

Project Completion Report:
Mailuu-Suu Radionuclides Contamination



- Project Details:**

Location:	Mailuu-Suu, Kyrgyzstan
Contaminant:	Uranium
Project Duration:	July 2008 – October 2009
Project Cost:	Green Cross International: \$43,219



- **Background and Scope:**

There are twenty three tailing dumps and thirteen waste rock dumps scattered throughout Mailuu-Suu, home to a former Soviet-era uranium plant. From 1946-1968 the plant produced and processed more than 10,000 metric tons of uranium ore-- products eventually used to create the Soviet Union's first atomic bomb. What remains now are not atomic bombs, but 1.96 million cubic meters of radioactive mining waste. The combination of unsecured radioactive waste with the region's high seismic activity threatens to contaminate the drinking water supply of the entire Ferghana valley: a fertile and densely-populated area, with inhabitants in the hundreds of thousands, stretching throughout Kyrgyzstan, Uzbekistan, and Tajikistan. In May 2002 a huge mudslide blocked the course of the Mailuu-Suu river and threatened to submerge another toxic waste site. In April 2005 the Obschestvenny Reiting newspaper reported that after another earthquake and landslide, about 300,000 cubic meters of material fell into the Mailuu-Suu River near the uranium mine tailings.

- **Solution Implemented:**

Blacksmith's field technicians systematically inspected homes, workplaces, and sources of food and water throughout the Mailuu-Suu region. When radiation levels were discovered to be beyond safe limits, responses included installing protective technology (i.e. radon detectors and water filters) and also, in severe cases, facilitating the relocation of families to less contaminated areas. By raising awareness of this threat and making available relatively simple and affordable protective techniques, Blacksmith enabled local communities to reduce exposure to radiation without severe disruption of their culture and daily lives.

- **Project Metrics and Results:**

On-site interventions involved before-and-after comparative examinations of radiation levels. Early levels in schools and hospitals were unsatisfactory, so Blacksmith made new water filters available and provided technical and logistic assistance in switching water supply systems whenever possible. Blacksmith also held special training workshops for school and cafe employees, and 11 educational sessions for schoolchildren: the aim being to instill basic radiation hygiene techniques such as aggressive handwashing, rinsing and sweeping away dust, use of water filters, and shredding meat and vegetables before storage in order to allow more thorough washing and removal of radioactive contaminants.

The content of uranium and other metals in the drinking water tested at schools and hospitals decreased by 48-65%. In-room exposure of residents of all ages (mostly through radioactive material embedded in walls and penetration by radon gas) decreased by 38-55%.

Two families had to be immediately relocated due to severe radon contamination (more than 1,000bk/m³), and three more are now awaiting relocation. Dozens more local houses at potential risk now have radon counters installed to warn inhabitants as needed.

- **Outcomes and Follow-up:**

These are encouraging results, but we must bear in mind that they follow upon decades of unregulated radioactive pollution. Even where we have been successful, complacency is the enemy: locals still live near an area of tremendous historic contamination and so must continue to use protective technology and basic hygiene precautions. The vastness of the valley means that this successful intervention will have to be reproduced many times over before the threat is finally gone.



PICTURE: a landslide near the river, threatening to submerge uranium debris