

Communities and Small Scale Mining

7th Annual CASM Conference

**September 7th to 12th, 2007
Ulaanbaatar, Mongolia**

**EFFECTIVE PARTNERSHIP FOR
SUSTAINABLE ASM COMMUNITIES
PROCEEDINGS**



**MEETING OVERVIEW, EXECUTIVE SUMMARY
AND MAIN REPORT**

EFFECTIVE PARTNERSHIP FOR SUSTAINABLE ASM COMMUNITIES

Proceedings

**Seventh Annual CASM Conference
Ulaanbaatar, Mongolia
September 7th to 12th, 2007**

Meeting Overview

More than **170 conference participants from over 40 countries** and **180 Mongolian participants**, including **30 artisanal miners**, came together from September 7th-12th 2007 to share knowledge, experience and desires for positive change in the small scale mining sector at the Communities and Small Scale Mining 7th Annual CASM Conference in Ulaanbaatar, Mongolia.

Acknowledgements

The 7th Annual CASM Conference (ACC) has been – according to participants – the best ACC ever. This is the result of the very strong commitment and funding of the Government of Mongolia, in particular the Mineral Resources and Petroleum Authority of Mongolia (MRPAM) – Ms Chuluunbaatar Enkhzaya -, the Sustainable Artisanal Mining Project (SAM project) – Dr Balganjav Kuhdorj and his team -, and the Swiss Development Cooperation (SDC). CASM would like also to extend its acknowledgements to our sponsors the Tiffany & Co Foundation, the UK Department for International Development (DFID), CASM Asia and the World Bank Group. A special thank you also to the staff of the WB office in Ulaanbaatar for their strong support, as well as to the chairman (Dr. Jon Hobbs) and members of the CASM Strategic Management Advisory Group (SMAG), and of course to all the presenters, workshop facilitators, rapporteurs, and participants for their active involvement and contribution to the cause of artisanal and small-scale miners. A special thank you to Estelle Levin for putting together these proceedings, CASM is also extremely grateful to the staff of the Secretariat, in particular to Veronika Kohler, who worked beyond the call of duty on the organization and animation of the event

The author acknowledges Jennifer Hinton, Sally DeLeon, Ed O'Keefe for assisting with note-taking during the conference, along with Alicia Reyes, Stephen Metcalf, Aidan Davy, Adriana Eftemie, Michel Bouchard, Tracey Naughton, and Cristina Echavarría for providing her with session summaries.

Authorship

This report has been authored by Estelle Levin, with assistance in drafting parts of the narrative from Fay Warrilow and Nicholas Garrett. The authors bear no liability for the accuracy of information in the report, as presented by the participants.

All photos are courtesy of the author, unless otherwise stated.

Photo on front cover: Artisanal miners washing gold at Sharyn Gol gold mine, 12th September, 2008.
Photo courtesy of J. Hinton, 2007.

Table of Contents

| | |
|---|-------------|
| Meeting Overview | i |
| Acknowledgements | i |
| Authorship..... | i |
| Acronyms | viii |
| The Venue..... | ix |
| Executive Summary | 1 |
| Opening Ceremony | 1 |
| Welcome and Conference Overview and Objectives..... | 1 |
| Welcome Speech - the Prime Minister of Mongolia | 1 |
| Inaugural Statement - the Minister of Trade and Industry..... | 1 |
| Statement – World Bank Country Manager | 2 |
| Statement – Swiss Agency for Development and Co-operation | 2 |
| Session 1: Keynote Presentations..... | 2 |
| Update on CASM | 2 |
| ASM and Private Companies | 2 |
| ASM and Government: the case of Nigeria..... | 3 |
| Getting ASM to work for Community Development..... | 3 |
| Session 2: ASM in Mongolia..... | 3 |
| Problems and Potential – Government Perspective | 3 |
| Approaching sustainable ASM: expertise of SAM project..... | 3 |
| Voices of artisanal miners | 4 |
| Discussion | 4 |
| Session 3: ASM in Asia..... | 4 |
| Asian ASM Overview..... | 4 |
| Coal Issues in the Philippines | 5 |
| Coal Issues in Vietnam | 5 |
| Coal Issues in China | 5 |
| Policy and Measures for Coal Development in China..... | 5 |
| The day concluded with a Dinner and Cultural Event hosted by MRPAM at the Bayongol Hotel..... | 5 |
| Session 4: Thematic Keynote Presentations..... | 6 |
| Legal and Institutional Framework for ASM | 6 |
| Developing CASM's Approach to Gender..... | 6 |
| Environment and Technology | 6 |
| Breakout thematic session 1: CASM's Approach to Gender | 6 |
| Artisanal Mining and Gender: the case of Mongolia | 6 |
| Women in Small scale Quarrying in Uganda: Entebbe Women's Association's Support to Women in Stone Quarries in Sissa, Wakiso District..... | 6 |
| Mainstreaming Gender issues into Standard Zero for Fair Trade Artisanal Gold | 7 |
| Girls in Mining – Research findings from Ghana, Niger, Peru and Tanzania..... | 7 |
| Panel discussion | 7 |
| Breakout thematic session 2: Environment and Technology | 7 |
| Environmental Impact of Mining in Mongolia | 7 |
| Global Mercury Project Environmental and Health Assessments..... | 7 |
| Are the Philippines Heading for a Minamata Disaster due to ASM?..... | 7 |
| Improved Technologies for Small-scale Miners | 8 |
| Banka and Bore-Pile Drilling Techniques for Deep Sampling Gemstone Placer Deposits..... | 8 |
| Mercury Emission Reductions in Small-scale Gold Refining Facilities | 8 |
| Optimal Method of Mercury Extraction from Amalgamation..... | 8 |

| | |
|--|-----------|
| Observations on the presentations | 8 |
| Breakout Thematic Session 3: Institutional and Legal Frameworks..... | 8 |
| New Legislative Framework for ASM in Papua New Guinea | 9 |
| ASM and Legalisation Issues | 9 |
| Session 5: Thematic Keynote Presentations..... | 9 |
| Sustainable Development, Security and ASM | 9 |
| Fair Trade Minerals: Opportunities, Challenges and Finding a Way Forward for Sustainable ASM..... | 9 |
| Development Synergies between LSM and ASM | 9 |
| Breakout Thematic Session 4: Sustainable Development, Security and ASM..... | 9 |
| Sustainable Development, Security and Artisanal and Small-Scale Mining | 9 |
| Introduction: Human Security and ASM | 10 |
| Conflict Gems: Mining, Marketing and Terror Funding | 10 |
| Mercury Awareness and Human Security of ASM in Mongolia..... | 10 |
| Lessons from Two Meetings for Luzon Cordillera, Philippines on ASM..... | 10 |
| Facilitating Dialogue Concerning Risk | 10 |
| Open Forum | 11 |
| Breakout Thematic Session 5: Fair Trade..... | 11 |
| Pilot Testing FT in Latin America | 11 |
| Challenges and Opportunities for Fair Trade in the Cotapata Mining Cooperative..... | 11 |
| Achieving Standard Zero in Papua New Guinea..... | 11 |
| Developing Feasible Systems of Fair Trade for Gems and Gold..... | 11 |
| Ethics and Integrity in the Contemporary Market Place | 11 |
| Group Discussion..... | 12 |
| Breakout Thematic Session 6: Development Synergies between Large Scale Mining and ASM | 12 |
| Mongolian National Mining Association | 12 |
| Mongolbolgargeo LLC..... | 12 |
| Group Discussion..... | 12 |
| Session 6: Report from Thematic Discussions | 13 |
| Legal and Institutional Framework for ASM | 13 |
| CASM's Approach to Gender | 13 |
| Development Synergies between ASM and LSM | 13 |
| Sustainable Development, Security and ASM | 13 |
| Fair Trade..... | 14 |
| Environment and Technology | 14 |
| Session 7: International Initiatives | 14 |
| Certified Trading Chains | 14 |
| Technical Cooperation Project: Policy Advice Mineral and Energy Resources | 14 |
| The Global Mercury Project: Past and Future..... | 15 |
| International Labour Organisation..... | 15 |
| CommDev | 15 |
| Session 8: Reports from CASM Global and Regional Networks | 16 |
| Highlights from CASM Annual Report..... | 16 |
| CASM Africa | 16 |
| CASM Asia..... | 16 |
| CASM China..... | 16 |
| Session 9: Conclusions and Recommendations | 17 |
| Reflections on the Conference..... | 17 |
| Feedback and Recommendations | 17 |
| Gun Bilegt Mining Company and Darkhan khar morit coal site..... | 18 |
| Field trip to Sharyn Gol Gold Mine and Jonon Camp | 19 |
| MAIN REPORT..... | 20 |

| | |
|--|-----------|
| 7th September 2007 Welcome Cocktail Party | 21 |
| Day One 8th September 2007 | 22 |
| Opening ceremony | 23 |
| Welcome and Conference Overview and Objectives..... | 23 |
| Welcome from CASM Asia and introduction to the Prime Minister and other Government senior officials | 23 |
| Welcome speech – Prime Minister | 24 |
| Inaugural Statement – Ministry of Industry and Trade | 25 |
| Statement – the Mineral Resources and Petroleum Authority of Mongolia (MRPAM) | 26 |
| Statement – World Bank Country Manager | 27 |
| Statement – Swiss Agency for Development and Co-operation | 27 |
| Session 1: Keynote presentations | 29 |
| Update on CASM | 29 |
| ASM and Private Companies: Towards a More Sustainable Partnership between ASM and LSM | 30 |
| ASM and Private Companies | 31 |
| ASM and Government: the case of Nigeria | 32 |
| Getting ASM to work for Community Development | 33 |
| Session 2: ASM in Mongolia | 35 |
| Problems and potential – Government Perspective..... | 35 |
| Approaching sustainable ASM: experiences of SAM project | 36 |
| Voices of artisanal miners | 37 |
| Mr. Puruv Dhorj, Dhomor Province, fluorspar | 37 |
| L. Lkhagva, Tuv Province, gold | 37 |
| D. Uranchimeg, Salenge Province, gold miner | 38 |
| Namsrai, Darkhan Province, coal miner..... | 38 |
| Batbaatar, Bayankhongor province, Bumbergur Soum, gold miner | 38 |
| Taran, NGO representative | 39 |
| Discussion..... | 39 |
| Session 3: ASM in Asia | 41 |
| Asian ASM Overview..... | 41 |
| Coal Issues in the Philippines..... | 42 |
| Coal Issues in Vietnam..... | 43 |
| Coal Issues in China | 43 |
| Policy and Measures for Coal Development in China..... | 44 |
| Comments on the Previous Two Speakers | 45 |
| Discussion..... | 45 |
| MRPAM Dinner and Cultural Event | 46 |
| Day Two 9th September 2007 | 47 |
| Session 4: Thematic Keynote Presentations | 48 |
| Developing CASM's Approach to Gender | 49 |
| Environment and Technology..... | 50 |
| Breakout thematic session 1: CASM's Approach to Gender | 52 |
| Artisanal Mining and Gender: the case of Mongolia | 52 |
| Women in Small scale Quarrying in Uganda: Entebbe Women's Association's Support to Women in Stone Quarries in Sissa, Wakiso District | 52 |
| Mainstreaming Gender issues into Standard Zero for Fair Trade Artisanal Gold..... | 53 |
| Girls in Mining – Research findings from Ghana, Niger, Peru and Tanzania..... | 53 |
| Panel discussion | 54 |
| Part II – Breakout Groups..... | 54 |

| | |
|--|-----------|
| Breakout thematic session 2: Environment and Technology | 56 |
| Environmental Impact of Mining in Mongolia | 56 |
| Global Mercury Project Environmental and Health Assessments | 56 |
| Are the Philippines Heading for a Minamata Disaster due to ASM? | 57 |
| Improved Technologies for Small-scale Miners | 57 |
| Banka and Bore-Pile Drilling Techniques for Deep Sampling Gemstone Placer Deposits | 57 |
| Mercury Emission Reductions in Small-scale Gold Refining Facilities | 58 |
| Optimal Method of Mercury Extraction from Amalgamation | 58 |
| Observations on the presentations | 58 |
| Breakout thematic session 3: Institutional and Legal Frameworks | 60 |
| New Legislative Framework for ASM in Papua New Guinea | 60 |
| ASM and Legalisation Issues | 61 |
| Session 5: Plenary Thematic Keynote Presentations | 64 |
| Sustainable Development, Security and ASM | 64 |
| Fair Trade Minerals: Opportunities, Challenges and Finding a Way Forward for Sustainable ASM | 65 |
| Development Synergies between LSM and ASM | 67 |
| Break-Out Thematic Session 4: Sustainable Development, Security and ASM | 69 |
| Sustainable Development, Security and Artisanal and Small-Scale Mining | 69 |
| Introduction: Human Security and ASM | 69 |
| Conflict Gems: Mining, Marketing and Terror Funding | 70 |
| Mercury Awareness and Human Security of ASM in Mongolia | 70 |
| Lessons from Two Meetings for Luzon Cordillera, Philippines on ASM | 70 |
| Facilitating Dialogue Concerning Risk | 71 |
| Open Forum | 71 |
| Breakout Thematic Session 5: Fair Trade | 72 |
| Pilot Testing FT in Latin America | 72 |
| Challenges and Opportunities for Fair Trade in the Cotapata Mining Cooperative | 73 |
| Achieving Standard Zero in Papua New Guinea | 74 |
| Group Discussion | 76 |
| Developing Feasible Systems of Fair Trade for Gems and Gold | 76 |
| Ethics and Integrity in the Contemporary Market Place | 78 |
| Group Discussion | 80 |
| Breakout thematic session 6: Development Synergies between Large Scale Mining & ASM | 82 |
| Mongolian National Mining Association | 82 |
| Mongolbolgargeo LLC | 83 |
| Group Discussion | 84 |
| Day Three 10th September 2007 | 85 |
| Session 6: Report from Thematic Discussions | 86 |
| Legal and Institutional Framework for ASM | 86 |
| CASM's Approach to Gender | 86 |
| Development Synergies between ASM and LSM | 87 |
| Sustainable Development, Security and ASM | 88 |
| Fair Trade | 88 |
| Environment and Technology | 89 |
| Session 7: International Initiatives | 90 |
| Certified Trading Chains | 90 |
| Technical Cooperation Project: Policy Advice Mineral and Energy Resources | 91 |

| | |
|--|------------|
| The Global Mercury Project: Past and Future | 92 |
| International Labour Organisation | 93 |
| CommDev | 94 |
| Highlights from CASM Annual Report | 96 |
| CASM Africa..... | 97 |
| CASM Asia..... | 98 |
| CASM China | 99 |
| Reflections on the Conference | 101 |
| Feedback and Recommendations..... | 102 |
| Peter Appel, GEUS, Denmark..... | 102 |
| Women Government Employee, Mongolia..... | 103 |
| Participant from Tanzania | 103 |
| Participant from Ethiopia | 103 |
| Representative of PACT, Mongolia | 103 |
| Nellie Mutemeru, CASM Africa | 103 |
| Markus Wagner, BGR, Germany..... | 103 |
| Marilyn Engle, US EPA | 104 |
| Mongolian miner..... | 104 |
| Victor Kalesha, Miner, Zambia | 104 |
| Baguma Zachary, Geological Survey, Uganda..... | 104 |
| Mongolian ranger | 104 |
| Mihir Deb, India | 105 |
| Jose De Souza, Brazil..... | 105 |
| Robin Greyson, Eco-Minex International, Mongolia..... | 105 |
| Luvsanvandan Bold, Chairman of MRPAM | 105 |
| Manuel Reinoso, Chairman of AMASUC, Peru | 106 |
| Local Governor of Mongolian Province..... | 107 |
| Jon Hobbs, Chairman, CASM | 107 |
| Peter Appel, GEUS, Denmark..... | 107 |
| Satoshi Murao, CASM Asia..... | 107 |
| Mongolian woman | 108 |
| A J Gunson, University of British Columbia | 108 |
| Alicia Reyes, Philippines | 109 |
| Cristina Echavarría, Secretary General, ARM | 109 |
| Mongolian woman | 109 |
| Jon Hobbs..... | 109 |
| Further Recommendations Provided After the Conference..... | 109 |
| Stephen Metcalf, UNIDO Global Mercury Project and the University of British Columbia, Canada | 109 |
| Adriana Eftemie, the World Bank | 110 |
| Veronica Nyhan-Jones, CommDev, the World Bank and IFC | 110 |
| Jennifer Hinton, SMMRP, Uganda | 110 |
| Closing Ceremony..... | 110 |
| Evening entertainment..... | 111 |
| Days Four and Five | 112 |
| 11th- 12th September 2007 | 112 |
| Field Trip: Day One | 113 |
| Journey from Ulaanbaatar to Gun Bilegt | 113 |
| Gun Bilegt Mining Company..... | 114 |
| Secret History of the Mongols Tourist Camp | 117 |
| Journey to Darkhan khar morit Coal Mine | 117 |
| Darkhan khar morit Coal Mine..... | 118 |
| Miners' Summer Camp..... | 119 |
| Field Trip: Day Two | 122 |

| | |
|---|------------|
| Nomad Family Visit | 122 |
| Sharyn Gol Gold Mine | 123 |
| Drive to Jonon Camp..... | 126 |
| Jonon Camp..... | 127 |
| Jonon to Ulaanbaatar and beyond | 127 |
| Annex..... | 128 |
| Pre-Conference Workshops 7th September 2007 | 128 |
| Global Consultation Workshop on Fairtrade-Certified Artisanal Gold and Associated Silver and Platinum | 129 |
| Global Consultation Workshop on Fairtrade-Certified Artisanal Gold and Associated Silver and Platinum | 129 |
| Social Development Group | 129 |
| Economic Development Group..... | 129 |
| Labour Group..... | 130 |
| Environmental Development Group | 132 |
| Trading Group | 133 |
| Gold recovery without Hg! Developing knowledge, changing practice and winning back an unpolluted future! | 136 |
| A behaviour change communication approach to raising awareness about mercury poisoning | 136 |
| The ASM Sluice Program - Using Popandson Sluice Technology for ASM Fine Gold recovery | 137 |
| The EMI Toolkit for Total Elimination of Mercury using Cheap Gravitational and Chemical Alternatives | 137 |
| Presentation title: " Technical challenge of Mercury in Mongolia"..... | 138 |
| Reducing Mercury Consumption and Improving Livelihoods in Artisanal and Small Scale Gold Mining | 138 |
| Strategic Environmental Assessment (SEA) – Training for minerals policy development | 139 |
| Context and background | 139 |
| Objectives | 140 |
| Approach, methods and program | 140 |
| Expectations..... | 140 |
| Outcomes..... | 141 |
| Recommendations | 144 |
| The Participants | 146 |

