

Bulgarian Approach in Water data management organization and electronic reporting

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I shall present my overview on water data management based on my experience of 30 year work in the water sector in Bulgaria. I started my professional career in 1986 in Plovdiv branch of State Irrigation Company in Bulgaria and from 1986 to 2003 had worked here, and from 2003 to the end of 2009 as Director of the East Aegean River Basin Directorate in Plovdiv. Now I am working as private consultant in practice and I have been here as representative of the Regional Science and Technical Union in Plovdiv.

From the first years of my professional experience I was involved in the process of data management for water use, mainly from irrigation sector and water construction.

I think there is reason to divide the time of development and evaluation of water data management in Bulgaria in **three periods**:

1-st period: to year 2000: in this period management of water use was organized in 5 ministries - ecology, regional development, agriculture, energetics and public health:

- Every ministry was organizing each own system of creating, reporting and collecting the datas from realized activities in its area.
- Most popular formats: interim reports (10day, month, 3month, half-year, year), annual reports, but there was not a unified format for all, every authority had its own format for reporting.
- Very small number of information was based on PC using suitable software.
- There was not a united center for collecting, analysing and managing of this information.
- In case of need the ministries was transferring needed information between them.

Remark 1: Reporting for water use was made from from all authorised institutions to National Institute of Statistics (NSI) in Bulgaria, and NSI reported collected data to EuroStat.

2-nd period: from 2000 to 2010: this was period of creating, organizing and strenghtening the capacity of the River Basin Directorates in Bulgaria:

- RBD started creation a system for water data management under the requirements of the new Water act from 2000.
- RBD asked every other authorities and private users of water periodically to give them information of water use. Collected information was based in the 4 RBD and in the Water Directorate in MOEW.
- Main part of information (over 90%) is in digital format, using mainly MS Office products - Word,

Excell and Power Point, also ArcInfo (for maps, graphs).

- Approximately 1/3 part of information was public, 2/3 part operational for office use.
- In this period we had not yet united and authorised unit for water data management, except MOEW - water direktorate, which was providing coordination.

Remark 2a: RBD reported to National Institute of Statistics (NSI) in Bulgaria, and NSI reports collected data to EuroStat.

Remark 2b: RBD reported to MOEW, MOEW reported do EC.

Result: Some diferences in reported data.

Problems: Lack of data, no enough data, any non correct data.

3-rd period: from 2010 till now - this is the period of beginning the creation a Geoinformation system for Water Managemet and Reporting in Bulgaria under the European financial mechanism (Norwegian program).

- 1-st stage of creating this system was from Aug 2010 to April 2012 and from 01.01.2013 the system started working in real time.
- one year was needed to put all documents into system, evaluate, validate or etc.
- as leading unit in water data management was authorised Executive Agency of Environment and Water and now it experts are providing the administration of the System.
- now fully 100% of information was put in digital formats.
- 2013 - 2017 - 5 years of real work of the system, experts found some faults (lack of data, limited access to data, no enough data), there is need of further development and elaboration.
- in this period our experts from RBD are reporting to EC in electronic format.
- problem is the lack of specialists - no enough people for all activities.
- 2-nd stage of upgrading the sistem started from September 2017 with expectation to finalise it till the end of November 2017.
- upgraded information system will include 15 main modules:
 1. Administration
 2. Catalogs and lists
 3. Regions of Basin management
 4. Water bodies - surface and grounwater
 5. Water protection areas
 6. Impact factors - permissions, other, sanctions, without permissions.
 7. Monitoring - points and stations, programs, results.
 8. Sea environment - status, criterias, ecological goals, monitoring programs, protection areas, program of measures.
 9. Control
 10. Economic analysis and prognosis
 11. Programs of measures from RBMP

12. Geographical information system (GIS)

13. Register and check-up

14. Reporting

15. Import, export and migration of the data.

Remark 3: The expectations are that from 01.01.2018 upgraded system will start working in real time end to cover every requirements for electronic reporting.