

## Living on the Borderline in Karakalpakstan

*By Joanne Neuber*

Fishing was once a life-sustaining profession for Eshmurat Asherbekop, a resident of Nukus, Karakalpakstan, an autonomous republic in Uzbekistan. Asherbekop, 39, fondly remembers the daily fishing trips with his father to the nearby banks of the Aral Sea, when catching enough fish to feed an entire town block was not uncommon.

Today there is practically no fishing in the highly polluted Aral Sea, at one time the world's fourth largest inland body of water. The shoreline has receded over 200 kilometers (124 miles) north of the capital city of Nukus, leaving behind more than three million hectares (7.4 million acres) of salt and a virtual wasteland scattered with the rusting remains of fishing boats--Asherbekop's only reminder of the region's once-thriving fishing industry.

Over three-fourths of the Aral Sea has disappeared in the past half-century, primarily due to massive Soviet irrigation and river re-routing projects begun in the 1950s to water the nearby cotton crops. Unlined water canals that extended across the vast Uzbek delta to irrigate those fields contributed to the sea's desertification and the loss of over 20 types of fish, which now can only be found in the Karakalpak Republic Museum in Nukus.

But for Asherbekop and the 1.5 million other residents of this Uzbek border republic that shares a border with Turkmenistan and Kazakstan, the economic loss of a traditional fishing industry is far less severe than the longer-term, cumulative health effects of the environmental disaster.

"The Aral Sea tragedy is not just an ecological disaster. It is a human disaster," he said. "All efforts of our people are focused on one thing now: how to survive, how to save ourselves."

According to Karakalpak Minister of Health Tursinbai Eshchanov, the health problems in Karakalpakstan include a high infant and maternal mortality and a rising incidence of anemia.

Oral Ataniyazova, MD, PhD, director of "PERZENT," the Karakalpak Center for Human Reproduction and Family Planning, said that over the past 10 years, kidney and liver diseases have increased by more than 30 times, cardiovascular disease has more than doubled, and certain infectious diseases have risen more than 30 times in the region.

Ataniyazova's organization is working to increase public awareness of the environmental health dangers in the area. PERZENT, which means "the nation's child" in Karakalpak, regularly targets local schoolchildren to educate them on the dangers of contaminated water, anemia and other environmental health concerns. A grant from ISAR, a Washington, DC-based non-governmental organization, helped in their publication of educational brochures for children.

Both Eshchanov and Ataniyazova link health problems to pollution stemming from the Aral Sea.

"The population is directly affected by the ecological situation resulting from the desertification of the Aral Sea, the quality of drinking water and the spread of infectious disease from unclean water," Eshchanov said.

Uzbek Health Minister Shavkat Karimov is also concerned about water pollution. "We need to address the issue of ensuring a clean water supply for the people of Karakalpakstan as a means of improving their health situation. The most important way to improve the health of the population in the region is by prevention. We are developing a centralized water filtration

system in Karakalpakstan," he said. He added that the Ministry of Health is also "introducing diagnostic equipment to improve early detection of illness. Most importantly, for the sustainability of these initiatives, we are implementing primary care programs in Karakalpakstan and increasing primary care training of the health care workforce."

Eshchanov is also calling for measures to improve health in the region. "We want to create a diagnostic center with the necessary medical supplies, and open a children's hospital and birth house to address the rise in maternal and childhood illness," he said.

### **Operation Provide Hope**

A June donation of more than \$2 million in pharmaceuticals and medical supplies "will help us address these problems," Eshchanov said. Fifteen government-funded hospitals in Karakalpakstan and PERZENT received the donation, which was organized by AIHA and included \$1.5 million in insulin donated by Eli Lilly and Company, \$500,000 worth of antibiotics donated by Schein Bayer, \$60,000 in equipment donated by partners at the University of Illinois at Chicago, and \$16,000 in equipment from AIHA founding member Premier, Inc. of Chicago. The shipment to Karakalpakstan was part of the 500th airlift of \$22 million in medical assistance from Operation Provide Hope, a collaborative US Department of State/Department of Defense humanitarian initiative in the NIS.

But as important as the donation is, cleaning up the multiple chemical contaminants found in the region's water sources is the key to making lasting improvements in the health of the residents of Karakalpakstan, Ataniyazova said. She recently discovered high concentrations of ammonium nitrates, zinc, molybdenum, barium and other heavy metals and toxins in the region's water supply. Polluted drinking water and airborne toxic salts from the Amu Darya River, the main body of water flowing out of the Aral Sea, "are perhaps the most important factors contributing to a rise in infectious and chronic diseases in the region." Pollution from Soviet chemical weapons testing on the Aral Sea's Vozrozhdeniya Island also is believed to contribute to the rise in certain cancers in Karakalpakstan.

For example, Ataniyazova cites a six-fold increase in stomach and throat cancers in Karakalpakstan over the past 10 years, which she believes is linked to heavy metal poisoning, chemical weapons testing and exposure to harmful pesticides like DDT, which was commonly used in harvesting cotton nearby. Until recently, cotton growers used more than 2,000 times the internationally recognized permissible level of DDT, and were often unaware of its negative health effects such as birth defects and cancer. And because women and children were the primary workers in the cotton fields, Ataniyazova believes they are at greater risk for developing these problems.

The most serious problems in the area linked to contaminated drinking water include typhoid, hepatitis, cancer, kidney failure and birth defects. A chronic lack of government funds precludes the purchase of water filtration systems in more than 90 percent of Karakalpak towns, leaving the majority of the population to rely on unfiltered water that is piped in directly from the Amu Darya River. Much of that water does not meet international standards for drinkable water, she said.

### **Looking Toward the Future**

"Children are the largest group affected by the ecological health problems," said Gulnara Kamralla, MD, a neonatologist at Republican Hospital No. 1, the republic's primary children's hospital. Karakalpakstan has one of the highest infant mortality rates in the NIS, estimated at 60 per 1,000 live births. Moreover, Kamralla noted, the average birth weight is five pounds, due to the high incidence of malnutrition in pregnant mothers and birth defects.

Nearly 100 percent of children and more than 80 percent of women in Karakalpakstan suffer from anemia, according to Karakalpak health ministry reports. Anemia is a symptom of iron deficiency, which promotes such problems as infections; renal, liver, inflammatory or oncological disease that lead to impairments of the liver and spleen; short attention spans and fatigue that can reduce worker productivity; and stunted growth in children.

In part, this rise can be attributed to heightened socioeconomic constraints in Karakalpakstan, where the cost of fish and meat products has quadrupled in recent years. Limited access to iron-rich foods means women and children receive very little iron or resort to traditional therapies like "chalk eating," which some believe to be a source of essential vitamins and minerals. According to Ataniyazova, many pregnant women eat the potentially toxic chalky rocks that are found along the former bed of the Amu Darya and Aral Sea because of their allegedly high iron content.

More needs to be done, said Ataniyazova, to help the people living along the Karakalpak border.

"Although we may not be able to save the Aral Sea, we can save our people from the negative health effects of its aridization. But if we do nothing, we may be the witnesses of the end of our people."