“Pandora’s Box Reopened: The Birth, Death, and Rebirth of Sibaral”

The shortage of accessible fresh water for drinking and agriculture is one of the most critical ecological and environmental challenges facing the planet today. Within the former Soviet Union, this important issue has received considerable attention from a number of groups including academics, journalists, and politicians.¹ This issue is particularly significant in Central Asia, where the Aral Sea is facing the possibility of extinction. In addition to journalists, a number of scholars in the fields of agricultural science, environmental studies, geography, history, hydrology, and political science in both the West and the former Soviet Union² have examined, supported, and in some cases opposed a series of plans designed to alleviate the critical water shortages in the Aral and Caspian seas through the redirection or diversion of a number of Siberian rivers into these Central Asian bodies of water. In the West, scholarly interest in these plans began during the 1970s and continued into the immediate post-Soviet period. For much of the 1990s however, both scholarly and official interest in these plans waned both inside and outside of the former Soviet Union.

¹ See Andrei Moiseenko, “Kanal imeni Moskvy.” Komsomol’skaia Pravda, 23 December 2002. In this article, Oleg Sidorov, a Kazakh political analyst, states that “Water has always been a universal source of conflict.” In the same article, then President of the Russian Federation Vladimir Putin issues one of his most unambiguous statements when he says that “Scientists predict that in the twenty-first century the problem of fresh water will become the main source of global conflict.”
² These include Robert Darst, Igor Lipovsky, Philip P. Micklin, Douglas Weiner, and Irina Zherelina.
Recent years, however, have witnessed a rebirth of official and scholarly interest in the diversion plans that deserve synthesis. This paper represents an attempt, albeit brief, to examine the history and current status of the debate surrounding the diversion plans through an examination of the scholarly literature on the subject while including an analysis of the subject’s treatment in recent publications and Internet-based media.

The highly controversial Sibaral and related projects\(^3\) propose to partially reverse the flow of several Siberian rivers\(^4\) in order to restore the capacities of the Aral and Caspian seas. Those who support Sibaral believe that these rivers, which currently flow from Central Asia into the Arctic Ocean, can be redirected so that they flow southward into Central Asia. Contemporary proponents of Sibaral and the Caspian variant include several prominent leaders in the Russian Federation and a number of Central Asian nations, believe that Sibaral and its sister plan involving the Caspian Sea will restore the watersheds of the terminal (i.e. no outflow) Aral Sea\(^5\) (and, in the minds of some of the project’s exponents, the Caspian Sea\(^6\) as well) and boost agriculture in arid Central Asia.

Before examining the history of Sibaral itself, it is important to realize why such a project has continued to attract interest during the Soviet and post-Soviet periods. Firstly, fresh surface water in the former Soviet Union is not distributed evenly. Among all of the rivers in the former USSR, eighty-four percent of the annual average discharge flows in northerly and easterly directions toward the Arctic and Pacific oceans across sparsely inhabited and economically underperforming regions. The remaining sixteen percent of

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\(^3\) I will also consider related water diversion projects for the Caspian Sea, which I refer to here as the “Caspian variant.”

\(^4\) These include the Irtysh, Ishim, Ob, Pechora, and Tobol.

\(^5\) In 1960, the Aral Sea was the world’s fourth largest lake in terms of area, behind the Caspian Sea, Lake Superior, and Lake Victoria. See Philip P. Micklin, “Desiccation of the Aral Sea: A Water Management Disaster in the Soviet Union.” *Science* 241, no. 4870 (September 2, 1988), 1170.

\(^6\) The Caspian Sea is the world’s largest inland body of salt water.
river outflows cross territories that include approximately seventy-five percent of the population of the former Soviet Union, eighty percent of the area’s economic activity, and eighty percent of all agricultural activity.  

Another factor that has contributed to the continuing interest in Sibaral is the decreasing water levels and increasing salinization of the Aral and Caspian Seas. By the late 1980s, the Aral had reached its lowest level in 1300 years and in the last twenty years has receded even further. In the estimation of those who support Sibaral, the only hope for a substantial increase in the volume of the Aral Sea is from a radical redirection of Siberian rivers into the sea as the Aral’s sources of water in the past, the Amu Darya and Syr Darya rivers, have ceased to provide any measurable inflow into the Aral.

The notion of such a massive undertaking dates back nearly two centuries to 1868, when Y.G. Demchenko (1842-1912), a graduate of the engineering program at Kiev University, first proposed a Sibaral-like undertaking along the lines of the already completed Suez Canal (in 1856) in which the waters of the Irtysh and Ob rivers would be diverted to the Aral Sea using canals. In fact, Demchenko published a book in 1871 on the subject entitled *On the Flooding of the Aral-Caspian Lowland to Improve the Climate of Surrounding Countries* (*O navodnenii Aralo-Kaspiiskoi nizmennosti dlia uluchsheniia klimata prilezhashikh stran*) and second, revised edition of his work in 1900. Demchenko’s efforts were an expression of the imperial Russia’s desire to match the success of the French (and later the British) with the Suez Canal and the United States

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9 Micklin, “The Fate of ‘Sibaral,’ 69.
with the Panama Canal at the end of the nineteenth and beginning of the twentieth centuries was most notably represented in the construction of the Trans-Siberian Railway, which was completed as Russia entered the 1904-1905 conflict with Japan.

