

WSSCC, Central and Eastern Europe and
Western and Central Asia

Sanitation status

Bulgaria, Kyrgyzstan, Ukraine, Uzbekistan

Editor: Diana Iskrevva-Idigo, 2009

Introduction

At CSD 12, the Report of UN Secretary-General put emphasis on the concerns of not meeting the sanitation target even in the most developed areas of the world, e.g. Europe¹. A comparison between the state of art in 1990 and 2000 shows that Europe is the only continent where the sanitation coverage is dropping down - from 100% in 1990 to 95% in 2000, with only 84% coverage for rural areas². It is also well known that only 14% of wastewater in Europe is treated by effective treatment plants³. As a total an estimated 41 million people in Europe do not have access to safe drinking water, and 85 million people lack access to basic sanitation⁴.

The WHO-United Economic Commission for Europe (UNECE) Protocol for Water and Health⁵, adopted in 1999, requires all countries to provide sanitation to a standard which sufficiently protects human health and the environment through the establishment, improvement and maintenance of collective systems and wastewater treatment installations, and to establish a programme for monitoring situations likely to result in outbreaks or incidents of water-related disease. Progress made is to be assessed in terms of suitable indicators, of which this indicator is one.

The size of the burden of disease attributable to poor sanitation and hygiene, and the availability of means to reduce it, led to the inclusion of “access to improved sanitation” in the United Nations Millennium Development Goals indicators.

In 2004, the Fourth Ministerial Conference on Environment and Health adopted the Children’s Health and Environment Action Plan for Europe (CEHAPE), which includes four regional priority goals to reduce the burden of environment-related diseases in children. One of the goals (RPG I) aims at preventing and significantly reducing morbidity and mortality arising from gastrointestinal disorders and other health effects, by ensuring that adequate measures are taken to improve access to safe and affordable water and adequate sanitation for all children.

Council Directive of 21 May 1991 (91/271/EEC) concerning urban wastewater treatment prescribes the level of treatment required before discharge. It requires member states to provide all agglomerations of more than 2000 population equivalents (p.e.) with collecting systems. Secondary (biological) treatment must be provided for all agglomerations of more than 2000 p.e. discharging into fresh waters and estuaries and for all agglomerations of more than 10 000 p.e. discharging into coastal waters. EU member states must identify water bodies as sensitive areas (vulnerable to eutrophication) in accordance with the criteria of the Directive. In sensitive areas, they must provide more advanced treatment of wastewater with nutrient removal, placing more stringent criteria with specific monitoring requirements. The Directive is designed to protect the ecological status of receiving waters and does not require microbiological analysis of effluents discharged from wastewater treatment facilities. Member

¹ Commission on Sustainable Development, Twelfth session, 14-30 April 2004; Thematic cluster for the implementation cycle 2004-2005 Sanitation; Progress in meeting the goals, targets and commitments of Agenda 21, the Programme for the Further Implementation of Agenda 21 and the Johannesburg Plan of Implementation, Report of the Secretary-General

² www.ssinfo.org/en, 15.06.06.

³ Global Water Supply and Sanitation Assessment 2000 Report, WHO/UNICEF, 2000

⁴ Local Actions for a Global Challenge; Europe, Regional Document; 4th WWF, Mexico, 2006

⁵ WHO-United Economic Commission for Europe (UNECE) Protocol for Water and Health, 1999.

states are required to submit biennial reports to the EU of their progress towards the implementation of the Directive.

The cohesion policy of the EU will continue to support sewage treatment plants from its €336 billion budget for 2007–2013 for all new member states. Support is greatly needed as current investments in some of the eastern European countries are at the level of €5–10 per capita and will need to be increased to €40–50 per capita to comply with the deadlines.

There are wide differences between countries in EU. In the Nordic and some northern European countries, which have the longest tradition of water purification, more than 85% of the population were connected to wastewater treatment facilities. In southern European countries coverage ranged between 40% and 60%, while in some of the new EU member states it was less than 40%.

Lack of safe drinking-water and poor sanitation threaten the health of millions of people in the WHO European Region. While most of the Region's 877 million people take clean water for granted, too many still lack a regular supply:

almost 140 million (16%) do not have a household connection to a drinking-water supply; 85 million (10%) do not have improved sanitation; and over 41 million (5%) lack access to a safe drinking-water supply.

Water-related diseases of microbiological origin that are identified for priority action include cholera, bacillary dysentery, enterohaemorrhagic *Escherichia coli*, typhoid (and paratyphoid) and viral hepatitis A. The countries that are Parties to the Protocol will review their systems for disease surveillance and outbreak detection, and implement the most appropriate measures to reduce disease, including vaccination or water treatment and distribution measures. Chemical contaminants of drinking-water and related diseases are also under review.

This aspect of implementing the Protocol contributes to achieving the two Millennium Development Goals that include improving water supply and sanitation and reducing child mortality. The incidence of infectious diseases caused by poor-quality drinking-water is often highest in children aged 6-11 months. In the WHO European Region, this risk factor causes over 13 000 deaths from diarrhoea among children aged 0-14 years (5.3% of all deaths in this age group) each year, with the countries of central and Eastern Europe and central Asia bearing the largest share of the burden.

The burden of disease is estimated to be 5.3% of all deaths and 3.5% of all DALYs in children 0–14 years of age in the European Region. The largest contribution to the burden of disease comes from EUR B, with over 11 000 deaths and almost 500 000 DALYs. Our results also point out the number of deaths and DALYs that could be avoided by simple interventions in personal hygiene.

Although over 90% of the European population is estimated to be covered by an improved water supply, in many of the countries of the former USSR, the infrastructures of water and sanitation systems need to be developed or have been disrupted owing to poor maintenance for the last two decades:

An estimated 2 million people or more in the European Region do not have access to clean water, thus exposing children to a high risk of diarrhoeal diseases.

The burden of diarrhoeal disease attributable to poor water, sanitation and hygiene is estimated at 5.3% of all deaths and 3.5% of all DALYs, in children aged 0–14 years in the European Region. The largest contribution to the burden of disease comes from EURO B countries with over 11 000 deaths and almost 500 000 DALYs.

This suggests that high potential savings in deaths and DALYs could be made by the development of infrastructures and better personal hygiene. For instance, in EURO B, giving the entire child population access to a regulated water supply and full sanitation coverage, with partial treatment for sewage, would save about 3700 lives and 140 000 DALYs.

Water has a role, direct or indirect, in reaching two of the eight MDGs. In the European Region, WHO addresses the water-related MDGs under the umbrella of two major regional instruments: the Protocol on Water and Health and the Children's Environment and Health Action Plan for Europe (CEHAPE). The MDGs are currently the priority in the Protocol implementation. WHO/Europe also participates in the scientific work of the Secretariat as required by the Parties to the Barcelona Convention on the Protection of the Mediterranean Sea against Pollution by contributing to the Mediterranean Action Plan, the operational programme of the Barcelona Convention.

Goal 4: Reduce child mortality

Target 5: Reduce by two thirds the under-five mortality rate between 1990 and 2015.

European perspective: In the Region, lack of safe water and adequate sanitation has been recognized as a major cause of child mortality, especially in eastern countries. CEHAPE focuses on four main pillars for improving children's health, one of which specifically concerns ensuring safe water and adequate sanitation to prevent and reduce child morbidity and mortality. CEHAPE was adopted by European health and environment ministers in June 2004.

Goal 7: Ensure environmental sustainability

Target 10: Halve the proportion of people without sustainable access to safe drinking-water and basic sanitation by 2015.

Target 11: Achieve a significant improvement in the lives of at least 100 million slum dwellers by 2020.

European perspective: In the Region, access to drinking-water is nearly 100% achieved, however in many countries this water is still not safe (target 10). Managing water supply to ensure fair water pricing to all in Europe is a key challenge that would significantly improve the lives of slum dwellers (Target 11). The Protocol on Water and Health is the first instrument in Europe to prevent, control and reduce water-related disease through improved and harmonized water supply and management. In accordance with Article 6 of the Protocol, Parties pursue the aim of providing access to drinking-water and sanitation to everyone, and are obliged to set targets and report on progress towards these targets at each meeting of the Parties. The Protocol is therefore an important supportive instrument of the MDG process.

To assist countries in this effort, in the context of integrated water resource management plans, water supply and water quality, as well as of collection and treatment of wastewater, WHO/Europe is developing jointly with UNECE a guidance document on setting targets and monitoring progress in water supply and sanitation.

The Mediterranean Action Plan covers fourteen countries of the WHO European Region. It contributes to the achievement of target 10 by monitoring methods and performance of sewage collection, treatment and discharge in cities over 10,000 population in all countries of the Mediterranean since 2000 (expected to be extended to cities of populations over 2,000), and by providing training on environmental health impact of wastewater treatment plants, wastewater usage practices, natural treatment systems and safe wastewater use in irrigation.

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Fact Sheets

Bulgaria

Bulgaria is situated in the South-Eastern Europe at the core of the Balkans. Its territory covers about 111,000 sq. km, 72% of it lowlands.

The population is 7 million, 70% of the citizens living in the urban areas. The total amount of settlements is 5,376. The birth rate is low and the rate of population growth has been negative for years. The rate of migration is negative. Due to higher mortality rate, very low birth rate and emigration the population has been reduced by some 2 million people compared to 1989.

The climate varies from temperate in the North to Mediterranean in the South. The mean annual temperature varies from 10.0°C to 13.5°C in the lowlands, and reaches -3°C at the highest peak on the Balkans - Musala (the Rila Mountain). The highest monthly means rise up to 25°C in July and August. The absolute temperature maximums do not show significant differences between the North and the South and reach more than 45°C. The mean annual rainfall varies from 440 mm to 600 - 620 mm in the lowlands up to 800 - 1300 mm high in the mountains. The maximum mean monthly rainfall varies in different parts of the country: May - June in the North and November - December in the South. The minimum monthly mean rainfall comes in February to the North and in August to the South. The total mean rainfall is about 76.5 billion m³ per year in Bulgaria, 57% of it evaporates, 25.5% enters the river systems and 17.5% penetrates in the soil.

The rivers are generally small and most of them get dry almost every summer. Unfortunately, Bulgaria is among the poorest in water resources countries in Europe.

- Internal water resources m³/capita/year: Albania 13,700 m³; Former Yugoslavia 5,840 m³; Greece 4,500 m³; Bulgaria 2,500 m³.
- Internal and external water resources m³/capita/year: Albania 15,380 m³; Former Yugoslavia 16,670 m³, Greece 5,340 m³, Bulgaria 2,570 m³.
- Exploitation Index: Albania 6%, Former Yugoslavia 7%, Greece 12%, Bulgaria 43%.

