

## WHY Media Award Story 3<sup>rd</sup> winner

### *Ukraine's water crisis - Health crisis? Point of no return?* by Roman Lebed, Ukraine

When it comes to water supply problems, we usually think of countries plagued by fatal water-borne diseases or those regions of the world constantly suffering from drought. But today Ukraine falls into the category of countries with low levels of water resources. It ranks among the lowest in Europe in terms of sufficiency of water supply and its water consumption per one unit of GDP exceeds that of its European neighbours several fold. The main problem is that 35 million Ukrainians (two-thirds of the population) drink water taken from the region's main artery - the Dnipro River, whose basin has to handle a huge technogenic load. According to experts, the quality of Dnipro water is class 3-4 ("polluted") and in certain areas drops down to 4-5 ("impure"). When it reaches Ukraine (the river flows from Russia through Belarus), the Dnipro River brings with it 22,000 tons of organic matter, 37,000 tons of active chemical agents, as well as a high content of oil products, ammonia and heavy metals. These figures are significantly higher once the Dnipro reaches the Black Sea. Most other river basins are classified as "polluted" or "impure." The number of unpolluted reservoirs has decreased considerably over the past 30 years. Even Ukraine's artesian waters are at risk of pollution. Poor quality water, especially in the summer, is the cause of outbreaks of infectious diseases. Each year there are between five and ten large outbreaks of viral hepatitis, dysentery, salmonellosis, typhoid and other infections. For example, in 2003, 600 people in the city of Sukhodolsk (eastern Ukraine), including 150 children, came down with hepatitis A.

Water supply is regulated by schedule. At times there are stoppages of up to three days, causing drinking water to become even more polluted. A quarter of all purification systems have reached the limits of their lifespan and tens of thousands of kilometers of water and sewage pipes are in catastrophic condition. Once water reaches apartments via polluted and worn out pipes, it becomes mechanically and biologically polluted. The water filters that people attach to their taps quickly accumulate a layer of different sized particles. For most people, the habit of drinking water straight from the tap has long become a thing of the past and many of them have forgotten the taste of real water.

Complicating the situation in Ukraine is the fact that it's extremely difficult to find out who is responsible for the quality of drinking water - and nobody at all is responsible for the quality of well water. When there's an accident and someone falls ill, the most the sanitary and epidemiological service can do is issue a fine to the wrongdoers...

In 2005, parliament approved the national programme "Drinking Water of Ukraine", which was planned for 15 years and calls for securing water sources, bringing drinking water quality up to European standards, reconstructing water supply and drainage systems, and other measures. But in 2008 the necessary funds were not allocated in the budget for this programme and in 2009 the figure was only 10%.

Ukraine was one of the first countries to ratify the Protocol on Water and Health. It entered into effect in 2005, but implementation has been very slow. Hanna Tsyvetkova from the environmental organization "Mama-86" organizes discussions on the implementation of the Protocol in Ukraine. She says that the Ukrainian

government hasn't even got past the stage of formulating their targets and believes that the steps taken by the Ukrainian government are merely declarative. According to the World Health Organization, Ukraine ranks 47th of the 53 countries in the Region for deaths caused by environmental pollution (155,000 each year). For several years now, Ukraine has been unable to introduce new water standards. According to the head of the All-Ukrainian Ecological League, Tetyana Tymochko, that's because the new standards would make nearly 90% of all water sources in the country unusable.

#### **Needed action**

Experts claim the focus should be on [improving] the purity of those rivers and basins that supply the water. Epidemiologist Lyubov Nekrasova believes that if we don't demand protection of the basins from industrial and household drainage now, Ukraine will never have adequate drinking water.

After years of delay, the water problem in Ukraine is now urgent. But it seems that there's no getting by without considerable financial assistance from international organizations, donors and creditors. We need to fully inform the European community about the problem Ukrainians are facing. The time bomb started ticking long ago - if we delay, it can explode at any moment and cause serious problems not only for Ukraine, but for the entire region.



