Artisanal Mining: A closer look at its relevance towards sustainable development of rural communities

CASE STUDY: ENGAGE PROJECT
BY AGC IN SIERRA LEONE
Both of these pictures are artisanal and small-scale gold mining
Def. contd (Mines and Minerals Act 2009)

- Two Sections of this Act relate to Artisanal and Small-scale mining with the following definitions:
  - **Artisanal mining** – Part X of MMA 2009
    - Limited to Sierra Leonean citizens (individuals and cooperatives).
    - Parameters – 1/2 hectares (0.05 sq km): 10 meters deep, 1 yr licence, renewal 3 times consecutively.

- Addressing key problems through law and regulations including:
  - Explicit measures to protect the environment – they are obligated to rehabilitate, NMA has increased capacity to advise and monitor.
  - Greater measures to manage supporter-miner relationship
Def. contd (Mines and Minerals Act 2009)

- Small-scale mining – Part XI of MMA 2009
  - Applications certified by MAB, approved by the Minister of Mines.
  - Requires an EIA approved by EPASL and required to provide financial assurances (e.g. bond) against potential liability.
  - Mine Closure Plan (costed) required as part of application process

- Minimum 25% Sierra Leonean ownership
- 3 yr licences, renewable on 3 yr basis
- Limited to 1sq km and depth of 20m – no underground operations allowed
Artisanal mining is an economic driver

<table>
<thead>
<tr>
<th>Economic Measure</th>
<th>Significance of Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment</td>
<td>1-2% High</td>
</tr>
<tr>
<td>National Income eg: GNI</td>
<td>10-30% High</td>
</tr>
<tr>
<td>Government Revenue</td>
<td>3-20% High</td>
</tr>
<tr>
<td>Exports</td>
<td>30-60% Low</td>
</tr>
<tr>
<td>Foreign Direct Investment</td>
<td>60-90% Low</td>
</tr>
</tbody>
</table>

*Adapted from: The Golden Building Block, World Gold Council, 2009
Artisanal and small-scale gold mining

• There are estimated to be over 80,000 artisanal gold miners in Sierra Leone

• Nearly all of the gold produced in Sierra Leone is produced by these miners

• Gold mining is primarily alluvial (river deposits) but increasingly hard rock is being mined

• The sector is predominantly informal

• The sector acts as an engine for rural development and a safety net for the rural poor

• Some towns (eg: Baomahun) have quite literally been built on artisanal mining revenues
**Distribution of AM sites**

| Region | District | Major Mining Communities | Geological Group/  
| Group/  
| 
| Greenstone Belt | |
| --- | --- | --- | --- |
| Northwest | Karefa | Laminaya, Campala, Fintonia | Loko Group |
| North | Koinadugu | Dalakuru, Lake Sonfo area, Makoni, Kamanro | Sula Mountains |
| North | Tonkolili | Kasafoni, Makong, Mansumbirie, Yele | Sula Mountains |
| East | Kono | Kumahun, Gbani, numer 9, Bumpeh, Gandon | Nimi Hills |
| East | Kenema | Kambui Hill, Njiebeh | Kambui Hills |
| East | Kaifahun | Jama, Sengema, Grina, Salima, Saluwa | Gori Hills |
| South | Bo | Boanahun, Lablama, Gbetema, Konlitun | Kangari Hills |

*Adapted from: countrywide assessment of artisanal and small scale gold mining in Sierra Leone, EPASL 2019*
The national context
Enabling and Growing Responsible Artisanal Gold Enterprises:

Project Context
Project Goal: To develop a model for responsible artisanal and small-scale gold production and sale in Sierra Leone
Regional Resource Governance in West Africa (REGO)

Approach

The mining sector of the Mano River Union (MRU) is geared towards the principles of **sustainability**

- Economic sustainability
- Social sustainability
- Environmental sustainability
Assessment methodology

- The scorecard used was developed through careful study of the PlanetGold program in Philippines. Site assessment criteria were adapted to the EnGAGE project in Sierra Leone by considering the following Categories and results shown below.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>Komahun</th>
<th>Baomahun</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Governance</td>
<td>15%</td>
<td>9.94</td>
<td>10.19</td>
</tr>
<tr>
<td>2. Technical requirements</td>
<td>25%</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>3. Potential ASGM beneficiaries</td>
<td>15%</td>
<td>3.40</td>
<td>4.00</td>
</tr>
<tr>
<td>4. Mercury</td>
<td>15%</td>
<td>6.38</td>
<td>9.38</td>
</tr>
<tr>
<td>5. Gold, Trade &amp; Supply Chain</td>
<td>20%</td>
<td>7.15</td>
<td>9.45</td>
</tr>
<tr>
<td>6. Financial Needs and Opportunities</td>
<td>10%</td>
<td>5.20</td>
<td>5.6</td>
</tr>
<tr>
<td>Overall Score</td>
<td>100%</td>
<td>32.06</td>
<td>38.61</td>
</tr>
<tr>
<td>7. Security and safety</td>
<td>-30%</td>
<td>-8.00</td>
<td>-8.00</td>
</tr>
<tr>
<td>Adjusted Score</td>
<td></td>
<td>24.06</td>
<td>30.61</td>
</tr>
</tbody>
</table>
Key findings