Acronyms

| | |
|-------|---|
| AMP | Africa Mining Partnership |
| ARM | Association for Responsible Mining |
| ASM | Artisanal and small-scale mining/miners/mines |
| CASM | Communities and Small-scale Mining |
| CCOP | Coordinating Committee for Geoscience Programmes in East and Southeast Asia |
| CTC | Certified Trading Chains |
| DDI | Diamond Development Initiative |
| DRC | Democratic Republic of Congo |
| GMP | Global Mercury Project |
| GOPP | Goal-oriented Project Planning |
| GSJ | Geological Survey of Japan |
| ICMM | international Council on Mining and Metals |
| IFC | International Finance Corporation |
| ILO | International Labour Organisation |
| KPCS | Kimberly Process Certification Scheme |
| LSM | Large-scale mining |
| MRPAM | Mineral Resources and Petroleum Authority of Mongolia |
| PIXE | Proton inducing x-ray emissions |
| PNG | Papua New Guinea |
| SAM | Sustainable Artisanal Mining Project |
| SDC | Swiss Development Corporation |
| SMAG | Strategic Management Advisory Group |
| SSM | Small-scale mining |
| UN | United Nations |
| UNECA | United Nations Economic Commission for Africa |
| UNIDO | United Nations Industrial Development Organisation |

The Venue



The Mongolian Children's Palace, Ulaan Baatar
Source: http://gate1.pmis.gov.mn/child/index_en.htm

CASM's 7th Annual Conference was held in Ulaan Baatar, Mongolia. Participants stayed in the Bayongol Hotel, where most meals were served. The conference meetings took place in the Mongolian Children's Palace on Chingis Avenue.

Executive Summary

Day One 8th September 2007

Opening Ceremony

Welcome and Conference Overview and Objectives

Jon Hobbs, Chairman CASM and UK Department for International Development thanked the Prime Minister and his colleagues for their invitation to host and provide patronage for the 2007 event. He said CASM is a global organisation and network that deals with ASM policy and strategic issues, taking into account real issues facing artisanal and small-scale miners. He encouraged CASM Participants to make use of the impressive array of talent and expertise from around the world at the conference.

Welcome from CASM Asia and Introduction to the Prime Minister and other Government senior officials

Satoshi Murao, Strategic Management Advisory Group and Chairman of CASM-Asia, highlighted the importance of stakeholder partnership for sustainable development. In Mongolia ASM can contribute to the national economy and supplement large-scale mining if recovery is maximised and the capacity of local people is built. Mongolia is already a pioneer in translating this into action on the project level.

Welcome Speech - the Prime Minister of Mongolia

His Excellency, Prime Minister Miyegombo Enkhbold expressed appreciation to CASM for organizing the conference at a time of intensive development of the mining sector. He expected the conference to result in concrete approaches and strategies to address ASM. The Mongolian Government is considering an integrated approach to ASM, involving social, economic, ecological and technological elements with the aim to develop ASM into a formalized, responsible and ecologically-friendly sub-sector of the economy. ASM is key to rural development.

Inaugural Statement - the Minister of Trade and Industry

Tseren Davaadorj, Minister of Trade and Industry underlined that the Government has identified mining as a key sector for export-oriented production and development. With respect to the minerals sector, the government's aims until 2015 include:

- Renovating operating plants' technology;
- Building base metal processing plants, refining each metal and marketing domestically and abroad;
- Creating a more favourable legal environment to enable investment;
- Utilising deposits in harmony with regional and national development goals;
- Bringing engagement of foreign investors to a new level to achieve our national objectives; and
- Passing a law that aims to provide ASMs with social care services, to protect their rights, and to change lifestyles.

Statement - Chairman of the Mineral Resources and Petroleum Authority

Luvsanvandan Bold, Chairman of the Mineral Resources and Petroleum Authority of Mongolia (MRPAM) said the Mongolian Government is producing an ASM sub-sector development programme for the years 2007-15. As the implementing agency, MRPAM cooperates on this issue with local and international organisations. Over 70,000 people are engaged in ASM and it is important to provide incentives for this group to formalise in the mid to long term. To encourage responsible ASM, members of the Cabinet and Government have developed a draft law improving its legal and regulatory framework. The draft will be distributed in the government for approval.

Statement – World Bank Country Manager

Arshad Sayed said this conference is very important as an opportunity to discuss how government, civil society, international institutions and other actors can bring to Mongolia the kind of knowledge, learning and expertise that we've seen elsewhere. At the same time participants should think beyond existing frameworks.

Statement – Swiss Agency for Development and Co-operation

Markus Dubach said SDC runs the long term Sustainable Artisanal Mining (SAM) project. It is intended to alleviate poverty in the rural population through environmentally-friendly and sustainable management of natural resources. The project is implemented in cooperation with MRPAM. It started in 2005 and is now in its main phase, which will last until 2010. He also stated the SDC's objectives and strategy for Mongolia.

Session 1: Keynote Presentations

Update on CASM

Jon Hobbs, CASM Chairman and UK Department for International Development said CASM has attempted to get more involved in strategic issues in 2006/2007. On the international level the G8 resolved to support work on ASM through CASM and other organisations. CASM was also asked by the Kimberly Process Certification Scheme to help a working group produce a programme to enable the scheme to grow beyond policing. Nationally, CASM Global and CASM Africa were requested to facilitate a donor and stakeholder coordination meeting in Democratic Republic of Congo to address sources of conflict in the mining sector. In addition, task teams have been assigned to key themes raised at the Madagascar conference. These include the relationship between LSM and SSM, which has been developed into a fully-fledged partnership between CASM and the International Council on Mining and Metals (ICMM).

ASM and Private Companies: Towards a More Sustainable Partnership between ASM and LSM

Toni Aubynn, Goldfields Ghana and ICMM Chair of the Working Committee on SSM, said the ICMM has partnered with CASM to see that ASM gets the right support from the mining companies. Government has failed to be active in issues of definition of space for fear of being seen as protecting the private sector. He said, the nature of the relationship between LSM and SSM falls into four main types: "Legalistic"; "Live and let's live"; "Keep your distance, if not in my backyard"; "Leave and let's live". He introduced key principles to galvanise partnership between ASM and LSM.

ASM and Private Companies

Preshani Satyapal, from Anglo Gold Ashanti said ASM has a legitimate place in the economy and the mining sector. Anglo Gold Ashanti's ASM engagement strategy comprises 5 key points:

1. Trying to promote co-existence, and orderly, viable small-scale mining sectors in collaboration with communities and governments. Understanding the history, extent, and circumstances of ASM in particular areas.
2. Working with governments to change the regulatory environment so the company can promote the orderly development of ASM in a way that complements LSM.
3. Working with MINTEK to look at alternative technologies that ASM trust, as the dissemination of new technologies requires a lot of effort.
4. Trying to understand how artisanal mining is sustainable in regions with declining deposits. Understanding that ASM is viable; simultaneously trying to find alternative livelihoods.

5. Ensuring that security activities associated with ASM are carried out in accordance with listed standards.

ASM and Government: the case of Nigeria

Speaking on behalf of Mrs Nwachukwu, Permanent Secretary of Mines, Nigeria, Veronika Kohler said that in Nigeria impoverished communities drive widespread informal mining activities. ASM has been practiced for generations and now constitutes over 95% of mining activity. Government attempts to control ASM have failed in the past. Now, however, the sector is regarded as a tool to improve miners' livelihoods. An ASM department has been created in the Ministry. Baseline studies have been completed that provide better understanding and a basis for effective intervention in ASM. Many partners have been identified and ASM is being mainstreamed into national micro-finance institutions.

Getting ASM to work for Community Development

Halina Ward, Director, Business and Sustainable Development Programme, International Institute for Economic Development said the overarching challenge for mining and community development is a need for rebalances in two main areas:

- The public sector has emphasized the role of business in aiding community development, but has lagged behind itself;
- Forging integration between Corporate Social Responsibility and enterprise development and community development programmes.

ASM and community development could be a model entry point for achieving these rebalances. One must also define the goals of community development and of course community consultation is vital if the full benefits of mining are to be realised. This is best achieved through multi-stakeholder initiatives. Broadly there are two approaches to maximising community benefits from ASM:

- Dependent: ASM contributions to community development are viewed as dependent to links on LSM or donor initiatives – ASM is an object of community development initiatives;
- Independent: ASM businesses are viewed as community development actors in their own right and their capacity to deliver development is built.

The goal is ultimately to stimulate the independent contributions of ASM to community development.

Session 2: ASM in Mongolia

Problems and Potential – Government Perspective

Nyamtsere Batbayar, Chief ASM Division, MRPAM, said according to MRPAM statistics, in the first half of 2007 there were at least 65,600 ASM, rising to a total number of 100,000 during school/university holidays; with about 500,000 dependents. 88.3% of the ASM work on hard rock and placer gold mines. ASM accounts for 0.9% of GDP, 3.1% of industrial output and 6.2% of mining products. The Mongolian government has been paying continuing attention to ASM and is taking measures to set up a favourable legal and regulatory framework. MRPAM oversees geology, mining, cadastre and registration and the secretariat on ASM. The deputy minister for trade and industry chairs a national committee on ASM. While other actions are being considered to support small-scale miners and encourage them to formalise, capacity problems remain.

Approaching sustainable ASM: expertise of SAM project

Balganjav Khuldorj, SAM Project Manager, MRPAM / SDC, said that in order to integrate ASM into the mining sector, co-operation and partnership models must be

addressed and mechanisms must be viewed from local and central government perspectives. He said the development of ASM in Mongolia involves multiple stages and that sustainable small scale mining is already a reality. The SAM model, for example, which features long-term tripartite agreement between LSM, ASM and local government, has brought about positive results. A planned best practice model is the gold site explored by Gun Bilegt Company. He added that the formal endorsement of ASM would help organise miners; a favourable regulatory and legal framework must be developed, and existing worst practices eliminated. Responsibility and transparency on the part of the formal mining sector must also be strengthened.

Voices of artisanal miners

Five artisanal miners reported on ASM in different provinces in Mongolia. They were Mr. Puruv Dhorj, a fluor spar miner from Dhomor Province; L. Lkhagva, a gold miner from Tuv Province; D. Uranchimeg, a gold miner from Salenge Province; Namsrai, a coal miner from Darkhan Province; Bumbergour Soum, a gold miner from Bayankhongor province. They explained some of the difficulties facing the sector and their communities specifically. A common theme was the need for functioning regulation and formalization. They also emphasised their willingness to participate in reform programs and the implementation of safety standards, for example.

Taran, a local NGO representative added that since 1997 his NGO has established about 20-30 small ASM brigades and units. He called for a law by which miners will be officially and legally entitled to certain land. At present, every ASM miner is illegal because they use mercury and conduct blasting. No occupational safety practices are adopted. On the other hand miners are skilled at processing hard rock so he asked the government to include hard rock deposits as territories on which ASM can be allowed to work by law. He also requested local government to establish formal links between ASM and banking institutions from which both the economy and the miners would benefit.

Discussion

The discussion covered the themes of child labour, the recent confiscation of gold mills by the government, the possibility of a “Live and let’s live” approach to LSM – SSM cohabitation, mercury use, insufficient government attention to fluor spar mining and LSM security issues.

Session 3: ASM in Asia

Asian ASM Overview

Professor Mihir Deb, Director, School of Environmental Studies, University of Delhi said gold is the predominant commodity for ASM in most Asian countries, followed in importance by coal and tin respectively. There is a contrast between countries with illegal mining only, a mix of legal and illegal mining and mostly legal mining. Some of the main issues affecting ASM in Asia include environmental degradation, social problems, smuggling, inefficient and ineffective technologies; unsafe mining practices; lack of finance options for technology and equipment; and habitat loss. There are a number of initiatives already addressing these issues in Asia, however. Future directions for CASM Asia include:

- Reclamation and remediation of degraded lands and ecosystems.
- Legal provisions for ASM in all countries; mining rights policy for cultural minorities.
- Capacity building of small-scale miners.
- Baseline studies of health issues, in particular mercury and cyanide toxicity.
- Involvement of government agencies and NGOs in the ASM sector and donor assistance.
- The creation of a comprehensive ASM database.

Coal Issues in the Philippines

Alicia Reyes said the policy of the Filipino government recognises that small scale mining operations are socio-economic projects, easily accessible to the local community. One LSM coal operator supervises SSM, though an independent ASM operation would be possible if there were no LSM. 1,290 local workers are employed in 8 provinces under 43 permits for SSM coal operations. Coal production increased during the first few years of the law and subsequently due to an increased demand for coal. However, significant risks remain.

Coal Issues in Vietnam

Mr. Hong Thanh of the Government of Vietnam gave an overview of coal mining in Vietnam, before investigating the major issues relating to occupational health and safety, environment, and community health. In order to meet predicted increases in local demand, domestic coal production must also increase. For this to happen, the equipment and technology used in the mines must be improved, including safety technologies, and better management of environmental and community health issues is required. Water quality and the health of underground miners are key issues. Research into appropriate technologies, environmental impact assessments, emergency preparedness, and better supervision and inspection can contribute to managing these issues better as the industry expands.

Coal Issues in China

Zhang Yanying said coal is China's primary source of energy, coal plays an important role in economic development and transportation, providing income and employment and low-cost power. The Ministry of Land and Resources of China defines small-scale coalmines as those producing less than 30,000 tons per year. Environmental protection and work safety management have become the main focus of coal industry regulation. Compared with large scale coal mining, small scale mining enables people to increase their economic participation and skills. The general policy is largely addressing medium and large-scale mines; the government has not been able to deal effectively with problems in small-scale coalmines.

Policy and Measures for Coal Development in China

Wang Feng explained that in April 2006, the China National People's Congress put forward a charter to address some of the issues of small-scale coal mines. The Government is keen to bring order to the coal mining industry and has stopped approving new licences for coal mining sites, and aims to close down 14,000 small-scale coal mines in 2007. The government plans to privatise the coal mining industry and build up the planning area for large-scale coal enterprises, choosing 13 large-scale coal deposits for exploration. Furthermore, energy efficiency will be promoted in order to reduce environmental impact and coal consumption. Coal-fired plants will be technically updated and enterprises which reduce energy consumption will be rewarded money as an incentive. In terms of labour conditions, low wage standards will be established, and compensation for accident victims should be enhanced. Local governments will benefit from mineral royalties in order to encourage them to more actively manage their minerals.

The day concluded with a **Dinner and Cultural Event** hosted by MRPAM at the Bayongol Hotel.

Day Two 9th September 2007

Session 4: Thematic Keynote Presentations

Legal and Institutional Framework for ASM

Peter Nelson, Principal, Land Use Consultants, UK said when we look at legislative reform, we should examine the country in question in the context of what has already happened before worldwide. Talking about institutional and government reform requires an understanding of how laws and policies work from the national through to the regional and local levels. Challenges to institutional reform include the inclusion of ASM communities; improving understanding, data, mapped information and research on legislative structure; decentralising issues so laws operate in a way that is understood in local communities; providing training and market information to ASMs; access to finance for ASMs; addressing the right of ASM to be informed and consulted; ensuring sustainability through livelihoods diversification.

Developing CASM's Approach to Gender

Kuntala Lahiri-Dutt, Fellow, Resource Management in Asia Pacific Program, The Australian National University said gender empowerment is a way for CASM to expand its developmental impact and efficiency by building an approach to gender mainstreaming. She highlighted three perspectives on gender in ASM and said there are also three approaches to gender equality, which are the development case, the business case and the human rights case. Men and women's work in ASM is complementary, however, it is important to involve men in any work on gender mainstreaming because men are the gatekeepers.

