

# TAJKISTAN WATER SUPPLY AND SANITATION (TAJWSS) PROJECT

## STUDY TOUR FOLLOW-UP REPORT

29 NOVEMBER – 05 DECEMBER 2010



**Funded by  
Swiss Agency for Development and Cooperation (SDC)**

**Prepared by  
The United Nations Development Programme  
Tajikistan (UNDP)**

## 1. JUSTIFICATION

UNDP Tajikistan, through CP, intends to contribute to the *Water Supply and Sanitation Project in Tajikistan* project, which initially commenced in June 2009 and will be implemented until the end of 2012. The UNDP element of the project is funded by the Swiss Agency for Development and Cooperation Office (SDC) with total amount of USD 327,000 (CHF 360,002). The management and main implementing agency is Oxfam GB in Tajikistan who will undertake components of the project, such as: establishing the network of stakeholder organisations, capacity building, and establishing water trust funds to support investments for water supply infrastructure to ensure sustainability of project activities.

The first component which relates to policy dialogue, will be implemented by UNDP, as a component of the overall Oxfam GB led programme. From a previous intervention funded by SDC which has recently been completed, *Encouraging collaboration between governmental institutions, donors and organisations in the field of rural drinking water– to improve accountability, sustainability and effectiveness*, UNDP have demonstrated expertise in the area of facilitation of policy dialogue for water supply and sanitation and will continue to work on this area through this project. The previous intervention can be considered as a first step to improving high-level policy making and reform which frames the country's management, coordination and maintenance of the water supply and sanitation sector (WSS).

Within the framework of the **Policy Development Component (1)**, UNDP CP anticipates to achieve the following two specific outcomes: (1) Establishment and capacity building of the Inter-Ministerial Coordination Group (IMCG) and its members, and (2) Improved legal framework for water supply and sanitation sector.

As part of a wide set of planned activities needed to achieve given outcomes, the UNDP proposed raising awareness on existing international standards and best practices in WSS governance, and therefore suggested three rounds of study tours organized for at least 10 people from selected ministries and relevant state agencies. The main goal of the study tours is to acquaint Tajik officials with the advanced experience of countries, which previously undergone similar reforms, with issues of organizational, technical, juridical, economical and financial regulation in water supply and sanitation sector. The gained experiences are expected to be introduced into Tajikistan's reforms as required.

The three study tours are organized for three different groups from three different levels of state hierarchy. For the purposes of winning stronger political commitment the higher level officials are involved in the earliest study tours. The following three phases are identified:

- PHASE I      Ministers/Deputy Ministers' level to learn best practices and experience and explore possible areas for improving water resource management in Tajikistan;
- PHASE II     Heads of Departments/Divisions (technical level) for developing an action plan, based on the knowledge acquired from the study tour;
- PHASE III    Local Governments' level to learn how to effectively translate policy into practice;

## 2. HOST COUNTRY & PARTICIPANTS SELECTION

Based on the brief survey conclusions, the Czech Republic had been identified by project partners as most suitable to Tajikistan's context and needs. Having undergone a similar transition from centrally planned to a market driven economy, the Czech Republic had overcome similar concerns and challenges, and is believed to have achieved great improvements to date in rural water supply and sanitation. The Czech success is evident in the following issues:

- Key sector reforms to stem continued service deterioration and put rural water supply and water sector on a sustainable footing;
- Institutional strengthening, capacity building to create autonomous local utilities;
- Financing and staffing standards compared to international /EU Requirements;
- Regulatory oversight of Government, parliament, municipalities, CBOs and CSOs;
- Key role-players', stakeholders' role and Governance Relationships;
- Autonomous, commercially-oriented, and self-reliant utility operating bodies;
- Management, tools, control/monitoring systems;
- Decision-making, enterprises autonomy and control over crucial business decisions (e.g., tariff setting, investments planning, tendering, etc.);
- Tariff increases and rigorous collection /Optimal recovery of operation, maintenance, and capital costs from the consumer;
- Private Sector Participation;
- Suitable resources /sources of large investments;
- Cost-Effective Utilization of Scarce Resources and Donors assistance to reduce poverty and improve living standards through sustainable growth.

The list of the delegation intended for the first study tour was designed to cover the large scope of the subjects described above. The delegation consisted of high level officials from the following government ministries and agencies (see details in ANNEX I):

- Ministry of Melioration and Water Resources of the Republic of Tajikistan;
- Agency for Construction, Design, Exploitation of Rural Drinking Water Supply Systems and Irrigation of Pastures under the Government of the Republic of Tajikistan;
- State Unitary Enterprise of Housing and Communal Services *Khojagii Manziliyu Kommunalii*;
- Ministry of Economic Development and Trade of the Republic of Tajikistan;
- Ministry of Health of the Republic of Tajikistan;
- Sanitary Epidemiological Service;
- Agency of Construction and Architecture under the Government of the Republic of Tajikistan;
- Geology Department of the Government of the Republic of Tajikistan;
- Parliament;
- Oblast level Hukumats.

The specific task of the composed delegation was to identify how Czech Republic addressed related issues of concern in Tajikistan, and develop remedies that are replicable in the Tajik context. The delegation is expected to share their findings with the network of stakeholders during a feedback workshop upon return thereby feeding into the ongoing debate related to the Law of the RT on "Safe Drinking Water and Drinking Water Supply".