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## **Ukraine's water crisis - Health crisis? Point of no return? Why Ukrainian officials don't care about the problem By Roman Lebed**

It comes to water supply problems, we usually think of those African countries plagued by fatal water-borne diseases or those regions of the world constantly suffering from a lack of drinking water. It's hard to imagine that Ukraine, with its large basins and generally developed infrastructure, can suffer from shortages or poor quality of water. Perhaps it is this very stereotype that is preventing concerned Ukrainians from drawing due attention to this ever-worsening hidden threat. During Soviet times, one could drink the tap water in Ukraine, but today, unlike in Britain, it's hazardous to your health.

Since ancient times, water has been a symbol of the Ukrainian people. Such notions as rivers, wells, dams, mills and ponds were always attributes of the national epos, and certain seasonal holidays such as Ivana Kupala are directly tied to water. But today, the word "water" evokes a negative connotation among Ukrainians related to its health risks.

### **True taste of water long forgotten**

Ukraine falls into the category of countries with low levels of water resources. It ranks among the lowest in Europe in terms of sufficiency of water supply, and its water consumption per one unit of GDP exceeds its European neighbors several fold. Given that water resources are used more intensively, they are proportionally more polluted.

The main problem is that 35 million Ukrainians - residents of two-thirds of all localities - drink water from the region's main artery - the Dnipro River, whose basin must handle a huge technogenic load. According to experts, the quality of Dnipro water is class 3-4 - "polluted," and in certain areas drops down to 4-5 - "impure." Once it reaches Ukraine (the river flows from Russia through Belarus), the Dnipro River brings with it 22,000 tons of organic matter, 37,000 tons of active chemical agents, as well as a high content of oil products, ammonia and heavy metals. These figures are significantly higher once the Dnipro reaches the Black Sea. Most other river basins are classified as "polluted" or "impure." The number of unpolluted reservoirs has decreased considerably over the past 30 years.

Even Ukraine's benchmark of quality - its artesian waters - are at risk of technogenic pollution.

Poor quality water, especially in the summer, is the cause of outbreaks of infectious diseases. The cocktail we call drinking water has it all, epidemiologist Lyubov Nekrasova once said. Each year there are 5-10 large outbreaks of viral hepatitis, dysentery, salmonellosis, typhoid, and other infections. For example, in 2003, 600 people in the city of Sukhodolsk (eastern Ukraine), including 150 children, came down with hepatitis A.

Only 70% of the population has access to centralized water supply - mostly residents of cities. More than 1,000 localities rely on deliveries of water and approximately 11 million people consume well water. According to doctors, the water is not fit for use in half of them, and is the cause of hundreds of babies getting sick every year. The main culprit being nitrates, which enter the water through the soil.

Water supply is regulated by schedule. At times there are stoppages of up to three days, causing drinking water to become even more polluted. A quarter of all purification systems have reached their lifespan, and tens of thousands of kilometers of water and sewage pipes are in catastrophic condition.

Once water reaches apartments via polluted and worn down pipes, it becomes mechanically and biologically polluted. If you leave water in a clear glass for a couple of hours you will see white flakes deposited at the bottom. The water filters that people attach to their faucets quickly accumulate a layer of different sized particles. To decrease the harm, water is either chlorinated or filtered using other substances, which enter the organism of those drinking this water. This is very dangerous and can even trigger the growth of cancerous tumors.

For most people, the habit of drinking water straight from the tap, inherent even during Soviet times, has long become a thing of the past, and many of them have forgotten the taste of real water.

Another problem is that Ukraine's water reservoirs continue to be polluted with radiation even more than 20 years after the Chernobyl accident. Radionuclides continue to pass through the Object Shelter, and make their way to the Dnipro via the Prypiat River, where they pose a risk to all those living along its banks. Current radiation levels in the river around Hidropark in Kyiv are within the permissible limit, but in general up to 50 times higher than before the accident. It was at such levels that Ukrainians used to live along the banks of the Dnipro.

Water quality has been one of the most critical problems in Ukraine for many years. The constant use of poor quality drinking water is a reason why Ukraine lags behind developed nations in terms of average life expectancy and high mortality rates.

Complicating the situation in Ukraine is the fact that it's extremely difficult to find those responsible for the quality of drinking water and nobody at all is responsible for the quality of well water. When there's an accident and someone falls ill, the most the sanitary and epidemiological service can do is issue a fine to the wrongdoers. Once epidemiologists surveyed the situation in the regions where outbreaks of infectious diseases had earlier been recorded, they were shocked to learn that in nearly each case nothing had been done to prevent repeat outbreaks of water-borne diseases.