The mean natural river flow, without the surface effluent of the Danube, is about 19.5 billion cubic meters per year. In very dry years it is about twice less.

The dams are a very typical element of Bulgarian environment. There are more than 2000 reservoirs in the country, their total capacity is 6.6 billion cubic meters, 84.9% of it is in the biggest 48 of them. The total capacity of 1900 of the reservoirs is 0.7 billion cubic meters, each of them with a capacity less than 1 million cubic meters. Most of the largest dams in Bulgaria were built in 50s and 60s.

The ground water is responsible for 25-30% of the water resources in Bulgaria. The quantity of ground water is calculated to more than 8 billion cubic meters. There are more than 1,000 springs of mineralized and thermal water convenient for balneo resorts.

Though Bulgaria is poor in water resources, the consumption of water is quite high, the average usage is 400 square meters per citizen per year; including 137 liters per citizen per day for household needs. In the water supply system, the underground water/surface water ratio is 60:40. 98% of the population has access to piped water supply. At the same time 40% (and 50% of the population in the country) of the water supplied settlements have irregular

water supply. This varies from settlement to settlement and in different seasons. At the same time the leakages from the water supply system is in average over than 50% and often reaches 60-70%, up to 85%. The very high consumption is determined by comparatively low technological level of industry and due to this very high water consumption for industrial needs, extremely high losses of water in water supply infrastructure through leaching, etc. If we take into consideration, the pollution of water resources, the situation is defines as risky for the social and economic development of the country. In other words, just small reduction of precipitation amount may lead to serious threads for economic development and everyday life of people.

The planned intermitted water supply is one of the main problems of population in many communities. This means that they do not have water supply for several hours each day or even do not have water every other day on annual schedule. The schemes may differ a lot depending on water availability, water pressure in the pipeline or altitude and inclination of the community/ neighborhood/ housing. In dry summers most of the villages practically may not have tapped drinking water supply for weeks.

While the water supply infrastructure is relatively well developed and covers almost all the population, there is a relatively low coverage by sewage system and urban wastewater treatment services.

Water Resources

- Rivers and lakes – 70% of total water resources;
- Groundwater – 30% of total water resources.

Average annual water usage of Bulgaria is 10-12 billion m³

- Drinking water – 8-10%;
- Irrigation – 5-35%;
- Industry – 20-26%;
- Hydropower – 15-35%.

Water Supply

- About 98.6% of the population is served by centralized water supply systems, managed by water and sanitation companies;
- The total length of water supply network managed by water and sanitation companies is 71900 km;
- 73% of drinking water pipelines are made of asbestos-cement pipes;
- 57% of drinking water pipelines are constructed before 1970, incl. 0.1% of the pipelines are new; 0.3% of the pipelines are renovated;
- Average drinking water losses are 61.7% for the country;
- About 44% of drinking water for population is treated in drinking water treatment plants.

Sanitation

- 49% of the population is served by centralized sewerage systems, managed by water and sanitation companies;

- In 73.2% of the cities, 95% of the population is covered by centralized sewerage services;
- In 2.4% of the villages, 9% of the population is covered by centralized sewerage services;
- Total length of the sewers managed by water and sanitation companies is 10400 km;
- About 85% of the sewers are of concrete or steel-concrete;
- About 90% of the sewers are built before 1990;
- About 64% of the wastewater is treated in 72 WWTPs;
- 41.1% of the population is served by WWTPs managed by water and sanitation companies;
- Only 69 cities and towns are served by a WWTP;
- The total number of WWTPs is 57; 44 of these are supplied with secondary (biological) treatment, the others are just mechanical;
- Until 2015 Bulgaria must have 430 functioning WWTPs covering all settlements above 2000 p.e.

Financing water and sanitation

- Necessary investment for water and sanitation sector is 9.1 billion EUR (7 billion EUR and 2.1 billion EUR for paying back the loans) to reach all the requirements of EU legislation for drinking water, wastewater and bathing water;
- Expected financial sources:
- Private capital - 1.7 – 2.8 billion EUR;
- ISPA, Cohesion fond agriculture – 2.1 – 3.4 billion EUR;
- State budget – 0.2 – 1.3 billion EUR;
- International credit institutions – 0.5 billion EUR.

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Kyrgyzstan

Most of Kyrgyz water originates from melting snow and glaciers. Precipitation varies from 130 to 680 millimetres per year. By international agreement, 25 percent of water resources can be retained. These are used generally used for irrigation (90% of water consumption), as the lowlands suitable for agriculture are located in a zone of insufficient moistening. Irrigation canals are taking out water from the river basins Chu, Talas Syrdaria, lake Issyk-Kul. 80 percent of the arable land in the country is irrigated.

Kyrgyzstan has considerable reserves of water resources – annual average makes 2,458 km³. There are total of 27826 rivers are located on the country territory; majority of these are trans-boundary rivers.

The main source of drinking water supply is ground water. This is also used to meet industrial, and partially irrigation needs.

One third of the country's 4.6 million inhabitants has piped water to their homes. Another third is served from stand posts or water tankers, and the remaining third is not served. Half of the villages have no functioning water system. In the southern Oblasts of Osh and Jalalabad, only about 25 percent of the villages have working water systems. Due to poor maintenance of the facilities and insufficient resources available for operations, the reliability and safety of the service of great concern and source of discontent for the population. Intermittent water supply is regular phenomenon, particularly in the summer months.

Water resources taken from nature raised to 8.007 billion m³; 306 of these from ground water sources (2006). 4.533 billion m³ consists the utilized water volume; 93% of it served for irrigation; and 3% was supplied for the needs of the households. Water losses are reported to be the average of 40% for the country. 21% of the wastewater is treated: 1.6% of this volume is in villages. 62 towns and 40 villages are served by operated sewerage systems.

In Narinkaya oblast only 59.5% of the population has access to drinking water with adequate quality. Sewerage services are extremely limited in some areas of the country: Baketskaya oblast 3.1%, Talaskaya oblast 3.4%, Norinskaya oblast 4.5%. The capital Bishkek is 100% supplied with drinking water of adequate quality, and 79.2% covered by operating sewerage services.

Total available renewable water resources

- 21 km²/yr (11,457 L/day/cap) renewed as:
 - Surface water produced internally 214%;
 - Groundwater recharge 66%;
 - Incoming waters 0;
- Used by man 49%;
- Rainfall 400 mm/year.

Water usage

- Total 10.29 km³/yr (100%);
- By Sector:
 - Agriculture 93%;

- Industry 3%;
- Domestic 3%.

Population with safe access to:

- Improved water source 77% (2004); 89.8% (2006):
 - Average in Urban Areas 98 % (2004);
 - Average in Rural Areas 66 % (2004);
- Length of new drinking water pipelines 771 km (2006);
- Improved sanitation 59% (23.9% of the population has access to operating sewerage);
 - Average in Urban Areas 75% (2004);
 - Average in Rural Areas 51% (2004);
- Length of new sewers 0.6 km (for 2006).

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Ukraine

According to the State Committee on Water management Ukraine is water limited country, with less than 1000 m³ runoff water per capita per year. The main water sources for drinking purposes is surface water. 75% population is supplied from surface waters.

70 % of Ukrainian population is served by centralized water and sanitation (Ref.: Загальнодержавна Програма Питна вода України на 2006-2020pp. The State Program Drinking Water of Ukraine 2006-2020).

The residents of 100 % (458) cities, 86,7% (768 from 886) small towns and 22,1 % (6305 from 28540) rural settlements are served by centralized water supply (Ref. Підсумки роботи ЖКГ за 2007 р. Міністерство з питань ЖКГ України, Київ 2008 - Results of the Housing Communal Services Sector activity in 2007 year – Ministry of Housing and Communal services economy of Ukraine, Kyiv 2008).

The residents of 95.9% (439) cities, 55.9% (495 з 886) small towns and 2.6 % (744 from 28540) rural settlements use sewer (canalization) systems (Ref.: Підсумки роботи ЖКГ за 2007 рік. Results of the Housing Communal Services Sector activity in 2007 year).

In 2004 only 4.1 million of rural population (26 %), used services of centralized water and sanitation. Only 7.4 % of rural population used centralized water and sanitation with the tap in the building, 4.4% - canalization systems, 0.3 % had hot water supply. 18,6 % rural population used street taps (Ref.: National Report about Drinking Water Quality and Drinking Water and Sanitation in 2004).

More than half of rural water pipelines serve interrupted water supply service or switch off. (Ref.: Draft of the State Program of the rural development for the period till 2011 year).

5.7 million in cities and 11,7 million of rural residents use the local water sources – shallow wells and springs (Ref.: National Report about Drinking Water Quality and Drinking WS in 2004).

Number of samples of drinking water from wells, which did not meet standards on sanitary - chemical parameters, was in 2.3 times higher, than samples from centralized water supply systems and on bacteriological parameters; 4.8 times higher samples from centralized water supply systems (COWI, Report 2002).

More than 60% of artesian water samples in rural areas do not meet the State standards (Ref.: Draft of the State Program of the rural development for the period till 2011 year).

814 thousands dwellers of 1274 rural settlements in Ukraine use transported water in tanks in 2007 (Ref.: National Report about Drinking Water Quality and Drinking WS in 2007).

Total volume of waste water passed through WWTPs for the period January-September 2007 was 1.32 billion m³ (Ref.: Results of the Housing Communal Services Sector activity in 2007).

Annual increasing of sludge volumes at WWTPs is 40 million t, annual request on additional territory allocation for sludge storage is 120 GA; only for Kyiv needs it is about 14 GA/year (Ref.: National Report about Drinking Water Quality and Drinking WS in 2003).

A total of approximately 0.9 billion m³ of wastewater (20% of the total wastewater production) is discharged every year into septic tanks or disposed off in other ways and by other means in an uncontrolled manner (COWI, Report 2002).

25% of population of Ukraine is under the risk every year to develop a diseases related to consumption of poor quality drinking water (WHO Report at Kyiv Drinking Water Conference in 2006).

During last 5 years 37 outbreak of VHA had been registered. 1437 people got ill, 625 among these are children (<http://www.moz.gov.ua/ua>).