### **3. DESIGNED AGENDA**

The organization of the given study tour was carried out through services of the MP Consulting Company, identified through a tender procedure on the basis of a contract between the UNDP Tajikistan and Mr. Milan Oleriny, signed on 12 November 2010. The activities of the Delegation had been conducted in accordance with the agenda advanced forward (Annex II). Below is a more detailed and chronological summary of activities undertaken by the participants:

#### ***Monday, November 29***

Upon arrival of the tour participants the content of the agenda was updated with the latest confirmation from the local and national governmental and private agencies, and the related information were provided concerning organization and legislation in the water supply and sanitation sector.

#### ***Tuesday, November 30***

##### Initial Meeting with the Prague Water Supply Company, a district in the Old City of Prague:

Based on the approved program the initial meeting of the whole delegation took place at the PVS Company, where comprehensive presentation of the company and its goals was delivered with the focus on provision of the drinking water and sewage system. In the following discussion individual delegates were interested in the costs of provision and maintenance of a sewage system, as well as the way of maintenance of the water and sewage systems in Prague with regard to paying for these costs, including EU grants. The structure of so called water and sewage charges was also explained, including usage of these resources for renewal of the existing network in the Czech Republic.

##### Inspection of the Water reservoir in Podoli, Prague:

In the afternoon there was an excursion to the existing waste water treatment plant in Prague 7 - Troja, where the delegates were introduced with operation of this station. Currently, there is a tender for a general contractor for reconstruction of this plant that will last for three years and will be performed while the plant is in operation.

##### Inspection of Waste Disposal Plants in Troja district:

Some parts of the WWTP (Waste Water Treatment Plant) are already modernized; final building modifications will be performed in agreement with the latest requirements of EU standards. On the other hand the plant meets or exceeds some of those standards, and consequently water with the value BSK5 is drained into the river of Vltava.

#### ***Wednesday, December 01***

##### Inspection of Water reservoir Zhelivka:

Another part of the program was inspection of the current largest reservoir of drinking water in the Czech Republic that is about 60 km south of Prague, and is also one of the biggest reservoirs in Europe. The station is continuously modernized, and its water is transported to the capital through an underground aqueduct more than 50 km long.

The whole operation is fully automatic with minimal demands on manual labor of its employees. Delegates mainly asked about operations and automatization of the system, especially about measuring and regulation and the control station, where practically all activities are fully monitored in order to exclude human factor that could impact quality of the drinking water. The newest part of the whole equipment is an ionization unit that was commissioned in April 2010 with the total cost of USD 5.5 million and that is now in full operation. This newest system of water treatment only augments the existing lime and chlorine water treatments. The treatment plant built in the Seventies belongs among the largest treatment plants and reservoirs of drinking water in the central Europe; its operation is continuously modernized using also EU resources.

#### Visit to MAVEL company, Producer of Mini-Hydro Power Stations:

During the day there was also a presentation at the Mavel a.s. Company in Benešov that produces small hydroelectric plants (HPS). The company already built more than 300 of these around the world, and is one of the largest producers of small hydroelectric plants with capacities from 10 kW to several MW in the world. The delegation also introduced its proposal for tendering for inspection of technical status of approx. 160 objects that can be built or reconstructed in the Republic of Tajikistan.

Mr. Oleríny in this connection recommended selecting of a sample project that could be financed by sponsors on the basis of UNDP initiative, and then used as a sample development project, especially in mountainous and remote areas of Tajikistan. It is recommended to further develop this contact, especially with regard to Mavel a.s. manufacturing experiences from former Soviet states.

#### ***Thursday, December 02***

#### Meeting HYDROPROJEKT Prague, design and Engineering Company:

Thursday negotiations started with the meeting in Hydroprojekt Praha a.s. that is the largest specialized project organization in the water and water management areas in the Czech Republic. This visit thus follows previous negotiations between the UNDP representatives and the Hydroprojekt management in September of 2010 in Prague, where the HP activities in the Russian Federation were introduced by a separate presentation. Hydroprojekt therefore has experience with water construction projects, also with technical inspections and certifications, studies, calculations etc., and it also has a valid license for work on the Russian Federation territory.

A part of the negotiation with Hydroprojekt a.s. was the comprehensive presentation of the company (the delegates were given a copy) that focused on the company profile with regard to all types of water management projects and activities of HP. Considering the fact that Hydroprojekt has its branch in the Russian Federation (St. Petersburg office) and is licensed there, it appears to be a suitable partner for the Republic of Tajikistan also with the focus on water management projects both on small and larger scale. HP also has quality software at its disposal for calculation of, for instance, hydraulic losses, monitoring etc. that is not a common tool even in many projects in the Czech Republic. To follow the previous visit of UNDP representatives from Tajikistan, Hydroprojekt a.s. and Mavel a.s. are preparing their visit to Tajikistan around April of 2011.

#### Meeting with the Ministry of Environment of the Czech Republic:

The presentation and reception at the Ministry of the Environment was already focused on the questions of drinking water and sewage systems (the presentation was received by participants). The delegation was interested in all activities covered by the Ministry of Environment with regard to water and sewage problems including legislation, expert proceedings, proposed laws, environmental inspections, and etc. Ing Bláha - Department Director - proposed particular assistance in the area of securing of expert personnel and expert management for Tajikistan to the delegation, however, this help would have been officially requested through the Ministry of Environment. However, the cost could be partially covered by the Czech developmental help or possibly by other resources (e.g., donor money or Norwegian funds).

