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Mission Report

Fact Finding Mission to Azerbaijan, Genjechai Pilot Basin Area

Dates: 29-31 May, 2012

Venues:

- 1) National Monitoring Department of the Ministry of Ecology and Natural Resources of Azerbaijan (MENR);
- 2) Central Complex Laboratory of the National Monitoring Department, MENR;
- 3) Environmental Policy Division of the Ministry of Ecology and Natural Resources of Azerbaijan;
- 4) OJSC Amelioration and Water Farm Company of Azerbaijan;
- 5) Hydrogeological Expedition of the National Department of Geology, MENR
- 6) Ganja Regional Hydro-meteorology Centre, MENR;
- 7) Hydrological observation point on Genjechay at Zurnabad

Mission Participants:

EPIRB Project Team

Mr Zurab Jincharadze, KE2-River Basin Management Expert / Deputy Team Leader
Ms Tatjana Kolcova, KE4-Hydro-morphology Expert
Mr Bernardas Paukstys, KE5-Groundwater Expert
Mr Rustam Rajabov CWM Expert for Azerbaijan

Participants from Azerbaijan:

Ministry of Ecology and Natural Resources - MENR

Mr Mutalim Abdulhasanov, Head of Division, Department of Ecology and Environmental Protection Policy

National Monitoring Department, MENR

Mr Arastun Hasanov, Director
Ms Matanat Avazova, Deputy Director

National Hydrometeorology Department, MENR

Mr Asif Verdiyev, Deputy Director of the Hydrometeorology Forecasting Bureau
Mr Camshid Mammadov, Director of Ganja Regional Hydro-meteorology Centre

Hydrogeological Expedition, MENR

Mr Pasha Kerimov, Chief hydro-geologist of the Hydrogeological Expedition

OJSC Amelioration and Water Farm Company of Azerbaijan

Mr Mammad Asadov, Head of Science, Design and Foreign Relations Department

1. Objective and task of the mission, and project activity/ies to which the mission will contribute

Objectives: Objective of the mission was to explore existing monitoring infrastructure and technical capability of the beneficiary institutions of Azerbaijan responsible for physical-chemical, groundwater and hydrological monitoring. More specific objective of the mission was to assess ability and methodology for collecting, analysing and processing physical-chemical, hydro-morphological, hydro-biological and groundwater monitoring data in the proposed pilot region of Azerbaijan: Ganja, Shamkir, Kazakh and Tavuz districts that include right tributaries of the Kura River starting from the Georgian border up to the Mingichavir Reservoir; another specific objective of the mission was to explore presence and location of the existing monitoring points, accessibility of water quality and quantity data, etc.

Project activities: Fact finding mission will contribute to the Task 1.1.2 of the Activity 1.1 – Assess the current monitoring activities in the beneficiary countries.



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2. Outline the programme of the mission: meetings held, assessment made, workshop provided etc.

29.05.12, Baku, AZ

- 10:00 - 12:00 Meeting in the National Monitoring Department, Ministry of Ecology and Natural Resources
- 12:30 - 13:30 Visit at Central Complex Laboratory of the National Monitoring Department, MENR
- 14:00 - 15:00 Meeting in the Ministry Ecology and Natural Resources of Azerbaijan
- 16:00 - 15:00 Meeting in the OJSC Amelioration and Water Farm Company of Azerbaijan

30.05.12, Baku-Mingechavir-Ganja, AZ

- 11:00 - 13:00 Visit at Hydrogeological Expedition and Laboratory of the National Geological Department, MENR
- 14:00 - 19:00 Travel to Mingechavir
- 19:30 - 20:30 Visit at Mingechavir Reservoir and hydrological observation post
- 20:30 - 22:00 Travel to Ganja

31.05.12, Ganja, AZ

- 10:00 - 10:45 Meeting in the Ganja Regional Hydro-meteorology Centre, MENR
- 11:00 - 12:00 Travel to Zurnabad
- 12:00 - 12:45 Visit at Genjechai hydrological observation point at Zurnabad
- 14:00 - 20:00 Travel to Baku

3. Results from the mission

National Monitoring and Hydrometeorology Departments of the MENR	<p>The mission visited the National Department of Monitoring, which is co-located with the National Hydrometeorology Department in the same building. Both Departments are part of the Ministry of Ecology and Natural Resources of Azerbaijan. Deputy Director of the Hydrometeorology Forecasting Bureau also attended the meeting. The National Monitoring Department has about 200 employees. It includes 4 functional centres: Operational, Analytical, Information and Radiological Centres. Monitoring sampling is done in the Central Complex Laboratory and 2 regional laboratories in Kazakh (serving western part of the Kura basin) and Beilagan (serving the Aras basin). There are 16 employees at Operational Centre for collecting samples, in addition to the mobile expedition groups. Regular water sampling is done on 50 observation points at 42 water bodies. The Kazakh water monitoring laboratory is located in the pilot area and thus may be used for sampling of major parameters (except of heavy metals) for the duration of the project.</p> <p>The National Hydrometeorology Department has well covered monitoring network on all major rivers of the country. There are 93 hydrological posts in Azerbaijan, measuring water levels and temperature 2 times a day; discharges are measured twice per decade on 68 posts. Equipment is old and the current meters are non-calibrated since 1997-1998. The ADCP is used for discharge measurements only on 5 points on the Kura downstream of Mingechavir reservoir (outside of the pilot area). There are 5-6 hydrological posts at Ganja area, measuring both water level and discharge. Granulometry measurements are not practiced since 1999. SMS is used for the data transfers to the central Hydromet office in Baku.</p>
Central Complex Laboratory of the National Monitoring Department, MENR	<p>The mission visited the Complex Laboratory of the National Monitoring Department. The Complex Laboratory consists of three major units: water, air, soil labs, as well recently established unit for hydro-biological sampling. The laboratory is furnished with modern equipment; the laboratory staff is qualified and well trained.</p>