There are 20.5 thousand schools in Ukraine, including 12.6 thousand (61%) in rural areas. 18% schools are not connected to water supply and sanitation systems; 95% among them are rural schools. 41% schools are not connected to sewer; 39% of them are supplied with pit latrines - 87% among these are in rural areas (Ref.: Letter addressed to MAMA-86 from the Ministry of health protection of Ukraine, 2007).

Ukraine MDGs on water: Task 1 to Goal 3 on Environmental sustainability: to increase on 12% the portion of people who use improved water and sanitation.

Indicator 1.1 Portion of urban population using water that meets the state standards, %
Indicator 1.1 Portion of rural population using drinking water that meets the state standards, % (Ref.: Analytical report MDGs: Ukraine, 23.09.2003).

From 2001 till 2004 the number of urban population with access to safe drinking water increased by 1% (from 86 to 87%). The part of rural population with safe water and sanitation did not changed – 63% (Ukraine – Millennium Development Goals – 2000+5).

MDGs on sanitation for Ukraine has not been defined.

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Uzbekistan

Uzbekistan is situated in the center of Eurasia at 448900 km². It consists of 12 provinces and the Republic of Karakalpakstan. Natural resources are huge and diverse: minerals, massive fertile lands, pastures, considerable sun-light, plenty water resources; magnificent landscapes, favorable climate, salubrious sources of mineral water.

The population is 26 million people belonging to more than 100 ethnic groups; $\frac{3}{4}$ of the population is Uzbek. The birth rate is very high – 2.4% per year, with very high infant mortality rate of 37/1000 live births (64.3 among rural poorest population). $\frac{3}{5}$ of the population of Uzbekistan is rural. Population density is low: 55.6 people/km². 34% of the population is under 15 years old; only 5% are above 65.

The Aral Sea was the world's fourth largest inland body of water. It had a fishing industry that employed 60,000 people and a thriving tourist trade. Since the 1960's, the water from the two major rivers that flow into the Aral Sea, the Amu Darya, and Syr Darya Rivers, has increasingly been diverted for agricultural irrigation. The greatly reduced volumes of water entering the Sea and excessive contamination from leached salts and agricultural chemicals have shrunk the Aral Sea by approximately 70 percent in volume and 50 percent in area and have destroyed all biological life.

As a result, potable water, basic sanitation and health standards have deteriorated rapidly among the approximately 2.2 million inhabitants in the project area, of which about 59 percent have access to piped water systems. In rural areas, the most common form of water supply is the hand pump, but both coverage and quality are inadequate. A recent study found that an average of 59 people share a single hand pump. In addition, the ground water in many areas is high in salt; and even though several hundred rural areas have their own water desalinization units, an increasing lack of spare parts and training have hampered their use.

Uzbek water supply and sanitation facilities are often poorly designed, inadequately maintained, and in a poor state of repair. Rural water supply has particularly deteriorated due to budget cuts, leading to, high incidence of waterborne diseases among the residents.

Access to drinking water (2000)

- Total 89%;
- Urban 97%;
- Rural 85%.

Access to improved sanitation

- Total 89%;
- Urban 96%;
- Rural 85%.

Construction of sewage system network significantly lags behind construction of water supply systems, and 54% of urban and only 3% of rural population are provided with them.

Uzbek government has raised significant finances in recent years to improve the water and sanitation system of the country, incl. the regions mostly lagging behind.

In support of the Government of Uzbek efforts to improve the quality and management of scarce regional water resources, the Bank helped to finance the Pilot Water Supply Engineering Project approved in September 1996. Building on the data from this earlier project, the Bank-assisted Water Supply, Sanitation and Health Project of 75 million USD from World Bank to improve rural water supply and health in Aral Sea area of Uzbekistan. The project was designed to reverse the severe health and environmental damage caused by the degradation of the Aral Sea. The project will help to improve the health of the rural population of Karakalpakstan and Khorezm, two of the poorest regions of Uzbekistan, by investing in water and sanitation infrastructure. The immediate impact of the project was planned to be safe and reliable water supply services for about 1.46 million people in Uzbekistan's rural, western region. The project will also directly benefit about 25 000 inhabitants with improved sanitation facilities.

The project was meant to provide safe drinking water along with improved hygiene education and sanitation facilities to decrease the incidence of waterborne disease, particularly diarrheal disease among children; and strengthen the management, operation and financial performance of the region's water supply and sanitation utilities as well as regional health centers.

The total project cost is 117 million USD.

Around 250 000 rural residents in Uzbekistan are meant to receive access to safe drinking water and sanitation through a project to rehabilitate dilapidated infrastructure in two provinces, backed by a 25 million USD ADB loan.

The project helps to improve living conditions and public health in about 170 villages in Kashkadarya and Navoi provinces. About 30% of people live below the poverty line in the two provinces. The project will rehabilitate and upgrade piped water supply systems, will build public and school latrines, and will improve wastewater drainage facilities. Some 12 subprojects are carried out covering clusters of 20 villages. Recent surveys show that 70% of the villages do not have a piped water supply system. In rural areas, people often have to walk long distances only to obtain contaminated water from untreated sources. There are few wastewater collection systems, and the waste disposal infrastructure is below acceptable standards.

The project promotes institutional development: a training program for central and local government staff and other stakeholders to efficiently plan, implement, operate and maintain the new systems. It conducts a hygiene and sanitation education program, to improve understanding of the close interrelationship between hygiene, water, sanitation, and health among the local population.

The estimated total project cost is 36 million USD.

In December 2008, the ADB provided a loan of 100 million USD for improvement of water resources management and state of lands in Andijan, Navoi, Namangan, Samarkand and Ferghana regions. The project envisages recovery of 150 km of channels, over 500 km of collector and drainage constructions, and reconstruction of 8 pump stations irrigating 150 000

ha of lands in Ferghana and Zarafshan valleys. The approximate period of the project implementation is six years. The loan agreement is expected to be signed in early 2009.

In December 2008, the Government of Uzbekistan and the World Bank have signed a 935 000 USD worth grant provided by the government of Japan. The grant aims at supporting the preparation of the proposed Syrdarya Water Supply and Sanitation Project, which has as its objectives to improve the quality of life and quality of basic municipal services through the provision of water supply and sanitation in Syrdarya region and its six districts. The Project will finance:

- strategic rehabilitation and efficiency improvement of existing facilities in critical condition;
- institutional strengthening of the six districts water utilities;
- strengthening of the six districts water utilities' financial capacity through improved financial management and commercial practices.

The activities covered by the grant include preparation of feasibility studies, detailed designs, environmental, social, economic and other assessments, development of project implementation plans, carrying out of stakeholder consultations, in-country training, studies and workshops, surveys, and provision of technical advisory services (including audits) and goods required for the carrying out of such activities.

The grant will serve as a pre-condition for signing another 88 million loan with the World Bank. Under the recently approved Country Assistance Strategy (CAS), the Uzbek government requested further financial support for water supply and sanitation for 5 new projects in rural and urban areas of Uzbekistan.

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Sanitation Status

Bulgaria

In order to fulfil the requirements of the Urban Wastewater Treatment Directive of EU, a National Program for Priority Construction of Urban Wastewater Treatment Plants (WWTPs) in Bulgaria has been developed. 104 settlements with a population over 10,000 equivalent inhabitants are identified to be covered by the Program. There are operating WWTPs in 25 of these settlements; some of these need reconstruction. The Program identifies 36 priority projects on the basis of the following specific criteria:

- National or trans-boundary impact of the project;
- Emission condition and category of the water receiving body;
- Point of discharge of the untreated waste water. Higher priority is given to urban WWTPs in zones with damaged environmental status, where the water quality in the water recipient does not correspond to the designed category; in zones used for drinking water supply; in the upper stretch of the water current of the recipient, in protected areas or areas with vulnerable ecosystems;
- Number of equivalent inhabitants of the populated area where the plant will be operating;
- Degree of completion and usefulness of the existing sewerage system and the intake collector to the site of the future treatment plant;
- Degree of completion of the treatments plants under construction;
- Presence of a designated site for the urban WWTP, design readiness and decision on environmental impact assessment;
- Necessary capital costs for the realization of the staged and overall bringing into operation of the plant and comparison to the expected environmental effect.
- Gradual replacement of the worn-out sewerage network, completion of the sewerage network in the large settlements, extending of the existing and construction of new sewerage pipe lines in the settlements, which are located nearby sensitive ecosystems and touristic resorts;
- Construction of all priority urban WWTPs, identified in the National Program for Construction of Urban WWTPs;
- Increase of the share of treated waste water corresponding to the requirements of EU Directive 91/271 up to around 64%;
- Shift of 36 % of the monitoring stations to higher category.

The latest Water Act . (SG 67/1999 into force since 28.01.2000) has gone over many revisions by now. The water legislation aims to introduce all requirements of the Framework Water Directive of the EU into the Bulgarian legislation. According to the new Water Act, water management follows several main principles:

- Water on Bulgarian territory is a national integral natural resource;
- Water basin is the main unit of integrated quality and quantity management of surface and ground water;
- Co-operation at all levels of management is based on the Solidarity Principle i.e. respect of public interest and based on a transparent decision-making process;
- Implementation of the Polluter pays principle and other economic regulators in water use and water protection practices.

The Water Act introduces the water management levels: national and river basin, and indicates the way of identification of water basins areas. The Water Act forms the legal framework for incorporation in national water legislation the requirements of the Water Framework Directive of the EU and provides the legal basis to adopt the other 'daughter' EU Directives through various regulations. Some regulations have been already adopted and implemented. The development of specific acts and regulations to complete the introduction of all requirements of the EU Directives, as well as the terms for that were set in a national program for accession. It's updated version was approved by Bulgarian Government. The Decree setting up the charges on water use is extremely important for the development of the Bulgarian policy of the water and sanitation sector. It has been enforced since 2001. The charges for right to use water and/or permitting use of water object are one of the instruments to achieve the goal declared in the Water Act: 'An uniform and balanced water management serving the interests of the society, protecting people's health and supporting country's sustainable development'. The charges address the use of the water as a natural resource and its value as such. The adopted level of charges determines the differentiation of the charges in accordance with the objectives of water use in the specific water basin. It is related to the overall influence of water use on water as a natural resource.

A number of institutions have responsibilities in the field of water and sanitation management in Bulgaria. Quite a few of them make decisions on one way or another that may directly influence water supply and sanitation:

Council of Ministers is responsible to:

- Approve the National Water Economic Plan;
- Grant concession for water of public state property;
- Approve national programs on protection and sustainable use of water;
- Set restrictions to water use, in exclusive cases, for specific regions of the country;
- Set tariffs on grounds stipulated in the Water Act.