More paradoxical than all the abovementioned circumstances is the government's total indifference to this problem. Presidential elections are approaching in Ukraine, and most likely none of the candidates will discuss the problem of drinking water during the campaign - just as they didn't during previous elections. You get the impression that the Ukrainian government, perhaps because of its inability to fundamentally change something, simply turns a blind eye to the problems of quality drinking water for the electorate. For the most part, only local deputies might talk about this, although the issue has long since become national and is becoming increasingly dangerous.

### **Declarations - all talk and no action**

At first glance it may seem as if the authorities actually care about this issue. For example, during the 58<sup>th</sup> Session of the UN General Assembly in 2003, the Ukrainian president presented the Secretary-General with a report entitled "Millennium Development Goals: Ukraine." The document reads: Goal 3: Ensure sustainable environmental development: Target 5: Increase the proportion of people with access to clean drinking water by 12%." Without even taking into account how this is being achieved, Ukrainian ecologists claim that the focus is only on access to centralized water supply, not water quality.

Another example: in 2005 parliament approved the national program "Drinking Water of Ukraine" which was planned for 15 years and calls for securing water sources, bringing drinking water quality up to European standards, reconstructing water supply and drainage systems, and other measures. But in 2008 the necessary funds were not allocated in the budget for this program, and in 2009 the figure was only 10%. This is exactly how the 2004 Law "On Drinking Water" is being implemented - it's not.

Ukraine was one of the first countries to ratify the Protocol on Water and Health. It entered into effect in 2005, but implementation has been very slow. Hanna Tsvyetskova from the environmental organization "Mama-86" organizes discussions on the implementation of this document in Ukraine has said that the Ukrainian government hasn't even gotten past the stage of formulating their targets. She believes that the steps taken by the Ukrainian government are merely declarative. This angers the public because water is one of life's necessities and a key human right. Yet the authorities are not giving this issue the attention it warrants.

It's difficult to assess whether the situation is more catastrophic on the state or local level. Let's focus on the problems of certain regions of Ukraine.

The situation is the gravest in eastern and southern oblasts, where the water is not only of poor quality, but supplied in increasingly smaller volumes.

### **Crimea - recreation place without water**

Crimea is Ukraine's main tourism center. Each year millions of tourists visit its shores on the Black and Azov Seas. It's hard to believe that water is the most problematic issue for Crimea, but the situation in the peninsula is the worst in the country.

For example, in the city of Bakhchisaray, one of the largest tourism spots and location of Khan's Palace, most buildings have water only 4 hours a day - 2 in the morning and 2 in the evening.

A few years ago Crimea still had the North Crimea Canal to help solve its water woes; however, today, some people no longer have access to its water. The water supply system for the residents in the northern part of the peninsula has been destroyed and they are forced to use water from wells. The groundwater here is highly mineralized; in some locations the mineral content exceeds norms threefold. Local residents say that soup made with this water can only be eaten while it's hot because afterwards it has a disgusting aftertaste.

Districts that still get water from the canal face a different problem - there are too many organic materials in the water, especially in summer. To prevent the risk of infection, they hyperchlorinate the water. However, this increases cancer rates, as evidenced in Kerch.

Nearly half the water supply networks in the Autonomous Republic are in catastrophic condition. Throughout Crimea, water is supplied according to schedule, which only worsens its quality. Residents in 30% of rural communities rely on delivered water. In many villages the water does not meet sanitary norms. In ten localities, including Sevastopol, water does not meet standard requirements for certain physical and chemical properties.

Industrial waste is often dumped into gullies or directly into rivers. As a result, the entire Crimean water network suffers from nitrate and bacterial pollution.

Due to the lack, or extremely high value of fresh water resources in Crimea, expansion of rice harvesting has been halted.

### **Lviv - capital of Western Ukraine - non-European condition with water supply**

This city is also one of Ukraine's major tourism centers. Every year numerous visitors come from Europe, Asia and America to marvel at its medieval architecture. So far, Lviv remains one of the main contenders for the right to host Euro-2012 football matches.

However, few believe that in the three years remaining the local authorities will be able to resolve the problem often omitted from foreign tourist guides - that the water supply system in "Ukraine's cultural capital" remains rather medieval...

