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EU4Environment
Water and Data in Eastern Partner Countries

UNECE

Water sector reform in the EAP countries: selected lessons learned

Online workshop
September 18, 2024

Inventory of dams, Republic of Moldova
Pilot project

Author: Vlad Ceban
vlad.ceban@apele.gov.md

Implementing partners

umweltbundesamt · Austrian Development Agency · OiEau International Office for Water · OECD Better Policies for Better Lives · UNECE

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Pilot project:

The assignment consists in inventory of the dams in Isnovat River Basin, a tributary to the Bic River, Dniester River Basin in particular.

1. Inventory of all (legal and illegal) dams constructed in the Isnovat River Basin, including information about the owners of the dams, description of the state of the dams (and all the hydrotechnical constructions).
2. Elaboration of proposals, if any, based on the Methodology on the identification of lakes designed for liquidation which can be removed to restore the river flow, indicated the possible sources of finance to perform such works, with economic, social, and environmental benefits.
3. Presentation the results of the inventory to the Agency “Apele Moldovei” during a public meeting, including possible proposals for improving the state of dams, with representatives from Bic River Basin Commission and Dniester River Basin Committee.

Ultimate results of services

1. A full and up-to-date report of all relevant data gathered, including the results of the inventory,
2. The list of proposed dams to be removed (if any), elaborated in accordance with the Methodology on the identification of lakes designed for liquidation,
3. Assignment Completion Report, including the results from the public meeting.

Knowledge and expertise that will be transferred to EAP

EAP will benefit from consultants extensive expertise in the Moldovan hydrographical and hydroengineering network, as well as the governance of the Republic of Moldova (to suggest feasible recommendations) building experience.

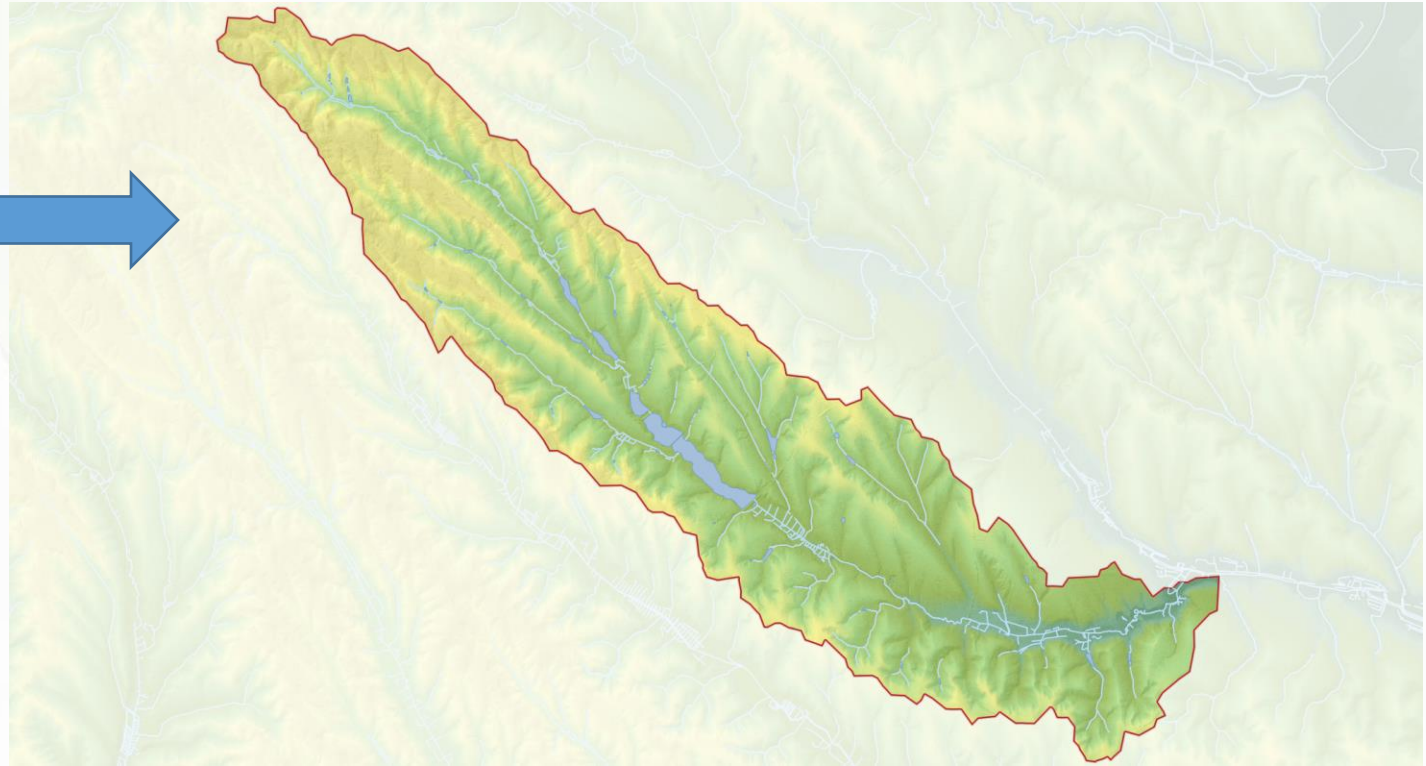
The current situation:

