

For decades, the small Romanian city of Turda, population 50,000, has lived with an environmental disaster that began with privatization of a chemical plant during the post-communist era, a transition period with a vacuum on environmental regulations. Mercury, insecticides and other chemicals infiltrate the soil among the factory ruins, threatening public health and groundwater. Mercury has considerable market value, about \$1800 per flask, and the city's poor, including children, collect the metal from the factory grounds and sell it illegally. Nearby, workers demolish factory buildings, with the dust inhaled by many. Mercury, extremely toxic even in small quantities, attacks the nervous system causing visual and cognitive disturbances, abdominal pain, headaches, difficulty breathing and ultimately death.

The Turda plant is a textbook example of a disastrous post-communist privatization, encouraged by neoliberal western economists and financial institutions and pursued by many Eastern European countries. The plant's long history began in 1913, after a Belgian company brought the first mercury electrolysis equipment to process chlorosodium products. The plant produced the first chemical gas in World War I - iprit, commonly known as mustard gas - which the Germans used in the famous battle of Ypres in Belgium. The plant was nationalized from the Belgians in 1948, with the communist regime refitting the factory in the 1950s and 1960s with the help of German expertise, before being re-privatized in the 1990s.

Turda has also emerged as a leading tourist destination in Romania following the renovation of the Salina Turda, a former salt mine turned into a museum and amusement park, with a giant carousel, amphitheater and sports areas. The park welcomed a record number of 600,000 visitors in 2017 - 35 percent of whom were foreigners.

Despite years of hand-wringing, local authorities continue to struggle in taking stringent steps to decontaminate the area surrounding the chemical plant. Quantities of mercury and lindane, an insecticide, on the site surpass accepted limits, according to a 2005 study from Babeş-Bolyai University and the Research Center for Major Industrial Accident Prevention as well as subsequent studies. Various stakeholders have called for cleanup since 2001, and the Turda mayor's office has discussed ecological reconstruction of the industrial area into an industrial park. Another study proposed waste solutions for the former plant, including bio-remedies and a common deposit site. A mining company conducted a pre-feasibility study of a secure waste site targeting lindane contamination. Lindane was banned in 2009, after studies showed it is highly toxic, attacking the kidneys and liver, causing tissue degeneration and contributing to cancer. Another proposal suggested designating the plant as public property to apply for EU structural funding.

Still, no action was taken, especially as the land remained in private hands. No agency wanted to assume responsibility for an expensive cleanup. In 2011, the mayor's office sent a letter to the Romanian Ministry of the Environment and Forestry, refusing to be listed as a potential beneficiary of financing through the "Rehabilitation of historically polluted sites" program targeting lindane deposits along the Aries River. A 2012 study published by American Sociological Review suggests that "mass privatization programs negatively affected economic growth, state capacity, and property rights protection." The authors further argue that "mass privatization itself damaged existing state institutions and increased corruption."

Turda's chemical industry once provided more than 15,000 jobs, but production ended in 1988. The plant was in the process of liquidation, with more than €8 billion debt to be paid by Romanian taxpayers, when an Iraqi businessman stepped forward to purchase the assets for €1.93 billion in 1999. The new owner proceeded to dismantle the machinery and installations, selling them to buyers in Romania and abroad. During that first year, the owner was investigated for tax evasion and fraud. Reports suggest the plant's electrolysis section where the mercury was handled carelessly with tons of toxic materials infiltrating the soil, left to be scavenged by locals.

The company filed for bankruptcy in 2007, by coincidence the same year that Romania joined the European Union, and sold the plant to current owner, SC Leef Logistics Park, which subsequently became A3 Logistic Park, without environmental obligations. A 2008 company report assessed pollution levels at the site and identified contaminated areas, and the Romanian Ministry of the Environment later conceded that demolition and sale of installations had been completed without regulatory permits. Accounts of Turda's hazardous waste vary by thousands of tons, and minutes of the 2001 meeting suggest the insecticide was stored in an uncontrolled manner. European Council directives and European Commission regulations prohibit temporary storage of waste for more than one year, but the companies left holding the old deposits have little recourse.

Research suggests lindane breaks down over time in soil, but remains stable in water. Costs of decontaminating the scattered sites with 60,000 tons of lindane by 2007 was estimated at \$56 million. More than a decade since that deadline, one site is reported to be fully decontaminated - a section of the Transylvania Highway that crossed a deposit of about 13,000 tons of lindane. The company managing the cleanup received €16.2 million for the work and requested €8 million more, after reporting an unexpected find of 20,000 tons mercury chloride. The highway construction company declared insolvency earlier this year. Lindane deposits are reported to have infiltrated groundwater and affected biodiversity at

Poșta Rât, and decontamination continues.

Much of the waste remains. In January 2018, a local group launched a project to decontaminate and rehabilitate around 10 hectares of land by removing surface soil. The impetus? Turda's growing aspirations to become a tourism center. A challenge for the city's tourism development is that investors avoid contaminated industrial sites. In 2011, a group of Arab investors had expressed interest in contributing €190 million to transform the area around the underground amusement park into a luxury resort with hotels, casinos, a golf course and skating rink. The investors withdrew upon learning about the area's history of industrial contamination.

Even so, in September 2017, Salina Turda signed an agreement with the Romanian Ministry of Tourism for promotion as a tourist destination. In November 2017, the architects responsible for the futuristic vision of the Salina Turda restoration proposed expanding the Iosif Mine - with six levels, including conference and sports halls.

Unlike investors, tourists have short-term interest in the area, and few will be aware of the long history of industrial contamination.

Source: yaleglobal