It is also possible for the delegation of the Ministry of Environment to visit Tajikistan after previous official invitation with the idea that that some environmental departments could be monitored on location and mutual bilateral cooperation between both countries could be arranged. The Czech environmental legislature follows primarily EU standards and regulations, while being further modified to the current form.

To create the law about waste waters, that does not exist in Tajikistan, it is possible to utilize Czech experiences; also other European directives can be worked on; for example, directives about protection of waters, handling of waste, protection of plants, animals, etc. This meeting was therefore attended, with exception of Ing Bláha, Department Director, by the Ministry of Environment experts on water protection, as well as a protocol representative.

### ***Friday, December 03***

#### Meeting with the Ministry of Agriculture of the Czech Republic:

In accordance with the protocol some of the delegation representatives were received at the Ministry of Agriculture on the highest level - by the Deputy Minister Mr. Kendík. The goal of the meeting was to present competencies and activities of the Ministry of Agriculture with regard to the water and sewage problems and division of the competencies with regard to the Ministry of Environment activities.

The delegation questions were directed primarily to the questions of legislation and the application of laws in relation to water management in the Czech Republic, tariff policies and structure of costs used for operation of water and sewage network. Also the methodology of the whole system was reworked concerning division of competencies between the ministries; in the area of price creation supervision of the Ministry of Finance was introduced regarding calculation of costs for water and sewer network operators.

#### Inspection of construction sites in Prague for water and FS systems:

The meeting further continued at Povodí Vltavy a.s. (Vltava drainage area) with the Director Mr. Kubala; PV is responsible for its part of water streams in the Czech Republic that belong to the drainage area. Questions of administration, competencies and tasks of the government enterprise, as well as experiences during construction and operation of mobile protection against floods, which caused damages in billions of USD during floods in the Czech Republic, were widely discussed. Beyond construction modifications and measures, these light mobile aluminum barriers were used in Prague and also in other locations and cities of the Czech Republic.

### ***Saturday, December 04***

#### Delegation Final Internal Meeting

Based on the previous scheduled program meetings, Mr. Oleríny summarized the meeting conclusions and recommended continuing with the negotiations following performed Study Tour at the individual ministries as follows:

- a) To initiate a meeting with the Ministry of Environment – to officially ask for expert help concerning ecological damages
- b) To send an invitation and request to send a delegation of the Ministry of Environment to Tajikistan as the basis for expert help
- c) To prepare, together with UNDP, basic documentation and select a sample project for a small hydroelectric plant in the country
- d) To prepare, together with UNDP, meeting about the visit of Hydroprojekt and Mavel delegation in 04/2010;
- e) To initiate an expert group to submit a legislative proposal of the law about sewage based on the Czech Republic and EU legislature.

Both individual and collective meetings with the designated partners and ministries were organized through assistance of translators where necessary.

#### **4. FOLLOW-UP MEETING IN TAJIKISTAN**

Shortly after the Delegation's return to Tajikistan, a meeting was organized on 17<sup>th</sup> December 2010, in order to share the Study Tour results with the network of stakeholders in WSS in Tajikistan. The details of the results meeting are provided in the attached Agenda (ANNEX III) and Minutes attached to this report (ANNEX IV).

## ANNEX I

### LIST OF DELEGATIONS FOR TAJWSS STUDY TOUR TO PRAGUE, CZECH REPUBLIC

from November 29 to December 6, 2010

1. Mr. **Saidi Yokubzod** - Parliament of the Republic of Tajikistan, Chairman of the Committee on Ecology;
2. Mr. **Musayabsho Nazriev** - Member of Parliament of the Republic of Tajikistan
3. Mr. **Isroil Nasyrov** - Executive Office of the President, Head of Department
4. Mr. **Makhmasaid Isoev** - General Directorate "Tadzhikobdehot", Manager
5. Mr. **Umed Davlatzod** - Ministry of Economic Development and Trade, Deputy Minister
6. Mr. **Bedil Khamidov** - Committee for the Environmental Protection, Chief Specialist
7. Mr. **Alimurod Tagoimurodov** - State unitary enterprise "Housing and Communal Services", the General Director
8. Mr. **Musso Gafurov** - State unitary enterprise "Housing and communal services," Deputy General Director
9. Mr. **Azamdzhon Mirzoev** - Ministry of Health, Deputy Minister
10. Mr. **Abdusalom Makhmadaliev** - General Directorate of Geology next to the Government of Republic of Tajikistan, Deputy Manager

## ANNEX II

### AGENDA

#### FIRST STUDY TOUR FOR TAJWSS PROJECT from 29<sup>th</sup> November to 05<sup>th</sup> December 2010

##### *Monday, November 29*

- Arrival to Prague Airport, organization of accommodation, and a welcome meeting with Mr. Oleriny and a translator at the hotel;
- Reception dinner at a restaurant.