Environment and Technology

Nellie Mutemeri, MINTEK, South Africa said Technology should be looked at not only from a mining perspective, but also from the perspective of the biophysical environment and socio-economic issues. Ways of considering technology for ASM include methods by which ASM can operate in ways that are safer, more environmentally friendly and more efficient. Technology is very important in terms of making sure things are done in a sustainable way, as well as in the mining value chain. Key issues are key stakeholders; technology development; technology transfer; sharing and learning; high level strategies and policy frameworks. However, there are also challenges of transparent technology transfer to ASM that include access to technology; knowledge about the existence of the technology; capacity to adopt technology; conducting technology transfer and research in a way that is democratic; and unintended consequences.

Breakout thematic session 1: CASM's Approach to Gender

Artisanal Mining and Gender: the case of Mongolia

P. Bolormaa, Mining & Education (M&E) officer, SAM project, Mongolia said there are general gender issues in Mongolia, but with regard to the ASM sector in particular. Women are a key element in ASM and play multiple roles. Government should adopt a gender sensitive approach.

Women in Small scale Quarrying in Uganda: Entebbe Women's Association's Support to Women in Stone Quarries in Sissa, Wakiso District

Margaret Tuhumwire, Director, Entebbe Women's Association, Uganda said the project is making considerable progress in achieving its three main objectives:

1. To promote livelihood diversification within mining communities through provision of alternative sources of income and training;

2. To reduce the occurrence of child labour and its implications within mining communities; and
3. To reclaim artisanal mining sites of sand mining and stone quarrying for other economically productive activities such as agriculture.

Mainstreaming Gender issues into Standard Zero for Fair Trade Artisanal Gold

Cristina Echavarría, Secretary General, Association for Responsible Mining said there is a gender dimension to the proposed Standard Zero for Fair Trade (FT) in artisanal gold. The standard has three main areas where the gender dimension is mainstreamed, which comprise

1. Economic Development Standards
2. Labour Development Standards
3. Environmental Development Standards

Girls in Mining – Research findings from Ghana, Niger, Peru and Tanzania

Martin Hahn, International Labour Organisation said girls in the small scale mining communities are forced to juggle their domestic tasks with other paid or unpaid work. Trapped between these twin pressures, girls are especially vulnerable. Development programs and efforts in small scale mining communities must pay attention to gender.

Panel discussion

Participants agreed that when addressing ASM issues this should be done in a gender-sensitive approach. The dual role of women in ASM as miners and also as housewives was emphasized. The role of NGOs in filling the gaps in providing services and capacity building to the ASM communities was also discussed. The panel discussion produced concrete recommendations to governments, community/civil society, private sector/LSM and Donors and IFIs, including CASM.

Breakout thematic session 2: Environment and Technology

Environmental Impact of Mining in Mongolia

Ms Ariunzul, State Specialised Inspection Agency of Mongolia said there are environmental impacts from the use of mercury and cyanide. Since the use of mercury and cyanide is banned, criminal cases will be brought against miners if they continue to use mercury. He added that in 2002 the ASM law was presented, but it still has not been adopted. The current law allows small companies and citizens to mine areas that are identified as unsuitable for large-scale mining development.

Global Mercury Project Environmental and Health Assessments

Aaron J Gunson, University of British Columbia, Canada said in the project's assessments, mercury traces were found in some elements in the food chain and in gold shops. Neurological problems were identified in exposed miners in all six countries. Recommendations are:

- Whole ore amalgamation is unacceptable;
- Amalgamate and burn in designated areas;
- Open burning increases mercury levels for miners and their families.
- Best practices can significantly reduce intoxication.

Are the Philippines Heading for a Minamata Disaster due to ASM?

Peter Appel, Geological Survey of Denmark (GEUS) described a training program in safe handling of mercury in the Philippines which focused on how to reduce or eliminate the release of mercury. The possible solution is smelting with borax. Borax is suitable for use with high grade concentrate. It is based on the principle that borax reduces the melting temperature of gold.

Improved Technologies for Small-scale Miners

Professor Bern Klein, University of British Columbia, Canada said ASM can learn from large-scale mining in gold processing and the eradication of bad practice. Recommended best practice includes ore testing, monitoring processes, using efficient technologies, pre-concentration, and tailing ponds and process water recycling. Recent trials in Ecuador on replacing mercury with cyanide in ball mills found a 95% recovery.

Banka and Bore-Pile Drilling Techniques for Deep Sampling Gemstone Placer Deposits

Ruay Limsuwan, gemstone exploration and mining consultant, Thailand described techniques for drilling through deep overburden in order to search for gemstones. Ruay's presentation was a good reminder that ASM involves many other minerals and challenges, not just gold and mercury.

Mercury Emission Reductions in Small-scale Gold Refining Facilities

Marilyn Engle, Office of International Affairs, Environmental Protection Agency, USA, said the EPA approach is to find a solution to fit the existing, established technologies. With respect to mercury emissions, the EPA has tested two low-cost filters that can easily be fitted with the existing exhaust hoods. Both designs were effective, recovering about 95% of the mercury vapour. The EPA is currently seeking partners to promote the use of this technology.

Optimal Method of Mercury Extraction from Amalgamation

Professor Ts. Ochir, University of Science and Technology, Mongolia said research commissioned by the Mongolian government looked at how to stop the loss of mercury from mills. The main findings are that it is best to run mills well under capacity to minimise mercury loss; mercury losses can be cut by up to 90% if miners are technologically disciplined.

Observations on the presentations

Some presenters showed new proposals for mercury free technologies, which widens the available portfolio, yet one solution does not fit all challenges. Compared to past years, we are seeing that technical research is now linked with concepts for implementation. It is more realistic to focus on promoting cleaner technology than arguing for a complete ban. The best guarantee of acceptance and implementation is to adapt technical solutions to the mindset of miners, rather than try to change the mindset of miners to fit the technical solutions. The main recommendation is to define and disseminate best practices. Above that, technicians still need to understand the socio-economic and cultural situation better, which means more interdisciplinary work is required to achieve the overall goal to improve livelihoods.

Breakout Thematic Session 3: Institutional and Legal Frameworks

This session involved six presentations followed by a group discussion. The presentations given were as follows:

- "Issues facing the Development of Legislation," Professor Mombali
- "Legalisation from the Small-scale Miners' Perspective: Experience from the Latin American Region," Manuel Reinoso Rivas, Head of Small-scale Miners Association (AMASUC), Peru
- "International Perspective," Peter Nelson, Land Use Policy, UK
- "New Legislative Framework for ASM in Papua New Guinea," Trevor Neale, Wau Ecology, Papua New Guinea
- "ASM and Legalisation Issues," Laura Barreto, Environmental Rights Specialist

New Legislative Framework for ASM in Papua New Guinea

Trevor Neale of Wau Ecology, Papua New Guinea, explained that indigenous land rights have been recognized since 1884, though the State owns the minerals. 97% of land is owned by indigenous people. Small-scale mining is well regulated as a consequence of a robust mining law and strong customary ownership rights to the land. The Mining Act has grown from a framework to regulate small scale mining to accommodate large scale mining, and is currently under review. SSM are also seeking more regulation. The Mining Tenements include exploration licences, alluvial mining leases, mining leases (tribute agreements), a lease for mining purposes and mining easements.

ASM and Legalisation Issues

Laura Barreto, Environmental Rights Specialist, provided a number of recommendations as to how to legislate and regulate ASM successfully. She listed a number of reasons why a new legal framework for ASM is necessary. She argued that a legal framework can be used effectively in different countries and she highlighted the main principles underlying a legalization process. She then developed general principles for the ASM regulatory framework, which related to mining titles and environmental licenses; legal entities; 'mining area'; technology; larger environmental issues; and specific taxation policy, as well as the banking system.

Session 5: Thematic Keynote Presentations

Sustainable Development, Security and ASM

Takeshi Ishihara, Ministry of Foreign Affairs Japan, Head of UN Trust Fund for Human Security introduced human security (HS) as a new but essential concept for sustainable development, saying it aims to protect people from threats to their rights, environment and dignity, thus protecting the vital core of human rights that enhance human freedoms. HS is composed of two key factors: protection and empowerment. There is a need to integrate state security issues and individuals' perspectives on these issues. The UN has organised multiple symposia to promote awareness and knowledge on HS. Japan's ODA Charter has changed to include the HS perspective.

Fair Trade Minerals: Opportunities, Challenges and Finding a Way Forward for Sustainable ASM

Estelle Levin, Minerals and Sustainability Consultant, UK said Fair Trade is one of several potential ethical branding opportunities for jewellery minerals based on the driver of conscientious consumption. Fair Trade is the optimal standard in mineral certification for helping stimulate local development in artisanal gold mining communities. Importantly, an array of minerals could feasibly be certified as Fair Trade. However, challenges remain, related to the stimulation of local development, sustainability of supply chains and conscientious consumers.

Development Synergies between LSM and ASM

On the interactions between LSM and ASM, Jeffrey Davidson, Principal Advisor, Community Relations, Rio Tinto, Australia said there is a need to understand how responses are a function of company policy as well as company size, and to assess available resources and investment. He introduced company initiatives to stabilise relationships and summarized positive and less positive statements from and about LSM / ASM at the conference and he defined the most pressing issues, which focus on legal issues and on governments' capacity/willingness to enforce the law.

Breakout Thematic Session 4: Sustainable Development, Security and ASM

Sustainable Development, Security and Artisanal and Small-Scale Mining

Takeshi Ishiwara, Head of Unit, UN Trust Fund for Human Security, Global Issues Cooperation Division, Ministry of Foreign Affairs of Japan said human security is a new but essential UN-backed concept for development that is about ensuring stakeholders co-operate around a certain activity, such as ASM. Human Security involves protection by the government and the international community, and the empowerment of individuals and local communities to enable them to address threats themselves.

Introduction: Human Security and ASM

Satoshi Murao, CCOP Coordinator and CASM Asia Chairman said human security should be introduced to ASM, as diverse ASM stakeholders are faced with varying hazards and risks. Those risks that are fundamental to human security are collectively understood as threats to life, livelihood and dignity. These risks should be managed, guided by the following principles:

1. Miners and local people are the centres of concern.
2. Emphasize education.
3. The community is the centre of deliberation.
4. Risk management is a generic methodology.
5. The local community should identify the risks, prioritize and plan the measures to address them.

Conflict Gems: Mining, Marketing and Terror Funding

Usman Ali, Pakistan and Ligia Machado said a portion of gems continues to fund wars, genocides and international terrorism. Statistics show that the Kimberly Process Certification Scheme (KPCS) is effective but should be extended to coloured stones. 95% of precious gemstones are mined through ASM; the geological survey of mines in conflict regions and an integrated approach in the identification and addressing of risks concerning conflict gems is therefore necessary.

Mercury Awareness and Human Security of ASM in Mongolia

Baatar Tumembayar, SAM Project, Mongolia said mercury use in gold processing is a problem in Mongolia. In response a Mercury Awareness Program was launched. Survey results show an improvement in the avoidance of bad practices, but much still has to be done.

Lessons from Two Meetings for Luzon Cordillera, Philippines on ASM

Victor Maglambayan, Exploration Manager, Philex Mining Corporation, Philippines referred to two multi-stakeholder meetings with ASM communities in 1999. The first studied the business practices of small-scale gold miners. It also served to educate the miners about government instruments that can assist them in improving their trade and welfare. The purpose of the second meeting was to communicate the results of the study to the ASM community. Understanding of the situation of artisanal and small-scale miners was gained in the meetings but much has to be done to sustain the relationship and implement solutions to ASM risks.

Facilitating Dialogue Concerning Risk

Professor Seiji Suzuki, Head, Department of Intercultural Studies, Tezukayama Gakuin University, Japan said a method is needed to bridge the gap between the experts and local people in understanding the risks involved in ASM. There is a need to look at the interests/perspectives of different stakeholders in the form of 'Crossroads Analysis'. This leads to the involvement of more parties to the project, minimization of unknown areas within the project boundary, integrated information, sharing of responsibility in the success/failure of the project and in the review and planning of measures. The solution may be maintenance or fine tuning of the current (ASM) method.

Open Forum

Main discussion points included risks and threats to life, livelihood and integrity in ASM. Risks and hazards are real in gold ASM in terms of mercury poisoning or contamination but risk assessment and management should extend to other commodities. Despite a rigorous study, local people who fear disruption of livelihoods may avoid acceptance of facts. Participatory methods may be the solution in view of shared responsibility. Collective and coordinated efforts can be done under the CASM.

Breakout Thematic Session 5: Fair Trade

Pilot Testing FT in Latin America

Cristina Echavarría, Secretary General, Association for Responsible Mining gave an overview of the objectives of ARM's Fair Trade certification of artisanal gold and associated metals, the criteria for selecting producer organisations and countries, the main activities planned, the toolkits which will be used to develop indicators and bring communities to compliance, and the geography and timeline for producing Fairtrade-certified artisanal gold.

Challenges and Opportunities for Fair Trade in the Cotapata Mining Cooperative

Daniel Lafuente, Cumbre del Sajama, Bolivia presented a brief overview of the ARM fair trade project his organisation was due to start in October with a group of miners in Bolivia's mining region of Cotapata. He specifically outlined a number of challenges facing the fair trade project in Cotapata.

Achieving Standard Zero in Papua New Guinea

Trevor Neale, Wau Ecology, Papua New Guinea said in PNG SSM is a rural employer and a great way of alleviating poverty, since most land is locally owned. PNG is achieving a lot and is in a position to establish a pilot project for Fair Trade gold. The principal challenge will be in having miners recognize that a collective organisation will deliver additional benefits and better prices. While the mining and SSM sectors in PNG are well regulated, challenges remain.

Developing Feasible Systems of Fair Trade for Gems and Gold

The presentation by Sally Dickinson DeLeon, of the University of Vermont investigated ethical supply chain policies. Reality is more complicated than simple supply chains. Coloured gem stones mostly come from SSM producers and supply chains can involve multiple, often small-scale stakeholders. The challenge of a Fair Trade model is how to foster partnerships so everyone can stay involved. Trigem Designs have been able to improve conditions for the cutters in their model, but challenges remain. There are lots of lessons to be taken from efforts to develop these types of standards in other commodities. The learning process approach has been empirically shown to be the thing that works the best; taking the time to develop something effective and then efficient and then move to expand. Coloured gems are easier to trace to the origin, if you do enough geological studies of the mines they come from. This is what Columbia Gem House does and this gives the retailers a lot of confidence that their process is working.

Ethics and Integrity in the Contemporary Market Place

Vivien Johnston, Fifi Bijoux, UK said the ethos behind Fifi Bijoux is to offer a designer brand with the luxury value of fair trade provenance of the raw materials, thus tapping into £25.8 billion pounds (2004) UK market. Fifi Bijoux uses gold, gems and diamonds sourced from socially and environmentally responsible mining programmes. Sourcing of raw materials was a challenge. With the help of ARM the

Fifi Bijoux supply chain has expanded to programmes around the world, sharing a commitment to fair trade and promoting a positive, ethical industry. Ethics combined with integrity are a tool for survival and sustainability in the contemporary market place.

Group Discussion

The group considered possible pilot sites for producing Fair Trade Artisanal Gold in Asia and Africa. The group agreed that there is not enough focus on industrial minerals within CASM, even though the potential for poverty reduction is large. There are opportunities to find synergies and synchronise efforts to certify industrial minerals. The group identified a number of activities by which CASM could advance the process for Fairtrade-certified gold, including identifying potential pilot mining organisations, fund scoping studies in Asia, identify countries that allow for individual export of gold through a competitive export market, and talk with Central banks where gold is exported centrally to determine how fair trade exports could be done. CASM could design a strategy for some type of 'ethical' certification of ASM industrial minerals.

Breakout Thematic Session 6: Development Synergies between Large Scale Mining and ASM

This session began with presentations on Mongolian companies' perspectives, followed by presentations from international stakeholders and a discussion on what development synergies can be created, possible approaches to achieving synergies, and practical actions for CASM and others to encourage good practice.

Mongolian National Mining Association

Ms. Sodontogos, Adviser to the President of the Mongolian National Mining Association said the MNMA - in its capacity as the formal representative of the private stakeholders in the minerals sector - has made efforts to address institutionalisation of ASM. In the absence of legal and regulatory framework, the relations between the LSM and ASM tend to become fractious. In response LSMs have tried to resolve conflicts amicably and sought to engage the ASM in their community development programmes. Yet, such efforts will not yield tangible improvements if the legal and regulatory matters remain unattended by the lawmakers and enforcers. We propose regulation; ASM organisation; building on best national and international practices of synergies between LSMs and ASMs. All efforts should run under the Mongolian Responsible Mining Initiative.

Mongolbolgargeo LLC

Mr. Battulga explained that Mongolbolgargeo is a placer gold mine with approximately 100 employees. It established an ASM cooperative in 2005 for family members of employees who did not have jobs, local poor people and students. The cooperative is governed by an agreement between the company and the ASM works. The company provides instruction in health and safety, security, medical services, and professional and technical advice. The cooperative sells their gold to the company on a daily basis. The ASM have the same working hours as employees. In 2007, there were 60-70 ASM 'employees', who typically each earned between \$250-450 per month. This cooperation leads to a more complete extraction of gold than would be provided for by 'industrial mining methods', improved incomes for otherwise impoverished families, and an increase in the ability of mine-workers' families to live together.