The hydrographic network of Moldova consists of more than 3 000 rivers and streams, although only 8 are longer than 100 km. The network forms three hydrographic basins that were grouped into two river basin management districts (RBMDs) in 2013. The Dniester (Nistru) RBMD in the east and north-east covers 57% of the country's territory, while the Prut-Danube-Black Sea RBMD in the west and north-west spreads over 45%.

Most of the dams on small rivers in Moldova, were built app. 40 years ago. In due time almost all the reservoirs became silted, and the dams are in poor conditions, which in case of fail may cause floods. Thus, to avoid any possible disaster, Agency "Apele Moldovei" is planning to conduct an inventory of all the dams. This will give the opportunity decide on what to do with the specific dam or reservoir.

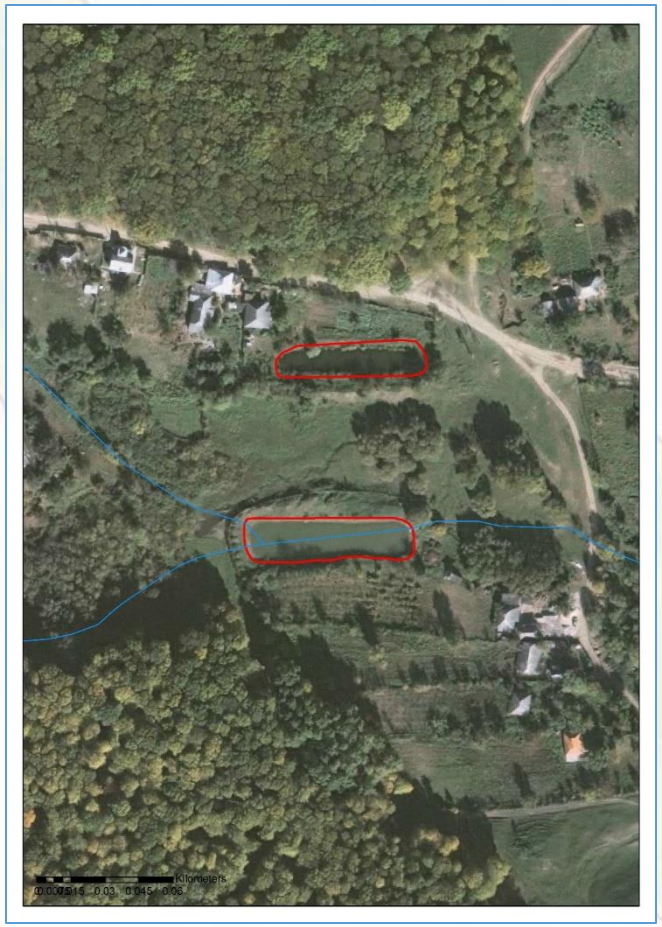
The Isnovat River Basin:

The Ișnovăț River Basin is located in central part of the country. The Ișnovăț River is a tributary of the Bic River, which is a tributary of the Dniester River. The Ișnovăț River is a watercourse located in the central part of the Republic of Moldova, serving as a right tributary of the Bâc River. With a length of 59 km, the river traverses the central region of the country, influencing both the landscape and the economic activities in the area. The basin area of the Ișnovăț River covers 371 km².