##### *Tuesday, November 30*

- 08:30 Initial Meeting with the Prague Water Supply Company, a district in the Old City of Prague;
- 10:00 Inspection of the Water reservoir in Podoli, Prague;
- 13:30 Inspection of Waste Disposal Plants in Troja district;

##### *Wednesday, December 01*

- 08:30 Inspection of Water reservoir Zhelivka;
- 12:00 Visit to MAVEL company, Producer of Mini-Hydro Power Stations;

##### *Thursday, December 02*

- 09:30 Meeting HYDROPROJEKT Prague, design and Engineering Company
- 14:00 Meeting with the Ministry of Environment of the Czech Republic

##### *Friday, December 03*

- 09:00 Meeting with the Ministry of Agriculture of the Czech Republic
- 14:00 Inspection of construction sites in Prague for water and FS systems (in Povodí Vltavy a.s., Vltava drainage area);

##### *Saturday, December 04*

- All day Preparation of Aid Memoire (a follow-up report reflecting the impressions, proposals and feedback to be shared with the TajWSS Network)

##### *Sunday, December 05*

Departure to Airport (Prague-Istanbul-Dushanbe).



### ANNEX III

#### AGENDA

Meeting on the results of study tour of  
Inter-ministerial delegation of the RT to Prague, Czech Republic

**Venue:** Dushanbe, 39 Ayni, Conference Hall, 2 floor, UNDP

**Date:** Friday, December 17, 2010

**Time:** 3-5 p.m.

Goal: Summarizing the study tour of TajWSS delegation to Prague and suggestions to establish the favorable conditions in the sphere of drinking water supply and sanitation in the RT

<i>Time</i>	<i>Description</i>	<i>Speaker</i>
15.00 – 15.10	Opening: <ul style="list-style-type: none"> <li>Opening speech</li> </ul>	Zahira Virani- Deputy Country Director UNDP Nicolas Guigas - Deputy Country Director, SCO Ghazi Al Kelani – Project Manager TajWSS, Oxfam GB
15.10 – 16.00	<ul style="list-style-type: none"> <li>Policy in the area of drinking water management in Czech Republic</li> <li>Improvement of legal and institutional basis in the area of drinking water supply in the RT</li> <li>Drinking water supply management in European Union and ways to improve it in RT</li> </ul>	Saidi Yukubzod, Chaiman of the Committee MNMO RT Musayabsho Nazriev, Deputy, MNMO RT Alimurod Tagoimurodov, General Director GUP MHE
16.00 – 16.20	Coffee break	
16.20 – 17.00	<ul style="list-style-type: none"> <li>Support the work of drinking water supply systems and sanitation in Czech Republic and suggestions to improve the system in the RT</li> <li>Use of ground-waters for drinking supply in the settlements</li> <li>Conclusions and recommendations</li> </ul>	Mahmadsaid Isoev, Head, Tajikobdehot Abdusalom Mahmaliev, Deputy Head, Department of Geology under the Government of the RT

## ANNEX IV

### MEETING MINUTES

on the outcomes of Study Tour of Inter-Ministerial delegation  
of the Republic of Tajikistan to Prague, Czech Republic

Date of the meeting: December 17, 2010  
Venue: UNDP Conference Hall, 39 Ayni Street, Dushanbe

#### **Participants:**

Mr. Saidi Yokubzod	Chairperson of the Committee on agriculture and environment, Majlisi Namoyandagon Majlisi Oli of the Republic of Tajikistan (MNMO RT) - Lower Chamber of the Tajikistan's Parliament
Mr. Musayabsho Nazriev	Member of the Committee on energy, industry, construction and communication of the MNMO RT
Mr. Alimurod Taghoimurodov	General Director, State Unitary Enterprise "Khojagii manziliyu komunnali" (GUP KMK)
Mr. Musso Ghafurov	Deputy General Director, GUP KMK
Mr. Mahmadsaid Isoev	Chairperson, "Tojikobdehot"
Mr. Abdusalom Mahmadaliev	Deputy Chairperson, the Main Agency on Geology under the Government of the Republic of Tajikistan (Glavgeologiya)
Mr. Bedil Hamidov	Chief Specialist Environmental Review, Committee on Environment Protection
Mr. Ruslan Sadikov	National Program Officer, Infrastructure Programme, SDC
Mr. Ghazi Al Kelani	Project Manager, TajWSS, Oxfam GB
Ms. Dilafruz Usmanova	Communication and Reporting Officer, Oxfam GB
Mr. Alisher Alimov	Engineer, Oxfam GB
Ms. Zahira Virani	Deputy Country Director, UNDP Tajikistan
Mr. Manuchehr Rakhmonov	Senior Economic Development Officer, UNDP CP
Mr. Rustam Faiziev	Senior Engineer, UNDP CP

#### **AGENDA**

- I. Opening speech
- II. Policy in the area of drinking water management in Czech Republic
- III. Improvement of legal and institutional basis in the area of drinking water supply in the Republic of Tajikistan (RT)
- IV. Drinking water supply management in European Union and ways to improve the situation in the RT
- V. Support the work of drinking water supply systems and sanitation in Czech Republic and suggestions to improve the system in the RT
- VI. Use of groundwater for drinking water supply in the settlements
- VII. Conclusions and recommendations

The meeting followed a study tour to Czech Republic that was arranged within the framework of TajWSS project. The tour took place from the 29<sup>th</sup> of November to 6<sup>th</sup> of December 2010 and was the first out of total three planned. This time high ranking officials from the key ministries and agencies working in the water supply and sanitation sector visited Prague.

