THE BANAO BODONG ASSOCIATION (BBA)
SMALL SCALE GOLD MINING IN GA-ANG MINES
TALALANG, BALBALAN KALINGA CAR
PHILIPPINES
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Former Chairman of BBA

Asia-Pacific Regional Conference on Artisanal and Small Scale Mining
Chinggis Khaan Hotel Ulaanbaatar, Mongolia
VISION
A strong institution of competent leaders and members nurtured in a unified culture, economically stable and matured citizenry living in peace and harmony with their environment.
MISSION

Promotion of **peace and harmony** with neighboring tribes through sharing of adaptable customs, tradition and culture. Help in the **control of global warming** through reduction of green house effects with the development of potential Natural Resources into Micro-Hydro Power projects. **Promotion of economic stability** with the culture of compatible and economically competitive products nourished by environment friendly agricultural technology and proper management on utilization of natural wealth. **Conservation of Biodiversity** and establishment of a crime free society.
The Banao Bodong Association (BBA)

- A tribal organization of the i-Banaos from barangays Pantikian, Talalang and Balbalasang in the municipality of Balbalan, Kalinga (Northern Luzon).
- BBA was organized in 1982 purposely to unify the Banao Tribe of Kalinga.
- The organization of BBA was initiated by the Elders of the Banao Tribes.
- The Banao’s has a high **sense of interdependence** to forest and oneness with nature.
- Its main goal is to **protect and wisely utilize** all natural resources within the territory of the ancestral domain of the Banao Tribe.
- BBA policies and principles were created in accordance with traditional and customary laws and belief system.
- BBA is strengthened through **political will** of the leader’s, **spirituality** (spirit of brotherhood), **self consciousness** and moral judgement.
Structure

General Assembly

Board of Trustees

Secretariat

Marshalls

Members
The Ga-ang Mines

- Mining activities in Gaang are regulated by the BBA in accordance with our customary laws, policies and traditions.

- Gold panning commenced in Gaang in 1984 when a miner from Bontoc, Mountain province pointed out traces of the precious metals along the Saltan River.

- With the advent of underground mining in 1985, mercury use was also introduced, influenced mainly by miners from Benguet.
Profile of the Ga-ang mining area

- There are 150 tunnels, about 80 of which are currently operational.
- There are 180 camps/groups within the mining area; each camp is composed of 8 to 15 miners.
- During Peak Mining Seasons (August-February) the number of resident miners could reach about 1000. The remaining seasons are used by miners for agricultural activities.
- There are about 100 ball mills, all of which are naturally powered by water force and aligned into series so that the water used from the first mill can be utilized by the other mills.
- The area can accommodate a maximum of 168 rod mills operating simultaneously.
BBA Policies in Ga-ang Mines

- The Association requires registration of tunnels and the payment of P100.00 registration fee.
- Once operational, tunnel owners are also required to pay the Association P100.00 yearly dues.
- Ball mill owners also pay P200.00 for registration and P200.00 yearly dues for the use of the mills.

- **BBA rules prohibit the use of chemicals in gold mining.** Initially, due to the lack of knowledge, mercury was not considered as a chemical but a heavy metal, hence it was used indiscriminately.
Previous Mining Practices in Gaang

Ore Extraction → Rodmilling → Sluicing → Panning/Amalgamation

Gold → Burning of Amalgam
Gold and Mercury Trading

- Miners in Gaang collectively produce an average of 15 kilos of gold monthly.

- Purity of gold produced ranges from 14 to 16 karats.

- They are sold at P1,200 to P1,600 (29 USD-38 USD) per gram to the local gold traders who also operate as mercury suppliers.

- There are at present 15 gold buying stations in the mining site.
Gold and Mercury Trading

- Gold sold to local dealers are further traded in Baguio City, CAR.

- Mercury used in ASGM in Gaang is sourced out from the mercury traders in Baguio City at P18,500.00 per kilo (448 USD).