Ministry of Environment and Water (MOEW) is responsible for the following activities among others:

- Develop the state policy in the field of protection and use of water;
- Approve the river basin management plans;
- Draw up national programs on protection and sustainable use of water;
- Issue permits for water use;
- Organize the maintenance of water and drinking water cadastre;
- Approve design parameters and schemes of economic water systems and water facilities;
- Publish methodology on control of water resources, sustainable use of water and determination of exploitation of ground water resources.
- Development of the legislative and regulatory framework for water management, accidental discharges to the environment and management of the risk of industrial incidents, horizontal legislation, adaptation of the national legislation to the European Union *acquis communautaires*;
- Elaborating of decisions on the environmental impact statements for large plants and activities of national importance.

Division Water in the MOEW:

- Coordinate the activities of the river basin directorates;
- Assess projects on provide expert opinion on EIA;
- Plan and assist water investments.

The National Environmental Protection Fund:

- The National Environmental Protection Fund (NEPF) is a department in the structure of the MOEW. The NEPF is the main source of funds for co-financing of projects with international funding and projects implemented with local financing. Monitoring and control mechanisms are used by the experts from the Fund to supervise the full cycle of the investment projects.

The Executive Environmental Agency is a specialized body of MOEW. The Agency is responsible of the following main tasks among others:

- Organizes and manages the national water monitoring system;
- Carrying out of the monitoring and the analytical-laboratory activities;
- Elaborating the methodological guidelines for the Regional Inspectorates as regards the measurements and the analyses;
- Collecting and processing the information and issuing information bulletins about the state of the environment and water;
- Preparing and publishing of the Yearbook for the State of Environment in Bulgaria.

Under the MOEW, there are 15 Regional Inspectorates for Environment and Water (REI). The main functions of these Regional Inspectorates include:

- Carrying out of the control over the observation and the implementation of the legislation in the environmental and water sector;
- Supporting the municipalities in the preparation and implementation of the municipal policy in the field of environmental and water protection;
- Informing the public about the state of the environment and water;
- Issuing decisions on environmental impact assessments for sites and activities of regional importance; issuing permits for activities and installations for treatment of water.

According to the requirements of the Water Act, 4 Basin Directorates as top managerial bodies for integrated water management, covering the territory of the country are established:

- The Danube Basin Directorate;
- The Black Sea Basin Directorate;
- East Aegian (Mediterranean) Basin Directorate;
- West Aegian (Mediterranean) Basin Directorate.

Other national bodies responsible for variety of aspects of water and/or sanitation management are:

- Ministry of Health monitors quality of the drinking water; monitors the quality of bathing water.
- Ministry of Agriculture, Forests and Land Reform carries out activities related to the protection of water from contamination of nitrates and variety of chemicals linked to agricultural production.
- Ministry of Regional Development and Public Works implements the national policy for design, building and operation of water supply and sewerage pipelines.

The local governments play an important role in the process of planning and implementation of variety of programs and projects in environmental, water and sanitation sectors. Their main functions include, among many others:

- Responsibility for the construction, maintenance and operation of urban waste water treatment plants;
- Inform the public about the state of environment, water and sanitation.

There are too many institutions (Ministry of Environment and Water, Ministry of Regional Development and Construction, Ministry of Agriculture, Agency of Energy Production and Supply) at national level that share the responsibility of water quantity usage and water quality. And there is a traditional, inherited from the era of communism, lack of coordination, lack of transparency and lack of access to information, not only to the public but also among state institutions.

To realize an effective application of public efforts and views, it is necessary to clarify the rights, obligations and responsibilities of each party in the sphere of water supply and sanitation. The central government shows its commitment to find a solution via the new Water Act and its revisions. Water supply and sanitation is stated to be a priority of the legislative, as well as the executive central authorities of Bulgaria.

Equal access to water supply and sanitation has to be provided for everyone, nevertheless the expenses. All populated areas, farms, companies, etc. should have unregulated water supply and safe sanitation. Water supply system should be built in a way that all citizens, mansions, regions and farms have access to it. The water supply should be built according to the consumption in the given area and needs of the consumers, and not carried out in compliance with the convenient technological conditions as it used to be in the past. Water supply systems have to be built also for the settlements in the mountains, as well as in isolated agricultural areas. Both authorities and public share the opinion that all people, from the large and the small settlements, should have equal access to drinking water of high quality at acceptable cost, compared to their income.

Sanitation is a component of the human, social and economic development and is provided in all Bulgarian cities. It is necessary that the sanitation system includes all industrial zones and the areas of relaxation. The authorities should do their best to allocate financial resources to provide sewage treatment. The urban sewage treatment plants would protect natural water sources. Effective flood management has to be introduced. Special attention should be paid to the balance in the development of the services in urban and rural areas including the villa zones of the cities. Sanitation systems have to be built in the villages, especially in those that are technologically easily accessible to the sewage treatment plants in a bigger nearby settlement.

The central government had developed after 2000:

- National Programme for Municipal Wastewater Treatment in the Republic of Bulgaria;
- Strategy of Unified Management of Water and Sanitation;
- Strategy of Water Resources Usage and Water Protection;
- National Strategy for Environment;
- National Strategy for the Environment and Action Plan (2000-2006);
- National Strategy to Combat Drought.

The central government had joint:

- Convention on Protection and Usage of Transboundary Watercourses and International Lakes (Helsinki, 1992), signed, not ratified yet;
- Convention on Protection of the Black Sea, ratified 1994.
- Convention on Co-operation for Protection and Sustainable Use of the Danube River, signed 1994;
- Agreement between the Republic of Bulgaria and the Republic of Greece for the Usage of the Mesta River, signed 1996.

Among these unserved in Europe are 40% of Bulgarian population living in the rural areas (Source Bulgaria: Survey on Rural Development Needs, ECSSD - Environmentally and Socially Sustainable Development Europe and Central Asia Region, World Bank, 2004).

The total of 2.3% of rural communities has some elements of sewer systems and there are no wastewater treatment facilities at all in rural areas. In general, sewerage systems only exist in the municipal centre where most of the population lives. The existing rural infrastructure is in a very poor condition (Source Bulgaria: Survey on Rural Development Needs, ECSSD - Environmentally and Socially Sustainable Development Europe and Central Asia Region, World Bank, 2004).



Rural public toilet



Open defecation in the center of a village



Rural school toilet



School toilet built by NGO Earth Forever

In conformity with these facts, health indicators are much worse in rural areas, compared to urban areas, including maternal mortality: urban 16.5 and rural 25.5 per 100,000 live births (for the year 2001) ((Source National Statistical Institute, Annual Report, 2002).

In the context of this reality, it is awkward that neither sanitation nor wastewater issues are part of the national Millennium Development Goals (MDGs). The published MDGs report declares that 100% of the population has access to adequate sanitation (Source Millennium development goals report for Bulgaria, 2003, UNDP).



Waterless urinal and dry urine-diverting toilet for a household, built by Earth Forever

Earth Forever in partnership with WECF, WASTE and TUHH has implemented a pilot project in Stara Zagora Municipality in 2 villages: Sulitsa and Stara Zagora Spa. Within the framework of the project, based on detailed survey of wastewater, human waste and waste situation, needs and practices, the following pilot technologies were introduced:

- dry urine-diverting toilets with separate treatment of urine and feces in households and in public buildings;
- small scale home composting of organic wastes, incl. humanure;
- planted soil filters for grey water treatment;
- reuse of treated grey water and sanitized human urine and feces in small-scale backyard agriculture.

Author: Diana Iskrevva-Idigo

Kyrgyzstan

During the Soviet time, most of the schools used to have flush toilets, though not all of them. They were using a septic pit that was periodically emptied. Due to aging and poor maintenance, most of these systems deteriorated and fail to serve. Toilets on septic pits were built in some schools (incl. multiple toilets: a line of toilet holes in a large “lift-toilet”).

The hospitals and polyclinics are public buildings, visited by citizens, and they need to have public toilets to ensure proper hygiene. They also serve as an example of adequately maintained facilities for the visitors.



Public toilet



Public toilet in tourist entertainment venue

Promotion of household toilets has been done for years and all village homes have their own toilets; though the quality differs significantly from one place to another.

Flush toilets

This system depends fully on regular water supply. These toilets discharge in septic pits in villages as there are no sewers there. In case of intermittent water service, these toilets become very fast unhygienic and non-usable. Water supply in villages might stop because of water deficiency in the system or due to freezing.

Simple pit latrines on septic pits

These are widely used in rural Kyrgyzstan. Every home would have a pit latrine as a major sanitation facility. The standard pit latrine prevents direct access to feces; it is built to infiltrate in ground. Kyrgyz authorities claim that there are no parasites just 10 m away from the pit latrine, and it is safe for groundwater. At the same time, international research proves that pit latrines endanger ground water quality and often pollute drinking water sources. Such pollution is responsible for a number of water borne and parasitic diseases. The authorities though admit that pit latrines are not attractive due to offensive smell and abundance of flies.

Ventilated pit latrines (VIP)

VIP latrines are improved form of pit latrine. Kyrgyz authorities promote VIP latrines because according to them they avoid the main problems linked to simple pit latrines: flies and offensive smell. At the same time, the threat to ground and drinking water is as high as with the pit latrines. The main difference between these two forms of toilets is that the VIP latrine is built with a

ventilation system: a pipe ventilating the pit under the toilet slab and bringing the exhaust high above the roof of the VIP latrine. Drawing bellow illustrates the construction elements of the VIP latrine. This toilet has simple construction requirements and is cheap.



Traditional household pitlatrine



Household dry urine-diverting toilet

Low flush pit latrine with bucket flush

In this toilet, the feces are deposited in the slab/toilet seat, and after this flush away with water from bucket. The septic pit is usually some distance away from the toilet and a pipe is used to discharge the excrements in the pit.

The advantage of these toilets according to Kyrgyz authorities is that there are no offensive smell and flies; the main disadvantage is that they depend fully on regular water supply. In long cold winters, these systems freeze in the way they are built in Kyrgyzstan.

Kyrgyz authorities and sanitation experts believe that VIP latrine best meets the needs and suits the local conditions in Kyrgyz villages. These are promoted for schools, village hospitals and households within the framework of a number of governmental projects funded by international donors or loans.