The meeting was arranged to summarize results of the study tour based on the reports and presentation of participants and lay down suggestions and recommendations for further review to create basis for improvement of the drinking water supply and sanitation (WSS) sector in the Republic of Tajikistan.

## **I. OPENING SPEECH**

### **Ms Zahira Virani, UNDP Tajikistan**

She welcomed and thanked all the study tour (ST) participants for their commitments and time allocated, despite of their busy schedule. Zahira also stressed that the issue of water, whether it is for hydropower, agriculture or drinking water supply, is an absolutely critical issue for Tajikistan as well as for UNDP in Tajikistan. No discussion about development in Tajikistan is considered complete without addressing the issue of water. UNDP works in the sector at all levels with different partners; at the local level with jamoats and districts; and at the country/national policy level with the Government of Tajikistan (GoT) and international institutions. What is important for UNDP is to make sure that everything learned at the local level, not just through its own projects, but also through the projects by the government and its partners, is then translated into policy at the national level, which then turns back to the district and then local levels.

UNDP is pleased that it was able to give the opportunity for bringing professionals and key actors of the sector together in the tour to further sharing of their observations. The stakeholders look to the participants through this and other projects to make sure that the lessons they've learned are applied into the Tajik context so that the others would be able to implement real policies that can make a difference in the water sector.

### **Mr Ruslan Sadikov, SDC**

Ruslan had informed that Mr Nicolas Guigas, Deputy Country Director for SDC, who was initially invited to the meeting, was not able to come. Ruslan joined the speech of Zahira and thanked tour participants for the work done, in spite of being very busy with other commitments. He also expressed confidence that the tour was fruitful and based on the reports that would be presented later during the meeting, he would convey his observations to the SDC team.

### **Mr Ghazi Al Kelani, Oxfam GB**

This is critical moment for the sector in Tajikistan, especially in the context of ongoing reform of the sector. Mr Kelani had expressed the hope that findings and knowledge that the participants gained during the ST, surely adds more value to the reform process and that the interaction dialogue will continue to achieve the goals set within the framework of TajWSS project.

## II. POLICY IN THE AREA OF DRINKING WATER MANAGEMENT IN CZECH REPUBLIC

**Mr Saidi Yakubzod, Committee on agriculture and environment, MNMO RT**

The agenda of the ST was developed in such a way that it reflected all the processes, starting from project design and ending with the exploitation and maintenance of the drinking water supply and sanitation (WSS) systems. During the ST, team had paid visit to different WSS sector facilities and had several meetings with the key agencies working in the sector, particularly:

- Prague Water Management Company (PVS) that supplies the population of Prague with drinking water and sanitation, whose private operator is Viola, French company.
- Wastewater Treatment Plant in Troy
- Water reservoir “Podoli” of Prague
- Presentation at the Mavel a.s. Company in Benešov that produces small hydroelectric plants (GES)
- “Hydroprojekt Praha”, the largest specialized project organization in the water and water management areas in the Czech Republic, works in cooperation with the SWECO (Sweden)
- Ministry of Environment
- Ministry of Agriculture
- State Environmental Facility of Czech

### General findings

- Excellent technology on decontamination of water through ozone treatment
- Wastewater recycling and production of compost for use in agriculture
- Gas-electric power station working on the biogas generated from the drain water, which produces electricity energy and covers up to 75% of factory needs
- Splendid museum of water supply and unique facilities and buildings with decent architecture of 19-20 centuries.
- Unique demountable and gathering aluminum coast protecting panels that safeguard Prague from flooding

### Suggestions

- To the extent possible, support collaboration of the Ministry of Land Reclamation and Water Resources (MLRWR) of the RT and local Hukumats with the Czech Republic company SIGMA, specialized in production of water pumps and create favorable condition for joint or independent work in the Free Economic Zone in Sughd, where the demand for the pumps is high and abundant labor force.
- To the extent possible, support collaboration of the Ministry of Energy of RT with Czech MAVEL, jointly with or independently, to work in the Free Economic Zone of Khatlon region to put into production hydro turbines, considering huge hydro-energy capacity of Tajikistan equal to 560,000 megawatt a year.

### Discussion:

- Mr Rustam Faiziev:** What is meant by the wastewater recycled, drainage water or something else?
- Mr Saidi Yokubzod:** Yes, it is drainage water processed. The waste after recycling is used mostly as a fertilizer, organic without chemicals, for agriculture.
- Mr Rustam Faiziev:** It seems that the products produced from the wastewater can to some extent cover the expenses or promote further financing of sanitation sector. So, if

to develop and apply this experience in Tajikistan, it might be considered as one of the sources of income.

**Mr Ghazi Al Kelani:**

Oxfam constructed couple of this kind of stations in the past and the quality of water after recycling is almost drinkable, but it is not recommended for drinking. About 99.3% of the processed water is repeatedly used for irrigation purposes in addition to compost and biogas produced. However, technology is very costly.

**Mr Musayabsho Nazriev:**

Was there any equipment delivered then?

**Mr Ghazi Al Kelani:**

Yes, the last one was constructed in 2000 and all the equipments were of German making. Even in 1980<sup>th</sup> this kind of technology was in use and known, however the recent modifications are getting better and better. There are de-silting basins in Kulyab, which need repair and where roughly 25 000m<sup>3</sup> of the compost could be produced.