- It is sold locally at P30/gram (.73 USD) or P30,000 per kilo (728 USD).
Forging of MOU between and among BBA, LGU Balbalan and BAN Toxics for improved mining practices in Gaang focusing on mercury reduction/elimination.
Information dissemination campaign by BAN Toxics on the threats of mercury to human health and the environment.
Hands-on training on the use of improved sluice, panning and burning of concentrates using borax.
<table>
<thead>
<tr>
<th>Areas of Comparison</th>
<th>Amalgamation (previous mining method practiced in Gaang)</th>
<th>Sluicing and panning (mercury-free method introduced by Ban Toxics)</th>
<th>Remarks</th>
</tr>
</thead>
</table>
| Time/duration       | 7 hours                                                  | 4 hours                                                       | • The time spent for amalgamation was based on the feedback given by the participants  
• The time spent for sluicing was based on the result of the training documentation |
| Equipment and materials used | Small sluice  
Small launder  
Mercury  
Borax  
Charcoal  
Furnace | Improved sluice box  
Launder  
Borax  
Detergent soap  
Charcoal  
Furnace | • The difference in the process and materials used comes after the grinding of the ore |
<p>| Recovery efficiency | 1.2 grams/load                                           | 3.2 grams/load                                               | • Based on the seven loads of ore from the same source |
| Gold quality/karat  | 14.3                                                     | 15.9                                                         | • Based on feedback from the participants from the tests conducted in Baguio City |</p>
<table>
<thead>
<tr>
<th>DATE</th>
<th>NO. OF LOADS ON BALLMILL</th>
<th>EXPECTED RECOVERY THRU AMALGAMATION</th>
<th>ACTUAL RECOVERY THRU BORAX METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aug. 20, 2011</td>
<td>4 Loads</td>
<td>16 Grams</td>
<td>36 Grams</td>
</tr>
<tr>
<td>Sept. 10, 2011</td>
<td>10 Loads</td>
<td>50 Grams</td>
<td>78 Grams</td>
</tr>
<tr>
<td></td>
<td>4 Loads</td>
<td>16 Grams</td>
<td>28 Grams</td>
</tr>
<tr>
<td>Sept. 20, 2011</td>
<td>60 Loads</td>
<td>150 Grams</td>
<td>340 Grams</td>
</tr>
<tr>
<td>SEPT. 28, 2011</td>
<td>17 Loads</td>
<td>40 grams</td>
<td>68 Grams</td>
</tr>
<tr>
<td>Oct. 10, 2011</td>
<td>18 Loads</td>
<td>60 Grams</td>
<td>180 Grams</td>
</tr>
<tr>
<td>Oct. 15, 2011</td>
<td>10 Loads</td>
<td>20 Grams</td>
<td>35 Grams</td>
</tr>
<tr>
<td></td>
<td>5 Loads</td>
<td>15 Grams</td>
<td>25 Grams</td>
</tr>
<tr>
<td>Nov. 5, 2011</td>
<td>36 Loads</td>
<td>90 Grams</td>
<td>225 Grams</td>
</tr>
<tr>
<td>Nov. 10, 2011</td>
<td>15 Loads</td>
<td>30 Grams</td>
<td>41 Grams</td>
</tr>
<tr>
<td>Nov. 13, 2011</td>
<td>68 Loads</td>
<td>200 Grams</td>
<td>360 Grams</td>
</tr>
<tr>
<td>Nov. 15, 2011</td>
<td>40 Loads</td>
<td>250 Grams</td>
<td>810 Grams</td>
</tr>
<tr>
<td>Nov. 18, 2011</td>
<td>10 Loads</td>
<td>20 Grams</td>
<td>28 Grams</td>
</tr>
<tr>
<td>Nov. 28, 2011</td>
<td>160 Loads</td>
<td>800 Grams</td>
<td>1300 Grams</td>
</tr>
</tbody>
</table>
Computation is based on 1 load ore (1 sack of ore)

<table>
<thead>
<tr>
<th>MATERIALS</th>
<th>COSTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ore Processing w/Mercury</td>
</tr>
<tr>
<td>Mercury (20g/load)</td>
<td>USD 14.54</td>
</tr>
<tr>
<td>Soap</td>
<td>USD 0.73</td>
</tr>
<tr>
<td>Borax</td>
<td>USD 0.12 (1 pinch)</td>
</tr>
<tr>
<td>TOTAL EXPENSES</td>
<td>USD 15.39</td>
</tr>
<tr>
<td>GOLD RECOVERY (20g)</td>
<td>USD 629.95</td>
</tr>
<tr>
<td>INCOME (Gold Recovery - Total Expenses)</td>
<td>USD 614.57</td>
</tr>
</tbody>
</table>
BEST PRACTICES

• The prohibition of mercury use in any mining activity in Ga-ang Mine Site was included in the BBA Policy through a resolution approved by the General Assembly (December 9, 2012).

• Minors and pregnant women are not allowed in the mine site. This is an immediate action made by the BBA after being aware of the dangers of mercury.

• Miners in Ga-ang Mines are now using the Mercury Free Method in gold recovery and continuously training other miners.
BEST PRACTICES

• Conscious efforts towards protection and proper utilization of the natural resources
• No Gender Discrimination; Men and Women are equal in the eyes of the policy; encourage women’s participation in meetings and mining.
CHALLENGES

• Acquisition of “Minahang Bayan” or the People’s Mining Area
• Sustainability of Resources (i.e. minerals, forest)
• Pollution Control especially on the entry of hazardous chemical within the Banao area and the adjacent municipalities
• Deteriorating Water Quality of Saltan River and its tributaries brought by the mining activity
THANK YOU!