Group Discussion

The group discussed what they understood by 'development synergies between LSM and ASM' and outlined possible approaches to achieving synergies. Suggested

practical actions for CASM and other partners to achieve good practice are as follows:

- Clearer definitions of ASM required (in terms of scale, formality, and legality): some practical constraints to engagement.
- Review of existing mining codes and regulations to distil elements of best practice – with practical focus on enabling ASM.
- Identification of legal and contractual arrangements that are most supportive of achieving development synergies (e.g. reaching agreements between LSM, ASM and wider community).
- Capture best practices more systematically, as well as lessons from less positive case study experiences.
- Disputes are inevitable so there is a need for clearer guidance on dispute resolution mechanisms.
- Move beyond theory to practice: undertake practical joint initiatives at project level to road test how to make LSM-ASM relations work.

Day Three 10th September 2007

Session 6: Report from Thematic Discussions

Legal and Institutional Framework for ASM

Peter Nelson said principles for consideration brought up in the discussion led by Graeme Hancock included the importance of keeping things simple in recognition of the fact that ASM are generally uninformed and illiterate; ensuring links between the national and local administrations; making information locally accessible and transparent; and producing an equitable and culturally appropriate system. The group recommended that CASM, as a secretariat and/or a network, produce simple summaries to be distributed to government, possibly in the form of a guidebook, of how policies, laws and regulations interlink in different countries.

CASM's Approach to Gender

Adriana Eftemie revisited the structure of the sessions and said that numerous actions were identified for various stakeholders in the areas of learning, policy, participation and assistance. Recommendations relate specifically to how gender could be mainstreamed in ASM in relation to the sub-issues of: 1.) fair trade; 2.) health and safety, environment and technologies; 3.) the interface between LSM and ASM; and 4.) conflict resolution and security.

Development Synergies between ASM and LSM

Aidan Davy said the discussion focused on three things: what the group's understanding of development synergies was; possible approaches to achieving synergies; and practical actions for CASM and partners to encourage good practice. Practical actions suggested for CASM included the need for clear definitions of ASM in terms of scale, formality and legality as these effect some of the constraints faced by LSM in engaging with the ASM sector; review of existing mining codes and regulations; reflection on the form contractual relationships should take for achieving development synergies and including the wider community in these cooperation agreements; there needs to be more systematic capture and reporting of best practice; dispute resolution mechanisms must be developed; and practical joint actions at project level should be taken to road test current theory.

Sustainable Development, Security and ASM

Alicia Reyes said the session offered a possible methodology to materialise human security, i.e. risk management, and offered participants an instrument to do this. The

main points of the discussion were that risks to life, livelihood and integrity exist in ASM; risks from mercury poisoning are real in gold ASM but risk assessment and management should extend to other commodities; and that since local people sometimes do not accept the facts because of potential disruption of their livelihoods, participatory methods may be the solution. The session concluded that much needs to be done in the analysis of ASM practices, and that efforts can be co-ordinated under CASM.

Fair Trade

Estelle Levin said the objectives of the session were to contribute to ARM's Fair Trade process; to produce recommendations on how to tackle challenges related to building sustainable ASM communities through FT certification; and to consider what CASM's role should be in implementing these recommendations and in the FT movement generally. It was noted that CASM has supported Fair Trade initiatives at a number of events. The group then discussed potential pilot sites for FT gold in Asia and Africa; and how might a fair trade process be extended to other minerals. Recommendations included having the regional CASMs help identify potential pilot projects in Africa and Asia, especially in countries that allow the private export of gold; continuing to support ARM in conducting scoping studies; conducting desk research and scoping studies on the potential for FT in industrial minerals; conducting research downstream to assess the potential market for fair trade industrial minerals.

Environment and Technology

Steve Metcalf said general observations included that approaches are more realistic now; the use of mercury and cyanide is necessary and it is better to introduce best practices than to try to prohibit their use; the word 'gender' was never mentioned in the session and technological people need greater awareness here; new solutions for mercury-free technologies are needed as is more training; and it is better to adapt solutions to the mindset of the miners and not vice versa.

Session 7: International Initiatives

Certified Trading Chains

Markus Wagner, Federal Institute for Geosciences and Natural Resources (BGR), Germany said BGR focuses on the Great Lakes region of Central Africa. When Germany raised the mineral resources issue at the G8 meeting, what struck BGR most is that the original wording of the draft emphasised strong support at the G8 for attention on artisanal mining. There's a dual policy objective that BGR has adopted in its approach: poverty alleviation and fair access to raw materials worldwide. The Certified Trading Chains (CTC) concept is designed for industrial minerals. The chain is built of the producer, the customer, and an independent auditor who eventually needs to be qualified by some institution, be it private, civil society, or government. National government also plays a distinct role, and there may be a need for financial institutions and consultants to assist the producer. BGR is also developing a system for verifying proof of origin through analysing the radiometric age of the minerals, but it is very complicated and sophisticated. The CTC matrix for responsible use of mineral resources shows that certification and good governance go hand in hand. By 2009 Germany intends to integrate the CTC concept into its bilateral co-operation with the DR Congo. BGR has already identified champions, but there is a need to identify exchange with other initiatives.

Technical Cooperation Project: Policy Advice Mineral and Energy Resources

Gisa Roesen, BGR Political Scientist, Germany said BGR's main focus is on capacity-building measures to ensure efficient institutional structures and frameworks. The main thematic areas are groundwater management, geological environmental and resource conservation; management of geological risks; mining consultation and

mining environmental protection; and raw materials: energy, rocks/sands, metal. A new July 2007 project called 'Policy Advice Mineral and Energy Resources' addresses mining issues on an international policy level. BGR is implementing this for BMZ, the German Federal Ministry for Economic Cooperation and Development, and the project's objectives are based on the G8 chair's document.

The Global Mercury Project: Past and Future

Kevin Telmer, GEF/UNDP/UNIDO Global Mercury Project, University of Victoria, Canada said the GMP works in 6 countries and that it teaches, assesses and innovates best practices in technical know-how and governance (local to international) to assist small-scale miners in moving towards cleaner technologies, sustainable livelihoods and better health. A perspective that guides the project is that through bad practices miners frequently leave gold behind while polluting the world with mercury. If miners are taught how to get a little more gold while reducing mercury use, the change pays for itself. The GMP takes a two-phase approach to capacity building in technical know-how and governance and in GMP's forthcoming second phase it will build on lessons learned, developing an intervention strategy.

International Labour Organisation

Martin Hahn, International Labour Organisation provided an overview of the ILO's work on artisanal mining and child labour, saying in 1973 mining was identified as a hazardous industry for children. This was originally in the context of the formal economy, but is clearly relevant for ASM. ICMM and CASM are involved in trying to eliminate child labour in ASM in 15 selected target countries by 2015. ILO has been working in Mongolia for some time to make sure that Mongolia can successfully eliminate the worst forms of child labour by strengthening the enabling environment for national action and developing an integrated area-based intervention model. The ILO has provided comments on the law that is to be adopted in Mongolia on ASM. Mongolia should also consider ratifying the Safety and Health in Mines Convention No. 176. The ILO has also done a working paper on girls in mining, finding that project planning and implementation needs to take female participation in ASM into account.

CommDev

Veronica Nyhan Jones, Social Development Specialist, COMMDEV, International Finance Corporation and the World Bank said CommDev is the World Bank group's Oil, Gas and Mining Sustainable Community Development Fund. It is a \$12 million fund supporting information exchange. It has a global focus with emphasis on Africa. It supports tri-partite approaches, and was born of the Extractive Industries Review. She outlined features of effective community development and defined the key themes for CommDev as:

- Stakeholder engagement
- Participatory planning
- Local conflict management
- Local revenue management
- Capacity building for government, companies and communities
- Participatory monitoring and evaluation
- Communication and information sharing
- Artisanal and small-scale mining (with CASM)
- Gender

One project identifying alternatives for artisanal and small-scale miners is being implemented by PACT in DRC, with 6 other projects underway worldwide with 15 in development. CommDev is also developing learning products in partnership with other organisations. CommDev's clearing house will be launched in October 2007.

Session 8: Reports from CASM Global and Regional Networks

Highlights from CASM Annual Report

Dr. Gotthard Walser, CASM Secretariat, said CASM is a global partnership initiative to promote development in ASM and surrounding communities through a holistic approach. It is important to link ASM to development goals. CASM has a budget of around \$1m per year. It recently established a multi-donor trust fund so it can now organise grants for different projects. Thus far it has established over 40 partnerships worldwide. CASM thereby prioritises four issues: fair trade, gender, the Great Lakes region and LSM – ASM relations. In 2007 CASM has undertaken initiatives in LSM-ASM relations in the Great Lakes; gender; fair trade; advocacy, awareness-raising and partnerships; knowledge sharing; support to CASM regional networks; development project grants through the World Bank's Development Grant Facility; and improvement of CASM management and fundraising structure. CASM is now recognised as a leading initiative in the field of ASM and SSM and it was mentioned in the G8 declaration in June.

CASM Africa

On behalf of Linus Adie, Chairman of CASM Africa, Nellie Mutemeri elaborated on the launch of CASM Africa and said CASM Africa is now recognised by the Africa Mining Partnership (AMP), a link that has allowed it to participate or partner with the AMP on their projects because the AMP itself is not an implementing body. The Secretariat has been involved in a number in a number of events in 2007/8 and there have been a number of activities relating to strengthening the secretariat. CASM Africa is reviewing criteria and working with CASM Global to draft a new process for divestment to include a monitoring process. CASM Africa's plans for 2008 include:

- CASM-Africa Workshop in 2008
- Scoping study to establish interventions to implement
- Regional technology demonstrations
- Training collaboration: MINTEK, SEAMIC and SANTREN
- Strengthening the network: nodal points by region, website
- Website to be launched and fully operational

CASM Asia

Satoshi Muraio, SMAG, CCOP Coordinator and CASM Asia coordinator elaborated on the founding of CASM Asia, which includes 10 core countries and said two workshops were organised as CASM Asia activities, one on social and environmental issues and one on science and technology. In 2006 an ASM database was developed giving information at the national and mining site level. In October we will probably have one Asia-wide database on the website. CASM Asia has very good co-operation with some CASM Global projects and also some Mongolian geologists. We are very closely working with the SAM project as agreed in Madagascar. A further key activity for CASM Asia is environmental analysis support programme for CCOP and other regions. Other actions this year are:

- Train the trainer programme, Japan
- Japan Society for the Promotion of Science - environmental analysis and support programme.
- JSPS – Professor Suzuki's project.

CASM Asia has succeeded in getting funding and it will try to widen the network.

CASM China

Professor Lei Shen, Chinese Academy of Sciences, Chair CASM China, Institute of Geographic Sciences & Natural Resources Research (IGSNRR), Secretary General

in China Society of Natural Resources (CSNR) said CASM China has improved the development of SSM in China by way of two approaches: top-down and bottom up.

From the top downwards, CASM China has:

- Influenced central government decision-making. CASM China is responsible for drafting legal articles in the second revision of the mineral resources law.
- Carried out a national policy study for SSM for the Ministry of Land Resources. CASM China has organised a research group to finish this study, before sending this policy to the Ministry.
- Joined a national forum for strategic decisions concerning the central government's resource consolidation campaign.

From the bottom upwards, CASM China:

- Taught people how and why to use environmentally friendly methods;
- Shared international and domestic experiences and knowledge in the field of ASM; and
- Expanded its network.

CASM China now needs to find international partners. CASM China can do a lot of work, such as helping government identify priorities for SSM policy. CASM can also look for cooperation with some small scale mines, for example by investing in resources, technology, training, safety and the environment.

Session 9: Conclusions and Recommendations

Reflections on the Conference

Ed O'Keefe, Synergy Global Consulting, stated that the theme of the conference was partnerships. There is much scope and potential for partnerships in a variety of subject areas, even though building trusting relationships for initiatives to work takes time. Examples are the expansion of the role of government from policing to enabling for sustainable ASM, LSM partnering government to address ASM issues, supply chain partnership through initiatives such as Fair Trade, and climate change.

Other issues discussed are fundamental to human rights. A big theme has been that rights go hand in hand with responsibilities, which transcended the realms of security, technology, paying taxes, the working environment et cetera. Responsibilities include the development of an enabling legal framework to protect and report rights, as well as the sharing of technologies and train.

Other novel themes touched upon were access to credit and markets; inclusive consultation; accountancy and transparency.

Mongolia is in an interesting situation: Models of best practice are being developed and Mongolia has a huge opportunity to create an enabling environment for ASM through its legislative reform.

CASM already has a big role in promoting ASM on the international stage and it is starting to extend its linkages further to be able to tackle the emerging issues for ASM in the coming years.

Feedback and Recommendations

- The conference is important for networking and knowledge dissemination.
- Global CASM should continue to help the regional CASMs and governments with advocacy.
- An ASM database could be created to record and share information.

- CASM could build a stronger umbrella to support ASM initiatives that have common ground.
- The link between CASM and UNEP could be strengthened. UNIDO is perhaps taking the lead with a working group addressing ASM.
- Information from the conference should be disseminated to the grassroots. It is up to participants to take the knowledge home and disseminate it.
- CASM could translate some of the information into Mongolian
- CASM could publish short guides, for example on simple technology, and draft guide on policies, laws and regulations.
- In the future, a pre-conference briefing note could be distributed to international participants to explain some of the key issues and cultural background.
- CASM could promote environmentally friendly technologies and include more presentations on environmental education in future conferences.
- Mercury use should be reduced, eventually to the level of zero mercury.
- Alternative technologies should play in favour of the status quo of ASM.
- Stakeholders could continually share ASM formalization approaches and future conferences could focus on how miners become organized. Every year, CASM could set a few technical challenges to people to present, then compile them on the website and/or bring back technical sessions, perhaps as a pre-conference workshop.
- Strategic environmental assessment could replace the environmental impact assessment.
- The development of credit schemes for ASM could be supported.
- The gender implications of any interventions should be recognised.
- Stakeholders could support the FT initiative and participate in the development of SMART standards to benefit ASM.
- The concept of Human Security could be a reference for our consideration and actions in terms of ASM.
- The Mongolian government could appropriately support miners and provide support for the proliferation of more advanced technologies.
- During the field trips, CASM could arrange small, facilitated, interpreted focus group discussions to allow the CASM participants and the miners to really get to know each other and to share experiences and information.
- Any site we visit should have people at the conference.

Day Four, 11th September 2007

Gun Bilegt Mining Company and Darkhan khar morit coal site

Participants undertook a journey from Ulaanbaatar to Gun Bilegt Mining Company, enjoying the Mongolian countryside during the drive, whilst also learning about Mongolian customs and traditions. Gun Bilegt have had an exploration licence since 2004 and began to formally employ artisanal miners in 2006, with employed ex-ninjas involved in surveying, exploring, mining and processing of surface and underground gold deposits. Expert participants commented that the underground part of the mine was rather sophisticated for a typical small-scale mining operation. Participants learned about prayer rituals that exist in Mongolian artisanal mining communities. At the processing plant, basic health and safety regulations seem to be adhered to and a flotation system was used to separate the gold. Participants positively noted the comparatively high living standards in the mining camp.

The next site visited was the Darkhan khar morit coal site. Participants observed that the coal was very high quality coal. By law, the coal belongs to a private company who was given the license to the concession by government. However, artisanal miners are allowed to work on underground veins which would be uneconomical for the company to exploit mechanically.

The ASM are allowed to sell the coal on the local market, provided that it does not influence the market prices too much. They can pay up to 20% of the value of the coal they produce to the company in return for being allowed to mine on the company's concession. They do not pay royalties to government as their relationship is with the mining company, which in turn pays royalties to government.

In the evening the local governor welcomed the international participants and Mongolian miners who had come to learn of the Dharkan khar morit coal mine. Dr. Murao presented the results of a study, which found that the level of mercury contamination in people in the area is below the level regarded as unhealthy. Afterwards evening entertainment took place.

Day Five, 12th September 2007

Field trip to Sharyn Gol Gold Mine and Jonon Camp

The resident ASM are employed by Sharyn Gol company. They work for twelve hours a day, seven days a week because they are paid according to the number of hours worked. They work throughout the year, with conditions being particularly difficult in the cold winters. Health and safety standards were low compared with the visit to Gun Biligt's site the previous day, and processing is entirely artisanal. Miners use carpet to wash the concentrate. In terms of cost and portability, this is a reasonably easy and efficient method, and works for people mining on an individual basis, but the opinion of some participants observing this method was that they would recover a lot more from the concentrate if they were to use a sluice and a pump. Mercury was used to extract gold from the heavy mineral concentrate.

On the way to Jonon Camp participants stopped at a large-scale operation that was destined to become another model site. Participants surveyed the mine, speculating as to the processing systems that were being employed, and considering the geology of the deposit. There appeared to be four mines and three sluicing sites. No mercury or cyanide was being used to extract the gold. Where the mines were beginning to be closed, the company was apparently attempting to deal with environmental issues relating to closure. ASM are allowed to work on the fringes of the operation, but mechanised washing and concentration also takes place. From here participants drove on to Jonon Camp to take lunch and returned to Ulanbaatar.