Key results: - office works

Identification of dams by intersecting reservoirs with watercourses



Reservoirs formed by excavation (copanca) without a dam.

Manually identified dam of an emptied reservoir.

Key results: - field works

Conducting topographic measurements.

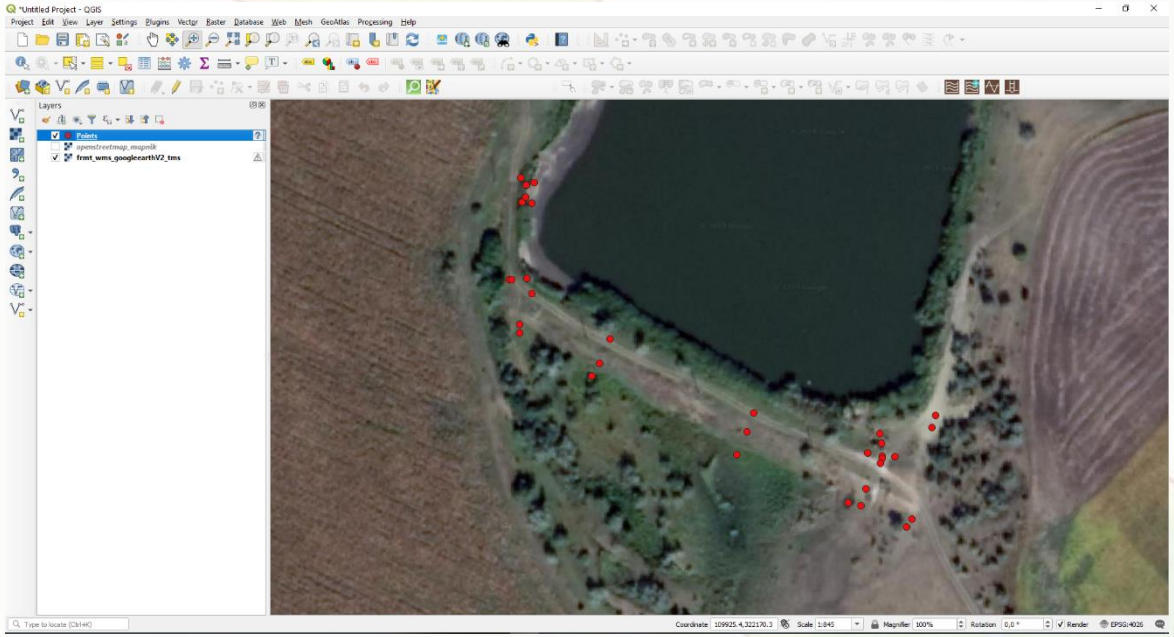
BARAJ

Denumire	Caracteristici	DESCRIERE
material_constructie	Materialele de construcţie a barajului	Pământ
tip_baza	Tipul bazei	— " —
consolidare_amonte	Consolidarea taluzurilor amonte	Plăci de beton armat
consolidare_aval	Consolidarea taluzurilor aval	înierbat cu copaci
lungime_creasta	Lungimea crestei	
latime_creasta	Lăţimea crestei	6,0
cota_creasta	Cota crestei	77,71
inaltime_max	Înălţimea maximă	
carosabil	Caracteristica carosabilului	Asfaltat
NNR	Nivelul normal de retenţie (NNR)	73,52
NFR	Nivel forţat de retenţie (NFR)	
NVM	Nivelul volumului mort (NVM)	
adancime	Adâncimea maximă la baraj (NNR)	Amo 72,59 fund aval 71,72
panta_taluz_amonte	Panta taluzurilor amonte	m1 = 1:6
panta_taluz_aval	Panta taluzurilor aval	m = 1:4
scurgere_medie	Scurgerea medie multianuala în secţiunea barajului	
suprafata_lac_NNR	Suprafaţa lacului de acumulare la NNR	

