EU4Environment in Eastern Partner Countries:
Water Resources and Environmental Data (ENI/2021/425-550)

GROUNDWATER STATUS ASSESSMENT

Training Report – Georgia

Funded by
the European Union

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ABOUT THIS REPORT

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ABOUT EU4ENVIRONMENT – WATER RESOURCES AND ENVIRONMENTAL DATA

This Programme aims at improving people's wellbeing in EU's Eastern Partner Countries and enabling their green transformation in line with the European Green Deal and the Sustainable Development Goals (SDGs). The programme's activities are clustered around two specific objectives: 1) support a more sustainable use of water resources and 2) improve the use of sound environmental data and their availability for policy-makers and citizens. It ensures continuity of the Shared Environmental Information System Phase II and the EU Water Initiative Plus for Eastern Partnership programmes.

The programme is implemented by five Partner organisations: Environment Agency Austria (UBA), Austrian Development Agency (ADA), International Office for Water (OiEau) (France), Organisation for Economic Co-operation and Development (OECD), United Nations Economic Commission for Europe (UNECE). The programme is principally funded by the European Union and co-funded by the Austrian Development Cooperation and the French Artois-Picardie Water Agency based on a budget of EUR 12,75 million (EUR 12 million EU contribution). The implementation period is 2021-2024.

https://eu4waterdata.eu

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List of abbreviations

ADA ..... Austrian Development Agency
BQE ..... Biological Quality Elements
DoA ..... Description of Action
DG NEAR ..... Directorate-General for Neighbourhood and Enlargement Negotiations of the European Commission
EaP ..... Eastern Partners
EC ..... European Commission
EECCA ..... Eastern Europe, the Caucasus and Central Asia
EMBLAS ..... Environmental Monitoring in the Black Sea
EPIRB ..... Environmental Protection of International River Basins
ESCS ..... Ecological Status Classification Systems
EU ..... European Union
EUWI+ ..... European Union Water Initiative Plus
GEF ..... Global Environmental Fund
ICPDR ..... International Commission for the Protection of the Danube River
INBO ..... International Network of Basin Organisations
IOW/OIEau ..... International Office for Water, France
IWRM ..... Integrated Water Resources Management
NESB ..... National Executive Steering Board
NFP ..... National Focal Point
NGOs ..... Non-Governmental Organisations
NPD ..... National Policy Dialogue
OECD ..... Organisation for Economic Cooperation and Development
RBD ..... River Basin District
RBMP ..... River Basin Management Plan
Reps ..... Representatives (the local project staff in each country)
ROM ..... Result Oriented Monitoring
ToR ..... Terms of References
UBA ..... Umweltbundesamt GmbH, Environment Agency Austria
UNDP ..... United Nations Development Programme
UNECE ..... United Nations Economic Commission for Europe
WFD ..... Water Framework Directive

Country Specific Abbreviations Georgia

MENRP..... Ministry of Environment and Natural Resources Protection

NEA..... National Environment Agency

NWP..... National Water Partnership

1. Main results / outputs of the training

In the training workshop on 14 and 15 June 2023 the following aspects have been discussed and elaborated:

1. the WFD requirements for the assessment of GW quantitative and chemical status,
2. the discussion of possible approaches with experiences from EU Member States.

Within the workshop, the requirements of the WFD and GWD (EU groundwater directive) and the groundwater monitoring situation and the legal framework in Georgia were presented.

About 80 % of the drinking water comes from GW (95 % if private wells are included). The current GW chemical monitoring in GE started in the 1990s due to increasing water demand. There was no license needed for water abstractions. Regular monitoring started, but is not covering the whole country. All monitoring sites are used for different purposes, either drinking water or irrigation or both. GW monitoring of the shallow aquifer horizon is still needed.

Currently the old Water Law of 1990s is still in force. The new law is in the parliamentary process. This draft also includes the technical requirements for the drilling of wells.

There is a report from 2021 and 2022 describing the monitoring programme of each region with in total 56 available stations by monitoring data (# samples, min, max, exceedances) and geological information. This assessment started in 2013 covering 5 years and 16 chemical substances. Usually annual reports are prepared.

