SCIENCE & DIPLOMACY

A quarterly publication from the AAAS Center for Science Diplomacy

Katherine Himes, "Science and Culture Collide: Living and Working as a Science Diplomat in Central Asia," *Science & Diplomacy*, Vol. 4, No. 2 (June 2015).
http://www.sciencediplomacy.org/letter-field/2015/science-and-culture-collide

Science and Culture Collide: Living and Working as a Science Diplomat in Central Asia

Katherine Himes

AS the plane descended below the clouds, the glowing lights of Almaty, Kazakhstan, emerged. Squinting at the glowing red letters through sleepy eyes, I paused on each of the six characters, sounding out the Cyrillic slowly: А л м а т ы. After a long journey from the United States, I had arrived. My new life as a science diplomat in central Asia was beginning!

At the Intersection of Science and Diplomacy in Central Asia

Through the American Association for the Advancement of Science (publisher of *Science & Diplomacy*) Overseas Fellowship, which sends scientists and engineers to U.S. government posts around the globe, I help form and promote foreign policy and programs. The fellows work at the intersection of science, international development, and diplomacy. In this important nexus, science advances diplomacy by opening doors for intergovernmental dialogue, and diplomacy supports science by advancing shared priorities and addressing international development challenges.

Here in central Asia, I support the United States Agency for International Development (USAID) and its Regional Mission to Central Asia. My work

---

Katherine Himes is an American Association for the Advancement of Science (publisher of Science & Diplomacy*) overseas fellow and science adviser at the U.S. Agency for International Development Mission to Central Asia.*

has taken me from the Aspara River at the border between Kazakhstan and Kyrgyzstan, where USAID, in partnership with local leaders, installed water-monitoring equipment to support international water-sharing agreements; to the seventeenth floor of the solar furnace in rural Uzbekistan, where USAID is leading the conversation on energy efficiency; to the Ustyurt Plateau in western Kazakhstan, where USAID supported biodiversity conservation and a program to train the world's first-ever detection dogs to sniff out illegally smuggled saiga antelope horns. The U.S. government recently renewed its commitment to science, technology, innovation, and partnerships in all its development projects overseas. USAID is working to help end extreme poverty around the world by 2030, and embracing the latest scientific advances will be integral in achieving this goal.

All the countries of central Asia share a legacy of prominent scientific and engineering research, and one of my favorite parts of the job is connecting Americans with central Asians, helping to develop the next generation of scientists, engineers, and government leaders. The potential for this collaboration is great. Researchers in Uzbekistan are collaborating with Americans through USAID's Partnerships for Enhanced Engagement in Research program. Work between the University of Nevada–Reno and the International Center for Biosaline Agriculture/ Samarkand Division of the Academy of Sciences of the Republic of Uzbekistan used plants to reduce soil salinity in agricultural fields. A partnership between the Georgia Institute of Technology, Tashkent State Agrarian University, and the University of Wisconsin–Madison is focused on understanding the impact of pollution on glacier melt. Recently, I spoke at the sixtieth-anniversary celebration of the National Academy of Sciences of the Kyrgyz Republic, underscoring the importance of including women in science and sparking science and engineering excitement within the secondary-student population. Engaging the younger generation of students is critical to maintaining science and technology capacity in the region.

Kazakhstan in particular is well positioned to grow its own cohort of scientist diplomats. Tremendous opportunities exist for collaboration between science and diplomacy as Kazakhstan launches its new international aid agency, KazAID, to help neighboring countries address regional challenges such as access to energy, sustainable use of water for agriculture, science education, and climate change.

A Focus on Water

In April 2015, at the World Water Forum, held in Daegu, Korea, I had the privilege of presenting on water challenges facing central Asia and Afghanistan on the international stage and the role of science, development, and diplomacy in fostering cooperation across national borders. Every three years, the forum convenes in a port city and invites all relevant stakeholders, including government ministers and policy makers, citizen activists, scientists and engineers, civil society organizations, entrepreneurs, university leaders, and others. Attendance is often a

staggering twenty or thirty thousand. Convening scientists, development experts, and diplomats at a single venue often opens the doors for intergovernmental dialogue on these sensitive topics.

At the forum, I shared USAID's unique role in facilitating regional cooperation on water, which is aimed at surmounting overexploitation of water resources and improving the efficiency of water management at the local and national levels. To do this, USAID supports small basin water management councils, research partnerships joining central Asian and Afghan researchers with U.S. scientists and engineers, and policy dialogues through a World Bank–led initiative, the Central Asia Energy-Water Development Program. Though these programs are new, having been launched in the past one to three years, successes already are translating into the proliferation of "blue peace." These efforts seek to demonstrate that better water management can become a means for regional cooperation and economic growth, rather than a source of conflict.