Construcţia de golire şi descărcare a apei

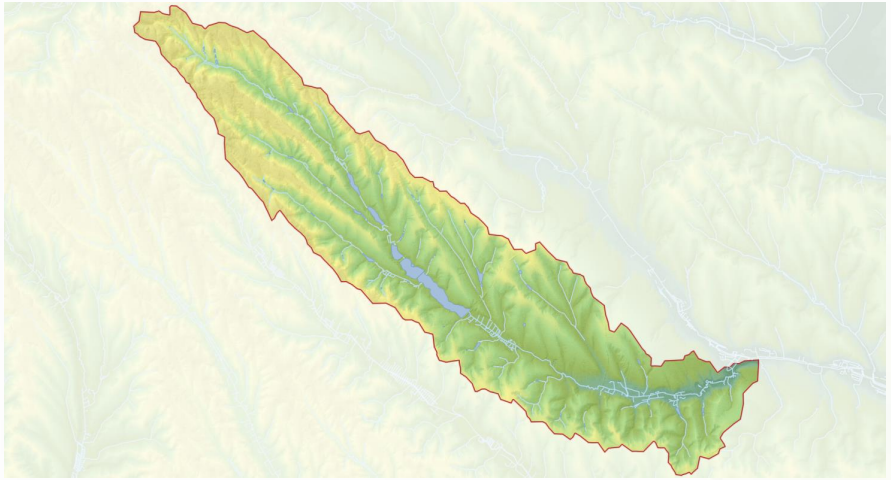
Denumire	Descriere	Caracteristici	
IDCH	Identificator unic	Vezi specificatii tehnice RCH. Structura identificator IDCH	
tip	Tip	Descărcare şi golire/Descărcare	Automat deschis cu barbacoane
dimensiuni	Dimensiuni	Lungime/lăţime/Înălţime/Diametru/altele	L= 2 x 6 m H= 5 m, beton armat
cadere	Cădere, m		
dimensiuni_conducta	Dimensiuni conductă, m	Lungime/lăţime/Înălţime/Diametru/altele	L=20 m B= 10 m H= 10 m Deschizătură, disipator cu ţicane
numar_conducte	Număr de linii, buc		Două ~~Două~~
material	Material		Beton armat
debit	Debit maxim de calcul (P%)		

Key results: - data management



gid	id	idch	mat_constr	tip_baza	cons_amont	cons_aval	lung_creas	lat_creast	cota_creas	inalt_max	carosabil	nnr	nfr	nvm	adancime	p_taluz_am	p_taluz_av	scurge_med	su_lac_nnr	vo_lac_tot	v_lac_util	starea_ch	starea_ba
1		01-001	pamant	argila	beton armat	pamant	99.58	4.56	220.34	4.29	Tip: Drum de tara. Material: Pamant. Latimea = 2.854 m	218.92					0.16					buna	cu apa
2		01-054	pamant	argila	pamant, arbusti	pamant	116.39	5.47	192.42	4.3	lipseste	191.04					0.48					satisfacatoare	cu apa
3		01-056	pamant	argila	pamant	pamant	180.2	9	178.25	5.91	Tip: Drum de tara. Material: Pamant. Latimea = 4.703 m	175.54					0.19					buna	cu apa
4		01-057	pamant	argila	pamant	pamant	121.27	3.19	185.96	5.6	Tip: Drum de tara. Material: Pamant. Latimea = 2.328 m	184.3					0.45					buna	cu apa
5		01-058	pamant	argila	pamant	pamant	107.05	2.2	187.93	2.7	Tip: Drum de tara. Material: Pamant. Latimea = 1.895 m	187.43					0.37					buna	cu apa
6		01-060	pamant	argila	pamant	pamant	116.7	5	195.32	4.5	Tip: Drum de tara. Material: Pamant. Latimea = 2.883 m	193.83					0.45					buna	cu apa
7		01-059	pamant	argila	pamant	pamant	138.23	6.45	194.4	8.01	lipseste	188.2				0.26	0.33					distrus partial	cu apa
8		01-061	pamant	argila	pamant	pamant	115	14.87	200.88	5.29	Tip: Drum de tara. Material: Pamant. Latimea = 2.116 m	196.29				0.73	0.49					buna	cu apa
9		01-062	pamant	argila	pamant	pamant	126.55	3.7	203.48	4.24	Tip: Drum de tara. Material: Pamant. Latimea = 2.472 m	202.13					0.46					buna	cu apa
10		01-063	pamant	argila	pamant	pamant	66.8	0.57	213.28	3.04	lipseste	212.79				0.02	0.54					satisfacatoare	cu apa
11		01-064	pamant	argila	pamant	pamant	156.8	3.5	198.18	4.63	Tip: Drum de tara. Material: Pamant. Latimea = 2.073 m	197.02				0.47	0.47					buna	cu apa

Key results:



Total identified dams:

70

Existing at present:

49

Destroyed/liquidated:

21

Ponds without water at the time of the inventory:

40%

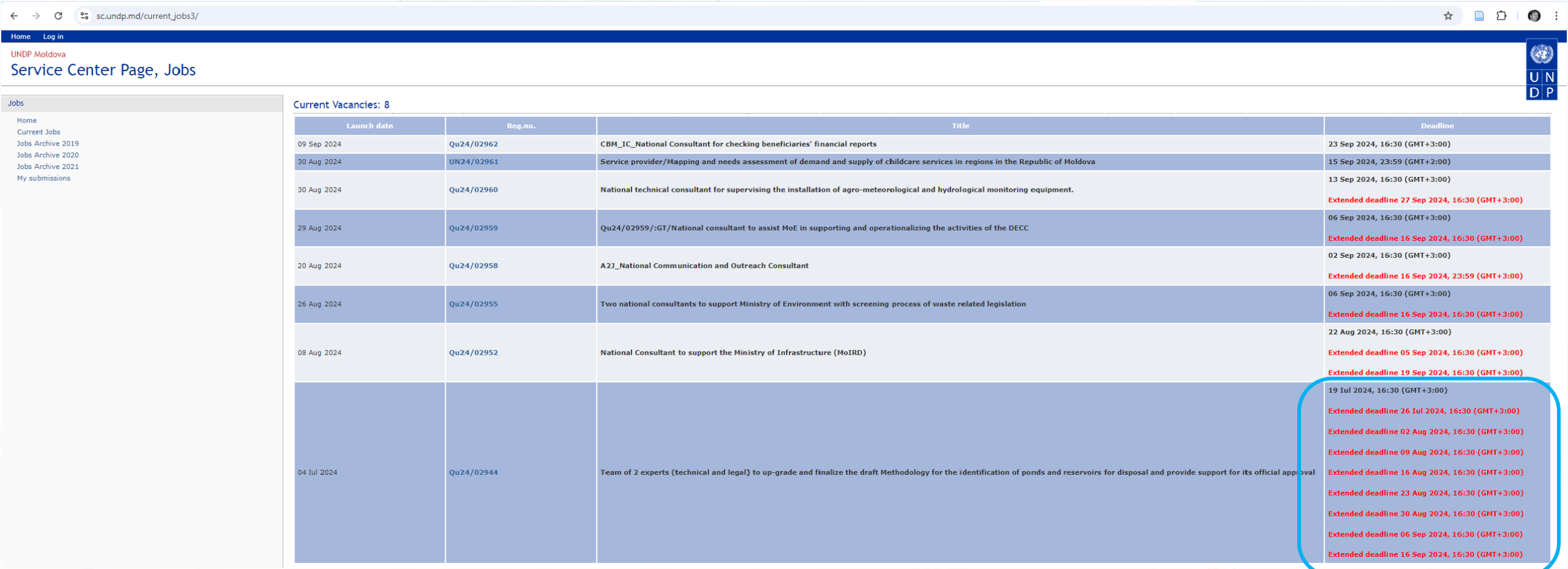
Dams ownership:

- privately owned dams;
- owned by the state or state agencies;
- dams owned by local public administrations;
- unregistered dams.