**Mr Musayabsho Nazriev:**

Wastes in Czech Republic, as I found out, are not used. However, here in Tajikistan we can use it.

**Mr Saidi Yokubzod:**

There is a misunderstanding. In Czech, the company engaged in recycling does not use or sell compost itself. They even pay to the other companies to take out the composts. Then the company that takes out the compost will sell it to the others.

### **III. IMPROVEMENT OF LEGAL AND INSTITUTIONAL BASIS IN THE AREA OF DRINKING WATER SUPPLY IN THE REPUBLIC OF TAJIKISTAN (RT)**

**Mr Musayabsho Nazriev, Committee on energy, industry, construction and communication, MNMO RT**

The Study Tour gave an opportunity to learn about the lead technologies and expertise used there. Pertaining to the new Law on Drinking Water Supply in the RT, MNMO RT has approved it and sent the document to the President for signing. As soon as it is signed within the framework of IMCC the implementation of Law will be handled.  
In regard with the problem of collection of fees for the water supply in rural areas, it would be appropriate to establish local public committees at the level of jamoats and villages.

**Manuchehr Rakhmonov, UNDP CP**

The law, as a whole, will serve as a basis for developing future policy of the water sector. It is important to note that in future a kind of self-regulated bodies should be established, which will help operators in providing stability and sustainability of the sector to make the sector more profitable.

### **IV. DRINKING WATER SUPPLY MANAGEMENT IN EUROPEAN UNION AND WAYS TO IMPROVE IT IN THE RT**

**Mr Alimurod Taghoimurodov, GUP KMK**

During the visit, participants had learned that Czech Republic has made significant progress in addressing problems that the RT would likely to face in the coming years.

What impressed participants of the tour was the discipline and mentality of Czechs in terms of timely making payment for the services provided. Another thing that attracted attentions was the equipment operational from 1965, which despite of its old age was still in good working condition.

The team had noticed that the water, before treatment, was in fact of poor quality, which needs number of processing facilities and stages that result significant cost. There is similar water in Tajikistan; however there is no need, to that extent, for multistage treatment process.

Study tour participants were much interested on tariffs and tariff policy for the services provided in Czech Republic. A cubic meter of water costs Euro 2.20 in Prague compared to Somoni 0.4 in Tajikistan. In 2009, only in Prague a total of CZK 2 billion (Czech koruna) collected (US\$1.0=CZK19.0) from the sector.

In addition, the sector in 2009 received around Euro 80 million from the international institutions and Euro 120 million from the municipals as an investment.

GUP KMK in close collaboration with the international community hopes that by 2025 all the issues of the sector will be solved.

Suggestion:

- Tariffs for water supply and sanitation need to be gradually increased in Tajikistan. However, even if tariffs are increased by 100-200%, it would not be able to cover the real expenses. Therefore, a mechanism needed to be developed so that either the Government or the international initiations could subsidize the sector. Otherwise, the situation in the sector is not going to improve for the next several years.

Discussion:

**Mr Rustam Faiziev:** TajWSS project aims to support the reform process. Czech Republic had the same situation, as Tajikistan faces now, 15-17 years ago. What about the governing of WSS systems in Czech Republic? Is there anything Tajikistan could adopt or imitate?

**Mr Alimurod Taghoimurodov:** Compared to Tajikistan, all water resources are governed by the Ministry of Agriculture of Czech Republic. Drinking water and sanitation is a separate sector led by a certain department as well as irrigation water, sewage and rivers are considered different sector led by another department of MoA.

This issue needs to be discussed in a higher level in Tajikistan. Since the MLRWR RT deals with the drinking water, it would be reasonable if GUP KMK would be given to that agency and rename it as a Ministry of Water Recourses and Sanitation, for instance. Besides, drinking water supply is closely linked to the sanitation. Another option is to give GUP KMK management of drinking water systems.

In regard with the above mentioned, GUP KMK already submitted some proposals to the GoT.