Soviet interest in the project began in November 1933, when the USSR Academy of Sciences held a conference to gauge the feasibility of reversing the flow of the Irtysh River and divert a portion of the flow of the Ob River to feed the Amu Darya and Syr Darya Rivers, which feed into the Aral Sea. After the conference, *Gidroproekt* (Hydroproject), the Soviet dam and canal institute, developed a series of design plans for the partial diversion of the northern-flowing Pechora and Northern Dvina rivers (which flow into the Arctic via the Barents Sea) into the south-flowing Volga River, which drains into the Caspian Sea. Planning continued during the 1950s and remained of interest to officialdom during the 1960s, including a reference by then Soviet premier Nikita S. Khrushchev in a speech to the USSR Central Committee in 1961. Throughout the 1960s, Gidroproekt, renamed *Minvodkhoz* (Ministry of Land Reclamation and Water Resources) in October 1965, continued planning the undertaking through its subordinate divisions *Soiuzvodproekt* (National Water Management Design Corporation) and later *Soiuzgiprovodkhoz* (National Water Management Design and Scientific Research Institute).

The subsequent decade witnessed the most active phase of the Caspian variant of Sibaral to date. In 1970, the state secretly commenced work to divert the flow of the Kama River, which flows into the Volga River and ultimately the Caspian Sea, and the

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12 Weiner, 415.
Pechora River, which flows into the Barents Sea and ultimately the Arctic Ocean. This project consisted of constructing part of what was intended to be a seventy mile-long Pechora-Kama Canal that would connect the two rivers. On March 23, 1971, in a then-secret test, three 15-kiloton underground nuclear charges were exploded near the village of Vasyukovo in Perm Oblast. The resulting explosion, which produced a crater 2,600 feet in length and a radioactive pool of water, was admitted to by the Soviet government at a 1975 meeting of the International Atomic Energy Agency in Vienna. Strong criticism of such methods soon grew to the point that the state cancelled the remaining 250 nuclear detonations which would have been necessary to complete the water diversion in the region. It should be noted, however, that the Soviet state employed small nuclear weapons in its petroleum and mining sectors to coax more production from tapped-out oil and gas fields and to blast away earth in strip mines.

Sibaral was cancelled, along with the Caspian variant, in August 1986, when the USSR Central Committee and Council of Ministers issued a joint decree that design work on the project was to be terminated. After that decision, scholars in the West began to investigate more closely the reasons why Sibaral and the Caspian variant were dismissed. One of those who analyzed the situation closely was Robert Darst, who argues that three “tendencies” governed the attitudes of Soviet environmentalists toward Sibaral and other grandiose endeavors that were sponsored by the state. These tendencies included what Darst labels as “utilitarian environmentalism,” in which those who advocated such a position firmly believed in scientific progress and an “unshakeable optimism in man’s

14 "Science: Saving the Caspian." Time, March 17, 1975.
ability to understand and control natural processes.”\textsuperscript{17} Second were those whom Darst terms “populist” environmentalists such as Sergei Zalygin, who pushed for an integration of pure science with humanist values and public opinion.\textsuperscript{18} Finally, Darst identifies “Russian nationalist” environmentalism, whose supporters stress the spiritual significance of Russia’s environment and the need to treat modernization and development, which are frequently perceived as Western fixations, with extreme caution.\textsuperscript{19} I hope to examine these categories as I continue my research in this area.

Those who oppose Sibaral and the Caspian variant have a multitude of reasons for their lack of support for the project. One of the greatest problems to the realization of Sibaral or a similar undertaking is the enormous cost of such a project. One recent estimate from the Institute for War and Peace Reporting (IWPR) puts the cost of a Sibaral project at over 40 billion United States dollars.\textsuperscript{20} Estimates of the project’s cost in the former Soviet Union tend to be somewhat lower, although nearly all of the parties who occupy the “con” side of the Sibaral debate agree that Sibaral’s prohibitive cost make the undertaking a difficult, if not impossible, proposition. The question of who would pay for Sibaral or a similar diversion project is a fundamental question that remains unanswered.

Other concerns expressed by those who oppose Sibaral and the other diversion plans, particularly certain members of the Russian Academy of Sciences, include a concern that even a partial reversal of water flow from such rivers as the Irtysh, Ob, and


\textsuperscript{19} Darst also states that writers Iurii Bondarev, Vasilii Belov, and Valentin Rasputin fall into the category of Russian nationalist environmentalists.

Pechora will result in the increasing salinization of the Arctic Sea, which might accelerate the process of global warming (if the freezing point of the water in the Arctic Sea is lowered) or regional cooling (if the freezing point of the water in the Arctic is raised).