Challenges:

Methodology for the identification of ponds and reservoirs for disposal – not approved till now

Draft Methodology for the identification of ponds and reservoirs for disposal has been developed under the SDC/ADA project. However, this methodology requires substantial refinement and adjustment to the relevant legislation, including the Water Law No 272/2011 and urban planning regulations, and once finalized the methodology is to be promoted for approval by Government decision.



Launch date	Reg.no.	Title	Deadline
09 Sep 2024	Qu24/02962	CBM_IC_National Consultant for checking beneficiaries' financial reports	23 Sep 2024, 16:30 (GMT+3:00)
30 Aug 2024	UN24/02961	Service provider/Mapping and needs assessment of demand and supply of childcare services in regions in the Republic of Moldova	15 Sep 2024, 23:59 (GMT+2:00)
30 Aug 2024	Qu24/02960	National technical consultant for supervising the installation of agro-meteorological and hydrological monitoring equipment.	13 Sep 2024, 16:30 (GMT+3:00) Extended deadline 27 Sep 2024, 16:30 (GMT+3:00)
29 Aug 2024	Qu24/02959	Qu24/02959/:GT/National consultant to assist MoE in supporting and operationalizing the activities of the DECC	06 Sep 2024, 16:30 (GMT+3:00) Extended deadline 16 Sep 2024, 16:30 (GMT+3:00)
20 Aug 2024	Qu24/02958	A2J_National Communication and Outreach Consultant	02 Sep 2024, 16:30 (GMT+3:00) Extended deadline 16 Sep 2024, 23:59 (GMT+3:00)
26 Aug 2024	Qu24/02955	Two national consultants to support Ministry of Environment with screening process of waste related legislation	06 Sep 2024, 16:30 (GMT+3:00) Extended deadline 16 Sep 2024, 16:30 (GMT+3:00)
08 Aug 2024	Qu24/02952	National Consultant to support the Ministry of Infrastructure (MoIRD)	22 Aug 2024, 16:30 (GMT+3:00) Extended deadline 05 Sep 2024, 16:30 (GMT+3:00) Extended deadline 19 Sep 2024, 16:30 (GMT+3:00)
04 Iul 2024	Qu24/02944	Team of 2 experts (technical and legal) to up-grade and finalize the draft Methodology for the identification of ponds and reservoirs for disposal and provide support for its official approval	19 Iul 2024, 16:30 (GMT+3:00) Extended deadline 26 Iul 2024, 16:30 (GMT+3:00) Extended deadline 02 Aug 2024, 16:30 (GMT+3:00) Extended deadline 09 Aug 2024, 16:30 (GMT+3:00) Extended deadline 16 Aug 2024, 16:30 (GMT+3:00) Extended deadline 23 Aug 2024, 16:30 (GMT+3:00) Extended deadline 30 Aug 2024, 16:30 (GMT+3:00) Extended deadline 06 Sep 2024, 16:30 (GMT+3:00) Extended deadline 16 Sep 2024, 16:30 (GMT+3:00)

Recommendations:

- Implement a regular maintenance program for dams, including periodic inspections, vegetation removal, and monitoring of structural condition to prevent further deterioration;
- Conduct a detailed study to assess the impact of dams on local ecosystems, including flora and fauna;
- Clarify the legal status of unregistered dams and include them in official records to facilitate their management and maintenance;
- Enhance cooperation among dam owners (private, state, and local public administration) to ensure effective management of dams and water resources;
- Liquidation dams that do not meet technical standards as determined by technical assessments.

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THANK YOU FOR YOUR ATTENTION!!!

DILAN Vitalie Oleg

"ION CREANGĂ" State Pedagogical University of Chișinău

Faculty of Geography

GIS Laboratory

Mobile Phone:
+ (373) 699 85 294

Email:
dilan.vitalie@upsc.md

dilan.vitalie@gmail.com

vitalidilan@yahoo.com

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