- Low awareness of the risks of mercury use amongst miners
- Complex local business arrangements that rely on equipment rentals and no records of revenue, sales, etc
- Conflict with large scale operators at all sites under consideration for pilot activities
- Wide discrepancies in gender-based access to mineral ores
Contextual study & baseline report

Key findings (contd)

- Rapid expansion of the use of powered equipment and mercury at the site level
- Re-processing of tailings 2-4 times over
- No HSE measures observed
Formalizing mining activities

• 164 Miners self-organized into two artisanal gold mining cooperatives with training and assistance from WoME and AGC

• These cooperatives are now registered with the Bo District Council and the Ministry of Social Welfare

• Bank accounts opened for each Cooperative
Formalizing mining activities (contd)

- 3 Artisanal licenses acquired
- surface rent paid to Chiefdom authorities
Training of miners: Technical

- A training group of 7 local miners was identified to be the core group running the equipment
- This group was involved in setting up and commissioning the equipment
- Hands-on training continues with the help of the **F.B.C. Mining Engineering Department** in:
  - Commination
  - Shaking table use
  - Gold purification
  - Gold smelting
• 30 miners (23M/7W) were trained in injury prevention and safer mining practices using classroom and field-based training sessions
Training of miners: business skills

- Running a gold processing facility requires ownership, operators and a plan to maintain the facility i.e.: basic business skills
- 37 miners (20M/17W) were given training in business skills
- Topics covered by the training:
  - Types of businesses
  - Expenses and revenues
  - Budgeting
  - Sources of finance
  - Markets
  - Business plans
  - Organizing into business associations
Training of miners: Gender issues

- 87 miners from Baomahun (24M/63W) participated in training on gender issues led by WoME
- Participatory sessions addressed:
  - Basic gender concepts
  - Identification of barriers to gender equality
  - 10 lines of actions that should be taken to address gender inequalities were identified
ASGM Training for Health Professionals

• 24 health professionals from 7 districts with the occurrence of AGM were trained on occupation health hazards in ASGM

• Most trainees were WASH officers, Community Health Officers, Public Health Inspectors, and Senior PHS officers

• By the end of the training most participants were able to:
  • Describe health risks, particularly mercury exposure, in ASGM;
  • Apply a risk communication strategy to advise artisanal miners about how to reduce exposure to mercury and how to protect their health;
  • Describe the symptoms of acute and chronic mercury intoxication and understand diagnostic procedures and treatment options;
  • Demonstrate the ability to conduct an exposure history and physical examination of adults and children with possible exposure to mercury; and
  • Understand and describe the role of the health care sector in the implementation of Sierra Leone’s National Action Plan on mercury.
Media training

• The media plays a role in how the public perceives AGM and thus the policy approach of governments

• Workshop goals:
  • Raise awareness in the media of the importance of the ASGM sector to Sierra Leone
  • Provide information and first-hand experiences to journalists so that they can cover the sector in an informed manner
  • Think about the role the media play in improving ASGM

• Representatives from 25 media outlets across the country participated in the workshop and were taken to the gold processing facility
Summary: successes and challenges

Key Achievements

• Sierra Leone’s first artisanal gold toll processing facility built and owned by artisanal miners
• Hg-free production is ongoing. Miners report recovering more gold and spending less time doing so
• 2 of Sierra Leone’s first artisanal gold mining cooperatives are now established
• Profits from the mining facility will be redirected into 2 community improvement investment funds
• 164 miners trained in:
  • Operating Hg-free mining equipment
  • Business skills
  • Gender awareness
  • Occupational health and Safety
• 24 health professional trained in treating mercury and other ASGM occupational health concerns
• 25 journalists trained in covering ASGM issues

Remaining Challenges

• Will the beneficiaries be able to maintain the facility as a profitable gold enterprise for the long-term?
• How will the achievements be replicated? Who will finance replication?
• This project was about responsible gold production. What about the responsible ore extraction? Responsible gold supply chains?
• Rapid Assessment of the impact of Covid-19 on the Artisanal gold mining sector in Sierra Leone
  • https://www.artisanalgold.org/publications/country-studies/
Thank You!

Contact Details:

bunting.Williams@usl.edu.sl
kayebunt@yahoo.com