

An aerial photograph of a dry, cracked riverbed in a desert landscape. The riverbed is a light brown color, with numerous deep, dark brown cracks running across its surface. The surrounding terrain is a mix of light brown and tan, with some sparse, dry vegetation. The sky is a pale, hazy blue. The overall scene conveys a sense of aridity and water scarcity.

WATER

Management: A Central Asian Security Concern

Aral Sea Summit highlights water impasse

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This satellite image, left, shows Central Asia's Aral Sea in December 2008. Continued water mismanagement by Central Asian republics has caused the Aral to shrink.

The leaders of the five nations of Central Asia — Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan — attended the Aral Sea Summit in Almaty, Kazakhstan, in April 2009 to discuss potential avenues to save the Aral Sea. Each of the leaders seemed to agree there must be a solution found to save the Aral.

However, the meeting served as continued evidence that water management issues in Central Asia are far from being resolved as discussions deviated from sparing the Aral to frosty debate about broader water problems.

This situation is not novel. It has existed almost constantly since the nations gained independence in December 1991. However, diverging national interests among Central Asian governments have resulted in a constant inability to agree on an effective water management plan in spite of multiple agreements and concerted efforts by the United Nations, the European Union and other third parties to help settle the impasse.

A LOOK BACK

The collapse of the Soviet Union thrust Central Asian nations into a situation that required a transformation from Soviet republics, where Moscow managed all aspects of government, to sovereign nations that needed to manage their own affairs. The Soviet system directed

the Soviet Socialist Republics of Central Asia to adhere to a scheme of water distribution that required the upstream republics Kyrgyzstan and Tajikistan to transfer water to the downstream republics Turkmenistan, Uzbekistan and Kazakhstan. The water irrigated fields in the downstream countries, which was crucial for the quite profitable cotton industry. In exchange for the water, the downstream countries sent oil, gas and coal to the upstream countries to provide critical electricity during the brutal winter months. Since the Soviet Union collapsed, little has been done to address the water distribution scheme. In fact, the current physical infrastructure for water distribution remains a legacy of the Soviet Union, and this seems to be a significant contributor to the problems with water that exist in Central Asia today.

The vast majority of water in Central Asia comes from the mountains of Kyrgyzstan and Tajikistan. As the snow melts, two main rivers, the Amu Darya and the Syr Darya, carry the water to the Aral, running through the downstream consumer states of Turkmenistan, Uzbekistan and Kazakhstan. Each of the downstream countries is highly dependent on the rivers for irrigation, industry and public welfare.

Tajikistan and Kyrgyzstan both have large reservoirs that hold meltwater from winter snow. When the weather warms and there is a need for water downstream, they open their dams to feed the two great rivers. However,

Melting snow from the mountains of Kyrgyzstan and Tajikistan feeds rivers that bring water to the downstream states of Turkmenistan, Uzbekistan and Kazakhstan.

neither Tajikistan nor Kyrgyzstan has the natural hydrocarbon resources to generate electricity, nor can either country afford the prices their downstream neighbors ask for such resources. As a result, Tajikistan and Kyrgyzstan have been releasing water from their reservoirs during the winter to generate electricity through hydropower. The second-order effects of this are twofold. First, the water released causes flooding downstream as frozen riverbeds flood with rushing water. Second, the water released in the winter causes premature exhaustion of water stores in the reservoir during the summer months that, in turn, exacerbates the arid conditions that naturally occur on the Central

water, offering to sell it to downstream countries or trade for energy resources. However, downstream countries do not consider water a commodity one can buy or sell, but rather a gift to which all are entitled. In fact, in its 2001 National Water Policy, Uzbekistan notes that water is a “priceless gift of nature” for that nation’s citizens.¹ In this light, downstream countries believe upstream countries have no right to trade water as a commodity for energy because water is an entitlement for all humans, and that the planned hydropower projects will create a situation in which less water is available to support agricultural needs. Considering downstream countries depend greatly on crops

— cotton, rice and wheat — that demand a great deal of water, any reduction in the amount of available water could cause significant damage to national economies reliant on agricultural production.

Compounding the problem is the fact that environmental conditions are growing more severe each year. The United Nations Development Program reports the demand for water has “increased by more than a quarter during the last decade” and that only 700 cubic meters of water are available per person each year, although it is assessed that 5,000 cubic meters of water are needed.² Complicating matters further is the mismanagement of water during irrigation. A 2002 report by the International Crisis Group noted that

Asian plains. As a result, the agricultural-dependent nations downstream have great difficulty irrigating crops and providing water for their populations.