The transboundary small basin cooperation work is particularly compelling, as the development impact has been immediate and substantial. Together with the Regional Environmental Centre for Central Asia (CAREC), USAID is working with communities that share international waterways and feed the major rivers of central Asia—the Amu Darya and Syr Darya. These transboundary communities face major water management challenges, such as insufficient water supply for agriculture, deteriorated irrigation systems, diminished water quality, inability to measure water use or set a price for water, and limited capacity to enforce international water-sharing treaties.

To improve water management at the local level and empower communities to work peacefully across borders, USAID and CAREC have created Small Basin Councils (SBCs) on both sides of waterways. Water managers, community leaders, NGO representatives, and water users on each side of the border participate in trainings to understand basic water management techniques and identify and prioritize water management challenges. CAREC then facilitates joint meetings of the SBCs where members articulate shared water challenges and goals.

Along the Aspara River, shared between Kazakhstan and Kyrgyzstan, the first joint meeting of the SBCs was held in May 2013. Representatives from both countries identified the importance of water-measuring equipment to generate accurate river-flow-monitoring data in order to establish a shared baseline from which to determine water allocations. Using local materials, and working with a Kyrgyz computer engineer, local leaders installed water-monitoring equipment and computer software to provide real-time data (in fifteen-minute intervals) to water managers on both sides of the Aspara River.

In June 2014, the USAID mission directors from central Asia (representing Kazakhstan) and Kyrgyzstan led a ribbon-cutting ceremony for the new system at the Cholk-Aryk village. Accessed via the main three-lane highway between Almaty and Bishkek (it is quite common to have a shared passing lane in central

Asia, which makes for white knuckles for those behind the wheel as well as in the passenger seats), the two-lane paved road then heads east toward the mountains, and finally, it becomes a dirt road that cuts a sidewalk-width swath through rocks and farm fields. Luscious cottonwood, poplar, and fruit trees occlude irrigation channels, the Aspara River, and farmhouses. Along with nearly one hundred people from the area, I attended the ceremony. The mood was very festive, with children swimming in the canal, reporters photographing the equipment, and an international luncheon in the fruit orchard celebrating the new opportunity to enforce a water-sharing agreement between the two countries that was authored in 1948. The SBC chairman from Kyrgyzstan said he believes that the SBC provides a venue for solving pressing water management problems, and that such problems are best solved at the local level.

This program extends from the Aspara River to the Isfara River on the Tajikistan–Kyrgyzstan border. In the future, USAID and CAREC plan to extend these activities to other regions of central Asia. In my capacity as science advisor for the mission, I have assisted in creating the second transboundary water program, which will launch after the first concludes. I also integrate these activities with other USAID water initiatives.

To provide sustenance for the nearly six-hour journey back to Almaty, villagers harvested pears, depositing the fruit into my arms in a comically large pile. Their ear-to-ear smiles conveyed tremendous thanks for empowering their ability to manage water peacefully.

Unique Experiences and Unexpected Twists

The annual Traditional Oriental Medicine Festival in Daegu, Korea, overlapped with the World Water Forum. Nearly one hundred stalls featured health products such as snakeskin, dried mushroom, vegetable paste, and various flower pollens. Several stalls featured deep-fried ginseng, vibrating foot massages, fresh-pressed acorn paste, and melt-in-your-mouth tofu. The nearby bazaar was packed with pickled vegetables of all shapes, sizes, and colors. Policemen in traditional circus dress on stilts monitored crowd safety. But these cultural experiences no longer surprise me as I've seen my fair share of unexpected cultural differences.

One example was last September when I traveled through the "Tunnel of Death" in rural Tajikistan en route to visiting SBCs on the Isfara River. To reach this remote location on the Tajikistan–Kyrgyzstan border, one must pass through the five-kilometer-long tunnel, with limited ventilation, electricity, and water drainage, which cuts through the high Pamir Mountains. The project design team passed through this twice and drank the local brandy in customary celebration following the second successful exit.

More recently, with a delegation from the U.S. Forest Service, I visited Ile-Alatau National Park, which covers a very large area of mountains and forests

next to Almaty. We toured many regions of the park, including a tree conservation nursery as well as the wildlife management zone. Various special types of deer are protected for the specific purpose of harvesting blood from the horn. This blood is then used to create a traditional tincture, purported to cure many ailments—anemia, virility issues, and immune deficiency problems. Park staff bestowed these gifts on the U.S. delegation.

Perhaps now, a year and a half into this science diplomacy adventure, I know that each day will bring unique experiences with unexpected twists. These twists provide valuable lessons in navigating cultural differences, which is essential for a science diplomat. By living in a former Soviet Republic, shopping at the Zelyony Bazaar (green market), climbing with local alpinists, and practicing English and Russian with secondary and undergraduate students, I am deepening my understanding of how science can address basic human needs. Similarities far surpass differences; something as seemingly typical as my daily walk to work could intersect with a presidential motorcade. But doesn't the same thing happen in Washington, DC? SD