

Dealing with a Decrease in the Caspian Sea Level

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Topics of Discussion

Caspian Sea, Caspian Sea basin, Caspian Sea Volume, Water diplomacy, transboundary resources, transboundary waters, Caspian Sea basin volume, Caspian Sea level, Caspian Sea level oscillation.

Introduction

This document summarizes the roundtable discussion organized by the Institute for Development and Diplomacy at ADA University on 23 January 2024, with an introduction provided by Nazrin Baghirova and a framing set of remarks provided by Rodrigo Labardini. Participants included high-level representatives from the Ministry of Ecology and Natural Resource, the Ministry of Agriculture, the Water Resources Agency, the Port of Baku, the Academy of Public Administration under the President of the Republic of Azerbaijan, scientists from the State Institute of Geology and Geophysics, the Institute of Geography, Temiz Sheher Joint Open Stock Company, and Azersu Joint open Stock Company, as well as UN Food and Agriculture Organization, the embassies of Hungary, Mexico, and Egypt, experts from the Azerbaijan Hydrometeorological Service, and water irrigation experts.

The Current Situation

Labardini generally introduced the past and current situation regarding the volume of the Caspian Sea. He commented that the Caspian Sea is neither a lake nor a sea, but an endorheic basin, meaning it is a drainage basin that normally retains water and allows no

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outflow to other bodies of water—neither to rivers nor oceans (albeit water will be lost via evaporation and seepage). He highlighted that scientists indicate the Caspian Sea level (CSL) has had long-term geological descending and ascending processes, whilst also accounting for the possibility that—in the very distant future, geologically speaking—it may rise sufficiently to rejoin the waters of the Black Sea. Nonetheless, in the short term, the CSL has been descending since 1995 (the highest level recorded in recent times) and has, in fact, now dropped more than the 1977 level (the lowest level registered since 1900). And states, including the five riparian Caspian Sea states, will have to attend to pressing issues affecting the regional environment and population.

Labardini noted that to consider the Caspian Sea’s water volume, it is necessary to contemplate all its water inflows, outflows, and underwater seabed formations. He mentioned that over 130 rivers are flowing into the Caspian Sea, with the five most important (Volga, Kura-Araz, Ural, Terek, and Sulak) accounting for more than 80 percent of the inflow. He recalled that, as we all know, river water flows downstream by gravity, whether in rivers 100 km or 3,500 km long, to end in oceans or endorheic basins such as the Caspian Sea. This set of circumstances indicates that the Caspian Sea is not just the water in the Caspian Sea itself but must *a fortiori* be understood to encompass all the rivers and their basins draining into it. He reminded the audience that rivers may be extremely long: the Colorado and Mississippi rivers are good examples. In the context of the Caspian Sea basin, this would require identifying available water in the Caspian Sea itself as well as in all its tributaries. This would also seem to bring to the fore the issue and concept of treating the Caspian Sea as a transboundary resource and a common good; and this, in turn, would require engagement between not only all five Caspian Sea riparian states (i.e., Azerbaijan, Iran, Kazakhstan, Russia, and Turkmenistan) but also by states encompassed in the Caspian basin (the five riparian states plus Armenia, Georgia, Türkiye, and Uzbekistan). While the Framework Convention for the Protection of the Marine Environment of the Caspian Sea (2003) and the Convention on the Legal Status of the Caspian Sea (2018) touch on very important environmental protection and legal issues having to do with the Caspian Sea itself, the subject has now pressingly become to manage and resolve issues about preserving—or at least identifying—the volume of its waters in order to environmentally protect and legally regulate and administer it. Labardini further underscored that once the total water volume of the Caspian basin is determined there will be a need to ascertain what are its demands, including in terms of coastal communities affected, threatened coastal and marine animal and plant life, industries, the environment, and so on.

Labardini presented additional topics for discussion, posing the need to also precisely ascertain the destination of the Caspian Sea’s water: “Where does the water from the Caspian go? After evaporation—which constitutes an evident outflow—where do clouds drop the water back down through rainfall? When the Caspian Sea level drops, there will be less surface water to form clouds, which will in turn drop less water through rain in other regions. The Caspian Sea, being the world’s largest endorheic basin, is evidently

connected to other environments.” After offering some general ideas on the legal and geopolitical implications of the foregoing, Labardini concluded with the following question: “How do we save water, given that the CSL has been decreasing for 25 years?”

Impacts of CSL Oscillation

Deepening (and in some cases, establishing) cooperation between affected states is critical: as the region’s population keeps growing and the CSL keeps decreasing, water demand will concomitantly rise.

Participants in the roundtable, drawing from their diverse backgrounds and distinct disciplines, (e.g., agriculture, water resources, geology, geophysics, economics, hydrology) shared different perspectives on potential ways of measuring the Caspian Sea’s water resources and its basin. For example, some recalled that a bathymetry [study](#) of the Caspian seabed had been published in 2013. A participant stressed that the CSL has dropped 141 cm in the past decade. Another voiced concerns regarding social, economic, and geopolitical risks related to the fluctuation of the CSL and asked questions on possible ways to address these challenges with as much forewarning as possible without waiting for issues to arise.

The first immediate thing that came to mind was the viability of the strategic development of the Middle Corridor, for a likely impact of the drop of the CSL may affect the movement of ships in the Caspian Sea. If the water level continues dropping, it could negatively impact connectivity between East and West, which in turn will negatively impact the level of trade between countries.

Another relevant factor contributing to a drop in the CSL is the construction of dams on the runoff of rivers draining into the Caspian Sea, including the Kura/Araz and Volga. In this respect, it was mentioned that all involved countries should replicate actions taken regarding the rivers draining into the Caspian Sea as well as in all corners of the Caspian Sea basin.

Participants commented on existing technological methodologies for efficient water management, regulatory and legal frameworks, and current functioning under conventions and protocols in force in the Caspian Sea. For example, the FAO water expert spoke on the question of efficient local water management. Some stressed that important amounts of water are lost due to water mismanagement in agricultural activities. It was mentioned that some have estimated that 35-40 percent of water loss may be due to the improper use of water irrigation canals. In this regard, it was recalled that the FAO is working on a project that would bring together relevant stakeholders in Azerbaijan to talk about these issues: the idea is to foster a more collaborative, holistic approach to achieve better coordination and decisionmaking at management and policy levels to administer and use water in the most efficient way in the country.

Some examples of international successful case studies on addressing the volume management and sustainability of water resources were laid out by several foreign participants. One spoke of Hungary's role in championing an international treaty concerning the Danube's decreasing water level and mitigating its impact on commercial navigation. Hungarian companies bring different expertise and know-how to solve different problems related to water management, especially dealing with water used for irrigation.

Other participants suggested exploring the possibility of harnessing the expected rise in the level of the oceans to drive water into the Caspian Sea; still others spoke of the importance of increasing the dredging of transport lanes in the Caspian to allow ships to navigate. Nonetheless, voices also expressed that while the idea of more water may be interesting, there is a need to contemplate at the same time that the salinity of oceanic waters would affect the Caspian Sea and its marine animal and plant life, as well as that of the Volga and Don rivers, in addition to the introduction of alien species to the Caspian Sea.

Recommendations

The participants recommended:

- Bring together stakeholders to discuss the issue of better coordination for the management of water.
- Pay more attention to water management and prevent its loss, in agriculture and other sectors.
 - Instill and promote sustainable agricultural irrigation systems.
- Successful actions and policies adopted in one riparian country should be replicated by the other ones to achieve better results in the Caspian Sea.
- One future topic: how can littoral countries better cooperate in order to address the risks related to the fluctuations in the CSL?