

EnlargeEU Newsletter
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Water solutions in a changing climate

Water is a source of life. However, all around the world, climate change is threatening the sustainability of the water supply. This development forces all of us to rethink the way in which we are using water. In Macedonia, rising temperatures and a considerable decrease in the yearly amount of rain is expected for the next decades. As a result, the country will see a huge increase in the demand for drinking water. Estimates are that this increase can go up to around 30% in Skopje in the next forty years. At the same time, water losses now are between 30-60% of the total amount of produced water, which means that only half of the abstracted or purified water is efficiently used. **The question is whether Macedonia will find the proper answers to the challenges that the climate change is presenting to her?**

Macedonia: uncertain home of water

Macedonia is a unique natural basin of water in the Balkan Peninsula and beyond, because more than 80% of its water resources are formed on its own territory. Despite this rather secure situation, problems are appearing on the horizon. The expected increase in water demand is putting pressure on the sustainability of the water supply system. Add to this an expected reduction of the country's amount of effective rain of 30% in the year 2050, and the problem gets even worse. Taking into consideration this reduction and the fact that 80 % of the available water quantities are formed on the territory of the country, it is obvious that this situation will cause severe problems.

Obtaining more water from the existing basins is not a structural solution in the long run, since the eco-system will be severely damaged by doing so. This means that the solution to Macedonia's glooming drinking water shortage has to be sought in another direction. In more efficient usage of the water for example, since the highly inefficient management of drinking water, with up to 60% of water losses, is to a large extent responsible for the problems that Macedonia is facing. In the first place through the poor condition of the water infrastructure, in the form of, for example, old conveying structures, different and incompatible types of materials used for the pipelines in the same system, and outdated water management control. Secondly, a vast amount of high quality drinking water is spilled due to its inefficient use by the population. For example, it is used for washing cars, watering of yards and gardens, and cleaning public areas.

Towards a sustainable situation

To reduce these inefficiencies, some logical measures need to be taken. On the technical side the solutions lie in the rehabilitation or replacement of the existing water infrastructure, and improved management of the existing water management systems. Other measures include the increase of the volume of the water storage tanks in order to store the surplus of water that is formed during the night and the installation of an alternative, lower quality water supply system for washing the streets and watering the green areas.

On the long run it might be more important to change the practices and habits of the population when using drinking water. A drastic measure might be to increase the price of water. Water pricing, especially in the water supply for the population, is considered as one of the most effective methods for water saving. Different possibilities exist like introducing a gradual price according to the consumption, limits to the quantities used, a higher price for high consumption, etc.. The ultimate idea is to raise public awareness about the great value of water, so that people again will see water as what it really is: A source of life.

EnlargeEU Newsletter is also available on Analytica's blog at: www.analyticamk.blogspot.com

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QUICK FACTS

Total drinking water demand:
 2010: **294.897.600 m3/year**
 2020: **348.261.300 m3/year**
 Amount of effective rain in Skopje:
 2000: **499 mm**; 2050: **474 mm**
 Overall water reduction in Vardar
 River basin in 2100: **-18%**
Source: Report on second communication on climate and climate changes and adaptation in the Republic of Macedonia (2006)