Technology, Training, and Capacity Building in Artisanal and Small-scale Gold Mining: Using Mobile Training Units to Promote Cleaner, Safer, and More Sustainable Livelihoods in Peru and Bolivia

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Motivation

Artisanal and Small-scale Gold Mining (ASGM) is the largest source of anthropogenic global mercury emissions worldwide (UNEP, 2013). There are 10-15 million artisanal miners, including 3 million women and children in over 70 countries (UNEP, 2013).

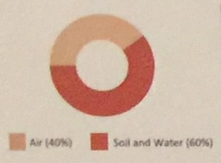


Figure 1. Mercury Released in ASGM (Telmer and Veiga, 2009)

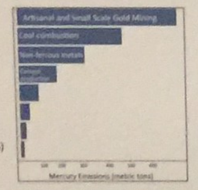


Figure 2. Mercury Emissions (UNEP, 2013)

Figure 3. Mercury Pollution from Mining and Ore Processing (Pure Earth, 2017)

Objectives

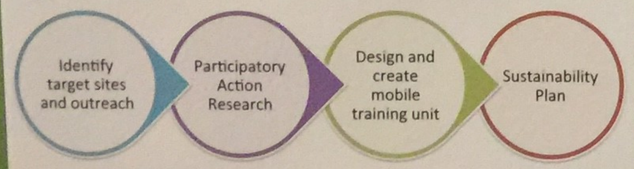
Goal: To examine the efficacy of mobile training units to promote cleaner, safer, and more sustainable livelihoods in Peru and Bolivia.

Obj1. Apply a participatory action research framework to identify community needs, current practices, and opportunities and constraints related to mercury-free interventions.

Obj2. Design, produce, and test a mobile training unit in selected sites.

Obj3. Apply participatory monitoring and evaluation methodologies to track effectiveness.

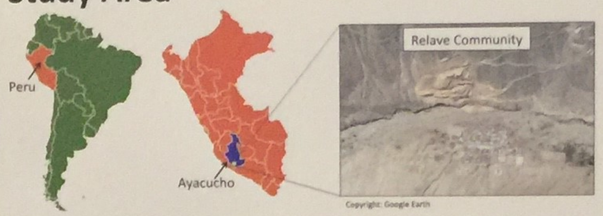
Approach



Deliverables

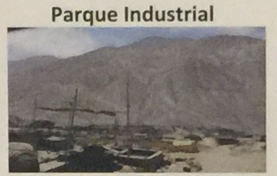
- A context-specific, mobile training unit for deployment at selected sites in Peru and Bolivia.
- Co-produced sustainability plan for each site.
- Publically available report and peer-reviewed publications that assess the efficacy of the mobile training units.

Study Area



In Relave Community in Peru, two ASGM sites were selected:

Parque Industrial



Quimbaletes. Copyright: Alliance for Responsible Mining

Ballón

Cyanide Pools. Copyright: Alliance for Responsible Mining

The criteria for site selection includes the level of trust with community members, the health and safety factors that pose risks to the project team, the number and organization of the miners, the degree to which the miners are formalized, existing mining and ore processing methods and the community members' interest in participating in the project.

Participatory Action Research (PAR)

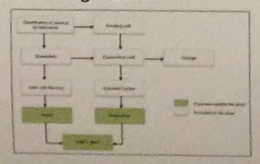
A. Sampling

- Rock, tailings, soil, and water samples were tested for mercury contamination
- Rock samples were analyzed in a lab to better understand its mineralogy for ore processing optimization

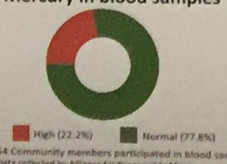
B. Ethnographic Data

- 2 focus groups
- 37 semi-structured interviews
- Community identification and geo-referencing of mercury contamination hotspots

C. Mining Process



D. Mercury in blood samples



54 Community members participated in blood sampling
Data collected by Alliance for Responsible Mining

Stakeholder Workshop

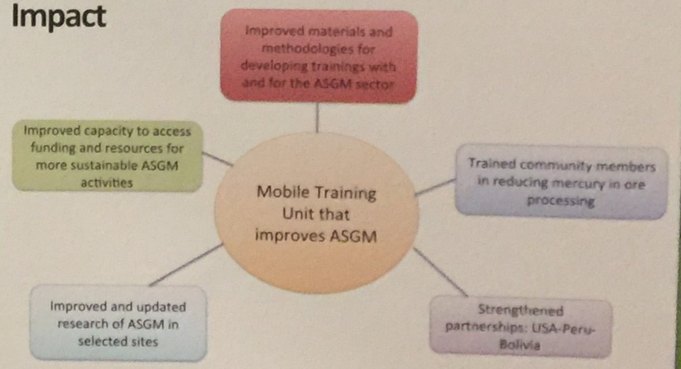
Location: Lima, Peru
Who: All project partners and community members from selected sites.
Objectives:

- Arrive at a shared plan for the design and implementation of the mobile unit and the monitoring and evaluation of the project.
- Define the scope of the mobile unit, solidify responsibilities, and set up systems of communication and coordination.

Design of Mobile Training Unit

- Based on the outcomes of the PAR and the stakeholder workshop.
- Activities will take place within established program frameworks at UTEC, PUCP, and CSM under close supervision of faculty with expertise.

Impact



Partners

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ARTISANAL GOLD COUNCIL

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