**Mr Rustam** Does the MoA of Czech Republic provide overall policy on land reclamation

- Faiziev:** and water resources issues?
- Mr Alimurod Taghoimurodov:** Water supply and sewerage systems are managed by separate department and land reclamation is led by different department of the Ministry of Agriculture CR.
- Mr Rustam Faiziev:** Which agency is responsible for setting tariff rate in Czech Republic?
- Mr Alimurod Taghoimurodov:** Tariffs are approved by municipals and they vary in different cities and regions. The price of services mostly depends on expenses made to supply the water and serve sanitation facilities. For instance if the water is taken from the river with less effort and expenses, correspondingly the price is lower, and if the water is delivered using several pumps, then reasonably the price is also high.
- Mr Rustam Faiziev:** What about the private sector involvement in the drinking water supply sector?
- Mr Alimurod Taghoimurodov:** Private sector is actively involved in the sector and encouraged through announcing tenders. The assets and facilities are given for operational control, not ownership, during the contract period. However, private sectors owning assets and facilities also could be met in small towns and villages of Czech. In both cases, as it was mentioned earlier, tariffs are approved by municipals, which receive 8-12% of total income to their budgets.
- Mr Rustam Faiziev:** Can the local systems in rural areas of Tajikistan be privately owned?
- Mr Alimurod Taghoimurodov:** Yes, it is possible. Unfortunately, now private sector never appeared to the sector due to its unprofitability. Minimum of expenses for a m<sup>3</sup> of water is Somoni 2, while it is sold to the population for Somoni 0.4. That is due to the salary rate and consumer basket in Tajikistan, which is Somoni 234.0.
- The issue is studied by the GUP KMK and proposals were submitted to the GoT.
- Nevertheless, tariffs were increased by GUP KMK in the 4<sup>th</sup> quarter of 2010 by 100% and in 2011 it will be again increased by 100%.
- Tajikistan has different rates for different categories: a m<sup>3</sup> of water for population is TJS 0.4, for the budget agencies TJS 0.5 and for the commercial structures TJS 0.7, while in Czech the same rate is for all categories. For Tajikistan it is better to use the same approach.
- Mr Ghazi Al Kelani:** Does the rate depend on the amount of water used in Czech?
- Mr Alimurod Taghoimurodov:** Yes, there also maximum and minimum scales are set. In addition, in case if the house is connected to the system, regardless of using it or not, consumer pays Euro 80 per month.
- Mr Ghazi Al Kelani:** What about poor population of Prague? Do they pay the same rate?
- Mr Alimurod Taghoimurodov:** Municipal covers their expenses.
- Another issue worth to mention is that the meters are installed at the expenses of the consumer. They have kind of built-in filters for cleaning water that often easily damaged due to the poor quality of water. Tajikistan has to consider that experience and while selecting meters, very basic one

without filter should be recommended. For the moment, very few people use meters. It would be appreciated if the international community assists in provision of population of at least 5-6 districts each year with the meters.

**Mr Rustam Faiziev:** Observations in Dushanbe revealed that different types and models of meters are installed in houses without considering quality of water.

**Mr Alimurod Taghoimurodov:** Yes, that is true. In case of joint efforts by the MoA and MLRWR of RT, there is ground and possibility of production of meters locally. Otherwise, tender could be announced and a company, which also provides technical services locally, to be selected. Another advantage of working with one company is saving funds.

Currently GUP KMK is negotiating with Viola, France so they could be our partners. However, it seems less possible due to tariffs.

## **V. SUPPORT THE WORK OF DRINKING WATER SUPPLY SYSTEMS AND SANITATION IN CZECH REPUBLIC AND SUGGESTIONS TO IMPROVE THE SYSTEM IN THE RT**

**Mr Mahmadsaid Isoev, TojikObDehot**

Czech Republic made a lot to achieve production of pure water and its further protection. Unique water treatment facilities are built in the cities and villages, new technologies and standards are applied in the management, processing and protection of water and water drains. Average domestic water usage is equal to 100 liters per capita.

About 70% of Tajikistan's population live in rural areas and the problems that exist in the water sector are mostly due to lack of funds. Besides, due to dispositioning management structures, the situation of the assets and facilities are degrading, which pushes population to utilize water of poor quality from the open reservoirs. Since most of the assets are not maintained, there is need to conduct inventory of water sector assets and facilities and further, to the extent possible, try to rehabilitate them. Upon rehabilitation they should be handed over to the private sector or water users associations. In this situation, rehabilitation and reconstruction of the water supply networks in rural areas are in need of vast financial means, which only can be provided by international investment financial institutions and through targeted allocation of funds from the country budget. For initiating those activities TojikObdehot suggests to establish coordination group in the RT consisting of the water supply sector specialists.

## **VI. USE OF GROUND-WATERS FOR DRINKING SUPPLY IN THE SETTLEMENTS**

**Mr Abdusalom Mahmadiyev, GlavGeologiya**

Population of Prague is mostly supplied with surface drinking water taken from Vltava river. Share of the groundwater reaches 5% of the total amount in Prague and for the whole country the indicator is above 40%.

Glavgeologiya is a specially authorized state body for the settlement of the use and protection of water. The Main Agency on Geology under the GoT is vested with management of water inventory, monitoring the use and protection of underground water from depletion and contamination, record keeping, maintenance, approval of permits for use of groundwater, coordination of projects for drilling and etc. Groundwater of Tajikistan is very diverse in its chemical composition and taste, bedding, movement and runoff. Underground fresh water of good

quality is emerged in the upper hydrodynamic zone, located in relatively shallow depth from the surface, where active water exchange occurs. Supply of the most settlements and industrial enterprises in mountain areas is based on the use of groundwater, received by capping of large springs. Analysis of water in mountainous and pleated areas can fully shift to supply of settlements and facilities with water from underground sources.

Suggestions:

- More emphasis should be given to groundwater in terms of water supply, since it is clean with less cost.

Discussion

**Mr Manuchehr Rakhmonov:** Is there any difference for the price charged for groundwater and surface water in Czech Republic?

**Mr Abdusalom Mahmadaliev:** Unfortunately, this issue was not raised there.

**Mr Ghazi Al Kelani:** Economically, expenses for the services should not exceed 5% of the income.

**Mr Rustam Faiziev:** According to an analysis conducted by Glavgeologiya, cost of groundwater for drinking water supply is 10-15 times cheaper than from the open water sources.

What is the ratio of surface and groundwater use in Tajikistan?