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<p>Ministry Ecology and Natural Resources</p>	<p>The mission met with the Head of the Environmental Policy Sector and the Project FP Mr Mutalim Abdulhasanov to discuss proposed by Azerbaijan the project pilot area and planned field visit to the Genjechai for FFM. In addition expected support from the MENR on data collection, as well as possible cooperation with other beneficiary institutions of Azerbaijan, including State Water Resources Agency (MES) and OJSC Amelioration and Water Farm Company, AzerSu and composition of the project National Coordination Committee were also discussed.</p>
<p>OJSC Amelioration and Water Farm Company of Azerbaijan</p>	<p>Irrigation sector is an important player for overall water resources management in Azerbaijan, as surface and groundwater freshwater resources are very intensively used for agriculture production. The former Ministry of Water Management (up until 1993) and then State Committee of Water Management (GosVodKhoz: 1993-2002), currently Open Joint Stock Company for Amelioration and Water Farm of Azerbaijan owns intensive network of irrigation channels and infrastructure. In addition to collection and distribution of irrigation waters, the Company is responsible for flood and flash-flood preventing measures of channelled areas, construction and maintenance of collectors for soil and drainage waters, monitoring of water levels and discharges at channelled and returned waters, observation of some water reservoirs, monitoring and control of water intakes and major distribution segments, etc. The Company has 5 regional offices to manage the infrastructure and distribution of irrigation waters. In addition, Institute of Water Problems and Institute of Hydro-technics and Hydrology are parts of the OJSC. There is daily data flow from observation network (SMS/Internet); in addition the OJSC has recently installed 5 fully automated telemetric stations. With the support of Asian Development Bank the Company has developed Basin Management Plans for 12 municipalities, where detailed situation schemes for flash-flood prevention have been assessed.</p>
<p><u>Hydrogeological Expedition</u> of the National Geological Department, MENR</p>	<p>The mission visited the <u>Hydrogeological Expedition</u> to discuss and obtain the detailed information on hydrogeological monitoring network in Azerbaijan and the pilot basin area in particular. The issues of existing infrastructure, observation methodology, existing field observation equipment, technical capacity of the monitoring staff and central hydrogeological laboratory were also discussed. As it was assessed, total number of operational groundwater monitoring points in Azerbaijan is about 800. There are 52 observation wells (27 wells in shallow aquifers, and 25 in artesian aquifers, of them 12 self-flowing wells) in the pilot area. Groundwater samples for general chemical composition are collected twice a year and water levels are measured 3 times/month.</p>
<p>Mingechavir Reservoir and hydrological observation post</p>	<p>The mission visited the largest freshwater reservoir in Azerbaijan – the Mingechavir Reservoir, collecting water from transboundary rivers flowing from neighbouring Georgia – the Kura, the Iori and the Alazani rivers. The reservoir is major source for irrigation water, as well as for drinking water supply in western Azerbaijan and hydro-power generation. The mission also visited hydrological station at Mingechavir that conducts daily observation on water levels and temperature. The station was found in a good shape, although with outdated equipment.</p>
<p>Ganja Regional Hydrometeorology Centre - RHMC</p>	<p>The Ganja Regional Hydrometeorology Centre is responsible for hydrological monitoring at Ganja-Kazakh area. It oversees 23 observation points on rivers and 5 on lakes/reservoirs. All stations are equipped with old soviet measurement equipment, current meters are not calibrated since 1997-1998. Water levels are observed twice a day; water discharge – about 55 times a year (or 3-6 times a month, depending on the season and water level). The RHMC employees 129 personnel, among which 31 work in the central office.</p>



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Genjechai hydrological observation point at Zurnabad	The mission visited hydrological observation point at Zurnabad, upstream of the Genjechai River, to check technical conditions and methods used for hydrological observation. This station is located on a relatively high altitude; the water flow is intensive and turbulent. Skills of the local observer and level of the equipment maintenance was found as appropriate. However, due to non-calibrated current meters, there is a possibility of biased calculation of water discharges.
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4. Recommendation / Proposed next steps

Results of the mission will be included in the Activity 1.1 report as a brief review of the existing monitoring systems and tools for assessing data.

It was found however that the **monitoring capacity** in Azerbaijan and in the pilot area in particular, mostly meets the national standards in terms of number and frequency of observation points, both for chemical and hydro-morphological, as well as hydrogeological (groundwater) monitoring. Hydro-biological monitoring does not exist at all, or is being conducted on limited capacity at some pilot areas (Alazani/Ganikh) as part of a demonstration project. Besides, there still are some gaps in data collection process, in addition of outdated and not calibrated hydrological equipment for flow velocity measurements.

Possible alternative to fill the data gaps and acquire consistent data for reliable analysis would be conducting special field surveys. It would be therefore beneficial to obtain for the duration of the project (rent, purchase, etc.) some field equipment (e.g. automatic groundwater level and temperature meters, ADCP for the water discharge and river morphological parameters measurements) and use it for training of local experts and also for data collection. **An introductory workshop for local experts** from all beneficiary countries on water monitoring according to the WFD requirements would also make a lot of sense.



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Photos:



National Monitoring Department, MENR, Baku, AZ



Equipment of the National Monitoring Department Laboratory, Baku, AZ



Hydrogeological Monitoring Centre of the National Geological Expedition Baku, AZ



Visit at Mingechavir Reservoir, Mingechavir, AZ



Ganja Regional Hydro-meteorology Centre, Ganja, AZ



Genjechai hydrological observation point at Zurnabad, AZ

**Photos by Bernardas Paukstys and Tatjana Kolcova*