Annex: Pre-Conference Workshops 7th September 2007

Pre-conference workshops were held on and made recommendations on the issues of Fairtrade-Certified Artisanal Gold and Associated Silver and Platinum; on Gold recovery without Hg! Developing knowledge, changing practice and winning back an unpolluted future!; and on Strategic Environmental Assessment (SEA) – Training for minerals policy development. Detailed recommendations can be found in the Annex.

MAIN REPORT

7th September 2007 Welcome Cocktail Party

Participants met in the main dining hall of the hotel to enjoy a buffet and drinks courtesy of CASM. The party offered an opportunity for people from different continents to meet each other and to unwind after literally days of travel. Old friends enjoyed seeing each other again, and the mood was informal and inviting. The hotel served a buffet of hot and cold seafood and meat platters and many of the participants had their first taste of Mongolia's most famous vodka: Chinggis Khan.

In the spirit of learning and relationship building, the cocktail party was an excellent beginning to the development of friendships and professional relationships.



Mongolian, Ugandan, and Zambian participants get to know each other

Day One

8th September 2007



CASM Chairman, Jon Hobbs, opens the conference

SUMMARY

The conference was addressed by dignitaries, whose opening statements set the tone for the importance of artisanal and small-scale mining as an economic activity in Mongolia. His Excellency, Prime Minister Miyegombo Enkhbold, inaugurated the conference. Keynote presentations were given on ASM and the private sector, ASM and government, and ASM and community development. Two further sessions on ASM in Asia and Mongolia followed, including statements from Mongolian artisanal miners and an NGO working with them. The day was rounded off with a welcome party at the Ulaanbaatar Hotel, sponsored by Boroo Gold and Centerra Gold, two mining companies operating in Mongolia.

Opening ceremony

Welcome and Conference Overview and Objectives

Jon Hobbs, Chairman CASM and UK Department for International Development

In coming to Mongolia CASM has really found its true home at last, because it is inherently a nomadic entity; it's very appropriate that CASM 2007 should pitch its tent, or ger, here where nomadism is such an important part of life. It's the first visit for many of our international visitors and is an exciting opportunity to learn about the geography, history, culture and society of Mongolia, and how natural resources generally and mineral resources in particular are being managed in this country.

CASM thanks the Prime Minister and his colleagues for their invitation to host and provide patronage for the 2007 event. Participants are encouraged to make use of the impressive array of talent and expertise from around the world being shared freely during the conference.

It's been a long journey involving many countries where we've worked on ASM issues to get to Mongolia. Last year Madagascar, before that Brazil, Sri Lanka, Ghana. We started it all in Ica in Peru. Recently Peru was hit by a devastating earthquake. The town of Ica was at the epicentre. Many people lost their lives and among them no doubt were many friends and experts whom we met at the conference. We remember them now and extend our sympathies to their families.

CASM is an organisation, a network around the world that deals with policy and strategic issues but also spans the whole story down to the work face and the practical and real issues that face artisanal and small-scale miners. I understand we have some artisanal miners here today; welcome in particular to all of you. You are now members of CASM, you are part of CASM. CASM is not us and them, it is an open organisation, encouraging everyone who has an interest in ASM to join us.

Welcome from CASM Asia and introduction to the Prime Minister and other Government senior officials

Satoshi Murao, Strategic Management Advisory Group and Chairman of CASM-Asia

Mongolia is a fatherland in terms of its resources, both human and natural – and especially minerals. The Mongolian government sees its extractive industry as a pillar for the economic development of the nation. In my view artisanal and small-scale mining (ASM) can contribute to the national economy and supplement large-scale mining by maximising recovery and building the capacity of local people.

As indicated in the title of this conference, partnership between stakeholders seems to be key for the sustainable development of Mongolia and other countries. However in order to achieve real sustainability, we should not forget the human dimension. Let us recall a report of the former UN Secretary General Mr Kofi Annan: we will not enjoy security without development, we will not enjoy development without security, and we will not enjoy either without respect for human rights.

Although it is a promising sub-sector, ASM still poses various hazards and risks to people. We need to introduce a new vision to address the negative facets of the sub-sector, and that new vision which comes to my mind is human security, which aims to protect people from critical and pervasive threats to their livelihoods and dignity. The essence of human security

is to protect all human lives in ways that enhance human freedom and fulfilment. It is clear that ASM should be handled in light of this new concept.

Mongolia is already a pioneer in this action because the UN trust fund for human security, funded by the Japanese government, supports a project entitled: 'Reducing socio-economic vulnerabilities of selected peri-urban and informal mining communities in Mongolia.' This project aims to improve the livelihoods and dignity of unregistered miners. I am now convinced of the success of this project because I have many Mongolian friends and I know their passion in good nation-building. I believe projects stressing the human dimension are already conducted in many countries. I hope in this conference we can correlate similar approaches, learn lessons, widen our vision, and find good partners.

Welcome speech – Prime Minister

His Excellency. Prime Minister Miyegombo Enkhbold

Your Excellency, Mr Jon Hobbs; distinguished guests, ladies and gentlemen,

On behalf of the Government of Mongolia, I would like to express a deep appreciation to CASM, to its Strategic Management team, for the decision to organize the 7th Annual international CASM Conference in Mongolia. I am delighted to give my welcome address to the participants of the annual conference of the CASM Initiative, which makes an important contribution to worldwide ASM development and is hosted here under the auspices of the Prime Minister of Mongolia.

We the Mongolians appreciate the organizing of this conference at a time of intensive development of the mining sector in our country, and expect that this conference, based as it is on accumulated experience and existing best practices, will come up with concrete approaches and strategies to address the complex issues of ASM.

The large scale mining industry in Mongolia has 90 years' history since its establishment, whereas small-scale mining has emerged in Mongolia recently and is being developed rapidly. Nevertheless, some small-scale miners use toxic chemicals such as mercury and cyanide, bringing serious damage and destruction to our ecology – human beings and domestic and wild animal and plant life.

Today, the small-scale mining sub-sector in the country faces the same problems as in other parts of the world. Recognizing the significant economic potential and positive social impact of artisanal mining in rural development, the Government of Mongolia has developed a law on artisanal mining which is being discussed in Parliament. Having deeply studied ASM issues, the Government is seriously considering an integrated approach, i.e. social, economic, ecological and technological issues. In other words, it is possible to develop artisanal mining into a formalized, responsible and sustainable ecologically friendly sub-sector of the economy and a key to rural development.

I believe that the CASM conference provides a great opportunity to all of us to discuss pressing ASM issues, to exchange experiences and best practices and to develop strategies to move towards responsible, integrated and sustainable artisanal mining. I am confident that the issues, for example environmental problems, human health, restriction and elimination of chemicals including mercury and cyanide and introduction of environmentally friendly technologies, will be at the center of your attention and discussions for finding the optimal solutions.

I am sure that the 7th CASM conference, 'Effective Partnership for Sustainable ASM', will address the ASM key challenges and make ASM a development motor.

I wish success to all participants in the CASM conference.

Inaugural Statement – Ministry of Industry and Trade

Tseren Davaadorj, Minister of Trade and Industry

The transition from a centrally-planned economy to a market-based one leads to new opportunities but also new issues for Mongolia. Some are so pressing that drastic and timely measures have to be taken. The issues relating to ASM include health, the economy and human security. The Government and Ministry will be directed towards addressing these issues, ensuring the right of life for miners, protection of the environment and sustainable development. We hope this conference will be a chance to share ideas with other countries with similar opportunities and challenges.

With a view to sustainable development, the Ministry is formulating two policy documents: State Policy in the Geology and Mining Sector, and Development Programme of the Mineral Resources Sector until 2015. These policies involve national security issues, mineral resources and reserves, pricing, social issues and artisanal mining issues.

The Government has identified mining as a key sector for export-oriented production. In recent years, contribution of the mining sector to the economy has been increasing, reaching 30% in GDP, 72% in gross industrial output, and 67.2% of exports in 2006. In the last decade, gold extraction has increased by 17 times, copper and molybdenum ores by 30.4%, production of fluorspar concentrates-by 14.6%. If in 1995, 4.8 million tonnes of coal was mined, in 2005, it increased to 8 million tonnes, thus fully meeting the domestic demand for coal with a certain amount left over for export. The country produces 7% of world demand for copper concentrates and 5% for molybdenum. It is projected that these numbers will increase in the future.

Our aims until 2015 include:

- Renovating the technology of operating plants – building copper smelting plants, increasing copper production, deprocessing molybdenum and iron deposits, concentrating uranium, and further exploring energy production and products from rare earth elements.
- Building base metal processing plants in the country, refining each metal and marketing domestically and abroad.
- Creating a more favourable legal environment to enable investment.
- Utilising deposits in harmony with regional and national development goals.
- Bringing engagement of foreign investors to a new level to achieve our national objectives.
- A draft law to regulate ASM is under discussion in the Parliament. This law aims to provide ASMs with social care services, protect their rights, and change lifestyles.

As a result of the measures taken by the Ministry, by 2015 a geological map of Mongolia at a scale of 1:200,000 will be developed. Geological mapping covering 40% of country at a scale of 1:50,000 will also be developed.

There is great potential to increase the export volume of steel and iron concentrates and to enlarge the domestic production of iron goods through technological renovation of plants and exploitation of mines. It will be a great contribution to the national economy if we can export coal to world standards, establish a processing plant as a result of copper and gold exploration, and resolve infrastructure issues.

According to researchers, by using the full capacity of the mines and increasing production of small and medium scale mines, GDP will increase by 2.5 times and export income by 3 times. Projections for 2015 indicate 8 – 10 times as much production as in 2006, copper 10 times, gold 3 times, iron ore or concentrate 40 times. Annual sales will reach USD 5 billion, so 5 times more compared to 2006.

The mining sector employs roughly 30,000 people and it is estimated that this number will triple. Those who are engaged in ASM are mostly working in derivative gold mines. Mongolia's population is less than 3 million and it is a vast territory with rich resources. There is scope to develop the agricultural sector, and mining will allow people to have sustainable jobs to meet their livelihood needs. Our systematic approach is to target the social issues of those already engaged in ASM by providing assistance in finding new employment. ASMs earn money and gain vocational skills that are positive but the negative effects are enormous. Those working informally cause large environmental damage through breach of animal and labour standards and pollution. Education on hazardous chemicals is imperative.

Distinguished delegates, Mongolia aims to be a producer and creator. We don't want children and women to work the dirt by hand. We want to provide them with the opportunity to make a decent living through decent work. It is not feasible to fully achieve this in a year or maybe a decade. But improving harmonisation among government organisations and increasing administration, on the one hand, and on the other learning lessons from other countries, are vitally important steps in solving these issues.

Statement – the Mineral Resources and Petroleum Authority of Mongolia (MRPAM)

Luvsanvandan Bold, Chairman

As the Prime Minister mentioned in his speech, the mining sector will celebrate its 80th anniversary this year. It accounts for 30% of GDP and 72% of total manufacturing products and is making a significant contribution to economic growth. Favourable external and internal conditions create a real opportunity for the Government to improve the livelihood of its citizens. However, this can happen only when resources are used effectively and efficiently and it's a challenging task to create a basis for sustainable development. Effective coordination of activities amongst international donors is essential to creating a favourable environment.

70% of usage of natural resources goes to the national revenue, 20% to the aimag, 10% to the soum.

Over 70,000 people are engaged in ASM. For development, we need to increase jobs. International experience has shown that prohibition and a top-down approach isn't the solution. It's important to provide incentives for ASMs to form companies and formalise in the mid to long term. To encourage responsible ASM, members of the Cabinet and Government have developed a draft law improving its legal and regulatory framework. The draft will be distributed in the government for approval.

The government is producing an ASM sub-sector development programme for the years 2007-15. As the implementing agency, MRPAM cooperates on this issue with local and international organisations. Today's event is an example of this.

Since 2005 MRPAM's specialised ASM division has been implementing sustainable projects in co-operation with the Swiss Development Corporation (SDC). The results of this will be seen at this conference and during our field trips. MRPAM will also co-operate with the World Bank on the institutional environment for the development of ASM.

Many other developing countries are dealing successfully with the challenges posed by ASM. Ownership and effective coordination are needed at all levels. I'd like to express my deep gratitude to our partners, the World Bank, SDC and CASM, for their support in organising this conference.

The issue of support for ASM is being discussed by the UN, which disseminates best practice theory to the general public, media and stakeholders. The Government expects that this conference will be an important step towards evaluating the ASM sector as it is currently and coordinating activities. We will learn from our experiences to come out with solutions, recommendations, new ideas and new solutions. Based on this conference's recommendations, we will be able to unite, consolidate thoughts and develop partnerships. If an effective partnership is in place, the complex issues of ASM can be successfully resolved.

Statement – World Bank Country Manager

Arshad Sayed

We all know that mining is playing an increasingly important role in Mongolia's economy. We know that it contributes roughly 30% to GDP, over 70% of exports, and over 20% of government revenues. And in Mongolia you often hear headlines focusing on the big investment agreements and therefore it's very nice to see everyone here. Especially, I would like to thank the government for having turned the focus onto the small-scale miners as well.

It is appropriate that we not only think of the large investment agreements where a lot of the attention is focused, but also on the lives, the safety and health concerns and the environment associated with ASM, which is actually a larger activity. The first step in that process is really about learning, dialogue, and engagement. This conference is very important as an opportunity to discuss how government, civil society, international institutions and other actors can bring to Mongolia the kind of knowledge, learning and expertise that we've seen elsewhere.

At the same time we should think a bit beyond our existing framework and set up. What is the relationship between the central and local governments? And how can we make sure the local level has the ability to take action and address some of these issues as they come up? It is indeed a good opportunity today, while the artisanal law is being discussed, to think through the legal framework, the policies that will go with it, the regulations that are needed to strengthen these laws and implement them, and the institutions and capacity that are needed for making all of this happen.

And there is going to be discussion as to why this activity is coming up. There could be several reasons: we know that people are poor and unemployed and that they seek the best source of opportunity they can in the closest place that they have. Are we actually able to make this process better for those involved as well as for the communities who are around them so that the harmful effects that come from not knowing what is good practice, the right technology, how to clean up, are addressed?

It is a privilege for the World Bank to host the CASM secretariat in Washington D.C. I want to express my deep gratitude to the government of Mongolia for taking this step and turning the spotlight on ASM so together over the next few days we can think through what are the best ways to combine efforts and support the government.

Statement – Swiss Agency for Development and Co-operation

Markus Dubach

The objectives of the Swiss Agency for Development and Co-operation (SDC) in Mongolia are:

- To contribute to improving and securing the livelihoods of herders and ex-herders in rural areas;
- To promote the sustainable use and rehabilitation of natural resources;
- To support ecologically-oriented social and economic development.

To reach these goals SDC contributes in the following three areas:

- Improving the legal framework and implementation capacities of management and monitoring of natural resources at the herders' as well as at the national level;
- Strengthening the herders' resilience to vulnerabilities in the livestock sector as well as to improve disaster preparedness and environmental stewardship;
- Increasing the income of herders and ex-herders in targeted areas based on improving productivity of their livestock and income diversification.

In 2001 SDC programs were gradually transformed from humanitarian aid programs into long term development cooperation programs. One of these long term programs is the Sustainable Artisanal Mining (SAM) project. It is intended to alleviate poverty in the rural population through environmentally friendly and sustainable management of natural resources. The project is implemented in cooperation with the Mineral Resources and Petroleum Authority of Mongolia. It started in 2005 and is now in its main phase, which will last until 2010. The annual budget is about USD 800,000.

In Mongolia there are many issues relevant to ASM that need to be solved, as in other countries, and your participation proves that this issue is not just a Mongolian issue. This conference provides a platform for exchanging information and experience to address and solve ASM issues. Arshad already mentioned most of them. The project's concrete results are the establishment of a separate ASM department at MRPAM as well as the organisation of this conference in Mongolia. I'm sure that the participants of this conference, including representatives of government, mining companies, research institutions and artisanal miners, will openly discuss and share comments on the key challenges ASM faces around the world.

You need a good shovel to dig for gold; wisdom is needed once gold has been found. With this Mongolian proverb, may this conference contribute to finding wisdom in knowing what to do with the gold that has been found, and to establishing a regulatory framework that is not just forbidding and drives artisanal miners into obscurity, and to learning from each other's best practice and experience.

Session 1: Keynote presentations

Update on CASM

Jon Hobbs, Chairman CASM, UK Department for International Development

CASM is an international global network of experts and grassroots workers focusing on the bottom of the mining sector pyramid. ASM constitutes the majority of people engaged in mining and is the sector with the most relevance to developmental issues.

ASM is not always a policing issue, but a developmental issue that requires an integrated and inter-disciplinary approach to solve problems and identify opportunities. It is of great importance in Mongolia, especially presently. CASM's efficiency as an organisation is based on three general principles:

- Harmony. Be it a large development agency or project working on specific issues within communities, every part of the network is working in the same direction and not competing unnecessarily.
- Attention to strategic issues. CASM's secretariat, based in Washington D.C., relies on the regional CASM network to put issues into force.
- Response to needs expressed at country level in developing countries. CASM does not impose ideology but listens to the priorities of developing countries and assuming a degree of consensus, aims to address these.

