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A Hidden Ecological Disaster

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“The toxic-waste dump containing 500 metric tons of insecticide, located east of the Vardashen-Verin Jrashen neighborhood in the district of Erebuni, is on the verge of collapse,” says geologist R. Yadoyan. Yadoyan, who heads the geo-ecological laboratory of the Institute of Geology of the National Academy of Science, has come to the conclusion that “the horticultural zones, and the zones of the Vardashen and Erebuni communities, are threatened with destruction.” His studies show that the toxic-waste dump is situated in an area of active landslide. The fissures and depressions here provide visual confirmation. In addition to natural causes, Yadoyan stipulates that the activation of the landslide has been caused by the utilization of the decrepit water pipes—part of the Voghjaberd irrigation pipeline that supplies the Dzoraghbiur summer cottages—that pass through this territory. “The pipeline passes through the upper part of the insecticide dump, and in an emergency, the water flows into the dump. That’s what happened a few years ago,” an irrigation network employee tells us.

In 1972 the Soviet government outlawed the use of certain agricultural insecticides, and 500 metric tons of the prohibited substances were collected from villages and warehouses throughout Armenia. Among these were persistent organic pollutants that don't decompose for 30-40 years, and when they do, give rise to metabolites with the same toxic characteristics. In the 1970s, burial was considered the safest and most effective method of destroying insecticides. In 1982, by government decree, a concrete underground dump was built near the village of Bardzrashen in the Artashat region (today this territory lies within the limits of the Erebuni district of Yerevan). The dump was covered with clay to prevent the insecticides from seeping into the soil. “I was a child when they dug out a huge pit in the hillside, and then filled it up with bags of some toxic substance,” Razmik from Jrashen recalls.

The insecticides were thrown into the pit and covered with earth. The territory had fence and a guardhouse. In previous years, inspections were carried out periodically to prevent seepage. Because of the gradual landslide, topsoil has built up over the dump, which is now on the verge of collapse. There have been no inspections for 15 years. There is no guardhouse, and the fence is destroyed. This dangerous territory is completely open. In recent years, land in the area has been allocated for gardening. Houses have been built and people are living here. Many of them are unaware that they live next-door to a toxic dump, and they use the land as pasture.

“In the human organism, any kind of persistent organic pollutants contribute to the development of malignant tumors. This is an emergency not only for those living in the neighborhood, since pollutants affect people through the air as well,” says an employee of the Center for Control and

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Prevention of Epidemics, who didn't want to give us his name. Insecticides affect certain people's immune and nervous systems, causing lung and kidney problems. "Residents often get sick, mainly from nephritis, bronchitis, gout, and tuberculosis. In the summer, there are many cases of intestinal infections," says Zhanna Gevorgyan, a doctor for the Mushakan and Jrashen communities.

In the 1980s, Dr. Henrik Hambarzumyan investigated the impact of insecticides on human health. His comparative analysis showed that residents of villages where insecticides had been used died mainly because of malignant tumors and diseases of the nervous and respiratory systems. Children were born underweight and showed signs of slowness in school. His studies proved that the majority of diseases in all age groups were directly related to the quantity of insecticides used. His was the only such study in Armenia. "If the dump collapses, the insecticides will flow into the territory of the summer cottages and the Vardashen Gorge, and will reach the center of Yerevan. When it rains, that's the direction the muddy water flows. They could also flow in the Getar River to Artashat," conjectures Vazgen, a resident of Mushakan.

"When we saw prohibited insecticides in the store, we first thought that they had been taken from the dump. We later found out that the dump is closed, but is facing an emergency," says Lia Simonyan, a member of the NGO Armenian Women for Health and a Healthy Environment. Back in 2001, the organization wrote to the Ministries of Agriculture and Ecology and the Yerevan Mayor's Office, warning that the neglected state of the dump posed a threat to the environment. "We couldn't do anything else. We thought that the state agencies would begin to worry and would take appropriate measures," adds the NGO chairman, Yelena Manvelyan. The ministries just made inquiries about whom the territory belonged to and who was responsible. They found out that it lies within the limits of the Erebuni district, but since the collapse of the Soviet Union, it doesn't belong to any department. The mayor's office claims that they forwarded the letter to the Department for Emergency Situations (DES), but the head of the DES Division on Prevention and Liquidation of the After-Effects of Emergencies, Ludwig Nazaryan, denies receiving it. Nazaryan told us that they had learned of the problem from a December 2003 letter from the same NGO.

In 2003, Armenian Women for Health and a Healthy Environment recommenced the study of the toxic-waste dump. "We had Yadoyan's study at our disposal, and we tested the burial layer of soil within a 50-meter radius. We discovered that the concentration of insecticides in the soil is above the permissible limit. We again sent all this data to the ministries concerned and to the Department for Emergency Situations," says Lia Simonyan. After the DES received yet another letter, this time from the Association of Investigative Journalists, it carried out preliminary testing. According to the deputy head of the department, Wilhelm Stepanyan, test results show that the landslide is located in the central part of the dump, and will eventually be activated.

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“We can't say anything definitive yet, since we have to do additional testing in the spring,” Stepanyan says. After having received the opinions of two geologists stating that the dump is situated in the middle of a landslide, the DES writes in its letter to us, “There is no immediate threat to the site at present.” A. Nazaryan, the head of the DES's Division of Technological Disasters assures us, “The underground dump cannot collapse since in the event of a landslide, it will sink further and will be covered by a wider layer of earth.” Ludwig Nazaryan, also of the DES, believes that there is no need to take the studies on the presence of the insecticides in the soil seriously. “Seepage is impossible; there is no logic here,” he explains. And the head of the Division of Technological Disasters argues that it is possible that some persistent insecticides that live for years were present before the toxic-waste dump was built.

“We have carried out only preliminary investigations over a short period of time. We should wait until spring to conduct serious studies,” Ludwig Nazaryan says. But ecologists and doctors are of a different opinion – the toxic-waste dump may collapse at any moment and cause an ecological disaster.