

EUROPEAN UNION WATER INITIATIVE PLUS FOR THE EASTERN PARTNERSHIP

Topic 2 / Session 2: Status of the Laboratory, SW and GW Monitoring Assessment



NATIONAL POLICY DIALOGUE
28 NOVEMBER 2017, KYIV

ASSESSMENT BACKGROUND

- 1. New Ukrainian State Monitoring System of Water Resources**
 - roles & responsibilities of governmental authorities and related institutions defined
- 2. Laboratories for in-depth assessment recommended by UA**
[Coordination Meeting 22-23 August 2017 in Kyiv]
 - Groundwater quality: State Agency of Geology
 - Physico-chemistry elements: Hydrometeorological Institute in Kyiv, Lutsk and Svitlovotsk
 - Hydrobiology: Hydrometeorological Institute in Kyiv
 - Hydromorphology: Hydrometeorological Institute in Kyiv and Stryi (western Ukraine)
 - Priority substances: State Agency on Water Resource labs in Vysghorod and Slaviansk
- 3. Ukraine demand to put strategic priority to RBMP (Dnipro)**

LABORATORY ASSESSMENT “CHEMISTRY”

➤ Assessment missions carried out

- Central laboratory at State Enterprise Ukrainian Geological Company in Kyiv - (June 2017)
- Laboratory of surface water pollution observations at Central Geophysical Observatory (CGO) in Kyiv - (October 2017)
- Basin laboratory for water monitoring at BUVR in Vysghorod - (June and October 2017)
- Laboratory for water monitoring at BUVR in Dnipropetrovsk - (October 2017)
- Department of analytical research and organization of monitoring at Ukrainian Scientific Centre of the Ecology of Sea (UkrSCES) in Odesa – (October 2017)



LABORATORY ASSESSMENT MID-TERM RESULTS “CHEMISTRY”

➤ In a nutshell ...

- The huge amount of Labs in Ukraine is impossible to assess in the project
- No Lab is accredited according to ISO/IEC 17025
- A WFD compliant Laboratory system will take decades (as for most countries)
 - Even the longest journey has to start with the first step
- EUWI+ contribution in the coming 3 years – this means setting priorities
 - Selection of partner laboratory(s) for development
 - Development is a process of many years; follow-up support!!
- Sustainability of development is key for success
 - 1) Organization & structure, 2) human resources, 3) finance
 - „Secure a robust basis“
- A WFD compliant Laboratory system will need sustainable investment
 - Financing and human resource / capacity development
- There is a long change journey to EU (WFD) compliant processes
 - Many methodological processes are form a different system; from the 60s

LABORATORY ASSESSMENT MID-TERM RESULTS “CHEMISTRY”

- Basin laboratory at BUVR in Vysghorod (potential for priority substances)
 - Accreditation in EUWI+ could be possible, but it is a “long way”
 - Needs investment, primarily in human resources – new experts
 - No priority substances in the moment – there is the potential to develop capacities for up to 29 priority substances (out of 45) in EUWI+
 - Further development in coming initiatives ...
 - Proposals/discussions
 - Equipment: replacement of existing AAS for metal analysis;
 - Method adaptation/expansion for existing GC-ECD – potential to analyze up to 29 priority substances
 - Assistance in set-up and development QM documentation acc. to **EN ISO/IEC 17025** requirements as preparation for future accreditation
 - participation in proficiency testing schemes and study visit
 - specific hands-on trainings in the laboratory (training program)
 - Participation of laboratory personnel in general trainings on quality management issues ...

LABORATORY ASSESSMENT MID-TERM RESULTS “CHEMISTRY”

- **Central laboratory at State Enterprise Ukrainian Geological Company in Kyiv (ground water quality)**
 - Proposal/discussion
 - Equipment: new GC-MS for determination of PAH and VOC and method adaptation
 - specific hands-on trainings in the laboratory
 - participation in proficiency testing schemes and study visit
 - Participation of laboratory personnel in general trainings on quality management issues

- **Laboratory of surface water pollution observations at CGO in Kyiv (physico-chemical elements)**
 - Proposal/discussion
 - Equipment: very limited support , e.g.: portable pH-meter, laboratory premises generally old and outdated
 - Participation of laboratory personnel in general trainings on quality management issues

LABORATORY ASSESSMENT MID-TERM RESULTS “CHEMISTRY”