NGO community is promoting dry urine-diverting (UDD) toilets as alternative for the usual pit latrines and the VIP latrines promoted by the government. The advantage of UDD toilets is that they do not attract flies, do not create offensive smell; they also do not pollute ground and drinking water. They do not need regular water supply.

UDD toilets promote healthy environment. Of course, people can benefit from improved water supply system only in case of simultaneous improvement of hygienic behavior and sanitation conditions. Many intestinal and parasitic infections can appear not only due to consumption of contaminated drinking water, but also through dirty hands and fecal and oral transmission way. Reduction of parasitic re-infection rate among primary school children will indicate behaviour change after information on hygiene and sanitation has been received.

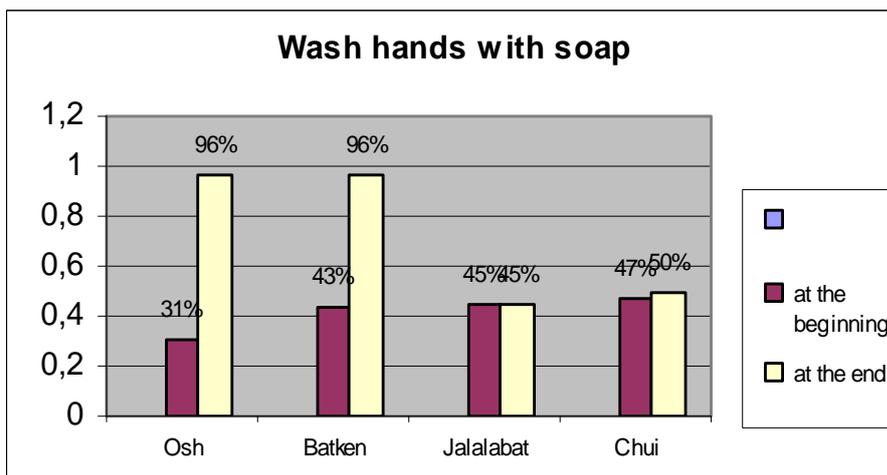
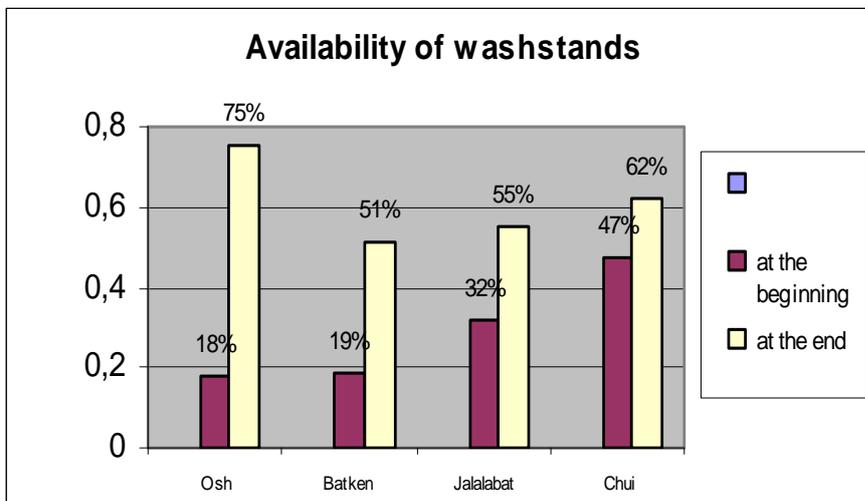
Certain rate of behaviour change will influence on prevalence of the disease before and after intervention.

Data from laboratory examination of children

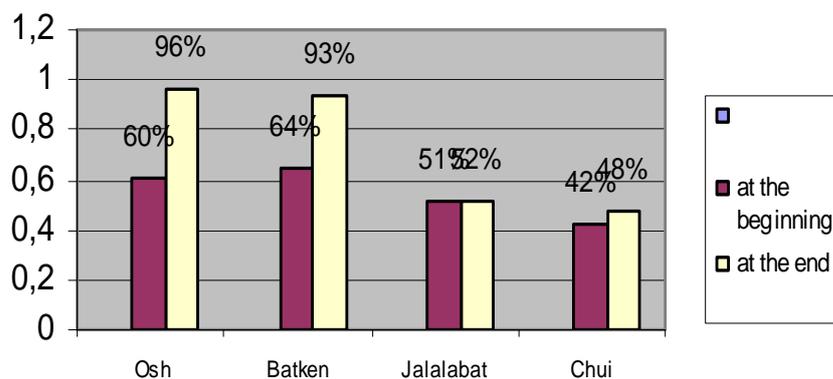
Villages where examination was taken			Lambliasis		Enterobiasis	
Oblast	Number of villages	Number of first formers	Number of cases	%	Number of cases	%
<hr/>						

Osh	6	201	76	38%	150	75%
Osh		178	33	19%	36	20%
Batken	6	232	137	59%	182	78%
Batken		215	42	20%	83	39%
Jalalabat	6	206	96	47%	160	78%
Jalalabat		188	39	21%	33	18%
Chui	6	168	78	46%	122	73%
Chui		229	33	14%	28	12%
Total:	24	807	387	48%	614	76%
Total:	24	810	147	18%	180	22%

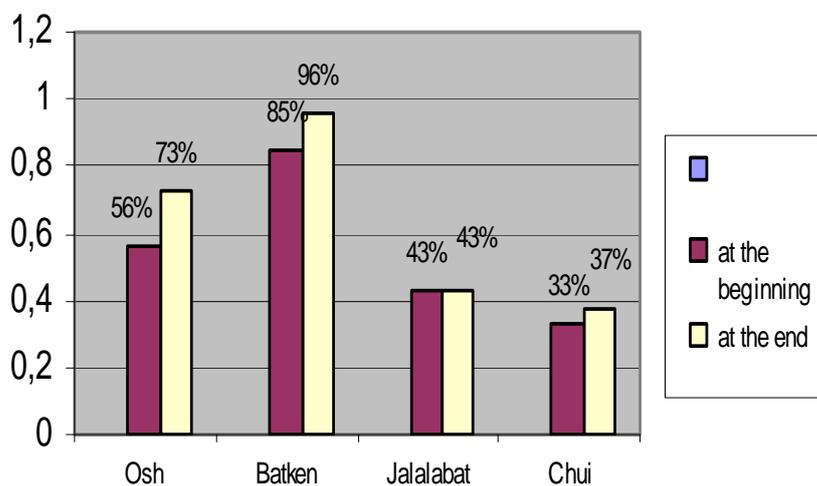
Governmental project implemented by the Republican Centre for Health Promotion, Ministry of Health of the Kyrgyz Republic - Rural Hygiene and Sanitation Project Kyrgyzstan, implemented in collaboration with WS Atkins International Limited Epso, has published the following info about hygiene behavior of village population in Kyrgyzstan:



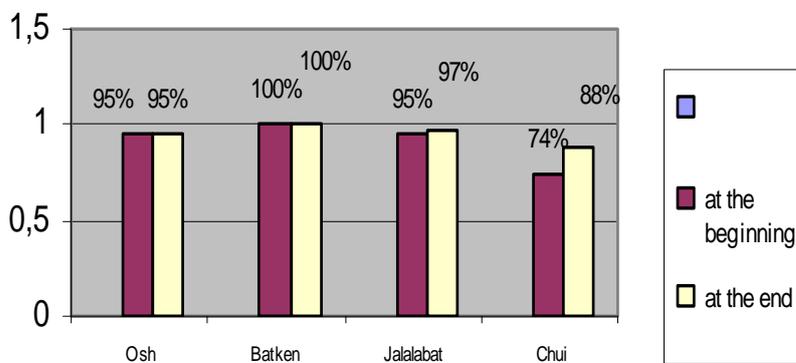
Keep water in closed vessels

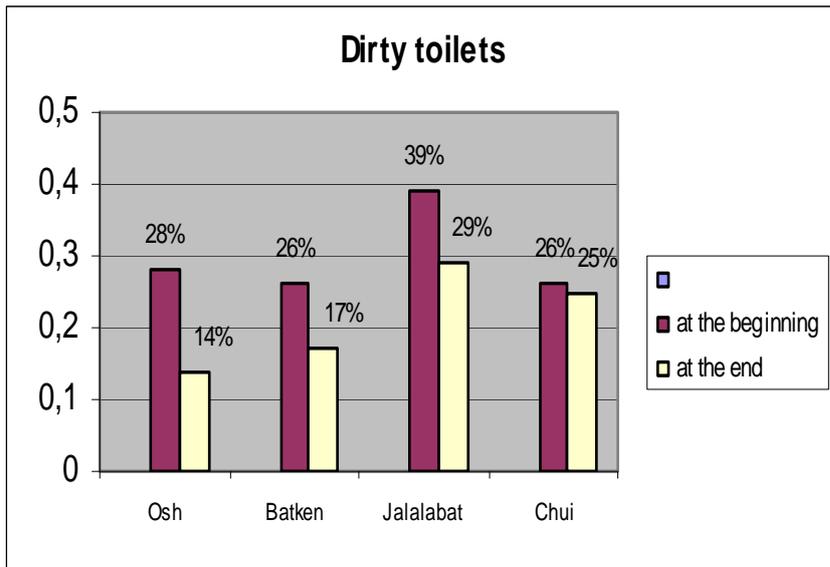


Drink boiled water



Availability of toilets





Author: Diana Iskrevva-Idigo

Pictures were kindly provided by Kati Hinkkanen and Tatyana Fedotova.

Ukraine

Numerous governmental programs for reforms in the housing and utilities sector of Ukraine suggest that "in many regions, drinking water supply is a priority problem that must be addressed to protect health and improve living conditions and living standards of residents"⁶.

Reforms in the sector were initiated more than 10 years ago. In the course of reforms, substantial changes were achieved, including decentralisation of management functions in the sector, delegation of infrastructure management functions and responsibilities to local authorities, development of underlying laws and regulations in the sphere of drinking water supply, organisational and structural reforms in the sphere, improvement of economic mechanisms and introduction of tariff reforms for full cost recovery of utilities and implementation of activities for improvement of water supply and sanitation infrastructures and facilities.

However, all these reforms and actions are predominantly focused on centralised water supply and sanitation and users of these centralised systems. At the same time, problems of decentralised systems of water supply and sanitation that are mainly used by residents of small towns and rural settlements do not attract adequate attention of governmental authorities and reforms in the sector.

