. Geographic overview
  1.1.1. Climate (effective rainfall, etc)
  1.1.2. Topography
  1.1.3. Geology
  1.1.4. Soils
  1.1.5. Vegetation, land cover
  1.1.6. Outstanding aquatic ecosystems & wetlands, reserves & parks, Emerald network
1.2. Water resources
  1.2.1. Hydrographic network (natural, artificial)
  1.2.2. Surface water resources (quantity: characteristic flows, annual and inter-annual variations, ecological flows, management principles of the cascade of reservoirs; quality from data available)
  1.2.3. Groundwater resources (quantitative & qualitative aspects)
1.3. Human activities & water uses (description and main trends)
  1.3.1. Population
    - Urban, rural, trends (10 years) by smaller administrative unit,
    - Water supply (drinking water abstractions, surface or groundwater, volume)
    - Sanitation (location of wastewater management plants, capacity, connected population - number of inhabitants- and connected industries -name, type and volume of activities, volume and discharge quality-, discharges quality, rivers concerned)
  1.3.2. Agriculture
    - Farms structure
    - Crops areas & average yields, agronomic practices incl. fertilisers & pesticides uses,
    - livestock husbandry, manure management,
    - Irrigation (area per crop, average volume used), drainage
  1.3.3. Fish farms, shellfish aquaculture, professional fishing (location, species, type, volume)

1.3.4. Forestry
1.3.5. Industry (type of activity, volume, headcount), mining (type, current and future concession), aggregates extraction (location, size), dredging, incl. abstractions & wastewater management
1.3.6. Hydropower generation (incl. hydropower potential)
1.3.7. Waste disposal, landfills, polluted sites (location, owner, type of wastes, volume, legal/illegal)
1.3.8. Navigation (location, traffic, type, waterways project)
1.3.9. Tourism (bathing sites, thermal sites, recreational fishing; attendance level)
1.3.10. Linear infrastructures (incl. winter road maintenance, main underground infrastructures, dikes)

1.4. Risks (incl. climate change)
1.4.1. Flood (year, location, duration, damages)
1.4.2. Scarcity
1.4.3. Erosion
1.4.4. Health issues

1.5. Stakeholders & programmes
1.5.1. Administrative organisation
1.5.2. Directory of water users
1.5.3. Summary of strategies, programmes, plans and development projects concerning water resources (with specific focus on quantified objectives and deadlines)

The contractor will focus on topics and activities with likely impacts on water resources with relevant facts and figures which will be used to evaluate their pressures.

Note that water body delineation is assessed through another tender. Surface water bodies delineation is expected on Autumn 2018. The project team will synchronise the 2 assignments.

8.3 Data collection

RBMP implementation supposes production of maps and indicators during the successive phases of the planning process. The necessary datasets necessary for an efficient Integrated Water Resource Management are produced by various national organizations.

The basic principle of action is that all the datasets presented or used in a map or a table or an indicator must be described in a catalogue of metadata (see example in annex 2) established by the project and must be available in the national FTP server set-up by the project, before to be used for GeoPortal after validation.

The contractor will have to identify official existing data sources, their availability and data producers.

As a consequence, the task of the contractor will include:

- To collect the necessary datasets at the level of the producers;
- To work with the data producers in order that the dataset provided are described on line into the metadata catalogue made available by the project;
- To copy the raw data made available by each producer on the FTP made available by the project. After validation, these data could be forwarded to the GeoPortal by the Competent Authorities.

The corresponding expected results can be formulated as follow:

- All datasets used are described in English and in Ukrainian into the metadata catalogue;
- All raw dataset used are available on FTP, before to be used for GeoPortal after validation.

It is understood that the metadata forms will have to be collected from each data producer while collecting data, but their production is not under the responsibility of the contractor.

The contractor is then responsible to copy all raw data made available by producers on the FTP, to collect the metadata sheet (to be imported automatically) and to complete on line the metadata into the metadata catalogue with the following additional information:

- Thumbnail
- Geographical limits
- Translation in English and National language of all metadata entered
- Description of right of dissemination
- Declare of public access the metadata sheet

A proposal of the main "data topics" has been established and is available in annex 2. This list can be complemented by specific topics.

Smaller geographical unit will be favored for data collection.

8.4 Format

All the documents consulted, data and information collected, interviews' records will be transmitted in their original forms (paper, files) and their valorised forms (GIS layers, data base, Excel, etc).

Reports will be transmitted in digital form which can be corrected (MS Office 2007). Priority will be focused on illustrations and straightforward style.

GIS layers will be provided in Esri format (.shp) and at the closest possible of scale 1:200,000.

Maps will be produced and delivered in Qgis format and as TIF file (300 dpi), based on an A3 template provided to the contractor by the Project Team (see specimen in annex 3).