WATER SECURITY

Resolving the equitable distribution of water has gained relevance in recent years since the upstream countries plan to develop hydropower to ensure not being in the cold during the winter. Because the two rivers carry roughly 90 percent of Central Asia’s water, the downstream countries have serious concerns that summer irrigation needs will be more difficult to meet because they perceive Kyrgyzstan and Tajikistan will deplete greater water resources to generate power. Upstream countries have attempted to barter with

disrepair in existing irrigation systems was so severe that “half of all water never reaches crops.”³ A combination of factors in downstream countries — such as antiquated irrigation infrastructure, overuse of available water and reduced supply — causes water shortages, while demand is growing due to population increases and agriculture expansion plans. This situation has caused “an annual cycle of disputes,”⁴ causing tense relationships between the upstream and downstream countries. The potential for the situation to deteriorate further exists as the effects of global warming begin to impact the region. The World Bank reported that the expected rise of temperatures in Central Asia in the coming decades will bring second-order effects such as drought, extreme storms, seasonal flooding and reduced glacial meltwater.⁵



WIN INITIATIVE

Workers install the main component of a turbine system at a hydroelectric power plant on the Naryn River in Kyrgyzstan in June 2009. Upstream control of rivers is at the heart of a water dispute among Central Asian republics.



Even as Central Asian nations continue to demonstrate a general unwillingness to work toward a binding solution that is mutually acceptable to all sides, each nation still continues to put national interests first in attempts to gain leverage over the others and is suspicious of the other nations' water plans. For their part, Tajikistan and Kyrgyzstan claim the prices demanded by downstream nations for energy resources are unaffordable. They also claim they have no alternative but to release water in the winter to generate the electricity required to ensure the survival of their citizens. Kyrgyzstani officials say the release of water in winter to generate electricity has become more necessary in recent years as the prices the country pays for Uzbek natural gas are nearly three times that charged to Kazakhstan.⁶

The upstream nations further point to the fact that all responsibility for infrastructure maintenance of reservoirs, locks and dams has been theirs alone, despite their claims they consume very little of the water. However, the Central Asian states supposedly reached an agreement in July 2009 where downstream countries agreed to share some of the cost associated with infrastructure maintenance in the upstream countries.⁷ If the signatories of this accord manage to adhere to their agreed upon obligations, there is hope for future cooperation on water issues in the region. On the other hand, the dozens of agreements Central Asian nations signed since their independence go largely ignored.

CONFLICT RESOLUTION

The U.N., EU and many other organizations and states attach considerable significance to the region and have worked hard to help Central Asian countries develop programs and institutional structures on a variety of issues designed to guarantee stability and economic prosperity in the coming years. However, as it relates to Central Asian water management, evidence of a long-term, cooperative approach by the nations of the region is essentially absent. Both the upstream and downstream countries control resources that the others need. The collective inability or unwillingness to reach political consensus on how to effectively manage the resources has brought the issue to a critical juncture. It stands to reason that conditions will not improve for either upstream or downstream countries if the issue is not resolved to the satisfaction of all parties. Downstream countries look at hydropower construction plans in Tajikistan and Kyrgyzstan with skepticism because they fear access to shrinking water resources will become even more restricted. Support for these projects from the U.N., EU and World Bank have not assuaged downstream countries' unease.

A number of publications have expressed concern about the potential for water security to become such a hotly contested issue that it leads to armed

conflict. In fact, a Brookings Institution report cites regional news service reports that described cross-border disputes that occurred over "water-related" issues between March and May 2008.⁸ As conditions in the region deteriorate further, and demand for water far exceeds an ever-diminishing supply, there is potential for a sense of desperation to set in among countries — either upstream or downstream — if they believe their national livelihood is threatened. Fortunately, the situation has not worsened to such an extent, thus far. With international organizations such as the U.N. and the World Bank increasingly paying more attention to both the region and the issue, a solution amenable to all parties may be closer to becoming reality.

At the conclusion of the April 2009 Aral Sea Summit, all parties signed a document to confirm their interest in developing a mechanism that is mutually acceptable "for the overall use of water resources and the protection of the environment in Central Asia, taking into account the interests of all the region's states."⁹ Considering that the Aral Sea is now substantially smaller than its original size because of mismanagement factors, it is prudent for Central Asian nations to take steps in the near term to preclude a similar outcome with the Sur Darya and Amu Darya rivers, and the infrastructure upstream that helps feed them. Failure to do so is in no nation's best interest. □

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