Also, scientists who are against the diversion projects are worried that the construction of Sibaral would have a deleterious economic impact upon Russia as access to the northern port of Arkhangelsk as the enormous amount of water stored in canals and reservoirs would remain frozen longer than if was located in a river. In addition, the diversions of rivers in northern Russia would flood northern agricultural lands, disrupt river traffic and critically damage aquaculture by denying salmon and other river-breeding species their fresh-water spawning grounds.

Such serious reservations about the diversion project have not reduced official interest in the undertaking, however. Since the dissolution of the Soviet Union in 1991, the Sibaral plan and the Caspian variant have received renewed interest in Russia and Central Asia alike. Contemporary supporters of Sibaral include Moscow mayor Iurii Luzhkov, President Nursultan Nazarbayev of Kazakhstan, President Islam Karimov of Uzbekistan, the governments of Kyrgyzstan, Tajikistan, and People’s Republic of China. Regarding China, some news outlets in Central Asia and the Russian Federation advocate an inclusion of the Beijing government in any plan to build Sibaral or a similar diversion project since China’s withdrawal of water from the Black Irtysh River, the source of the

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Irtysh, is increasing at a rate that may soon have a negative impact on the amount of water that reaches areas downriver.

Kazakhstan’s Nazarbayev is particularly optimistic about Sibaral. At a September 2006 meeting of four Central Asian leaders in Astana, where the topic of water resource management was discussed, Nazarbayev denied that the Sibaral plan would have any negative consequences for the environment. Nonetheless, Nazarbayev and his counterparts were unable to agree on a region-wide water consortium. Additionally, Nazarbayev has recently represented himself in the press as a self-educated expert in economics, geology, hydrology who claims that the diversion plans would benefit both Kazakhstan and Russia.\(^{22}\)

Despite this apparent setback, the Kazakh government has continued the push for Sibaral as Kazakhstan’s rapidly growing economy needs large quantities of water for industrial purposes in addition to irrigation and drinking. Despite its impressive reserves of petroleum, Kazakhstan’s water deficit has forced it to deal with its less prosperous and influential neighbors Tajikistan and Kyrgyzstan, which control much of Central Asia’s water resources. In neighboring Uzbekistan, water shortages are acute enough that 150,000 people have been relocated due to severe drought conditions along the banks of the Amu Darya River, which Uzbekistan will need to draw from even more in lieu of an alternative water source.\(^{23}\)

The government of the Russian Federation has also grown increasingly vocal in its support of Sibaral and the Caspian variant, which it sees as a means of increasing


Russian political, economic, and perhaps military control in the former Soviet republics of Central Asia.24 From this rather generic statement, more direct support for the diversion schemes have emerged from such figures as Iurii Luzhkov, the former mayor of Moscow. Luzhkov’s 2008 book Voda i mir (Water and Peace) argues passionately that the Sibaral plan should be realized as a means of providing water to the parched lands of the Kazakhstan, the South Urals region, Uzbekistan, and Western Siberia.25 Luzhkov’s role in the official push for a diversion plan was clearly apparent in the Kazakh capital of Astana on July 4, 2009, when the then Moscow mayor met with Kazakhstan’s president Nazarbayev and Imangali Tasmagambetov, the mayor of Astana, to discuss Sibaral.26 Since Luzhkov often serves as a proxy for the Kremlin in policy matters, it is not an overestimation to conclude that the diversion plans are a priority of the Medvedev-Putin administration.

A representative statement of official support for Sibaral and other diversion plans comes from Nikolai Mikheev, an advisor to the Russian Federation’s Ministry of Natural Resources. In a surprising frank admission, Mikheev notes that the Aral Sea has lost more than one-third of its volume in the past twenty years alone and that much of the desiccated territory is now occupied by salt marshes, which annually deposit sixty-five million tons of salty sand in Russia’s Cheliabinsk, Orenburg, Saratov, Sverdlovsk, and

Volgograd regions due to the region’s windy conditions. However, Mikheev continues by arguing that a diversion project along the lines of Sibaral is necessary due to Kazakhstan’s increasing draw of water from the Ishim, Irtysh, and Tobol rivers for irrigation, drinking water, and building of dams, and reservoirs is putting significant strains on downriver areas in the Russian Federation. Such a positivist perspective on Sibaral and other diversion projects is echoed throughout much of the mainstream print media in the Russian Federation.

In sum, the fate of Sibaral, the Caspian variant, and indeed the entire Siberian river diversion project remains obscured by ecological, environmental, financial, and political concerns. One can conclude, however, that this the diversion projects continue to a highly polarizing role in Russia and several Central Asian states, at least outside of official circles. While the governments of nearly of all of these nations are favorable or at least neutral toward Sibaral and such similar plans, the fact remains that the most vociferous opposition to these projects is now voiced by constituencies within the scientific and journalistic communities whose power to appears to be waning as Russia and a number of Central Asian states move away from the democratic model (if they ever embraced democracy in the first place) toward a form of government where the impact of an independent and activist civil society appears to be on the decline.

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27 See also Bychkov and Pisarenko. “Voda-den’gi-voda.”
28 Moiseenko, “Kanal imeni Moskvy.”