CASM has attempted to get more involved in strategic issues in 2006/2007. Those addressed include the following.

International

Three years ago the decision was made to increase high-level political advocacy to facilitate activities on the ground and present ASM as an opportunity instead of a threat. Recent achievements include:

- G8 Summit: the G8 resolved to support work on ASM through CASM and other organisations. Markus Wagner was instrumental in securing this commitment, which also entails responsibility for CASM to produce required outputs.
- Kimberly Process Certification Scheme, Belgium meeting: the KPCS has been very successful at removing illicit rough diamonds from the international trade but is by design a policing activity. CASM was asked by the KPCS to help a working group produce a programme to address this issue and a CASM consultant will duly report on this at the next Kimberley Process meeting in November.

National

- CASM and CASM Africa were requested to facilitate a donor and stakeholder coordination meeting in Democratic Republic of Congo. Despite its wealth of natural resources DRC has been characterised by a history of underdevelopment and conflict. CASM set in motion a new effort to address the source of much of that conflict, disputes between large-scale operators and the artisanal miners, who are mining where the large-scale want to mine. A further workshop is to take place in the copper/cobalt mining region in Katanga.

- Task teams have been assigned to key themes raised at the Madagascar conference. These include the relationship between LSM and SSM, which has been developed into a fully fledged partnership between CASM and the International Council on Mining and Metals (ICMM). Tony Aubynn is the chairman of the task team.

Thanks to the work of CASM and other organisations and institutions, ASM is now high profile. It is recognised as a developmental issue by more and more donor agencies and within the private sector. Even Hollywood has also started to show an interest in ASM through the film, Blood Diamond. Interesting times, interesting responsibilities.

ASM and Private Companies: Towards a More Sustainable Partnership between ASM and LSM

Toni Aubynn, Goldfields Ghana and Chair, Working Committee on SSM, ICMM

This presentation is not necessarily the official position of Goldfields Ghana and ICMM. Rather, it is a general and broad perspective on the relationship between LSM and SSM. The nature of this relationship falls into four main types:

- Legalistic. Often the approach of large scale mining corporations is based on legal issues concerning ownership of a concession.
- 'Live and let's live' or the Goldfields model. SSM groups work on LSM concessions but the portion of encroachment is so marginal that you don't need immediately to say 'leave'.
- 'Keep your distance if not in my back yard' – if an artisanal mining activity is not close to a large-scale mining operation they do not relate at all.
- 'Leave and let's live' – ASMs are asked to leave a concession acquired by an LSM.

The relationship between LSM and ASM is not altruistic but uncomfortable. One factor that has defined it is the failure of government to be active in issues of definition of space for fear of being seen as protecting the private sector against indigenous people who are also looking for employment.

'Live and let's live' has been a deliberate effort to engage and accommodate ASM in our concession over the past 10 years until this July. Then metal prices went up, the land became valuable and we had to ask people to leave.

One other challenge of the live and let's live relationship is the fact that most ASM operators tend to overstretch their luck; if there's a SSM using a bulldozer, the amount of ore that can be taken is quite high relative to what you thought.

We also realised that we became a victim of our own policy: our area was becoming a safe haven for small-scale miners being asked by government to leave large-scale miners' concessions. Being altruistic and adopting this accommodation approach has very serious challenges in terms of sustainability.

But ASMs are as important in the economy of Ghana and most developing countries as the LSM. In Ghana, an average of 1 million ounces of gold and 800,000 carats of diamonds have been produced in Ghana annually since 1990, with about 10% of the gold and 70% of diamonds being produced by ASM. In terms of employment ASM employs more people (200,000 to 16,000) and a greater proportion of women (about 30%). However, the objective of reducing poverty is shared by both LSM and ASM. LSM has contributed \$6 billion in foreign direct investment and \$1.5 billion in revenue to the Ghanaian economy since 1990.

Open pit mining is a recent development in Ghana, beginning in the 1980s, and there is also a need to address this new development as issues arise over law, territoriality and ownership.

Partnership between ASM and LSM should be galvanised. It should be a multi-stakeholder partnership involving government, the private sector, ASM organisations, development agencies and civil society.

LSM should move from being reactive to being proactive and there has been a gradual move in that direction over the last 5 years. This movement must follow these key principles:

- Recognise the brothers of ASM;
- Recognise that by creating positive relationships we enjoy mutual benefits, it's not only to the benefits of ASM but also LSM;
- View relations with ASM as strategic corporate social responsibility.

Five years ago and the Global Mining Initiative in Canada, little was said in terms of ICMM taking a role in ASM. In the last two or three years ICMM has taken the initiative and partnered with CASM to see that ASMs get the right support. I believe this will help us harness more benefits from ASM.

ASM and Private Companies

Preshani Satyapal, Anglo Gold Ashanti

ASM is an issue in almost every one of the countries in which Anglo Gold Ashanti operates. It's important to highlight the values of the company related to communities and the strategies we share with our competitors. Our major objective is to make sure that communities are better off for us having been there.

We want to form partnerships, we don't see community relations as separate to environmental management. We deal with many social issues including children working in mines, managing invasion of our pits and the 'live and let live' philosophy, dangerous working conditions and alternative technologies.

From our perspective ASM has a legitimate place in the economy and the mining sector. It's pivotal to the way we address our strategy. There are 5 key points:

1. Trying to promote co-existence, and orderly, viable small-scale mining sectors in collaboration with communities and governments. Understanding the history, extent, and circumstances of ASM in particular areas. The history in each area is quite different.
2. Working with governments to change the regulatory environment so we can promote the orderly development of ASM in a way that complements LSM. We want to look at environmental, health and safety issues and the proper marketing and distribution of the ASM product – an issue not often given enough attention.
3. Working with MINTEK to look at alternative technologies that ASM trust. Giving new technologies to people who are used to traditional methods requires a lot of effort.
4. Trying to understand how artisanal mining is sustainable in regions where deposits or resources are declining. Understanding that ASM is viable, but also trying to find alternative livelihoods at the same time.

5. Ensuring that security activities associated with ASM are carried out in accordance with listed standards, including the voluntary principles on human security and human rights.

In DRC our project is actually happening at the moment but a re-emergence of conflict has taken place. We are working in conflict zones and trying to run projects at the same time but the everyday reality on the ground is something we should never underestimate.

ASM and Government: the case of Nigeria

Mrs Nwachukwu, Permanent Secretary of Mines, Nigeria
(presented by Veronika Kohler)

ASM has been practiced in Nigeria for hundreds of years, from Before Christ to the present time. Nigeria as a mining nation mostly exploits columbite and is the 8th largest producer of tin. Mining and agriculture are the main sources of government revenue.

Due to the collapse of the mining industry late last century, the collapse of tin prices in the 1980s and neglect of the mining sector by the government and the military dictatorship, the economy has been dwindling and there's been increased poverty in communities. Widespread informal mining activities are driven by impoverished communities and now ASM constitutes over 95% of mining activity. The minerals mined include barite, gypsum, kaolin, feldspar, tin, columbite, gold, zinc and tanzanite. Gemstones are mined as well – beryls, amethysts, tourmalines and red garnets.

The consequences of ASM:

- Environmental devastation due to deforestation and land degradation due to exploitation;
- Conflict between communities, insecurity and crime;
- Poor productivity, poor mineral recovery, ineffective methods;
- Absence of a marketing mechanism with the value to reach the small-scale miners: lack of access or knowledge requires the miners to sell their minerals at whatever price is offered to them.

Attempts to control ASM have failed because of poor understanding of the sector and the 'big stick' approach. We view ASM to be a viable economic sector for mineral-rich developing countries. The absence of a policy framework or programmes contributes to a lack of control of ASM.

In Nigeria there is a new dawn. The country now views the sector as a tool to improve the livelihoods of small scale miners. Nigeria is focusing on these livelihoods, wealth creation, sustainable management of resources and meeting the MDGs, which focus on gender, environment, child labour, access to education.

An ASM department has been created in the Ministry. It is exercising general supervision of ASM activities, enforcing compliance on health and safety issues, providing information on ASM activities in the country, providing information and management for co-operative societies, and providing an institutional framework accessing ASM in the legal framework and national policy on ASM development.

Baseline studies have been completed in gold, barite, and gypsum regions using the sustainable livelihoods five assets pentagon: natural capital, human capital, financial capital, social capital and physical capital. These studies are providing better understanding and a basis for effective intervention in ASM.

Many partners have been identified and ASM is being mainstreamed into national micro-finance institutions.

Getting ASM to work for Community Development

Halina Ward, Director, Business and Sustainable Development Programme, International Institute for Economic Development

IIED is a research organisation which researches to make a difference. Relevant work includes the co-ordination of the Mining, Minerals and Sustainable Development (MMSD) Project 2000 – 2002; the Business and Sustainable Development research programme, and work on extractive industries in economies in transition.

The overarching challenge for mining and community development is a need for rebalance in two main areas:

- The public sector has emphasized the role of business in aiding community development, but has lagged behind itself;
- Forging integration between Corporate Social Responsibility and enterprise development and community development programmes.

ASM and community development could be a model entry point for achieving these rebalances.

I want to speak about some of the challenges for economies in transition – IIED has worked on EIT in Russia, Azerbaijan, Kazakhstan and Kosova, though not in Mongolia. Challenges for these economies in transition include issues relating to centralised decision-making, rapidly changing and development legal and policy environment, a lack of transparency and accountability and a need to promote good governance at all scales of government and society, big differences in capacity amongst the various actors, weak civil society, and nation building affects which social and environmental costs citizens are willing to bear. Mongolian participants can reflect on whether these insights work for Mongolia as well.

Consideration of community development begs the questions, what is 'community'? One must also define the goals of community development and of course community consultation is vital if the full benefits of mining are to be realised.

In Kosova IIED was sub-contracted to work on a World Bank project led by Riinvest Institute, Pristina, to develop a public policy framework on mining and community development. Within the draft framework are provisions for a mix of legal, policy and organisational change, outreach and catalysing of links and partnerships, community consultation guidelines, a community development framework and evaluation after two years.

The role of central government is to legislate, raise awareness, coordinate policy, and facilitate development. Community Liaison Officers work at the local level to assist Community Development Forums (CDF). They broker links between potential partners, raise community awareness of the Framework and Guidelines and advise companies and Municipalities on the steps they need to take to implement the Community Development Framework and Community Consultation Guidelines.

Municipal government's primary responsibility is ensuring that revenues are distributed and communities are consulted on budget spending plans. They also liaise with the CDF, provide information and assist in brokering partnership that can help to deliver development benefits, agree on arrangements for maintaining and handing over infrastructure and services provided by mining companies, plan for resettlement, and integrate the goals of the development plans into their own policy and governance processes.

Mining companies abide by laws and regulations, develop policies and approaches for contributing to development, including respecting affected communities and transferring technical and management skills to community members.

Non-governmental organisations can help implement the community development plan's projects. They help to build community capacity, provide knowledge, skills and ideas on potential initiatives and effective delivery mechanisms, and represent important interests within the community.

Community development framework themes being developed by IIED are also relevant for ASM, though the delivery mechanism and balance of roles and responsibilities will inevitably be different depending on country context and whether large or small scale actors are being considered. These themes are:

- Maximising local employment
- Maximising indirect economic benefits of mining; local enterprise development and diversification
- Provision of services and infrastructure
- Revenue sharing and distribution
- Funds and foundations (role of community foundations)
- Redundancy and re-employment
- Planning for mine closure
- Relocation and compensation

How might LSM and ASM be different when considering developing strategies?

- LSM – the goal is for the mining company to operate as part of the community, but underlying is the separation factor of a legal entity with commercial purpose;
- ASM – may be like LSM if the mine is formalised or may be viewed as an expression of the community – much depends on the nature of the ASM.

Broadly there are two approaches to maximising community benefits from ASM:

- Dependent: ASM contributions to community development are viewed as dependent to links on LSM or donor initiatives – ASM is an object of community development initiatives;
- Independent: ASM businesses are viewed as community development actors in their own right and their capacity to deliver development is built.

The goal is to maximise positive formation of human, social, financial and environmental capital at the local level through ASM and minimise the destruction of capital, ultimately getting to independent ASM contributions to community development.

Session 2: ASM in Mongolia

Problems and potential – Government Perspective

Nyamtseren Batbayar, Chief ASM Division, MRPAM

Mongolia is rich in mineral resources. Although the mining industry began in the 19th century, growth was secured during the socialist period when major mining plants were established.

Significant steps have been made to advance the mining sector. In 1991 a national programme on gold was launched. In 1994 a law on minerals was adopted and enforced. Mining is one of the most important sectors, but some companies are using outdated technologies and there is a rush for gold. Consequently mineral resources have been exploited in incomplete and wasteful ways and artisanal and small-scale miners have emerged. They have formed a special segment of society which has gradually been enlarged by unemployed and disadvantaged people.

According to MRPAM statistics, in the first half of 2007 there were at least 65,600 ASM. Also, schoolchildren, students and public servants engage in ASM during their vacations, which results in the total number of ASM rising to about 100,000, with about 500,000 dependents throughout the country.

88.3% of the ASM work on hard rock and placer gold mines. The remainder work on fluorspar, coal, coloured stones, tin, tungsten, mica etc.

According to statistics from 2006, ASM exploited 514.6 kg of gold, 34.4 tonnes of fluorspar, and 438,000 tonnes of coal. All in all this has resulted in 23.2 million US dollars, accounting for 0.9% of GDP, 3.1% of industrial output and 6.2% of mining products. These statistics would increase by 3 – 5 times if informal activities were included.

If ASM is fully formalised, income from taxes will increase and there will be more employment opportunities for local people. Grassroots training will contribute to local development and there will be more potential to exploit abandoned resources.

But aggravation of the present situation would lead to irreversible conditions through the irresponsible use of chemicals, resulting in conflict between stakeholders and disorder in ASM areas which would disrupt delivery of state services to communities. Smuggling of precious minerals and toxic materials would be further aggravated.

The Mongolian government has been paying continuing attention to ASM and is taking measures to set up a favourable legal and regulatory framework. Mongolia is part of EITI and a draft law on ASM is being prepared. MRPAM oversees geology, mining, cadastre and registration and the secretariat on ASM. A national committee on ASM is chaired by the deputy minister for trade and industry.

There are problems with such measures: frequent migration of small scale miners because of a shortage of areas in which they are able to work; debate over how ASM should be organised; lack of experience in how to implement appropriate ASM technology and operational safety codes; lack of special measures to neutralise and detoxify waste chemicals discharged into open areas.

To incentivise small scale miners the government believes they can potentially be granted entitlements such as sites with non-industrial resource reserves. These proposed actions are being considered to support small-scale miners and encourage them to formalise.

Approaching sustainable ASM: experiences of SAM project

Balganjav Khuldorj, SAM Project Manager, MRPAM / SDC

There are different interpretations of mineral resources development and the sustainable development concept as well as varying viewpoints on the definition of mining and formal ASM. By early 2000 the UN identified the major principles of sustainable development, which has defined traditional, local, organisational, ecological, climate change and educational dimensions. Mongolia has made significant progress in recent years in relation to these concepts.

Linkages between ASM and sustainable development include renewable metals and land restoration, and accountability and responsibility within mining operations for social problems. To integrate ASM into the mining sector, co-operation and partnership models must be addressed and mechanisms must be viewed from local and central government perspectives.

There are four stages in the development of ASM:

1. Process evolves as a social phenomenon;
2. Ninjas form units based on family, local government, neighbours or friends;
3. Co-operations established in stage 2 specialise in terms of area and minerals explored for;
4. Establishment of businesses with progressive technologies and permanent employment.

Mongolia has all four stages. Since 2005, stage 2 has been observed and in 2006 stage 3 was observed. In 2006-7 hard rock gold and coal ASM has reached stage 4.

In 1997 the first groups emerged, and numbers increased to an apex in 2004-5 of 100,000. Numbers can fluctuate according to season but our surveys indicate that at the moment there are about 65,000 engaged in ASM in Mongolia - 10% of Mongolia's economically active population.

ASM employs three times as many people as the formal sector in Mongolia and operates in 90% of the provinces. ASMs explore 8 types of mineral resource including semi-precious gem stones accessible only by ASM or SSM practices. As of 2005, ASM accounted for 10% of mining GDP and 5% of industrial GDP with a 40 billion Mongolian currency product yield.

Models that could be developed include the Darkhan coal site and the gold model. The latter shows the most effective form of partnership, featuring a long-term tripartite agreement between LSM, ASM and local government. Some 72 former ninjas have been employed and are now being trained in new skills. Environmental rehabilitation is practised at all sites and innovative occupational safety and technology regulations have been introduced. Products are being sorted according to quality indicators to meet the requirements of clients.

A second gold model is the hard rock deposit site explored by Gun Bilegt company. The ASM was established in 2006 and also employs ex-ninjas. Research and development is practised with the input of ASM members. Survey, exploration and processing is combined in one economic entity and constitutes a planned best practice model for Mongolia.

In conclusion, sustainable small scale mining is a reality. ASM's formal endorsement would eliminate existing issues entailed by disorganised ASM organisations. A favourable regulatory and legal framework must be developed and existing worst practices eliminated. It

has been widely reported that in Hongorson Province cyanide was used but no ASM has used cyanide so far – therefore responsibility and transparency on the part of the formal mining sector must also be strengthened.

