Artisanal and Small Scale Gold Mining: Background on the Sector

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A highly variable sector

From panning…

To high volume ore processing…

And everything in between…

UNIDO, Madagascar, 2008

UNIDO, Ecuador, 2010
ASGM is not new

- 19th century gold rushes (from 1849-1929): U.S., Canada, Australia, New Zealand, and South Africa
- Gradual shift into larger, organized groups of miners and eventual industrialization: a response to organizational and technological necessity and government policies

### Complex social dimensions of ASGM

#### ASGM is:
- A source of employment to 10-20 million miners in over 70 countries worldwide, especially in rural areas;
- A direct benefit to local economies
- A means of transferring wealth to people in poverty

#### ASGM can also be:
- Informal, extralegal, or illegal
- A source of social problems:
  - Child labor and other labor issues
  - Land tenure issues
  - Migration and other social instability
  - Conflict
Health effects (1)
(session 5)

- Mercury releases directly affect mining communities and down-stream population
- Children at mining site (working or not) vulnerable to mercury exposures
Health effects (2)
(session 5)

• **Accidents** due to poor safety conditions at mining and processing stages

• Poor **sanitation**, STDs

Sarah Pante-Avidao, Panganiban, Philippines, 2013

UNIDO, Burkina Faso, 2012
Environmental Effects (1)

- Water siltation
- Landscape degradation
- Destruction of habitats and encroachment on protected areas
Environmental Effects (2)

- Loss of organic soil
- Deforestation
- Mercury pollution; increasingly, cyanide pollution

UNIDO, Burkina Faso, 2012
UNIDO, Mozambique, 2001
Mercury Use in ASGM
Use of Mercury in Artisanal and Small-scale Gold Mining: The Basics

- Around 1600 tons per year of mercury used (MercuryWatch est.)
- In the most recent Global Mercury Assessment, ASGM is now identified as the single largest emission source in the world, surpassing fossil fuel combustion
Why Use Mercury?

- Cheap
- Easily accessible
- Quick
- Easy to Use
- Independent
- Enables division of profits

Blue Reef Small Scale Gold Mine (Tanzania)

UNIDO, Global Mercury Project, 2007
Miners Are Not Aware of the Dangers of Hg

- Water is also used for fish farming, drinking, bathing.
- Mercury is freely available, can be used in the miners’ backyard.
Challenges of Reducing Mercury Use

• Extremely decentralized practice

• Limited effectiveness of regulatory approaches, especially due to widespread informal and illegal mercury markets and mining activities

• ASGM an important mode of employment where alternatives not easily found

• Social or cultural mores can influence business practices
Root Causes of Poor Practices

- Disorganization & transience
- No technical assistance
- Lack of education
- Inadequate regulations
- Financial barriers
- Lack of support from mainstream society
- POVERTY
What are the solutions?
Technical Solutions
(session 3 tomorrow)

Reduction of Hg Use and Emissions

Avoid bad practices (e.g. whole ore amalgamation), and Hg exposure (no open burning)

Immediate/Short-term

Replacement for Amalgamation

Use other process (e.g. enhanced gravity, cyanidation)

Longer term
Legal, Financial Issues and Government Interventions

- Inventories and Action Plans: Sessions 1 and 2
- Legalization and Formalization: Session 4
- Finance and Project Development: Session 6
Supply chain measures affecting ASGM

**OECD Due Diligence Gold Supplement**
- Asks stakeholders to:
  - support formalization and legalization
  - Help miners create verifiable supply chains

**Dodd Frank Act**
- Requires US companies to affirm they do not receive gold from named conflict areas

**“Ethical” gold supply chains**
- Fair-mined Standard
- Better Gold Initiative
Artisanal and Small-Scale Gold Mining Partnership Area
• ASGM Partnership Area Goal: reduce mercury use in ASGM by 50% by 2017

• Main activities:
  – Help Countries with Setting Goals and Targets
  – Reduce High Risk Practices and Promote Cleaner Technologies
  – Explore Innovative Market-based Approaches
Partnership Activities

- **Strategic planning**
  - Philippines, Cambodia, Burkina Faso, Mali, Niger, Cote d’Ivoire, Guinea, Senegal, Gambia, Nigeria

- **Field level work**
  - Peru, Ecuador, Tanzania, Burkina Faso, Mali, Cote d’Ivoire, Senegal, Indonesia, Philippines
Priority Publications

• Technical document
• Legalization/ formalization
  – overview
  – five case studies
• Guidance on National Action Plans
• Links available on Second Global Forum webpage
UNEP Global Mercury Partnership  ASGM Area

For information, contact the area leads:

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Or visit the UNEP website:

http://www.unep.org/hazardoussubstances/Mercury/PrioritiesforAction/ArtisanalandSmallScaleGoldMining/tabid/3526/Default.aspx