Maps will include only layers and dataset described into the metadata catalogue and having raw data available on FTP.

Maps will respect the standard GCS_WGS_1984 projection (Geographic Coordinate System of the World Geodetic System) of the UTM coordinate system (Universal Transverse Mercator) or the official projection system adopted at national level.

8.5 Meetings & trainings

Regular meetings will be held by the project team (at least 4 meetings).

In a first approximation, one training intended to experts group will be organized to cover the River Basin characterization. This technical training will concern limited audience (around 20 persons).

For this meeting, technical synthesis and oral presentations will be produced by the contractor in national and English language.

9. Implementation modalities

9.1 Schedule

Duration of the assessment will be up to 8 months and is expected to start from May 2018. The assignment is divided into chapters (see section 8.2); therefore, the contractor will be able to share regularly his production with the project team.

It is anticipated however that the draft deliverable will be first reviewed by the project team and the beneficiaries (RBMP, data management, and communication thematic focal points) and if necessary will be returned to the implementing institution for finalisation and re-submission. Therefore, Draft report will be submitted to the Project Team at least 2 months before the deadline, the last reviewed report must be finalized on 24th December 2018.

Summary of the work schedule

Deliverables	**Approx. number of pages outside annex**	**Language of deliverable**	**Start date (with M0 = month of signature of the contract**	**Due date for draft report**	**Finalization**
Description of the characteristics of the river basin	< 100	Ukrainian / English	April 2018	October 2018	December 2018

9.2 Implementation modality

Works shall be implemented by a local company or group of NGO(s), university, research institution, etc. that are not representing the project beneficiaries. The studies will be closely coordinated, assisted and monitored by the project team, consisting mainly of the thematic experts (RBMP, data management, stakeholders' involvement), the country representative, the technical advisor, the national thematic focal points for RBMP, data management and stakeholders' involvement, and the National Focal Point. Close relationships will be formed and maintained with the beneficiary who will own the product and take full ownership of the RBMP.

Technical issues as data description (producers, availability, quality, scales, collection frequency, etc), related difficulties to collect them, data formatting requirements, methodological aspects, etc. will be discussed with the project team.

The contractor will have to designate competent specialists for each part of the assignment as well as a coordinator who will be responsible of managing these specialists, harmonising the document, and will inform regularly the project team.

As a matter of illustration, the contractor's team could include at least: environmental generalist and GIS specialist for map production.
As a matter of illustration, the contractor's team could be typically composed of the following expert profiles:

- 1 team leader and redactor of the chapters;

- 1 specialist of urban source pressures; typically from domestic, industrial/mining water uses with knowledge of water uses (point, diffuse);
- 1 specialist of agricultural pollution sources; typically from agriculture sector with knowledge of agronomy, water uses (point and diffuse);
- 1 GIS specialist for map production with knowledge of the water sector.

9.3 Contact details

The responsible person at national level (National Focal point):
Mr. Volodynyr BILOKON
v.bilokon@gmail.com

The coordinator on behalf of EUWI+ (relevant country representative):
Ms. Oksana KONOVALENKO
oks_konovalenko@ukr.net

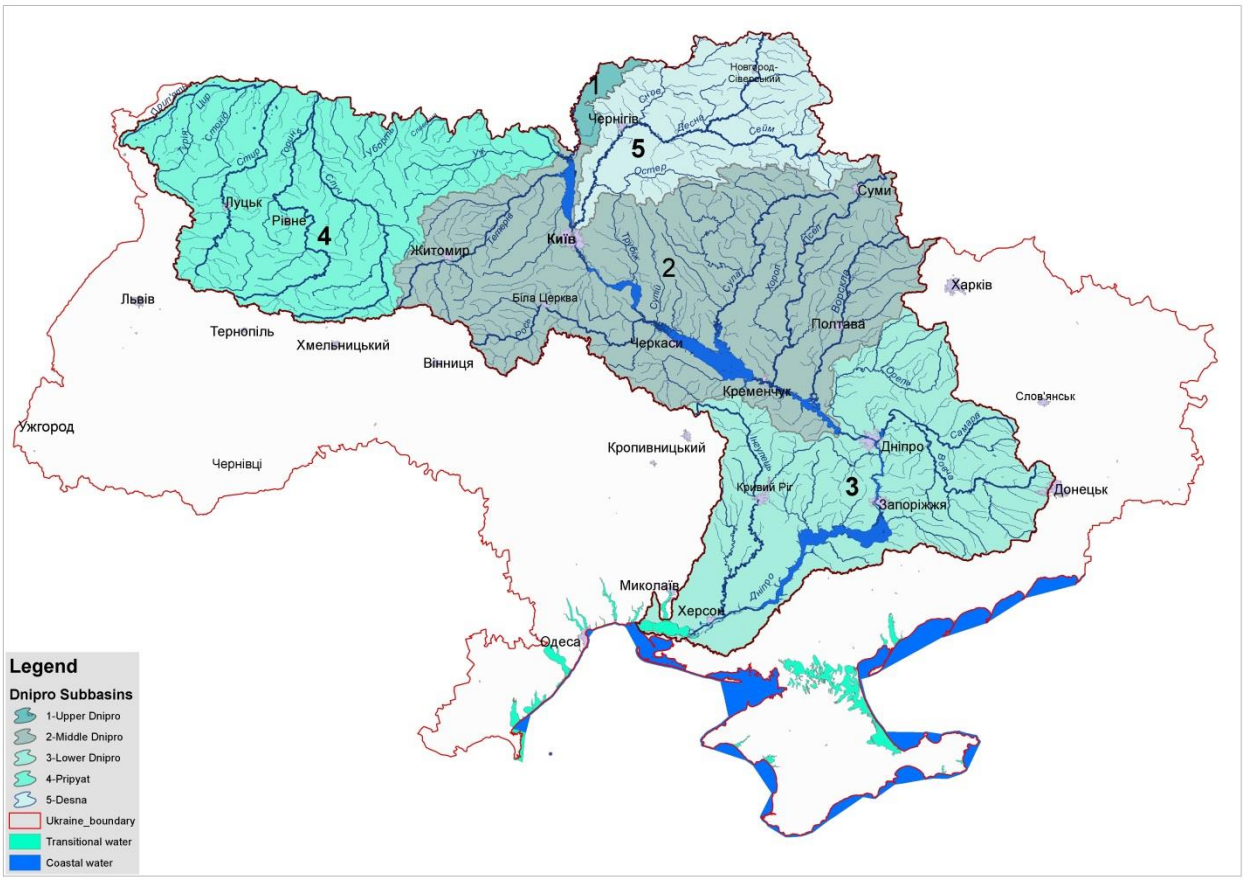
The responsible thematic leader:
Mr. Philippe SEGUIN
International Office for Water
p.seguin@oieau.fr

10. Participation to the tender

Interested parties (individual and legal persons) are invited to inquire the full tender dossier containing instructions and further information about the tender procedure from Ms. Ilke CICEKOGLU, Project Assistant, International Office for Water (IOW) and Mr. Philippe SEGUIN, Project Manager, International Office for Water (IOW)
Email address: i.cicekoglu@oieau.fr
Email address: p.seguin@oieau.fr

Deadline for submission of the technical and financial offer is **25 April 2018, 17.00 CET**.

Annex 1: Map of Dnipro river basin in Ukraine



*Annex 2: **Proposal** of maps for RB characterisation*

RBMP steps	ID Map	Name of map	SIG Layer	Type of layer
1.characterisation	0.00	Regional context	River basin	polygon
1.characterisation	0.00	National context	River basin	polygon
1.characterisation	1.01	Global context	River basin	polygon
1.characterisation	1.01	Global context	Main rivers with names	line
1.characterisation	1.01	Global context	Main lakes (>50 ha)	polygon
1.characterisation	1.01	Global context	Main towns with names	point
1.characterisation	1.01	Global context	Main roads	line
1.characterisation	1.02	River basin delineation	Sub-basins	polygon
1.characterisation	1.02	River basin delineation	River basins	polygon
1.characterisation	1.03	Hydrographic network	rivers with names	line
1.characterisation	1.03	Hydrographic network	lakes, reservoirs with names	polygon
1.characterisation	1.03	Hydrographic network	magistral canals with names	line
1.characterisation	1.04	Annual rainfall	isohyets	polygon
1.characterisation	1.04	Annual rainfall	meteorological network	point
1.characterisation	1.05	Landform: elevation	elevation	raster
1.characterisation	1.06	Landform: slopes	slopes	raster
1.characterisation	1.07	Geology	geology	polygon
1.characterisation	1.08	Hydrogeology	hydrogeology	polygon
1.characterisation	1.09	Soils	soils	polygon
1.characterisation	1.09	Erosion	erosion	polygon
1.characterisation	1.10	Wetlands	wetlands (real/potentiel, type, status)	polygon
1.characterisation	1.10	Outstanding ecosystems	Emerald network,	point or polygon
1.characterisation	1.10	Ecoregion	ecoregion	polygon
1.characterisation	1.11	Landuse	landuse (Corine landcover classes and color)	polygon or raster
1.characterisation	1.12	Administrative units	Country	polygon
1.characterisation	1.12	Administrative units	Oblast / Marz	polygon
1.characterisation	1.12	Administrative units	Rayon / District	polygon
1.characterisation	1.12	Administrative units	Cities	polygon
1.characterisation	1.12	Administrative units	Village	point
1.characterisation	1.13	Population	population (permanent and seasonal, trend from 10 or 20 years) by smaller administrative unit	polygon
1.characterisation	1.14	Industries	Industrial activities (type, volume of activity, water treatment plant)	point
1.characterisation	1.14	Industries	Mines (type, current and future concessions)	polygon
1.characterisation	1.15	Waterway transports	Waterway transports (traffic)	line
1.characterisation	1.16	Agriculture	Farms	points or polygon
1.characterisation	1.16	Agriculture	Livestock (type, number, etc)	points or polygon
1.characterisation	1.16	Agriculture	Crops (type, average yields, etc)	polygon
1.characterisation	1.16	Agriculture	Irrigated areas (irrigated crops, average volume consumed, etc)	polygon
1.characterisation	1.16	Agriculture	Drainage areas	polygon
1.characterisation	1.17	Fisheries	Fisheries and fish farms (location, species, tonnage), shellfarms	point
1.characterisation	1.18	Risk	Flooded areas (frequency, duration)	polygon
1.characterisation	1.19	Tourism	Touristic area (bathing sites, etc)	polygon
1.characterisation	2.01	waste water discharges	Domestic wastewater treatment plants (location, capacity, etc)	point
1.characterisation	2.01	waste water discharges	Industrial discharges and industrial wasterwater treatment plants	point
1.characterisation	2.01	Polluted areas	Landfills (location, volume, type of wastes)	point
1.characterisation	2.01	Polluted areas	Polluted soils (areas, type)	polygon or point
1.characterisation	2.02	water abstraction	Drinking water abstraction point (location, SW/GW)	point
1.characterisation	2.02	water abstraction	Industrial water abstraction point (location, SW/GW)	point
1.characterisation	2.02	water abstraction	Irrigation water abstraction point (location, SW/GW)	point
1.characterisation	2.03	Hydro-morphological	Dams (location, height, uses)	point

