

A CASE STUDY OF THE COEXISTENCE MODEL BETWEEN A FORMAL MINING COMPANY AND THE ARTISANAL AND SMALL-SCALE MINING SECTOR IN AREQUIPA, PERÚ



Masters of the Environment
UNIVERSITY OF COLORADO BOULDER

Solidaridad

PROJECT SUMMARY

A Case Study of the Coexistence Model between a Formal Mining Company and the Artisanal and Small-Scale Mining Sector in Arequipa, Perú is a capstone project affiliated with CU Boulder's Masters of the Environment Program (MENV), and partnered with Solidaridad, an international NGO. A mid-scale mining company (MSM) in the Arequipa region of Perú has collaborated with Solidaridad for two years to provide technical assistance to the artisanal miners working on the concession. The MENV students' role is to serve as consultants and identify opportunities to better the coexistence business model between artisanal miners and the mining company through a triple-bottom line approach.

Artisanal and small-scale mining (ASM) activity accounts for 22% of the mining sector in Perú; mining overall is the country's number one industry (1). Artisanal miners are not employed by mining companies, and instead use their own resources to support mining operations. ASM activity makes up 55% of the ore used by the mining company involved in this project.

(1) MINEM. (2020). Comunicado MINEM. http://www.minem.gob.pe/minem/archivos/Comunicado_dia7.pdf.

Figure 1: Photo of students, advisors, and partners en route after first round of field work at the mining company concession.



Figure 2: Pictured below is Anna-Gray Anderson (student) and Brayams Ramirez-Chacon (Solidaridad) at an artisanal mine site within the concession of the mining company.



OBJECTIVES

- (1) Document and analyze the coexistence business model between artisanal miners and Minera Orex through an impact analysis, risk assessment, and stakeholder engagement.
- (2) Provide recommendations to the mining company for opportunities to maximize the benefits and value of the coexistence model.

METHODS

The team of three masters students spent 12 weeks in spring of 2022 preparing for their fieldwork in Perú preparing a scope of work and a comprehensive **literature review** of focused on ASM co-existence, operations, community engagement, as well as challenges and opportunities to improved management and community and miner relations. In July-August of 2022, the team spent 8 weeks in Perú in conducting fieldwork which included **10 interviews with stakeholders** in the government and gold supply chain including: the United States Agency for International Development (USAID), the Peruvian government (Ministry of the Environment and the Ministry of Energy and Mining) and the Swiss Better Gold Association among other organizations.

The team was fully immersed for 3 weeks at the mine site in which **36 surveys to artisanal miners were administered and 75 interviews with miners, mining company management, and community members** were conducted on topics of trust, capacity building, communication, and technical assistance.



Figure 3: Madi Sydnor (student) and Nico Bernstein (student) are pictured above after participant observation at a mine shaft entrance

10 STAKEHOLDER INTERVIEWS

These interviews included USAID, Swiss Better Gold Association, Perú's Ministry of Energy and Mining, and more

200+ HOURS SPENT IN THE FIELD

The team spent over 200 hours in the field conducting participant observation, surveys, and interviews

75 INTERVIEWS

The team conducted 75 interviews with the local community and artisanal miners in the Arequipa Region, Perú

Figure 4: A view of the mine company concession.



DELIVERABLES

The final deliverables are (1) a bilingual, high-impact presentation, and (2) a tactical guide to accompany the presentation. This presentation will include key findings and a set of recommendations. The tactical guide will serve as a guiding resource for implementation and provide data to support. This guide will also have implementation suggestions and opportunities for further research. The data collected and peer-reviewed information will be presented and available as part of this presentation to validate these recommendations.



Figure 6: From left to right: Joel Hartter (CU advisor), Nicole Smith (CO School of Mines), and Colleen Scanlan Lyons (CU advisor) touring the processing plant of the mining company.

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Figure 5: A gold ore sample.



OUTCOMES

For Students and MENV

- Professional development
- Increased Spanish language proficiency
- Exploration of an international NGO setting
- Increased cross-cultural working competency
- Experience working in an immersive, local capacity to perform stakeholder engagement
- Global networking and career mentorship

For Solidaridad

- Strengthened international networks to gain new perspectives
- Gained objective analysis of their current interventions and methods
- Data to support the replication of the coexistence business model

For Mid-Scale Mining Company

- Increased economic value through the coexistence model
- Reinforced positive relationships with artisanal miners
- Improved CSR strategy and implementation