Voices of artisanal miners

Mr. Puruv Dhorj, Dhomor Province, fluorspar

First of all, I would like to welcome you all today. I have come from Airag. I am an indigenous citizen of Dhomor province and we have rich endowments of fluorspar, which has been the main source of income and livelihood not only for the residents there but also for others in Mongolia.

The working conditions are of course very difficult. We dig with shovels and we first of all look for the dyke, look for the vein and then we start digging. The environment is very dry and very dusty. There are no safety standards pursued. We do not have any licences or permits to allow us to work freely on the ground because according to law, licences are now only provided to economic entities. This is likely to increase the number of ninjas.

We don't use toxic products but we illegally do blasting operations.

Our practices are very hard, very slow. 4 or 5 people have to work together, forming a small team. Incidents of injuries, deaths and negative health impacts do take place. We are working illegally as thieves on the licensed fields of other companies and we just rush in to the area, quickly dig out feldspar and run away. Therefore we do admit that we complicate the lives of people there. We need the creation of a legal and regulatory framework for feldspar producers. Partnerships and co-operatives must be established but to do that we need more information on how we could associate.

L. Lkhagva, Tuv Province, gold

I am a welder with 4 children and 3 grandchildren. Lately I joined the army of ninjas. The problem for those who dwell in the best agricultural zones is that product prices are very high. The government does not provide for any regulation or coordination to improve people's livelihoods and we suffer because of expensive export products. So to deal with the issue of pricing in our neighbourhood we're forced to enter ASM. We work on abandoned and mined out areas from 40-50 years ago.

We understand that the government is making efforts. We didn't know that they were taking care of us. Only that they limit our activities. So we're happy to know the government does care about us. They say they have a draft law. We don't want money from the government, we're just asking them to create a conducive environment for us where we can safely raise our children and maintain our livelihoods. We can't wait for regulations and laws.

Let's say there's a family of 5. Of these, 70-80% of the household is engaged in ASM. Since the mills have been closed by the authorities we have to go and dig with our bare hands. We've just learned there are technologies which restrict the use of mercury. I'm very happy to see this and to see the expertise. Just try to educate ninjas why mercury is bad. Tell us the best experiences.

Well I'm being quite emotional here because I haven't had much opportunity to speak in front of such a large auditorium. If the local government gets involved and provides permits then we're willing and interested to enter formal employment. What I really dream about is that I'm here representing all the will and dreams of all the armies of ninjas. In the past, the government has just restricted us. If the papers aren't lying I see that international, large companies provide benefits and offers to the ASM. I'm just asking and begging my government to ensure that ninjas can become sustainable in their own country.

D. Uranchimeg, Salenge Province, gold miner

Since 1998 some citizens of ours have been engaged in gold mining. Back then it was just a few individuals and it was difficult for us to encroach upon the fields of LSMs, the fields where we really resided. The money we made was only enough to make bread. But after 7 years, in 2005, we submitted a request to local government to ask the gold company to let us use some of the unused part of their licence.

We have an association for the unemployed. This has been taking the main initiative on safety and hygienic standards for ASM. They invited the rescue team of another district and they instructed us. We entered a brigade system comprised of family groups, each 15 – 20 people. I'm the chief of a brigade with 13 members. Entering more organised form enables us to consolidate and centralise our funds, creating a rotational fund to help us improve our livelihoods, for example buying vehicles, improving conditions.

Our province has the lowest record of poverty. This is thanks to our own efforts, will and commitment and our own responsibility for our lives and destinies. By expressing our will we were able to contribute to development in our province. I'd like to ask the government to put in place a regulatory setting. We're willing to pay the necessary taxes and premiums and not use mercury.

Namsrai, Darkhan Province, coal miner

First of all I'd like to join the others in greeting you all.

I'm representing Sharyn Gol Soum of Darkhan province. I work on the model site that was introduced to you. I am also like other ninjas; I have been depending on coal mining to support my livelihood. But by joining this model project I was able to improve my working and living conditions. I'm very grateful to this company which has helped us to improve our health conditions. We have also been covered by social insurance scheme. Labour and safety standards and instructions are always abided by me now. And I'm very happy that I now have permanent employment and permanent income. The quality of life of my family members is also improving.

We were able to develop a mutually beneficial cooperation both with the company and with the local government. We entered a labour contract with this company and the company also has a certain contract with the local government to support their efforts to maintain and attain higher employment.

Sharyn Gol coal mine was the main area where in the past we used to run in the fields. Now such threats to the company are not there any more. We are all enjoying peaceful coexistence.

Batbaatar, Bayankhongor province, Bumbugur Soum, gold miner

Good afternoon everyone. I'm a private ASM miner from Bayankhongor. Most of the citizens of Bayankhongor are engaged in ASM gold mining. We work on hard rock and placer deposits and in the newly dug areas, labour safety standards are not maintained. At the places where we work, children and elderly people might fall into the holes at any time so I think it's important for us to pursue certain safety standards and regulations. The mills are being taken away, which entails negative consequences, forcing ninjas to encroach upon areas close to water wells and to the permanent pastoral and settlement areas used by herders. Without regulation, such chaotic behaviour on the part of the ASM miners will not be eliminated.

The ASM miners would appreciate it very much if the areas where we can work are differentiated by local government from the areas where the local residents herd their cattle. I'd like to emphasise once again the necessity of knowledge and information on labour safety and standards, and regulations in this respect.

Taran, NGO representative

My goal of speaking in front of you is to emphasise one important message. We all know that this process began in 1997. I have been observing it since 2002. I could see that the situation of ASM miners is desperate so I approached the local government to undertake certain measures to improve their working and living conditions. We established a local NGO to support them. We've established about 20-30 small brigades and units organised on the work of ASM.

I do hope that the decision, recommendations, and lessons from this conference will greatly improve our practices. I'd like to invite you all, the scholars, researchers, practitioners, to visit us, to study us and you will see that we are the real artisanal miners. We need to have a law by which we will be officially and legally entitled to certain land. Every ASM miner is illegal because we use mercury and conduct blasting. And we are by nature migrant. No labour safety is maintained and no-one can be fully sure if he'll come back safely at the end of the working day.

The researchers, the academics, I can see that these people have really profoundly studied all the aspects of ASM. I would like to thank you. My colleagues work on hard rock deposits, but all the news and visits by ministers are being made to the placer deposits. We are skilled to process hard rock mines so ask them to include hard rock deposits as territories on which ASM can be allowed to work by law.

The gold produced could greatly contribute to the local government but in fact we sell it to retailers at whatever price they happen to cite. We request local government to establish formal links between ASM and banking institutions from which both we and the economy would benefit. All citizens from my place are migrating because we're illegal. Our equipment was confiscated, and our tools. And we are now formally banned from operating. The licensed entities are formally permitted by the government to mine yet in many instances they use mercury. In other words they are also engaged in illegal practices. So why not support the ASM who are not engaged in toxic adverse practices, but are only illegal because there is a lack of law and regulatory settings for ASM. We are also committed to rehabilitation work.

Discussion

Participants were given the opportunity to pose questions to the panel and small-scale miners.

Kato Vincent of the Ugandan Ministry for Energy and Mineral Development enquired of the miners whether children help during the mining. The miners responded that teenagers work at feldspar mines during their summer vacation.

Tracey Naughton of PACT Mongolia asked the MRPAM representative the Ministry's position on the mills which have been confiscated; what does the Ministry plan to do with them? The Ministry explained that in May and June the State Inspector required joint inspections into the illegal use of chemicals by artisanal and small scale miners. One hundred were confiscated. The government plans to destroy the mills, which had been used for washing gold with mercury.

A lady from Bayanhonkgor then enquired whether stone crushers would be allowed, given that the Ministry was going to ban the use of mercury. The Ministry's response was that the

development of a separate legal and regulatory framework for ASM is a priority, as currently ASM is illegal. They will not allow the use of mercury or cyanide to mine hard rock gold and, currently, there is no technology available in Mongolia to mine hard rock gold without these chemicals.

Baguma Zachary of the Ugandan Department of Geological Survey encouraged the government to enable Mongolian small-scale miners to settle in one place, and adopt the policy practiced in Ghana of “Live and let’s live”. He pointed out that ASM are Mongolians and mining is their livelihood and large companies are usually foreign. Co-habitation is essential.

Mr. Khuldorj of the SAM project agreed that artisanal miners are Mongolian natives and the country does not yet have foreign ASM. The Mongolian government is discussing the new law on ASM, which has yet to be approved, and so cannot yet say what the government’s position on LSM-ASM relations should be. However, in practice, Mongolian SSM and LSM are working together on the basis of cooperation agreements.

A woman miner requested that the government passes a law which prohibits the use of mercury, but which allows for other ASM technologies. So mercury would be banned, but ASM would not.

The MRPAM representative confirmed that it was the government’s intention to prohibit the use of mercury.

Peter Appel of GEUS then advised the Ministry and the ASM that making mercury illegal has not worked elsewhere. He gave the example of Tanzania, where mercury prohibition just produced an escalation in smuggling rather than preventing its use. He told of a project in the Philippines which is very efficient without the use of mercury. This technique uses borax, which is not toxic, and actually purifies the gold more than mercury does. This produced a round of applause.

Jose de Souza, a Brazilian doctor, spoke of the extent of ASM in the Brazilian Amazon and the absence of women in ASM there. He noted that about one fifth of the miners present were women and that some had stood up to speak. His questions was what kind of leadership brings about the presence of such a high amount of women.

Mr. Khuldorj of SAM responded that gender issues would be discussed the following day.

Robin Greyson, a consultant working in Mongolia, spoke of a recent trip to Zama. He asked the government to clarify and confirm that there is a military zone in Zama with police in large numbers controlled by a Russian mining company. He wanted confirmation that it is only possible to pass through the pass-point if you have a Russian passport; the Mongolians have to check in and out using paperwork. Furthermore, he wanted clarification on the issue of several hundred Mongolians local to Zama who had gone to prison for fourteen days, without trial or representation, and without “carrying a green bowl”, presumably meaning without having engaged in illegal ASM activities.

The Ministry did not have concrete information on the military / police base at Zuma. They recently did an inspection of environmental rehabilitation there, as well as model training, and did not see evidence of his allegations.

He then recommended that the government and SAM give more attention to fluor spar, which does not use mercury and for which there are lots of export opportunities. Tax can be easily collected at the point of export, because it is all exported by train. There are huge deposits in Mongolia. Some are ideal for big companies but many are only possible to mine by ASM. Congratulations to Mongolia for overtaking South Africa for becoming the 3rd biggest exporter of fluor spar, after Mexico and China. He also asked that the government and ASM confiscate

exploration licenses when companies are actually doing mining, and turn over these licences to ASM.

The Ministry confirmed that they would like to develop a model for artisanal mining of fluorspar.

The final contribution came from Mr. Ruay Limsuwan from Thailand. He pointed out that in gold mining, best practice in one place is not necessarily the same as best practice in another. Best practice depends on the mineralisation of the area. For example, one does not need mercury to pan alluvial gold. He gave advice on simple technologies that can be used instead of mercury, and recommended the use of a carbon activator as a way to extract gold in solution. He suggested they first assess the mineralisation and the geology, and then decide where to mine and what best practice for processing the ore would be.

Session 3: ASM in Asia

Asian ASM Overview

Professor Mihir Deb, Director, School of Environmental Studies, University of Delhi

Eleven countries are covered in this review: Mongolia, South Korea (no ASM in this country, only SSM), Vietnam, India, Laos, Thailand, Cambodia, Malaysia, Indonesia, Papua New Guinea and the Philippines.

Gold is the predominant commodity for ASM in most of the Asian countries, followed in importance by coal and tin respectively. There is a contrast between countries with illegal mining only, a mix of legal and illegal mining and mostly legal mining. Indonesia, Mongolia and India: mostly illegal mining. Cambodia, Laos, Vietnam, Malaysia, South Korea (SSM): mostly regulated. Papua New Guinea, Philippines and Thailand: mix of legal and illegal.

The main issues include:

- Environmental degradation: remote sensing data shows environmental damage caused to rivers and agricultural land, and deforestation.
- Mercury and cyanide pollution is a major threat to public health.
- Social problems include problems of drinking, gambling and prostitution; social unrest and violent conflict between ASM and LSM; anarchy and mafia-style relations within ASM networks; AIDS (particularly in Papua New Guinea); and impacts on indigenous peoples.
- Smuggling across the border of Nepal and Bangladesh where coal mining is prominent.
- Other issues include: inefficient and ineffective technologies; unsafe mining practices; lack of finance options for technology and equipment; habitat loss.

There are a number of initiatives happening to address these issues in Asia:

- Indonesia –local village cooperatives are given permits by the government; mercury hazard awareness program; UNIDO mercury project in Kalimantan and Sulawesi.
- Papua New Guinea – microfinance models (backed by World Bank); mercury awareness; improved mining techniques and gold production; donor assistance; conference on gender issues.
- Recommendations for India – clear cut distinctions between ASM and SSM; locate panchayat administration bodies to deal with ASM; review existing legal framework for mining in the country; develop a database of ASM sites in the country.

Future Directions for CASM-Asia include:

- Reclamation and remediation of degraded lands and ecosystems.
- Legal provisions for ASM in all countries; mining rights policy for cultural minorities.
- Capacity building of small-scale miners.
- Baseline study of health issues, in particular mercury and cyanide toxicity.
- Involvement of government agencies and NGOs in ASM sector and donor assistance.
- Comprehensive ASM database.

CASM-Asia now offers a web-based ASM information system with 4 access levels and printable reports at national and regional level.

Coal Issues in the Philippines

Alicia Reyes, Department of Energy, the Philippines

The policy of the Philippine government on small-scale coal mining was signed in 1987 and provides implementation guidelines and procedures. The programme recognises that small scale mining operations are socio-economic projects easily accessible to the local community.

Under its terms, a nearby LSM coal operator supervises the SSM though an independent operation is possible if there is no LSM. Large scale operators provide technological expertise and equipment for mining and may give financial backing. In return the SSM gives all coal produced to the LSM, which then sells it.

Application for permits is limited to residents of the host area, city, municipality or province. The maximum area is 5 hectares and the maximum coal reserve is 50,000 tonnes. The term of the permit is 5 years, and can be renewed for another 5 years. Large scale operations must comply with applicable safety rules and regulations. Permit-holders remit 3% of gross sales to the government as a royalty. The government verifies if the operation applying for a permit is indeed small-scale. The permit-holder has to fold up within 45 days if the deposit is found later to be large scale – this usually happens during an application for an extension.

Operators must meet the requirements of the Environmental Compliance Certificate, though in 2003 the Department of Energy argued successfully for a reduced requirement for the grant of the ECC so that small-scale operations need only provide the checklist and not undergo a full-blown assessment.

1,290 local workers are employed in 8 provinces under 43 permits for SSM coal operations. Coal production increased during the first few years of the law and subsequently due to an increased demand for coal. Small scale coal production in 2006 was 72,907 million tonnes translating to 2.82% of total domestic coal production and approximately USD 1.5 million in 2006.

Benefits of this scheme are

- Economic activity stimulated in host community - coal sale proceeds; mine workers' wages; loading/unloading contracts; hauling fees; small convenience stores;
- Employment generation;
- Increase in industry investments – industries research for a fuel source before setting up;
- Foreign exchange savings;
- Increased self-sufficiency of energy supply;
- Government royalties.

Issues/Risks are:

- Geological problems – the Philippines is situated in an island arc setting so the continuity of the coal seam is not regular.
- Limited access to technology and capital due to remote location of seams.
- Financial challenges – resources to run operation while waiting for payment is necessary, and provision of required safety technology (gas detector, pumps etc.) needs initial capital.
- Marketing – end users prefer to deal with a small number of people so small scale suppliers need to negotiate with traders, large scale suppliers and coal blenders.
- Despite regulation illegal coal mining still exists because of misinformation concerning resource rights.
- Safety violations related to financial constraints.

Small-scale coal mining requires capital so businesses are usually held by prominent locals and miners' wages provide only for a hand to mouth existence. In overall conclusion there is a need for government intervention to improve the safety of small-scale coal mining operations and discourage illegal mining.

Coal Issues in Vietnam

Lai Hong Thanh, Government of Vietnam

There are sixty-five coal mining sites in Vietnam. Most coal mining takes place in northern Vietnam. Mr. Thanh gave an overview of mineral reserves and the distribution of coal mines in the country. There are about 500 active mines and mining sites of thirty different solid minerals. Coal mining accounts for 5% of the number of mines. Total employment is about 150,000 people. Coal is found in 15 of the 19 provinces in Vietnam. 60% of coal is produced from open pit mines. There are five open pit mines. 75% of coal mined is for domestic use. Coal production has been increasing since the 1990s. In order to meet predicted increases in local demand, domestic coal production must also increase. For this to happen, the equipment and technology used in the mines must be improved, including safety technologies.

Mr. Thanh explored environmental issues, including pollution, which he said was likely to be a big problem in the future. Water quality is an issue, where people rely on rivers for their domestic water.

The health of coal miners, especially those mining underground, is poor. Community health is also impacted where the environment is adversely affected due to coal mining.