Official statistics suggests that quality of rural water supply in Ukraine still remains rather low in comparison with European and CIS countries. Notwithstanding that more than 55 thousand km of water mains and more than 70 thousand artesian wells were constructed in rural areas (mainly for water supply of large agricultural facilities, that met 98% of their water demand in mid-1990s), the overall rate of provision of centralised water supply services in rural areas was almost twice lower comparatively to average figures of the former USSR. Now, the number of rural buildings in Ukraine equipped by internal water supply and sanitation networks is 3 times lower than in Russia and 4 times lower than in Belarus.

According to official reports⁷, in 2004, only 4.1 million rural residents in Ukraine, from the overall figure of 15.7 million (or 26%) used centralised water supply services. Buildings of only 7.4% of rural residents are equipped by internal water supply networks. A similar situation is observed in connection with other amenities as well: sanitation (4.4%), water heating (8.4%), hot water supply (0.3%), street standpipes (18.6%). In 2003, the water consumption norm reached only 60 litres capita in rural areas, while in urban areas the relevant figure was as high as 320 litres.

5.7 million urban residents and 11.7 million rural residents use drinking water from local sources, including shallow wells, captages, springs, etc. (it is worth to note that in the majority of cases these sources are of inadequate technical conditions).

Besides that, in 13 oblasts of Ukraine, more than 800 thousand residents of 1200 rural settlements rely on water trucks for drinking water supply.

⁶ National program "Drinking Water of Ukraine" for 2006 - 2020. March 3, 2005. No. 2455-IV.

⁷ The national report on quality of drinking water and drinking water supply in Ukraine in 2004.

The situation in the sphere of coverage by centralised sanitation services is much worse in compare with water supply. In 2004, centralised sanitation systems served 95% of cities, 56% of townships and 3% of rural settlements.

During the years of independence the coverage of the rural population on water supply and sanitation services has decreased and in 2007 the official figures are lower then in 2004. According to the National Report on Drinking Water and drinking water supply in 2007 the percentage of the rural settlements with centralized water supply decreased till 21.% from 26% in 2000, and with centrilized sanitation – till 2, 6% when following: 2, in ruThis statistics

Only about 8.8% of rural residents use centralised sanitation services (or less than 1.4 million residents). The rest of them (or 14.3 million persons) use decentralised sanitation systems - pit latrines or septic tanks that might be used by an individual household or by several households. Septic tanks should be regularly cleaned - owners should organise removal of sediments from septic tanks and pay for these services. However, there are no official regulations that prescribe how often septic tanks should be cleaned. As a result, many septic tanks may be never cleaned.⁸

According to expert estimates⁹, about 0.9 billion m³ (or 20% of the overall amount) of municipal wastewater are accumulated annually in septic tanks and pit latrines, that are outside governmental control and regulation.

The problem of wastewater treatment and utilisation is fairly relevant in rural areas, regardless specific sanitation systems in use (centralised or decentralised). From the overall figure of 52 million m³ of wastewater inflows to rural sanitation systems, about 22% are discharged without treatment, 37% undergo primary treatment prior to discharge to surface water bodies and 41% undergo primary and secondary treatment.

Poor technical conditions of outdated sanitation networks, wastewater treatment plants or pit latrines and septic tanks, as well as irregular removal of accumulated wastes, result in wastewater releases and substantial bacterial and chemical environmental contamination, including groundwater pollution. Accounting for the fact that shallow wells fitted by ground water are used in rural areas as the key source of drinking water supply, the problem of safe water supply in rural areas may be resolved only by implementation of measures to prevent infiltration of untreated wastewater to environment and to introduce efficient wastewater treatment technologies.

Now, as a result of irrational usage of nature resources and high industrial loads, there are growing zones of polluted groundwater at large territories. Groundwater in these zones contains high concentrations of nitrates, traces of pesticides and heavy metals. These contaminants do not allow local residents to use such groundwater for drinking purposes.

Local facilities of the State Sanitary and Epidemiological Service monitor 7,810 rural water supply networks (from the overall number of 8,047). In 2003, 9.5% of rural water supply networks do not meet applicable sanitary standards, while in 2005 the relevant figure reached

⁸ The national report on quality of drinking water and drinking water supply in Ukraine in 2003.

⁹ "The National Strategy of Development of the Water Sector of Ukraine and the Action Plan" - Interim Report , June 2002, DANCEE, the Ministry of Environment of Denmark, the State Committee of Ukraine for Housing and Utilities (COWI Report, 2002)

8.7%. In particular, in 2005, 17.1% of water samples did not meet chemical sanitary standards and 7% of samples did not meet bacteriological standards.

At the same time, quality of water from decentralised water sources (wells and sources) is much worse. According to official data, in recent years (2003 - 2005), about 32% samples of water from decentralised water sources did not meet applicable chemical sanitary standards and 23 - 29.5% of samples did not meet bacteriological standards.

Experts of the Central Sanitary and Epidemiological Facility of the Ministry of Health Protection of Ukraine identified growing nitrate pollution levels in groundwater used for drinking purposes by the majority of rural residents. Elevated nitrate levels in water pose serious health risks, including children's water related methemoglobinemia. Nitrates suppress general human resistance to diseases and provoke higher morbidity, including higher incidence of infections and cancer.

Opportunities to resolve problems of water supply and sanitation in rural areas and provision of clean drinking water and adequate sanitation services to rural residents directly depend on reforms in the sector. Now, problems in the sphere are associated with incomplete transferring of rural water supply and sanitation infrastructures to local authorities, lack of specialised organisations in charge of their maintenance, lack of laboratory capacity at the operational level, lack of an adequate state program to support the development of rural settlements (including, in particular, state programs for provision of safe drinking water supply and adequate sanitation services to rural residents).

Since 1997 MAMA-86 in closed cooperation with local communities and authorities has implemented several projects related to improvement the access to safe drinking water and adequate sanitation in rural areas of Ukraine. The main tasks of these projects in the framework of Drinking water campaign are to work on the following three directions:

- informational and educational activities;
- implementation of pilot projects;
- involvement of broad public in the decision making process on the drinking water problems at local, national and international levels.

MAMA-86 pilot projects in the rural area are being implemented in Poltava Oblast, Yaremcha district and the town of Nizhyn and Nizhyn District. They are focused on the following:

- well water quality analysis;
- improvement of public awareness regarding the water problems;
- implementation of technical solutions of drinking water quality improvement;
- facilitation of arrangements for water supply and its maintenance based on self-governing within several case studies.

The results of implementation of the pilot projects in 2001-2003 were the following:

- over 150 wells of collective and individual use were monitored;
- the inventarization /passportization of wells in Chernihiv Oblast, Yaremche District of Ivano-Frankivsk Oblast was initiated;
- the independent studies/water quality analyzes of over 200 wells in Yaremcha District of Ivano-Frankivsk Oblast, in the town of Nizhyn and Nizhyn District, as well as in Lokhvytsia District were conducted;

- wells cleaning services for local residents in Yaremcha and Nizhyn Districts were established, more than 50 wells in Yaremcha District of Ivano-Frankivsk Oblast and in the town of Nizhyn and Nizhyn District were cleaned out;
- old water pipeline supplying 3000 residents of the village of Pisky, Lohvytsia District, Poltava Oblast was rehabilitated, as well as in 6 villages the water pumps were replaced and the local water supply system renewed their operation.

Since 2003 MAMA-86 in partnership with WECF continued work on improvement the access to safe water with focus on sanitation and protection of ground water – drinking water sources in rural areas. The main results of the series of projects on rural development were in the sphere of:

Drinking water supply:

- rehabilitation of the water supply network in Vorokhta village of Yaremche rayon (construction of 195 metres of water mains and connection of 4 households to the water supply network, more than 100 local residents were able to connect to the centralised water supply system);
- rehabilitation of wells (sources of drinking and technical water) and construction of water supply mains to the school in Bobryk village, construction of the artesian well to supply water to a kindergarten in Vertijivka village of Nizhyn rayon;
- rehabilitation of the community well in Gozhuly village (Poltava District). At the same time, natural fluoride pollution of water in Gozhuly was identified (fluoride levels in the water reached 7 - 9 mg/l, or in 5 - 6 times higher than the applicable standard) and awareness raising actions were launched to inform schoolchildren and their parents on prevention of dental fluorosis. According to the local school administration, 80% of schoolchildren suffer from dental fluorosis. In connection with these findings, independent water analysis was conducted, and Ukrainian and international experts were involved into search for technical solutions to address the problem.

Sanitation:

- Ecosan is one of the main focus of WASH activity in Ukraine since 2004. More than 40 ecosan toilets for individual households were built and put into operation in 8 regions of Ukraine. The introduction of grey water treatment facilities for rural households is on plans.

There are 20,5 thousands general educational institutions in Ukraine now, among them nearly 12,6 thousands (61%) are in a rural area. There are 6,0 million schoolboys that study in general educational institutions (further - institutions). 1650 (8%) of institutions do not meet sanitary-and-hygienic requirements concerning water supply, the overwhelming majority 1583 (96%) is in a rural areas. A lot of such institutions are in Ivano-Frankivska (29%) and Ternopil'ska 21% oblasts.

1832 (9%) schools do not meet sanitary-and-hygienic requirements on sanitation, among them 1725 (94%) are in a rural area. The majority of such schools are in Dnepropetrovska oblast - 36% and Ivano-Frankivska - 22% oblasts.

According to the information of the State Sanitary-and-Epidemiologic Service (SES) in 2006-2007 reconstruction and repair of the water supply and wastewater networks were made in 2100 schools (10%), including 1358 (65%) rural schools.

However 1557 schools (7.6%), including 1205 (77%) rural schools, need a reconstruction or repair of water supply and canalization systems still. The biggest part of such institutions is in Khersonska oblast - 24% and Nikolaevska - 16% oblasts.

3772 schools (18%), from them in a rural area - 3598 (95%), are not connected to the centralized water supply or local water supply pipeline. Most of such institutions are in Lvivska oblast - 45%, Ternopil'ska - 36% and Chernigiv'ska - 34% oblasts.



690 (3.4%) schools, from them in a rural area - 659 (96%), use transported water. There is no improvement during last years in Nikolaevska - 27%, Zhitomir'ska -17% and Zaporizka-16.8% oblasts.

There is a tendency on deterioration of schools' sanitation. 8507 schools (41%) have no centralized sanitation and are not connected to local waste water treatment plants. 8207 (39%) schools use septic tanks or pit latrines, 7418 schools (87%) are in rural areas.