**Mr Saidi Yokubzod:** In Dushanbe 30% comes from open sources and 70% from underground.

**Mr Ghazi Al Kelani:** In Kulyab almost the same, 20% versus 80% is from open and underground sources respectively.

**Mr Alimurod Taghoimurodov:** For the country 59.8% of water comes from the open sources and 40.2% from underground sources.

**Mr Rustam Faiziev:** Question to the representatives of two main operators, GUP KMK and Tojikobdehot: What is the strategy for the future of WSS; would it be based on underground or surface water?

**Mr Alimurod Taghoimurodov:** In locations where both sources exist, preference would be given to underground water, which costs less, in terms of spending for cleaning and treatment. But, undoubtedly the choice should first be based on the quality of water, despite of the cost.

**Mr Saidi Yokubzod:** If possible, during the inventory campaign to consider and measure the volume of underground and surface water that are suitable for drinking in the country.

**Mr Alimurod Taghoimurodov:** Current inventory campaign is being carried out by GUP KMK, but estimation of the groundwater is up to Geology Department.

**Mr Ghazi Al Kelani:** When it is said “providing access to the drinking water” it needs to be highlighted as ”access to safe or good quality drinking water and sanitation”.

Within the framework of TajWSS project, it was concluded that any of local or international organization, planning to implement WSS project, should follow the available procedures accordingly. However, they face

number of challenges. The issue is that the procedures are too complicated to be followed, which in addition are recourse and time-consuming. Therefore, focus is made to the new law, interactions between respective agencies and working group at the high level to review, discuss and simplify the procedures as much as possible that could be applicable for everybody.

**Mr Alimurod  
Taghoimurodov:**

GUP KMK has developed a programme on improving water supply and sanitation sector of the country. A day earlier, GYP KMK sent people to all regions, about 20-30 persons in each district, to conduct inventory and even to identify and map sources of drinking water. Based on the data collected there would be Information Center established within the Inter-Ministerial Coordination Council.

**Mr Saidi  
Yokubzod:**

There should be coordination among agencies working in the sector. Often, it is witnessed that two international agencies are working in one district and in the neighboring district, where access to water is an issue, no one works. In addition, the criteria of selection of regions are not clear as well. Underdevelopment, remoteness, roads, population in migration among other issues is not considered, while selecting area for implementation of certain projects. It seems that due to remoteness from the center, lack of infrastructure and decent hotels, international institutions are less motivated to set up offices and work directly on the spot in remote rural areas, where the problem exist.

During the planning phase of construction or rehabilitation of infrastructure projects and identification of the locations, the issue of ethnicity and national minorities should also be considered in order to avoid possible misunderstandings and creating confusing notion of only targeting certain groups.

## VII. SUMMARY OF SUGGESTIONS AND RECOMMENDATIONS

- To apply ozone treatment technique for water decontamination
- To introduce build wastewater treatment plants for recycling and production of compost for further use in agriculture
- To the extent possible, support collaboration of the Ministry of Land Reclamation and Water Resources (MLRWR) of the RT and local Hukumats with the Czech Republic company SIGMA, specialized in production of water pumps and create favorable condition for joint or independent work in the Free Economic Zone in Sughd, where the demand for the pumps is high and abundant labor force.
- To the extent possible, support collaboration of the Ministry of Energy of RT with Czech MAVEL, jointly with or independently, to work in the Free Economic Zone of Khatlon region to put into production hydro turbines, considering huge hydro-energy capacity of Tajikistan equal to 560,000 megawatt a year.
- To take into consideration cold climate of Europe and in the future arrange similar study tours during spring or summer.
- To speed up the process of IMCC establishment.
- To establish local community based organizations at the level of jamoats and villages and involve them in collection of fees for WSS sector services.
- To involve the GoT and international agencies in provision of subsidies and grants for covering of the sector expenses.

- To develop a mechanism so both drinking water supply sector as well as sanitation sector to be under one ministry or agency.
- To use similar rate for charging cost of services to all categories of consumers.
- To recommend purchase and instalment of simple meters without filters.
- To conduct inventory throughout the country to find out the facilities in need of rehabilitation and hand over those assets to the private sector or water users associations after rehabilitation.
- To establish coordination group in the RT consisting of the water supply sector specialists to address issues related to the rehabilitation of drinking water supply networks.
- To give preference to underground rather than to surface water, since it is cleaner and costs less.
- To estimate the volume of underground and surface water suitable for drinking, through inventory campaigns.
- To set up proper coordination among agencies working in the sector.
- To consider the issue of ethnicity and national minorities in the planning phase of construction or rehabilitation of infrastructure projects and identification of the locations.

*The following recommendations are taken from the reports of participants, which were not read during the meeting:*

- To continue negotiations and cooperation with the design and engineering company “Hydroprojekt Praha” while projecting hydraulic works
- To intensify work with the international agencies working on water intakes and treatment
- To cooperate with the Czech industrial companies in projecting and construction of small hydro electricity power stations in the Republic of Tajikistan
- To continue negotiations on attracting Czech specialists in conducting independent environmental analysis in large-scale industrial entities of the Republic of Tajikistan
- To use different sources, including European Union standards, during development of legal and regulatory documents on water quality
- To produce aluminum-sulfate (reagent for water disinfection) in Yavan district electrochemical plant.