Hot water is supplied by schedule and in some districts even cold water is rationed. Paradoxically, the residents of the central historical region of Lviv, where most of the architectural monuments are found, have water flowing from their faucets only several hours a day. There is still no detailed plan or budget for 24-hour water supply in Lviv.

Every new mayor promises to solve this problem. In 2002, the Ukrainian government took out a loan from the World Bank to improve water supply in Lviv. In 2006, it was disbursed, helping to solve some problems, though leaving the overall picture little improved.

The situation is complicated by the fact that the city is located in an area with no large reservoirs with drinking-quality water. Lviv's water comes from 17 water intakes located within a 110 km radius of the city. Groundwater is collected in nearly 200 wells, some of which are 250 meters deep.

Another major problem is the city's complex terrain; it has an elevation change of 120 meters. However, the main problem is still considered to be the unsatisfactory condition of Lviv's water supply system. Many pipes are in catastrophic condition, resulting in 650 water main breaks on average each month.

The problem can only be solved by modernizing the city's water supply system, but this requires lots of money - which the city won't have any time soon.

### **Kyiv - real capital of water problems ? !**

The water problems in the country's most developed region - its capital - seem completely absurd. As a result of constant financial bickering between the municipal government, energy and water supply companies, the residents of Kyiv are systematically left without hot water for periods of time.

Kyiv's water and sewage systems are outdated. The pipes are rotting and dozens could rupture from changes in pressure. Some opposition deputies in the Kyiv city council believe the capital is on the verge of a technogenic catastrophe that would leave half this city, with its population of several million, without heat and water. Experts also constantly warn of the threat of destruction to Kyiv's main sewer collector. If it were to rupture, it would be difficult to overrate the size of the catastrophe - all the sewage will flow into the Dnipro, and as we noted earlier, half the population drinks water from its basin.

However, in general, drinking water is most accessible in Kyiv. The city is filled with free waters wells (byuvets) and health officials claim the water meets all standards and is safe to drink.

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In conclusion, we should refer to Ukraine's ecologists, who claim that without radical intervention the ecological situation in Ukraine could lead to ecological genocide. According to the World Health Organization, Ukraine ranks 47th among 53 countries in the region according to deaths caused by environmental pollution - 155,000 each year. How many could have been prevented if the government took a serious approach to solving these ecological problems? Drinking water is among the top of the list. According to experts, 10-12% of samples of centralized water in Ukraine do not meet public health standards and 6% do not meet bacteriological standards. In some regions, such as Donbas, Prydniprovya, and Crimea, half of all tested drinking water does not meet standards, even national standards, which are lower than in Europe.

For several years now, Ukraine has been unable to introduce new state standards for water. According to the head of the All-Ukrainian Ecological League Tetyana Tymochko, that's because the new standards would make nearly 90% of all water sources in the country unsuitable.

Often times, purification measures have no effect, as there's no sense in purifying such water. Experts claim the focus should be on the cleanliness of those rivers and basins that supply the water. Epidemiologist Lyubov Nekrasova believes that if we don't demand protection of the basins from industrial and household drainage now, Ukraine will never have adequate drinking water.

After years of delay in addressing the water problem in Ukraine, it is now one of the most urgent. Former housing and communal services minister Oleksiy Kucherenko believes that drinking water must become a national priority in Ukraine. According to him, in 15-20 years the country will face water shortages and even now conservative approaches to the problem don't ensure quality and safe drinking water in all regions of Ukraine.

Journalist Oleh Lystopad, who has spent many years investigating water quality, says that nobody in Ukraine takes it seriously. It is easier for politicians to force people to think about superficial issues such as entering NATO than those that actually affect quality of life and life expectancy. This problem is one of Ukraine's key obstacles in entering the EU.

In recent years, problems related to drinking water have become more complicated. They have never seen such indifference, experts say.

But it seems that even if the Ukrainian government had the will, it can no longer fix everything in this sphere, and there's no getting by without considerable financial assistance from international organizations, donors and creditors. This issue requires billions in investments.

First we need to properly inform the European community about the problem Ukrainians are facing.. The time bomb started ticking long ago - if we delay, it can explode at any moment and cause serious problems not only for Ukraine, but for the entire region.