

ECOLOGICAL SANITATION IN RURAL AREAS – A STEP TOWARDS RESTORATION OF WATER RESOURCES OF THE WESTERN BUG RIVER BASIN

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An investigation made by Global Water Partnership of Central and Eastern Europe countries shows that 20-40% of the rural population have no proper sanitation, because existing sanitation programs, according to the priorities of the European Commission do not take into account settlements with a population less than 2000 inhabitants. This is the case for the villages of the Western Bug River Basin.

In the Ukrainian part Western Bug River the majority of the population lives in rural areas, scattered over a wide area. The rural population is economically poor, rural regions are less developed and are unable to obtain the necessary economic assistance for development of water supply and sanitation facilities. There are no treatment facilities or special measures to prevent discharges of untreated sewage into the river. This creates problems for water resources, because it leads to degradation of natural resources and deterioration of the Western Bug River Basin waters. It is also a problem for people, because contact with human excreta and waste water leads to serious health risks for the rural population.

Three alternatives for addressing sanitation in rural areas are considered today:

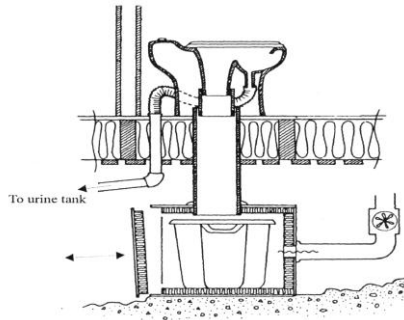
- connecting small settlements to treatment facilities of big cities;
- connecting several small settlements to one sewer system with treatment facilities
- construction of individual treatment facilities in every small village or in private houses.

From experience of Germany, Sweden and Norway it is known that introduction of ecological sanitation approaches (using cheap, simple and reliable systems, such as urine diversion without water, on-site systems and treatment systems with use of natural filters and other types of natural cleaning in private homes for one family) are the realistic solutions that meet modern requirements of the EU Water Framework Directive and the requirements of sustainable development of small towns in rural areas. The modern understanding of ecological sanitation - is a stable sanitary which protects and supports human health, does not cause environmental degradation or a depletion of water resources, is technically and institutionally appropriate, economically viable and socially comprehensible.

Only 3% of the villages in Ukraine have sewer systems. This means that only about 1,4 million people have comfortable living conditions. The remaining 14.3 million of the rural population use septic tanks and cesspools, which usually remain out of control and become sources of nitrate and bacteriological contamination of groundwater and river basins.



The first attempts to implement ecological sanitation approaches, taken by the Ukrainian Environmental NGO "MAMA 86" and the Western Center of the Ukrainian Branch of the World Laboratory in Ukraine, demonstrate the effectiveness for rural schools. Construction of toilets with separate collection of urine and feces (dry toilets) in rural schools can be an important step in solving ecosanitation problems in small villages of the Western Ukraine and is one real practical solution to reduce pollution of basin water.



A special feature of dry toilets is that they do not require water and connection to water drain systems. Dry toilets help to maintain clean water, and facilitate the return of nutrients into the soil, instead of dilution and discharge of nutrients into reservoirs.

In 2009, the Western Center of the Ukrainian Branch of the World Laboratory with financial support from the Coalition Clean Baltic (CCB) organized the construction of dry toilets in the school of Zabuzhzhia village, which is situated in the Western Bug river basin.



Dry toilet in rural schools

There are 250 students studying in the school. They became a major target group through which information about ecological sanitation principles was spread among their parents, neighbors and the entire rural population of the region. This idea also received support from a local farmer, which use collected urine, and composted faeces as fertilizer on his fields. The project's goal was to raise awareness of rural residents and show them possibility of virtual reducing the pollution of the river basin.

Our experience of introducing ecological sanitation approaches shows that the uses of dry toilets in rural areas of the Ukrainian part the Western Bug River Basin is particularly appropriate. It promotes rising of living standards to the same level as the cities but using much lower costs, and it reduces water pollution with wastewater and eliminates risks to human health.