		context		
1.characterisation	2.03	Hydro-morphological context	Hydropower plants (location, height, capacity, uses, current and future)	point
1.characterisation	2.03	Hydro-morphological context	Dikes	line
1.characterisation	2.03	Hydro-morphological context	Banks protection	line
1.characterisation	2.03	Hydro-morphological context	Aggregates extraction (location, volume, type)	point
1.characterisation	2.03	Hydro-morphological context	Channelling	line
1.characterisation	2.03	Hydro-morphological context	Dry river bed	line
1.characterisation	2.03	Hydro-morphological context	Alien species proliferation (location, species, etc)	point or polygon
4.monitoring	4.1	Monitoring network	Quality, quantity; surface water, groundwater	point
1.characterisation			Etc	Line or point or polygon

Annex 3: Specimen of page from metadata catalogue

European Union Water Initiative plus
for the Eastern Partnership

DATA SOURCE IDENTIFICATION FORM - UKRAINE

TITLE OF THE DATA SOURCE
(ex: Data Sheet of … , map of … Database of …, Report on ….)

ABSTRACT: *(Global content, Author and objective: Database/website/map on … created by ….to do …)*

GEO KEYWORD MAIN BASIN	Not determined	**GEO KEYWORD ADMIN**	Not determined
TOPIC KEYWORD IWRM	Not determined	**TOPIC KEYWORD INSPIRE**	Not determined

INFORMATION ON DISSEMINATION

WEB ADDRESS OR URL WHERE THE DOCUMENT CAN BE CONSULTED AND/OR DOWNLOADED

http://

LEVEL OF ACCESS (ONE OF THE FOLLOWING: "FREE ACCESS WITH COPYRIGHT", "RESTRICTED TO PARTNERS", "AVAILABLE UNDER PAYMENT OF FEES") Not determined

CATEGORY, FORMAT AND SCALE OF THE DATA SOURCE

CATEGORY Not determined ("DATASET", "GIS LAYER", "MAP"," DOCUMENT", INFORMATION SYSTEM)

FORMAT Not determined *(EX: PAPER, PDF; JPEG; SHP…)*

SCALE 1: *(EX: 1/100.000)*

CONTACT PERSON TO GET MORE INFORMATION ON THIS DATA SOURCE

NAME		ORGANIZATION	
EMAIL		POSITION	

FORM OF METADATA COMPLETED BY

NAME		ORGANIZATION	
EMAIL		POSITION	
Date			

International Office for water - v.15/09/2017

Annex 4: Specimen of templates for RB maps

TITLE

Background layer legend

Thematic symbology

Location Map

Systeme Coordination Reference

WGS 84

Scale

Data source

Name of the data source

"European Union Water Initiative plus for Eastern Partnership Countries"

Name of organisation

Name of the map

Elaboration, revision, approval	*Path*
Date	*Scale*

Activity implemented by Umweltbundesamt, Austria & International Office for Water, France