- Department of analytical research and organization of monitoring at UkrSCES in Odesa
 - High technical capabilities
 - E.g. Biota monitoring
 - Proposal to function as an intermediary solution for covering a large number of priority substances.
 - Proposal/discussion
 - Equipment: minor/very limited support; additional auto-sampler device for existing GC and GC-MS system to enhance analytical capacities
 - Contribution to Refurbishment ??
costs for new windows, insulation, AC, laboratory bench for existing GC and GC-MS
 - participation in proficiency testing schemes
 - Participation of laboratory personnel in general trainings on quality management issues

LABORATORY ASSESSMENT MID-TERM RESULTS SURFACE WATER MONITORING

- **Assessment missions carried out in October 2017**
 - Department of Hydrobiology, Hydrometeorological Institute in Kyiv
 - Institute of Hydrobiology of the Academy of Sciences in Kyiv
 - Institute of Biology of the Southern Seas (IBSS) of the National Academy of Science in Ukraine in Odesa
 - Ukrainian Scientific Centre of the Ecology of Sea (UkrSCES) of the Ministry of Ecology in Odesa



LABORATORY ASSESSMENT MID-TERM RESULTS SURFACE WATER MONITORING

- **Department of Hydrobiology, Hydrometeorological Institute in Kyiv**
 - Good expertise!
 - Needs for additional experts for development
 - Coordinator for surface water monitoring development (?)
 - Proposal / discussion
 - Trainings for different Biological Quality Elements (phytoplankton, phytobenthos and macroinvertebrates)
 - Support for pressure impact analysis, characterization of water body types, sampling techniques, identification and data management
 - Limited investment needs for supply/equipment
 - Software needs: Omnidia (diatoms) + Asterix (macroinvertebrates)
 - Stereoscopic microscope: 1 pieces with trino head, objective 0.7... 4.5x
 - Biological microscope: bino head, achromatic lens, magnification 40-1000x
 - Trans-boundary capacity building network

LABORATORY ASSESSMENT MID-TERM RESULTS SURFACE WATER MONITORING

- **Institute of Hydrobiology of the Academy of Sciences in Kyiv**
 - High technical capabilities
 - Offer to serve as a training center for the development of ecological assessment systems
 - Proposal / discussion
 - Training Workshop «Ecological Status/Potential Determination: EU and Ukrainian Experience» (May-June 2018)
 - Training Workshop «Procedure of Ecological Status/Potential Determination in the Basins of Heavily modified and artificial water bodies » (September-October 2018)
 - (Technical support to be confirmed)

LABORATORY ASSESSMENT MID-TERM RESULTS SURFACE WATER MONITORING

- **Institute of Biology of the Southern Seas (IBSS) of the National Academy of Science in Ukraine in Odesa**
 - High technical capabilities, good expertise, Potential to serve as additional institution for the development of ecological assessment systems
 - Proposal / discussion
 - Training on methods of identification of water bottom habitats
 - Integral methods for determination the ecological status class of aquatic ecosystems by biological indicators in accordance with the standards of the Water Frame Directive and the Marine Strategy
- **Ukrainian Scientific Centre of the Ecology of Sea (UkrSCES) of the Ministry of Ecology in Odesa**
 - Proposal / discussion
 - Training on sampling and identification of organisms-indicators of planktonic and benthic organisms
 - Stereomicroscope; Pump for determination of Chlorophyll;
Analytical scales, accurate to 0.0001

GROUNDWATER MONITORING

- **Close and good cooperation with the APENA project**
 - Commenting on technical drafts for GW Body delineation and monitoring methodologies
 - Active participation at 2 Workshops (Lviv and Odessa) on “GWB delineation and monitoring design” which was joined by about 50 GW experts from Ukraine.

- **Discussions with representatives of State Geological Service and State Informational Geological Fund**
 - How to continue the work of APENA and to continue the hands-on support to the national GW experts on the GWB delineation
 - Review of the monitoring network in the Dnipro basin!

NEXT STEPS ...

1. Assessment Reports

- Development of „Draft 1 Laboratory Assessment Report“ and „Draft 1 SW & GW Assessment Report“ as a joint deliverable of international and Ukraine project partners

2. In parallel: official selection / nomination of partner laboratories for premier technical support

3. Prioritization and decision of investments

4. Preparation of international tenders for EUWI+ investments

5. Coordination / update of 2018 implementation plans

- Spring 2018 workshops and trainings

6. Coordination / alignment with other ongoing projects

THANK YOU

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