Some schools do not have any sanitation facilities. In Sumska oblast there are 72 such schools. In Khmel'nitska oblast there are 80 rural schools which are working without canteens and sanitation conditions. There is no centralized hot water supply in 8470 schools (42%), from them - 6177 (72%) are in a rural area. Most of such schools are in Chernigiv'ska, Odeska and Luganska oblasts. At schools with canteens the situation is better; at the same time 10% (1698) schools' canteens do not have centralized hot water supply.

During 2007 laboratories of the State SES bodies carried out 17357 analyses of potable water from the centralized sources of water supply on chemical parameters and 23327 analyses on sanitary-microbiological parameters. Among them 6.1% (2006 – 7.4%) samples did not meet the state standards on sanitary-chemical parameters, and 4.7% (2006 – 6.1%) - on sanitary-microbiological ones.

For the last 2 years over 10% of samples of potable water sampled from decentralized water supply sources did not meet sanitary norms on sanitary-chemical parameters and 9.4% - on sanitary-microbiological parameters. In 2006-2007 the portion of non-standard samples of water from rural decentralized schools' water supply sources on sanitary-chemical parameters was 13.1%, and on sanitary-microbiological parameters – 9.7%.

Annually the issue about schools' water supply state is on the agenda of the sessions of the Executive Committees of the City Councils and Rayon Administrations. SES Experts send the analytical information to the local executive authorities and local council authorities and give orders to the Departments of education.

Territorial administrations and departments of education have developed the comprehensive plans on improvement of material base of educational institutions in order to meet the requirements of the sanitary legislation which are approved by the executive and council authorities. The measures on improvement of water supply and sanitation of educational institutions are included into regional programs on education development, "Health of the nation", program on prevention of occurrence of virus Hepatitis A.

Issues about progress on implementation of the Orders of the Chief State Sanitary Doctor of Ukraine from 02.09.2004, № 28, About actions on maintenance of sanitary and epidemic well-being of pupils of the general educational institutions, have been discussed regularly at the Oblasts SES boards' sessions.

Actions of strengthening of the State Sanitary-Epidemiology supervision of the preparation and operation of the general educational institutions in 2007-2008 educational years were developed and approved by Orders of the Chief State Sanitary Doctors of corresponding administrative units.

In 2007 for noncompliance of requirements of the sanitary legislation related to the water supply and waste water treatment in general educational institutions 899 responsible persons were called to account to the administrative responsibility, the work of 1102 general educational institutions was stopped temporarily.

Since 2003 with a financial support of Foundation Ensemble and WECF 3 school eco-toilets for 3 rural schools with more than 650 schoolchildren were constructed in 3 oblasts of Ukraine (Poltavska oblast v. Gozhuly, Chernigivska oblast v. Bobryk and in Odeska oblast v. Stepanovka)

Now the focus on safe water and sanitation, hygiene for children is one of the focus points of WASH activities in Ukraine

Author: Anna Tsvetkova

Uzbekistan

Uzbekistan faces major problems in water supply and sanitation coverage. High rates of infectious diseases, especially among children, reflect poverty, and poor access to water and sanitation facilities (see, for example, World Bank reports 1997, 2002, 2003; IMF, Uzbekistan, Recent Economic Developments 2000; UNICEF report, Multiple Indicator Cluster Survey 2000; Landenbrunner et al. 2002).

Uzbek government, supported by international financial organisations has made its major task to improve water and sanitation in the country. Rehabilitation and technical assistance projects address empowerment of local governments and local communities to manage water suppliers and away from centralized government agencies. The projects inspire institutional reforms and opens the doors for private sector in water and sanitation services.

Private sector participation is the most popular modern trends in the development of water supply economics. It is disputable though whether privatisation can improve service quality, reduce water and sewage spillage, accelerate repair rates, remove water shortages and stabilize water pressure. It is well-known that privatisation is a foundation for price increase and enforcement of service payment, possibly resulting in excluding the poor from water and sewage utilities.

After achieving the independence, water and sanitation sector was identified as one of highest priority in various program documents of the Uzbek government.

In 1998, the National Environmental Action Plan identified three broad pillars for environmental policy actions, addressing a number of priorities included:

1. Mitigation of environmental health impacts: *a)* drinking water and sanitation; *b)* municipal and hazardous waste management; *c)* integration of air pollution concerns into transport policies; *d)* phasing out leaded gasoline; *e)* improvement of food quality; *f)* prevention of industrial pollution; and *g)* improving the environmental performance of the energy sector, development and introduction of renewable energy sources (solar, water, wind, biogas, etc.).
2. Improved use of land and water resources: *a)* reforming the agricultural sector; *b)* diversifying crop structure; *c)* increasing land productivity; *d)* better maintenance of irrigation and drainage networks; *e)* development of integrated land, water and salinity management; *f)* promoting watershed management approach on a pilot basis; and *g)* improving the economic mechanism of environmental protection and use of natural resources.
3. Regional and global environmental problems: *a)* biodiversity conservation and desertification control; *b)* improving protected area management; *c)* development and implementation of a regional water resource management strategy for the Aral Sea basin; and *d)* joining multilateral conventions and developing domestic mechanisms for compliance.

The State Committee on Environmental Protection had identified the following priorities:

- Economic instruments for environmental and natural resource management;
- Water quality management in transboundary water courses;
- Renewable energy;

- Recovery and treatment of waste and persistent organic pollutants.

Formulating the national MDGs, Uzbek government aims to implement strategies to achieve tangible improvements in improving living standards in Uzbekistan by 2010. Based on the evidence, rural development deserves the greatest attention from government and development donors.

Most interested for the water and sanitation perspectives is the formulation of Target 9 and 10 of the National MDGs:

- Target 9: Integrate the Principles of Sustainable Development into Country Policies and Programs and Reverse the Loss of Environmental resources by 2015, and
- Target 10: Increase the share of Urban and Rural Population with Access to an Improved water Source and Sanitation by 2015.

The problem of the Aral Sea is defined as the biggest environmental challenge for Uzbekistan. By the late 1990s, the Aral Sea had reportedly lost 90 per cent of its volume.

The government of Uzbekistan has developed and adopted a number of strategic documents to address environmental challenges:

- National Environmental Action Plan;
- State Program for Environmental Protection and the Rational Use of Natural Resources;
- National Strategy and Action Plan for Biodiversity Conservation;
- National Action Program to Combat Desertification;
- Decree to strengthen agriculture reforms;
- National Strategy on Renewable Energy.

The government of Uzbekistan has developed and adopted a number of strategic documents to address environmental challenges:

- National Environmental Health Action Plan;
- State Program on Provision of Rural Population with Drinking Water and Natural Gas for the period 2000-2010;
- National Waste Management and Action Plan;
- The UN system and other donors are active in the field of water resources management.

The principal source of water has historically been the Amu Darya and Syr Darya rivers and their associated irrigation canals, augmented by groundwater in areas far from the rivers. Since the 1960s, increasing use of the Amu Darya and Syr Darya rivers for agriculture, particularly cotton growing, has resulted in greatly reduced volumes of water entering the Aral Sea and excessive contamination from leached salts and agricultural chemicals. The diversion of water from the Aral Sea was an ecological disaster.

The water industry in Uzbekistan is an example of a state monopoly. A number of different government agencies and ministries have responsibility for the provision of water and sewage services in Uzbekistan. Two separate departments of the Ministry of Communal Services, one for the municipal water and sewage agencies (Vodokanal) and one for the inter-regional

trunk pipeline agencies, are in charge of overall supervision and management, including sector planning and regulatory aspects.

Water and sewage services in Uzbek rural areas fall within the jurisdiction of the Ministry of Agriculture, which oversees and coordinates the activities of the regional rural water agencies (Agrovodokanals) through its department of Agrovodokanals.



Traditional pitlatrine



Traditional discharge of black water

In the past, the central authorities in Uzbek capital of Tashkent control the entire activities associated with the production and distribution of water. In the period of transition, responsibility for overseeing the distribution of water was delegated to the provincial level, with the central government still overseeing all aspects of the treatment and transport of surface water from large reservoirs, including its delivery to distributing agencies.

The inter-regional water supply pipeline systems are managed by separate entities and responsible for operating the main water supply pipelines and water treatment plants and sell the piped water to the Vodocanals and Agrovodokanals, which distribute the water secondary and tertiary networks to domestic, industrial, and commercial consumers. The Vodokanals operate and maintain water supply and treatment facilities and pumping stations. Capital investment for the construction of main pipelines and for the distribution and treatment facilities is provided from the central government budget, and the operation and maintenance costs of the bulk water agencies are also highly subsidized by the central government. Highly subsidized water supplied provides a pervasive incentive for the Vodocanals to source their water supply from these pipelines, rather than operating their own local facilities.

The deepest problems lay not only in the management arrangement but in the lack of basic adequate installation and operation systems which leads to low water use efficiency.

46% of the population does not have access to running water in their own dwelling or have their own well at national level; 12 percent of the population relies on untreated water from rivers and canals. The low level of access to water and sewerage in the country is especially evident in the rural areas. It is a major reason for the high prevalence of childhood diarrheal diseases, gastrointestinal infections, viral hepatitis, and typhoid outbreaks. The number of people diagnosed with hepatitis in Uzbekistan in 1996 was three times higher than the

Commonwealth of Independent States (CIS) average and 26 times higher than the European Union average.

Expansion of the cotton crop, diversions of water flows, and use of fertilizers and pesticides have led to water pollution and soil degradation and have contributed to the poor and declining quality of drinking water particularly in rural areas. The salinization of the land and extensive use of pesticides may also pose hazards. Water supplying companies experience water scarcity, especially during drought periods.

To date the government of Uzbekistan supported by many international organizations such as the World Bank, IMF missions have undertaken several projects aimed to improve water supply and sanitation service: Water Supply, Sanitation and Health, implemented from 2002 to 2007; Bukhara and Samarkand Water Supply is under implementation, etc. In December 2008, Uzbek government announced the start up of two other large projects in water and sanitation area.

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Sanitation situation in Karakalpakstan

The Republic of Uzbekistan is a semi-arid country, Once had a large-scale heavy industrial producer, today Uzbek agriculture is the dominant economic activity in the country. Only 10 percent of the land is cultivated, yet the country is the world's third largest exporter of cotton.