1.1. Groundwater chemical status

The following aspects in the elaboration of a method for GW chemical status assessment were discussed:

1. EU-wide quality standards for nitrates (50 mg/l) and pesticides (0.1 µg/l for individual substances and 0.5 µg/l for the sum of pesticides);
2. GW threshold values have to be derived for relevant pollutants (causing risk) and derived from the needs of relevant receptors. Main receptor is human health as GW is mainly used as drinking water; NEA is responsible for DW standards which are the most strict standards;
3. Consideration of natural (geogenic) background levels, either in the establishment of threshold values or in the status assessment method;
4. Aggregation of monitoring values at site level (e.g. arithmetic mean of annual average mean values per site over a fixed period – e.g. 3 years, 4 years,…);

5. Aggregation of aggregated site values at GWB level (e.g. number of sites exceeding a standard compared to the total number of sites)
6. What is an acceptable pollution in the GWB and the GWB is still of good status? 20% / 25% … of sites exceeding a standard?
7. Status assessment comprises the passing of different tests (see EU CIS guidance No 18, Status and trend assessment) considering the achievement of all WFD environmental objectives;

Different methods from Austria and further Danube River Basin countries were presented. EU CIS guidance No 18 (Status and trend assessment) was recommended to be consulted.

The representative of the Technical University raised, that highly skilled professionals and experts are needed regarding water management. There should be a cooperation with the Technical University and an involvement of students.

It was finally recommended to continue this interdisciplinary discussion of experts from the different institutions. The setup of a national GW working group would be favourable, which meets regularly and discusses all open issues step by step. The participants were invited to further elaborate on the establishment of national methodologies and approaches for the assessment of GW chemical and quantitative status and include the specifications into national legislation. UBA offered support if needed.

1.2. Groundwater quantitative status

The WFD GW quantity status assessment also considers different status tests to be performed and approved (see also EU CIS guidance No 18 - Status and trend assessment). The WFD requires a balance between GW abstraction and GW recharge, no damage to ecosystems and no (saline) intrusions due to changes in GW levels or flow directions. Monitoring is needed for each individual GW-body as well as the definition of the available GW resource. The method for the assessment of GW quantitative status in Austria was presented.

Georgian experts gave an overview of the situation concerning GW quantity. Today, GW levels are dropping. The amount of abstracted water is not fully known and there are no limitations for drilling boreholes. The Mineral Resources Agency has the license data and receives annually the monthly abstracted data for all types of commercial water use (thermal, mineral, drinking, industrial, agriculture, aquaculture) and the data are kept in a database. According to the Russian system, commercial water users have to pay an annual abstraction licence fee of about 6-7 GEL for mineral water and 0.5 GEL for other water. The abstraction data are publicly available. Some licenses last for 25 years.

The abstracted volumes of non-commercial, individual users are unknown. Furthermore, it is also necessary to assign abstracted volumes to the individual GW horizons.

In GE water balance calculations have not been carried out so far. Such calculations should be made every 5 years. It was stated at the meeting, that unless the calculation is completed and the available resource is unknown, selling of water is impossible. In general, the availability of data, in particular for the mountain regions, is very limited and the monitoring network should be extended. A project on stable isotopes is already finished and it includes climate data (data for 7 years for Alazani and Iori rivers). These data can be used for calculating recharge and discharge of rivers and could be used for balance modelling.

In general, MoE is responsible for the water resources and NEA is responsible for the management of GW. NEA is willing to develop a methodology with the support of a donor. First, it is necessary to clearly identify the needs.

The following aspects were recommended to be addressed by the national method, discussed by national experts and laid down in a legal document:

- How to make the water balance test
    - with the GW levels? / pressure heads?
    - With the water balance assessment?
    - How to deal with artesian GWBs
- Agreement on method for estimation of available GW resource
- Abstraction data
    - Reliability of abstraction data
    - Outlook and further development of abstraction quantities
- Criteria for risk and good status

There is a general need for better coordination and cooperation of different institutions in Georgia. There should be an agreement about data exchange. It is proposed to establish a table with the data types that are needed for calculating groundwater balances at regional levels and to include the institutions keeping these data. So far, e.g. GW abstraction data are not accessible for NEA.

It is highly recommended to include other institutions in the discussions in order to have a broad commitment on the method and on the results within the groundwater community. A groundwater working group could be established. MoE offered to prepare an informal letter to arrange meetings and exchange data. Nevertheless, one institution should have the lead and coordinate.

Conclusions / challenges:

- Extension of monitoring network to cover the entire country territory.
- Need to know the abstracted GW volumes and the respective aquifer horizons.
- A method for the assessment of water balances for GWBs is needed.
- Methods for the assessment of chemical and quantitative status are needed.
- Better coordination and cooperation between institutions.
- Agreement about data exchange.
- Establishment of a discussion and cooperation platform. Nominate a lead institution.

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