



They probably aren't familiar with "The Rime of the Ancient Mariner," but many in this Central Asian republic were too familiar with being surrounded by water they could not tap – until recently.

WATER WATER EVERYWHERE NOR A DROP TO DRINK

THE 900-YEAR-OLD VILLAGE OF SAYOD in Tajikistan is nestled in some of the highest mountains in the world, surrounded by enormous glaciers. So much snow melts off these glaciers into rivers below that the country ranks third in the world in water resources per capita.»

STORY BY BETTINA KOZLOWSKI ■ PHOTOS BY MICHAL FIDLER



With more than 90 percent of their land covered by mountains, Tajiks say they live in the "country on the roof of the world."

Just

a few years ago, Sayod sat on miles of barren ground. Its approximately 640 residents were among the tens of thousands of Tajiks living in high-altitude valleys who didn't have access to clean water for their families, livestock, or land. Women, sometimes accompanied by donkeys, would have to climb up mountain passes daily to fill buckets with water



Contaminated water runs through the nation's capital, Dushanbe (above); villagers risk their lives navigating floodwaters (upper right); and Rotarians join CARE engineers and villagers inspecting a newly installed plastic pipeline that swings 1,200 feet down a cliff (lower right).

from unreliable streams. In the summer, the streams would dry up. In the winter, they would freeze. Some residents gathered rainwater from ditches running through the villages. But that water contained fertilizers from nearby fields and livestock manure, harboring dangerous bacteria that could cause stomach pains or even typhoid fever and hepatitis A.

It wasn't always this way in Sayod and the rest of this country.

As a Soviet Socialist Republic between 1929 and 1991, Tajikistan was the site of huge Soviet investments in hydro-power technology, resulting in one of the world's highest dams, the nearly 1,000-foot-high Nurek Dam, near the border with Afghanistan.

The Soviet economy had brought a powerful transformation to the once-tribal country, which had seen Arab, Turkic, and Afghan rule before it came under

Russian control in the 19th century. But after gaining independence from the Soviet Union in 1991, Tajikistan underwent a devastating civil war that lasted until 1997. Its Soviet-era water plants were destroyed or lay neglected, and aging pipelines eroded.

At the dawn of the new millennium, less than 20 percent of the country's rural population had access to piped water supplies, according to the United Nations Development Programme.

Florida Rotarian hears water call ■

With about two-thirds of the seven million Tajiks making their living raising crops and livestock, the water crisis helped push much of the country's population into poverty.

Tajikistan's water problems were not headline news in the United States when Rotarian John Capece, a former professor at the University of Florida, hosted a visiting professor from Uzbekistan.

The guest told Capece, a member of the Rotary Club of LaBelle, Fla., about the inability of tens of thousands of villagers living in the mountainous former Soviet republics of Central Asia to glean water from their snowcapped resources. Capece, who had worked as a hydrologic engineer in Africa, was looking for new challenges, but he was concerned about political unrest in Uzbekistan. So he focused his efforts on Tajikistan, a crescent-shaped country that borders Afghanistan and China and has a global footprint slightly smaller than the U.S. state of Wisconsin.

Quenching thirst ■ Capece was running Intelligentsia International in Florida, a Rotary-supported, worldwide internship program he had launched for engineering students. Trying to quench the thirst of Tajikistan's villages, Capece suggested that two of his former interns from the Czech Republic and Tajikistan head to Dushanbe, the country's capital. They were to create a data bank about the existing water infrastructure and a blueprint for an improved one. "We felt like renegades, me and a couple of students who wanted to bring water to







thousands of people," says Capece, who has never traveled to Tajikistan.

But the two former interns didn't restrict their involvement to just designing blueprints. They also partnered with CARE, a nonprofit organization, and USAID to build and renovate pipelines that would transport water from mountain springs to public faucets. The systems would reach about 3,500 people living in Sayod and two other villages north of Dushanbe.

Birth of a new Rotary country ■

Back in Florida, Capece knew Rotarians had skills and resources that could help the project managers succeed. But Tajikistan had no clubs, so he encouraged the former interns to join a group in Dushanbe working to found the country's first Rotary club.

Once the Rotary Club of Dushanbe was chartered in April 2005, it collaborated with U.S. clubs on the project. Rotary clubs



A woman tends to her field (above); a family heads to the market with a vegetable harvest made more bountiful by new water systems installed by Rotarians (left).

and districts contributed about US\$5,600, and the Foundation chipped in nearly \$4,900. CARE gave nearly \$12,300, and sources in Tajikistan contributed about \$10,300.

From the start, locals played a crucial role. They built catch drains and concrete basins in the mountain springs above each village. They also dug trenches, allowing three new plastic pipes carrying filtered water to snake their way to storage tanks in the valley. (One pipe swung 1,200 feet across a ravine.) Because they used gravity to trans-



A Tajik family raises a toast to the health of their community and the Rotarians who helped alleviate illness through a clean water project.

port the water instead of pumps, the new systems didn't require any electricity. Residents then laid pipes to carry the water from the storage tanks to several community faucets in the three villages. Rotarians, CARE, and USAID helped each village form and train a self-governing water board to oversee distribution of the water and to collect fees to maintain the systems.

In April 2006, Capece and his co-workers in Tajikistan made plans to bring clean

In Sayod, villagers have planted pear trees, wheat, buckwheat, potatoes, carrots, and other vegetables on land where, not too long ago, they barely grew enough to feed themselves. Now, many have started trading their produce at markets in Dushanbe. They've used the supplemental income to buy chickens, goats, and cattle and have sold their eggs and milk.

"There's not a single Sayod resident who does not participate in the new economy," says Abdukayem Karimov, the village's teacher, principal, and chair, who now catches himself glancing out of his school's windows to liter-

ally watch the grass grow. Some days, he's looking for the first buds of apple and pine trees. His 240 students have also planted potato and grape seeds in the school orchard outside the classroom.

Easy access to clean water has also reduced waterborne illnesses, particularly among schoolchildren, who can now wash their hands and avoid contracting painful stomach diseases, says Karimov.

A brighter future ■ The water project has brought more than fresh water. It's also given the villagers a sense of purpose.

"When I visited one of the villages, I saw men working on their land," says Sabina-Margarita Dzalaeva, a 26-year-old Dushanbe club member. "I saw green land. I saw everyone busy. They used to despair of life in the village, go to the capital, and end up sitting on the sidewalks, out of a job and out of hope."

Karimov says the payoffs of clean water easily compensate for his three months of very hard labor last spring, when he pitched in with his community to help construct the pipeline. He even hauled sand and pipe parts by hand to mountain construction sites when the car he'd borrowed couldn't get through. "It was really difficult," he says. "I was the construction coordinator, and at the same time, I dug in the ground and brought pipes. But now, I am happy. Life will be easier with water." ■

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Learn more
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www.rotarywater.org.

water to about 12,000 people in nine more Tajik villages using the same gravity-driven process. This time, he collected \$36,200 from 19 U.S. Rotary clubs and districts in Florida and Indiana. The Foundation contributed \$33,700, and CARE doled out \$25,000.

Locals have hailed the project as a resounding success because it has brought fresh water to more than 15,000 Tajiks.