Agriculture in Uzbekistan depends almost entirely on irrigation. The Amu Darya and Syr Darya river systems provide 95 percent of the water for irrigation. In 1954 with the completion of two canals, the rivers were diverted entirely for agriculture. This accelerated the decline of the Aral Sea. The sea that used to be the world's fourth largest inland body of water with a fishing industry employing 60 000 people and a thriving tourist trade is nowadays biologically dead and has shrunk by approximately 70 percent in volume and 50 percent in area. Fishing town such as Muynak are now 60 kilometers inland.

The Republic of Karakalpakstan is located entirely in this deteriorated part of the Aral Sea Basin.

By mid 1960s, potable water quality and quantity in the area had decreased to such an extent that alternative water sources were needed. A dam was built about 400 km with a reservoir of 2 340 million cubic meters providing water for irrigation and drinking. Pumping is responsible for about 55 percent of total costs given the long distance, the lack of intermediate pumping stations, and the 310m increase in altitude. This reservoir provides 85 percent of the potable water in Karakalpakstan.

The shortages of funds in the period of transition led to inadequate maintenance and a lack of essential operating supplies such as chlorine. Piped water supply is limited to several hours a day in many settlements. In the larger distribution networks, system pressures are roughly half the optimal pressure as the distribution systems are old and corroded.

There are approximately 2.2 million inhabitants in the area mostly damaged by the Aral Seadegradation: 59 percent have access to piped water systems. In rural areas, the most common form of water supply is the hand pump; both coverage and quality are inadequate with the average of 59 people sharing a single hand pump. The ground water in many areas is salty.

In the last decade of the previous century, the infant mortality rate for Uzbekistan was 44 deaths per 1 000 births. In the Aral Sea basin, the infant mortality rate was even higher: 51. Maternal mortality rates in the Aral Sea area double those in the rest of Uzbekistan. Respiratory ailments, hepatitis and acute intestinal diseases are all prevalent.

The water sector of Karakalpakstan and Khorezm Oblast is organized around two bulk water providers, Tuyamuyan-Nukus and Tuyamuyan-Urgench. They supply approximately 85 percent of the potable water for via four distribution companies. Two agencies (Vodokanals) distribute water to the urban areas of Karakalpakstan and Khorezm Oblast. Two separate agencies (Agrovodokanals) distribute water to the rural areas of Karakalpakstan and Khorezm Oblast.

bulk water supply is supported by large government subsidies due to high pumping costs and a wide-spread poverty. The two bulk water suppliers covered only 15 percent of their operating costs with tariff revenues in 1995. The water distributing agencies to some extent

covered their cost of operation and to a limited extent the cost of maintenance. Given the limited payment capacity of the population, it is doubtful, whether tariff levels can be raised to cover all operating and maintenance costs. Analysis of the situation proved that water demand management and leakage reduction programs were to be addressed rather than increased water production. For rural sanitation, improved on-site facilities proved to be a more economic alternative than creating or expanding centralized, water-borne sewerage systems in the condition of low population density.



Urine-diverting toilet built by NGO Mehriban



School urine-diverting ecosan toilet

In 1996 a 100 million USD project was initiated by the Uzbek government in Karakalpakstan and Khorezin Oblast with the main goal to improve water supply and distribution (68 percent of total base cost): replacement or rehabilitation where appropriate sections of the distribution systems in Karakalpakstan and Khorezm Oblast; sanitation, health and hygiene; technical assistance; and project management, design and supervision. Other project components included: rehabilitation and expansion of 2 water treatment plants; rehabilitation of 5 ground water sources; building of additional trunk pipelines in Karakalpakstan; rehabilitation of the rural distribution centers in Karakalpakstan and Khorezm Oblast. Additional to this, the project covered also provision of spare parts for about 300 desalinization units in Karakalpakstan as well as training for the operators of the desalinization plants; rehabilitation and development of ground water sources in Karakalpakstan and Khorezm Oblast; expansion of demand-based rural water supplies in Karakalpakstan and Khorezm Oblast; metering trials to test different approaches to metering water usage along with a consumer awareness program to provide practical advice on means of reducing losses and optimizing water use; funds to implement the most economic means of leakage reduction; installation of hand washing facilities in selected households, schools, primary health care services, canteens and public places in selected collective farms; provision of around 7,500 improved latrines and handwashing facilities, covering about 5 percent of the rural population in both regions; health promotion and education activities; improvement of water quality monitoring, and sanitation and hygiene inspection of households and communal facilities.

The project provides basis for institutional strengthening of water utilities: a program for carrying out regularly preventive maintenance; a program for monitoring and reducing operating costs; a program for reduction and management of accounts receivable; design and operation of a utility accounting system, including cost accounting; and in-house and foreign training programs. These programs include consultancy services and training of trainers.

Another project component would deal with financment of a water and sewerage tariff study for the introduction of new water and sewerage tariff rates for the various consumer groups.

An integral part of the project was community participation in selecting and implementing water supply improvements. Using a demand-based approach, communities selected various options (hand pumps, piped water supply, desalinization, etc.) based on their willingness to pay for the improved water supply. Communities were expected to cover the full operations and maintenance cost of the schemes which designed and costed with the participation of the selected communities according to the level of service they choose. Community Water User Associations were formed to represent the communities in negotiations with the contractors for project implementation and operation.

Through the program of technical assistance, the project was meant to lead to substantial improvements in operations and maintenance of the water agencies, and increased sustainability of the water sector in Karakalpakstan and Khorezm Oblast. To what extent financial sustainability can be achieved will remain to be seen. In many parts of the project area, up to 90 percent of household cash income is used to buy food. The political will to significantly increase water tariffs for domestic customers is also not present.

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Photos were kindly provided by Gulbahar Isintaeva and Margriet Samwel

National WASH Coalitions

WASH coalition in Bulgaria

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WASH Coalition partners:

- Earth Forever serves as a focal point with its headquarter in Stara Zagora and branches in Sofia, Plevna, Bourgas and Haskovo;
- Stara Zagora Municipality;
- Plevna Municipality;
- Ministry of Health;
- Ministry of Agriculture and Health;
- Regional Inspectorate for Protection and Control of Public Health, Stara Zagora;
- Bulgarian Society for Education and Culture;
- Association Rodolyubtsi, Kaloyanovets, Stara Zagora Municipality;
- Village chitalishta: Sulitsa, Zmeyovo, Yavorovo, Hrishteni;
- Romain Rolland Bilingual School, Stara Zagora;
- Village and small town mayoralities: Sulitsa, Stara Zagora Spa, Hrishteni, Badeshte, Zmeyovo, Zagore, Rakitnitsa, Todorovo, Pelishat, Slavyanovo, Beglezh.

Bulgarian WASH Coalition is focused on advocacy and action to improve the sanitation and hygiene conditions for schools, in rural areas, for disadvantaged groups (e.g. Roma).

WASH Coalition in Kyrgyzstan



INITIATIVES FOR DEVELOPMENT



22 March
World Day for Water

special issue

1

12 april
2007

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Let's remember the words by famous writer Antoine de Saint-Exupery, "Water! You have no taste or smell, you cannot be described, you are savored with no understanding of what you are. You are not simply necessary for life, you are life"

Initiative for Development Public Fund

This public fund was established in 2006. The main objective of this fund is to render assistance in educational, cultural and social development of the society of Kyrgyzstan, as well as to make donations and to perform other social and political tasks.

The director of the fund is **Mendikulova Fatima Janybekovna.**

The Initiative for Development Public Fund aims to support the civil initiatives in different fields in order to develop a favorable environment for the development. The motto of our public fund is, "For citizens by citizens". We are sure that any reforms may succeed where such reforms start at the lowest level among people and are dedicated to solve the urgent issues. Thus our public fund watches over the people's initiatives, helps people to draw projects, obtain finances and to implement their projects. The principal objective of the public fund is to assist people in their cooperation with each other, to develop partnership between different organizations and groups.

The public fund efforts to assist people in cooperation with each other, to develop partnership between different organizations and groups.

With assistance of the regional coordinator of the Water Supply and Sanitation Collaborative Council, the Initiative for Development Public Fund took an initiative to draw public attention to the global problem "Water as a Source of Life". The main objective of the fund is to inform the society about the World Day for Water and Water Resources, which is celebrated on March 22 and about the World 10th Anniversary of Water for Live Actions in 2005 to 2015.



For this reason the public fund organized and held a range of events dedicated to the 2007 Problem "Water Shortage Overcoming".

The Initiative for Development Public Fund gave the Kyrgyz people the opportunity to become the participant of the world movement, World Day for Water, with assistance of organizations and institutions.

Due to these events dedicated to the celebration of the World Day for Water, the Initiative for Development Public Fund gained new partners and friends represented by:

The Youth and The Present, Public Fund of OshSU, led by Salahitdinova Nazira Kamalovna and Lady Shirin Public Association

WASH coalition in Ukraine

WSSCC National coordinator is Anna Tsvietkova
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List of participants of WASH activities in Ukraine:

- All-Ukrainian environmental NGO MAMA-86 launched WASH campaign in 2003. 10 regional branches of MAMA-86 in:
 - city Artemivsk Donetska oblast;
 - city Feodosia AR Crimea;
 - city Mykolajv;
 - city Nizhyn Chernigiv oblast;
 - city Nova Kahovka Khersonska oblast;
 - city Odesa;
 - city Poltava;
 - city Sevastopol AR Crimea;
 - city Tatarbunary Odeska oblast;
 - city Yaremche;
- Ukrainian Water Associations;
- Water Information Center, Kiev;
- LTD Slobozhans'kii soap maker, Kharkiv.

WASH Coalition in Uzbekistan



National WASH Coordinator is Oral Ataniyazova. She is an obstetrician and medical scientist from Karakalpakstan, Uzbekistan. She is the director of *Perzent*, the Karakalpak Center for Reproductive Health and Environment. She was awarded the Goldman Environmental Prize in 2000. She currently lives in Nukus, Uzbekistan.

After completing her PhD in medical sciences in Moscow, Ataniyazova conducted a survey in 1992 of 5,000 reproductive-age women in Karakalpakstan. The results were shocking, with over 90% of all women surveyed having some form of complication during pregnancy and/or childbirth. This has been attributed to the ecological disaster around the Aral Sea, which Karakalpakstan borders. In response to these findings, Ataniyazova founded the Karakalpak Center for Reproductive Health and Environment, named *Perzent*, which means "progeny" in the Karakalpak language. The center is located in the Nukus government hospital. It provides education to the local population about a wide range of issues, from family health to clean water and food.

Ataniyazova works to promote awareness of the problems around the Aral Sea. She has been the keynote speaker for many world conferences, and has addressed the United Nations.

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