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## Why?

An estimated 20 million people are dependent on Artisanal and Small-scale Gold Mining (ASGM) – labour intensive, low-tech, gold extraction and processing - the majority living in poverty in low and lower middle-income countries.

A chronic conflict has emerged in ASGM, lying between workers' search for a viable livelihood and the social, environmental, health, and safety impacts associated with the activity.

*In Brazil, there is a heated debate over the sustainable approach in ASGM operations, especially in the Amazon biome.*

*ASGM is of historical importance in the Brazilian Amazon*

*Gold's economic and symbolic value is intrinsic in its materiality*

## What?

This research aims to analyze the dynamics of gold extraction from the social and technical aspects and its potential for transformations to sustainability, pay attention to plural perspectives of different actors and narratives.

**Dialogue**  
*Mining engineering and Social science*

Research Questions:

**RQ1.** What are the challenges and key themes that need to be addressed to understand the ASGM activities in the study regions?

**RQ2.** What can be learned about transformations to sustainability in the study regions?

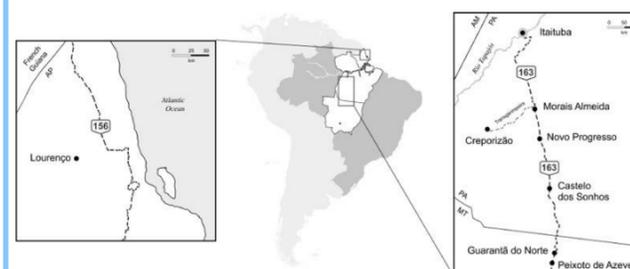
**RQ3.** What are the factors that influence people working directly with artisanal and small-scale gold mining in the study regions?



## How?

### Study Area

**Lourenço in the state of Amapá, AP (left panel) and the region along the highway BR-163 (right panel).**



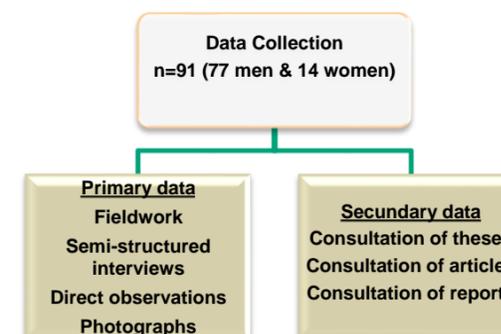
**Method:** Quali-Quantitative

**Research:** applied research

**Research objective:** Descriptive and explanatory

**Data Collection:** 2018; 2020; 2022

**Sampling method:** Snowball sampling



**The interviewed were subdivided:**

- I. Miners actors
- II. President of ASGM Cooperative
- III. Civil society
- IV. Technical assistance
- V. Government inspector
- VI. Government representative

## Findings

The main ores mined by the artisanal miners are the secondary ones, i.e., colluvial/eluvial ores using hydraulic monitors. Amalgamation is still the dominant process to recover gold from concentrates of secondary ores.



State of Mato Grosso

State of Pará

State of Amapá

### T2S in ASGM?

- Traceability and informatization
- Increase value legal gold price
- Innovation in mining and processing technology

The research participants' responses to our questions showed a high degree of similarity in the study areas.

ASGM is tied to dynamics of interaction, mutual motivation and competition with multiple uses of gold mining resources

A long-term T2S should have flexibility, and consistent engagement with the miners (know and be known by them).