

WORLD PLACER JOURNAL

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World Placer Journal - 2004 - Volume 4. Mercury pollution in the Selenge Watershed in northern Mongolia

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ABSTRACT

"56% of the mercury is lost to the atmosphere and 44% to the soil as mercury waste. 83.3% of the ninjas dump the Hg waste on the ground of their fenced-off dirt yards, 6.7% dump it in their earth-dug latrines, and 8.3% bury it in holes. Only 1.7% keep the mercury waste for reuse. Retorts are not used."



MERCURY IS PANNED...

Large amounts of mercury is panned from two local rivers, but even larger amounts are smuggled into Mongolia from China.

The Selenge watershed is under pressure from illegal gold miners ('ninjas') in north-central Mongolia. Hotspots of mercury (Hg) pollution were first reported in papers by the authors, and later in reports funded by the World Bank, Canada Fund, International Labour Organisation (ILO) and the Japan International Cooperation Agency (JICA). T

The aim of the present study was to create a Hg baseline in part of the Selenge watershed including three counties (= soums) - Sumber, Bayangol and Bornuur. Sampling was conducted in 2003 by Dr. Baatar Tumenbayar and his team funded by JICA, and the support of the Japanese government is gratefully acknowledged. Several hundred samples of river water, river bottom sediment and topsoil were sampled and tested for mercury, and a sociological study of the three soum centres conducted.

Results of the JICA-funded study showed 76% of soum-centre households are now ninjas and all ninjas use mercury to recover gold from milled hard rock ore. Between them, the three soum centres consume 500 kilos of mercury a year, amounting to an estimated 2.4 tons over the last 5 years. 64% of the ninjas drive off the mercury by using their domestic stove that is also used for domestic heating and food preparation, and 26% drive off the mercury by fires in their fenced-off household dirt yards. No ninjas used retorts to recycle mercury at the time of the survey.

The JICA survey estimated that 56% of the mercury is lost to the atmosphere and 44% to the soil as mercury waste. 83.3% of the ninjas dump the Hg waste on the ground of their fenced-off dirt yards in



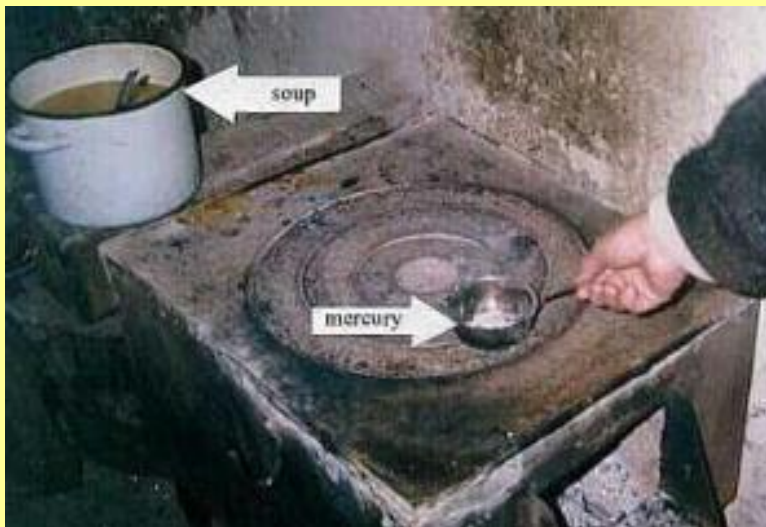
ECO-MINEX RAISE THE ALARM...

The sudden upsurge of mercury use was first publicised by Eco-Minex International Ltd.

the villages, 6.7% dump the waste in their earth-dug latrines, and 8.3% bury the mercury waste in holes. Only 1.7% of the ninjas keep the mercury waste for reuse.

The most mercury contaminated soils are in domestic yards, peaking at 230 times the maximum safe level recommended by the World Health Organisation WHO. Some ninja households are improving their houses by adding cement render to the inside and outside, unfortunately using mercury-laden milled waste.

Some of the mercury used by the hard-rock ninjas is bought from placer ninjas who mine the mercury by panning in the bed and banks of the Boroo river and Kharaa river - the mercury-laden bottom sediments being due to historical losses of mercury by large-scale gold recovery plants situated on the river banks during the last century. In addition, in order to meet the rapidly rising demand, more than a ton a year of mercury is smuggled illegally into Mongolia from China and sold in the soum centres via Mercury Shops, Gold Shops and Lombards.



MERCURY IN THE HOME...

64% of the ninjas drive off the mercury by using their domestic stove that is also used for domestic heating and food preparation. The homes are small and poorly ventilated, and mercury levels in the air of the homes is expected to be very high, and mercury will tend to settle in the food, water, clothing and hair of the members of the household.

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