Artisanal and Small Scale Gold Mining Area.
UNEP Global Mercury Partnership

SUSAN EGAN KEANE,
NATURAL RESOURCES DEFENSE COUNCIL

LUDOVIC BERNAUDAT,
UNITED NATIONS INDUSTRIAL DEVELOPMENT PROGRAMME
How is Mercury Used and Lost?

Gold + Sand

Add mercury to dissolve gold

Tailings

Form Amalgam

60% Au, 40% Hg

Apply Heat

Sponge Gold

Hg into air

Hg into water

Hg into air
Tanzanian Panner

Photo: S Keane
Mercury Pollution

Artisanal and Small-scale Gold Mining

- Current estimate around 1300 tons per year of mercury used by ASGM sector
- ASGM is a source of livelihood for 10-20 million people in around 70 countries

Map from www.mercurywatch.org
Mercury Pollution

Artisanal and Small scale Gold Mining

Mercury Consumption 2005

- Electrical and electronic devices: 7%
- Lighting: 4%
- Measuring and control devices: 7%
- Dental use: 8%
- Batteries: 13%
- Chlor-alkali production: 15%
- Vinyl chloride monomer (VCM) production: 21%
- Other (paints, laboratory, pharmaceutical, cultural/traditional uses, etc.): 1%
- Small Scale/Artisanal Gold Mining: 24%

UNEP Global Mercury Partnership
ASGM Partnership Area
ASGM Partnership

Goals and Activities

ASGM Partnership Area Goal: reduce mercury use in ASGM by 50% by 2017

Main activities of the ASGM Partnership Area:
- Help Countries with Strategic Planning
- Reduce High Risk Practices and Promote Cleaner Technologies
- Explore Market-based Approaches
Ongoing Regional Strategic Planning Projects:
- South-East Asia (Cambodia and the Philippines) (SAICM QSP)
- South America (Peru and Bolivia) (SAICM QSP)
- Francophone West Africa (6 countries) (UNIDO, USEPA, Finland)
- Anglophone West Africa (Nigeria, other) (USEPA)
Applying mercury to whole ore uses large amounts of mercury

Pre-concentrating ore significantly reduces amount of mercury used

Photos: GMP pilot project in the Manica district of Mozambique
Open-air burning of gold-mercury amalgam releases mercury directly into environment and communities

Simple retorts reduce mercury exposure and allow reuse of mercury

Left Photo: GMP Pilot project in the Manica district of Mozambique
www.globalmercuryproject.org/documents/non_country%20specific/CIM-econ_asp_of%20reducing_pres_May16-06.pdf
Mixing contaminated amalgam tailings with cyanide can create more mobile forms of mercury.
ASGM Partnership

Explore Market-based Approaches

- Labeling and Certification
  - Alliance for Responsible Mining (ARM) and Fairtrade Labeling Organization (FLO) have developed Fair Mined/Fair Traded “Standard Zero” for ASM gold, silver, and platinum
  - Includes environmental standards on mercury and cyanide use
- Limited application so far

[Logos for Alliance for Responsible Mining (ARM) and Fairtrade Labeling Organization (FLO)]
For more information please contact:

Susan Egan Keane, NRDC: skeane@nrdc.org

Ludovic Bernaudat, UNIDO: l.bernaudat@unido.org

or visit: