

WORLD WATER DAY – 2017

WATER AND WASTEWATER

Earth is often called "Blue Planet" because of its image from the heavens. This fact is due to the World Ocean, which covers 71% of Earth's surface. However, humanity thrives due to another type of water resource - fresh water in a liquid state, which represents only a tiny part of the total water resource.

Human history has been dominated by the concept that water is an inexhaustible resource. The interrelations between the different states of aggregation of water, expressed by its circuit, leads to a permanent regeneration, both in terms of quantity and in quality. The society was accustomed to the concept that water is permanently available to human activities in sufficient quantity and desired quality.

In the mid-twentieth century in some areas considered rich in water – including Europe – has been noticed a slight quantitative insufficiency. The problem was solved by redistributing resources, primarily using reservoirs. After several decades, it has been found that there is sufficient water, but it is not suitable regarding quality. There was a new problem, whose solution is more complicated and more difficult than the first one.

Water resource system, as an open natural system, has regenerative and self-purification processes. Given that the system does not suffer from major external influences he can renew itself, both quantitative and qualitative. In the current conditions the symbiosis of nature and society, foreign elements penetration rate substantially slows the pace of regeneration system. Thus, it becomes necessary and inevitable, the quantitative and qualitative protection of water resources in the general context of environmental protection.

World Water Day is dedicated each year to a certain issue, linked to the use and protection of the Earth's main resource. In the present context, it was not at all a coincidental option, that this year, World Water Day is dedicated to polluted waters.

Degradation of water resources is due to wastage and pollution, which have become part of normal daily life. This fact, has led today, that almost all rivers and lakes suffer from pollution. Furthermore, significant groundwater resources are increasingly threatened and even the ocean is under threat.

In the ranking of the most polluted water entities on the first places are the following ones:

- Citarum River in West Java Island, it's the outlet waste produced by 5 million people that are living in the catchment area;
- Yamuna River passes through Delhi, the Indian capital and collect all the a large quantity of waste;

- Riachuelo River which runs south of Buenos Aires, is polluted by waste from industrial zone, household waste and sewage waters;
- Karachay Lake from Russia, has become a place for storing radioactive waste;
- The North Pacific Gyre is an artificial island made of garbage collected by ocean currents, with an area of 1.5 million square kilometers.

Today, 2.4 billion people don't have access to basic hygienic conditions, while 1.8 billion humans are drinking water which doesn't meet the basic quality standards. These issues are causing the death of many millions of children, primarily in developing countries. The main source of pollution is industry, followed by social life and agriculture. The pollution trend of water resources and of the environment is defined by a progressively increase. Studies have identified six major sources of pollution: sewage, acid rain, solid waste, oil spills, thermal pollution and other unidentified sources.

Planning and economic activity must be guided not only towards reducing the discharge of pollutants into the environment, but also towards the efficient use of pollutants, since their removal is impossible. Thus, wastewater should be seen as a valuable economic resource, which requires a safely management. The polluting substances will be an effective investment in human health and ecosystems.

If in the near future, the society does not change its general attitude to water resources, the systems development will incubate high risk, with the possibility of natural and humanitarian disasters. The development of future generations will depend also, on how water resources of the Earth will be managed, how they will be protected and preserves as one of the vital elements of society.

The theme of this year World Water Day aims to position the issue of water resources pollution to spotlight of human society. The young generation should realize that water is considered a vital source of the future, and that clean water is a treasure for the future of humanity. Nevertheless, is must be emphasized that, the symbiosis of water resources and wastewater is an inevitable way to ensure sustainable development of mankind.

PANDI Gavril, PhD. Professor