

Scientists warn of Citarum pollution dangers

This is the last of three stories on the impact of the polluted Citarum River. The problems found at the Citarum River are similar to those found in other rivers in Java and other places across Indonesia. The only difference is that many people depend on the Citarum. The 269-kilometer-long river that runs through 12 local administrations provides water for drinking, industry and agricultural activities along its banks and it is polluted by the very same activities it nurtures. Research conducted on the river found various pollutants from organic materials to heavy metal substances. Sunardi, a lecturer in environmental toxicology at Padjadjaran University in Bandung, West Java, said that if the pollution continued it would disrupt the river ecosystem, which could lead to the loss of fish and diseases for humans. "The first diseases that could hit people living along the river are skin diseases and diarrhea. If the river is heavily polluted by heavy metals, the effects are not be seen instantly. It will take years, even decades, to see the impact," he said.

Gadis Sri Haryani, limnology director at the Indonesian Institute of Sciences (LIPI), expressed a similar opinion saying that if the Citarum River continued to be polluted by heavy metal substances, it could have results similar to the Minamata disease in Japan. Minamata disease is a neurological syndrome caused by mercury poisoning. It was caused by the release of methyl mercury in the industrial wastewater from the Chisso Corporation's chemical factory, which happened from 1932 to 1968. The toxic chemical accumulated in fish which were eaten by locals.

Symptoms include numbness in the hands and feet, general muscle weakness, narrowing of the field of vision and damage to hearing and speech. In extreme cases, insanity, paralysis, coma and death follow within weeks of the onset of symptoms. By March 2001, 2,265 victims had been officially recognized with 1,784 fatalities, and over 10,000 receiving financial compensation from the company. By 2004, the company had paid US\$86 million in compensation, and in the same year was ordered to clean up its contamination.

"We are currently conducting research into pollution impact on the biodiversity of the Citarum River. It will take several years of research to be able to make conclusions," Gadis said. However, she added, since the researchers have limited budgets, the institute was having difficulties in conducting large-scale research. Sunardi said that his department had also carried out research on the Citarum's biodiversity. The results showed that the upstream area had around 10 kinds of fish, while downstream areas like industry-filled Majalaya only had two or three kinds of fish. He said that further research was needed to see if the quantity and quality of the fish had declined over a certain period of time.

"The clean up movement should involve people from all walks of life. It would be easy to reduce the heavy metal pollution as the government would only need to control the fish food for the fisheries," he said. Gadis said that the clean up should be done parallel to the government enforcing industrial regulations and building waste water facilities for houses along the river. "There are housing complexes that practice green lifestyles, with recycling activities. The government should use such housing as a national model," she said.

Ahmad Ashov Birry from Greenpeace said that the government should learn from environmental mistakes in developed countries and enforce policies and regulations to protect valuable water sources from industrial pollution. Last May, the environmental NGO launched a report titled Hidden Consequences and a campaign to save clean water sources in Indonesia. In the report, the NGO emphasized the importance of preventing pollution, instead of curative action, as the former proved to be less expensive than the latter.

Ashov said that the Citarum River was similar to the Chao Phraya River in Thailand, Neva River in Russia, Marilao river in the Philippines and Yangtze River in China, as all these rivers provided water for drinking, domestic usage and agriculture. "The impact of pollution on human health, the environment and local economics were seldom considered or compensated for, not because it was difficult to calculate but because it was not easy to identify the perpetrators and force them to clean up the pollution. As a result, the taxpayers have to take the responsibility," he said.