The use of appropriate technologies can be used to address some of the environmental issues, transport issues, and health and safety. Safety can be improved through training programmes, better supervision and inspection, and emergency preparedness. Research to select optimal technical solutions for safety problems should be conducted. Environmental impact assessments can also contribute to proper planning for mitigating negative environmental consequences. The use of EIA's has been approved by the authorities.

Coal Issues in China

Zhang Yanying, Deputy Director and Senior Researcher, Institute of Geographic Sciences and Natural Resources Research, Republic of China

China is highly dependent on coal for electricity generation but also for industrial and household use. Coal is widely distributed around the country. China is one of the world's

largest producers and consumers of coal. With economic growth at 10% in 2006, China is rapidly industrializing, and the need for coal is growing.

As China's primary source of energy, producing 70% of the country's energy, coal plays an important role in economic development and transportation, providing income and employment and low-cost power. Coal is indirectly responsible for almost everything necessary for China's way of life. Coal consumption has increased consistently since 2000. Coal consumption increased quickly in China, and the price of coal rose accordingly, stimulating investment in coal mining. Compared with other countries, China's coal industry still lags behind. As a result of economic policy adjustments by the government the coal price stabilized after a sharp increase from 2003 – 2004.

The Ministry of Land and Resources of China defines small-scale coal mines as those producing less than 30,000 tons per year. Large-scale mines are those producing over 900,000 tons per year. In 2005, the number of licensed coal companies exceeded 23,000. 1% of the total is LSM, 2% is MSM, 45% is SSM and the remaining 52% is ASM.

Since 2005 policies have been introduced into the coal industry. Environmental protection and work safety management have become the main focus of coal industry regulation. The coal industry is becoming more and more regulated.

Compared with large scale coal mining, small scale mining enables people to increase their economic participation and skills, and has played a large role in alleviating poverty. However, there has been a shortage of well-trained technicians and much of the coal mining has been unlicensed. Working conditions were dreadful and serious problems have occurred in the areas of safety, health, and environmental impact. The current policy and legislation in China have not been able to address these problems as they are oriented towards large- and medium-scale enterprises. The government has not been able to deal effectively with problems in small-scale coal mines. Shutting down the coal mines is not the best approach to deal with issues effectively. The government should adopt a series of policies to encourage small-scale coal miners to improve their performance.

Policy and Measures for Coal Development in China

Wang Feng, Research Center Consultant at the Ministry of Land and Resources, Republic of China

In April 2006, China National People's Congress put forward a charter to address some of the issues of small-scale coal mines. From 2007 to 2010, China plans to close down 14,000 small-scale coal mines to have the total number be 10,000, producing less than 30,000 tons/per year each.

The Government is keen to bring order to the coal mining industry. Since 2003 the Ministry of Land and Resources imposed stricter control over coal exploration and mining and have stopped approving new licences for coal mining sites. In October 2006, China announced that it would immediately stop approving the approval of new coal mines whose annual output would be less than 30,000 tons, with a view to closing down all small-scale coal mines in 2007. By 2011, the scale of coal mines must be no less than 150 or 300,000 in North China, no less than 90,000 in South China.

The government plans to privatise the coal mining industry. Prohibiting the transaction of coal resource property rights implies a multi-level contraction of coal mines. China aims to build up the planning area for large-scale coal enterprises, choosing 13 large-scale coal deposits for exploration. Coal mine security will be improved.

The government aims to close down enterprises which are high energy consumers in order to reduce environmental impact and coal consumption. Coal-fired plants will be technically

updated. Enterprises which reduce energy consumption will be rewarded money as an incentive.

Low wage standards will be established, and compensation for accident victims should be enhanced.

Local governments will benefit from mineral royalties in order to encourage them to more actively manage their minerals.

Comments on the Previous Two Speakers

Professor Shen Lei, Academy of Sciences, China. Head of CASM China

There are eight Chinese delegates at this year's conference. There is quite a lot of similarity and difference between Chinese small-scale mines and those of other countries. We share the same challenges in terms of workplace accidents and environmental damage. Last year there were more than 6,000 deaths in the mining industry. Of these, 4,800 were in the small-scale mines. There are about 4 million small-scale miners in China of which 120,000 are mining coal. Coal output by small-scale miners in north China is about 300,000 tons per year; in the South, it is 90,000 tons per year.

Discussion

What is the Chinese definition of small-scale mining? There is no clear definition, but our most recent report uses the scale of production and of the deposit as the basis for the definition.

Jon Hobbs observed that closing down artisanal small-scale mining to make more efficient large-scale production, may have positive benefits in terms of climate change. We cannot divorce our mining concerns from the life cycle and what actually happens at the end of the day. In relation to the Philippines, you mentioned that the EIA process will be reduced to a checklist of questions for SSM. In that checklist process, are there missed opportunities for making recommendations as to how to improve the health and safety and environmental situation at the ASM level? So rather than see it as a regulation of whether or not you can mine, but make it dependent on how you mine. Thirdly, It's easy enough to simplify the EIA for one ASM site, but most ASM sites are hundreds of people all mining and the cumulative impact of those can be very great and can exceed the impact of larger mines, in fact. When you're simplifying the EIA process for individual mining operations, there's still a need at the governmental level to keep an overview of the cumulative impact of all of those little operations and what that means for environmental and social impacts as well.

Ms. Reyes answered that in the Philippines each mine has to have an environmental compliance certificate by completing an environmental checklist. This identifies the probable environmental impacts in the area in terms of the possible land, soil, water, air, and forest impacts. On the checklist the applicant must inform us, through the checklist, of possible mitigations that they will be applying to address these impacts. On the note we have a coal mine rules and safety regulations for the large-scale operators. We are not applying all of the provision of these regulations to the SSM, but only the relevant ones and those which can be realistically applied. For health, that is one thing that we do not have any study on yet.

MRPAM Dinner and Cultural Event

Participants were invited to the Bayangol Hotel, where MRPAM hosted a glamorous dinner and cultural event. Participants gathered around circular tables or stood in clusters, discussing the day's lessons and enjoying the buffet meal, beer and Chinggis. The ballroom shone with lights and gilt, the occasional flash photography enhancing the brightness as participants took photos with old and new friends. The occasion became even grander when the entertainers appeared in their colourful and very beautiful traditional dress. There was group dancing, traditional throat singing, instrumental pieces, and a contortionist demonstrating the sophistication of Mongolia's Performing Arts. Some participants even couple-danced! It was a highly enjoyable evening.

At the end of the show, a few tired participants took the courtesy bus back to the hotel. The more daring, or perhaps those not suffering so much from jet lag, ventured into a local dance club, and experienced the less salubrious end of national culture. There were stories to be told the following day!



Participants enjoy the evening's entertainment. (Courtesy of J. Hinton, 2007)

Day Two

9th September 2007



C. Echavarría presents in the Fair Trade Thematic Breakout Group

SUMMARY

Day two took the form of two lots of plenary presentations followed by breakout groups, to allow exploration and discussion of the issues and the development of strategies where applicable. The morning keynotes and breakouts were on a legal and institutional framework for ASM, developing CASM's approach to gender, and environment and technology. The afternoon keynotes and breakouts were on sustainable development, security, and ASM; fair trade; and developing synergies between large-scale and artisanal / small-scale mining. In the evening selected ASM experts had a roundtable with the Government of Mongolia to provide feedback and advice on the Draft Mining Act and Regulations which were due to be debated at Parliament.

Session 4: Thematic Keynote Presentations

Legal and Institutional Framework for ASM

Peter Nelson, Principal, Land Use Consultants, UK

When we look at legislative reform we should examine the country in question in the context of what has already happened before worldwide. Issues to consider are political background (centralised vs. open market economies), national and international economic cycles, the legislative and policy framework, social cycles related to migration and seasonality, and critical shocks such as disease, conflict, boom and bust, which hit ASM in particular.

Talking about institutional and government reform requires an understanding of how laws and policies work from the national through to the regional and local levels.

At the national level, we have to consider the macroeconomic and fiscal policies under which ASM is operating. These have implications for foreign investment. Technology and expertise are both necessary for developing resources. It is important to consider how poverty reduction can be effected through national legislation. However, mining law and policy often regulates the large mining sector, at the exclusion of ASM, which is too often regarded as informal or illegal. Consideration of ASM and its particular needs should also be incorporated into the national mining law and policy.

The institutional framework must adequately meet the needs and objectives of each scale of governance. For institutional reform to be effective, national control must be decentralised to the regional, district and local level. However, the competence and structures in place at these levels are very different to those at the national level. At the district level, what becomes important are local skills and expertise, how people are organised in terms of their associations, and how issues such as gender, health and safety, environment translate from the legislative framework onto the ground.

There is no advantage in producing a minerals policy, which sits on a shelf and is not accessible to the people who are most directly affected. Proper consultation, mindful of literacy rates and working from the local to national levels, is vital. ASM should be informed of their rights and opportunities, and consulted. The next stage is direct empowerment and collaboration. The best solutions to conflicts can be worked out with dialogue.

We have to understand the roles of different organisations and institutions at all levels by conducting stakeholder analysis. ASM should be involved in legislation and regulation through public participation, conducted in a spirit of transparency and honesty between the groups.

We should conduct a strategic assessment of the total effect on the environment of mining practices. Linkages are important in understanding institutional reform. Community mining operations often affect rivers and the health of local communities. The effects of LSM are covered by environmental impact assessment. But put together, LSM and ASM have the capacity together to affect much larger areas.

Sustainable projects require legislative integration between environmental, social and economic concerns. ASM must be seen in a holistic context – a large number of ASM can have a major impact on all other areas of the economy.

Challenges to institutional reform include the inclusion of ASM communities; improving understanding, data, mapped information and research on legislative structure; decentralising issues so laws operate in a way that is understood in local communities; providing training and market information to ASMs; access to finance for ASMs; addressing

the right of ASM to be informed and consulted; ensuring sustainability through livelihoods diversification.

Developing CASM's Approach to Gender

Kuntala Lahiri-Dutt, Fellow, Resource Management in Asia Pacific Program, The Australian National University

Gender empowerment has been identified as the third Millennium Development Goal. It is also a way for CASM to expand its developmental impact by building an approach to gender mainstreaming.

Women from poor communities in most developing countries do not have practical control over or ownership of useful resources such as mineral-bearing lands. Women are not identified as miners, but as part of the 'community' as if it is a homogeneous entity. In LSM a gender approach can be institutionalised but the task at hand for ASM is much bigger. Institutions dealing with ASM often are not equipped for taking a gender approach.

The feminisation of global poverty: the gap of women and men caught in the cycle of poverty has been widening in the past decade. But there are signs this situation is changing. Hands-on research is being performed – one of my projects is in partnership with a mining company.

There are three perspectives on gender in ASM:

- Hinton et al: women's participation in ASM in Africa can be transformed into an empowering activity.
- Yakoleva: examining causes of women's participation in Ghana, gender mainstreaming in ASM is not a panacea to gender equality – training and education should be provided to women to create other economic opportunities.
- Lahiri-Dutt: based in South Asia, research shows women comprise 30-40% of ASM workers. Some developmental efforts may appear as gender neutral but can have unequal impacts on women and men.

The Global Gender Gap: the poorest countries have fared worst in eliminating the gap, and there is a correlation between poverty and low status. Women comprise 70% of the world's poor because of social, cultural and political variables.

There are three approaches to gender equality:

- The development case – the World Bank notes that gender equity is a core development issue and objective in its own right. It has become part of the core strategy for all development agencies supporting ASM.
- The business case – gender equity is also good for business, economic growth, and poverty reduction. Discrimination prevents women and men from reaching their potential.
- The human rights case – the Universal Declaration of Human Rights re rights of women and girl children.

In almost all societies, the needs and interests of women and men are not the same. Women workers want more secure jobs, safer working conditions and child care whereas men want better wages. In large mining projects, men want infrastructure while women want services.

Men too are subject to the norms of masculinity. Culture is a stumbling block; we talk about poverty across society but when you talk of gender equity it can be called cultural imperialism. However culture is always changing. It's very important to involve men in any work on gender mainstreaming because men are the gatekeepers.

Gender provides an opportunity to optimise efficiency in CASM's work. It is at the heart of Fair Trade, which in turn provides a route to achieving MDG3 on gender. Gender analysis should also be included in post-conflict reconstruction.

Indicators include the effect of mercury use on the health of women. It is mostly women who handle mercury in processing, so there should be opportunities for both women and men to participate in training. Women should be able to take up leadership roles after training and there should be no wage gap.

Sex disaggregated data is very important. Gender should be integrated throughout the project cycle and the evaluations of women workers themselves taken into account. Gender should be integrated into national ASM strategies.

Gender equity is not a zero-sum game where the power of women cannot be increased without taking power from men. Men and women's work in ASM is complementary. Men will not lose but will also gain.

Environment and Technology

Nellie Mutemeri, MINTEK, South Africa, Executive Director of CASM Africa

MINTEK is the secretariat of the regional CASM in Africa. Small-scale mining and beneficiation at MINTEK incorporates technology development, technology transfer, training and skills transfer and fundamental research on soft issues.

What is technology? People usually have the perception that technology is something you can hold, but sometimes it's something you can't touch. It's a process or a method. Technology can be viewed as inventions and implementations of advanced methodologies that promote safer, healthier and economic ways of achieving effective mining and processing.

What is the environment? In the thematic session, technology should be looked at not only from a mining perspective, but also from the perspective of the biophysical environment and socio-economic issues and how they relate to technology.

Ways of considering technology for ASM include:

- Methods by which ASM can operate in ways that are safer, more environmentally friendly and more efficient.
- The three legs of ASM: in each leg technology is very important in terms of making sure things are done in a sustainable way.
- The mining value chain: physical processes, related technologies and technologies around marketing. These have impacts on the social, economic and biophysical environment. Also relevant are issues cutting across the whole value chain, for example environmental, social, economic and issues related to health and safety.

Key issues are key stakeholders; technology development; technology transfer; sharing and learning; high level strategies and policy frameworks.

Are resources available to research the appropriate technologies? Do people act as advocates for promoting these technologies? It was clear from the discussions in Day 1 that there was a feeling in some communities that they didn't have the technology to mine without mercury. They learned here that this is not the case. Those at a high level must take a step to include technologies into strategies and policy frameworks.

Key stakeholders include the ASM as users and promoters of the technologies; communities impacted by mining and their input concerning mitigation and remediation; R&D institutions, who must be sensitive to needs of ASM; governments, which need to provide policy and regulatory frameworks to ensure linkages with objectives of government; and NGOs, who need to play a role in terms of advocacy.

Technologies should be applied directly into mineral processing and marketing but also in an indirect way, impacting in the fields of socio-economics and alternative sustainable livelihoods.

Integrated programs look at a) how technology can affect the whole value chain and b) sustainable livelihoods, incorporating an acknowledgement that mineral resources have a finite life. What can people do once the resource is gone?

Challenges of transparent technology transfer to ASM include access to technology; knowledge about the existence of the technology; capacity to adopt technology; conducting technology transfer and research in a way that is democratic; and unintended consequences. The last can include marginalisation of communities and impact on food security when agriculturalists divert their attention to ASM.

In conclusion, in the thematic session, the idea is to identify the key issues that one needs to look at in relation to technology and ASM, and hopefully come up with a prioritised action plan. All the presentations in this session focus more on the technical aspects than the environment. This perhaps reflects mainstream thinking about efficient processing, but the environment should also be considered.

Breakout thematic session 1: CASM's Approach to Gender¹

The Gender session was chaired by Adriana Eftemie. The session hosted about 30 participants, representatives of governments, private companies, international organisations and small scale miners. The session was organised in two parts. Part I focused on presentations of two country cases and two thematic approaches to gender and ASM, followed by a panel discussion; Part II consisted of breakout group discussions on identifying actions that different relevant stakeholders can take for gender mainstreaming in ASM.

Artisanal Mining and Gender: the case of Mongolia

P. Bolormaa, Mining & Education (M&E) officer, SAM project, Mongolia

The presentation started with an overview of gender issues in Mongolia. The legal framework regarding gender equality in Mongolia is well established and according to the Gross Domestic Income (GDI) there are not substantial disparities between men and women. However, women still earn an income equal to 2/3 of the income earned by men, working more in low-paid, low skilled jobs, for long hours and mainly in the informal sector. Private companies tend not to employ women because they have to offer more favourable welfare conditions to women than to men (day care arrangements, etc). Domestic violence against women is one of the main issues that affects women in Mongolia. Evidence also demonstrates low participation of women in policy and decision making and their limited authority.

With regard to the ASM sector, women play multiple roles, being directly involved in the mining activities (ore sack transportation, gold separation through panning, work inside deep 10-20 m holes, crushing/milling/slucing, mercury use, etc) and indirectly as housewives (food preparation, child care, health care, etc) or as business owners. They also play major roles in the informal mining as leaders of the group and conflict mediators.

The main recommendation of the presentation is that the government adopts a sensitive gender sensitive approach because women are of fundamental importance in terms of food and health security, critical to community stability, cohesiveness and morale and have demonstrated capacity to drive positive change.

Women in Small scale Quarrying in Uganda: Entebbe Women's Association's Support to Women in Stone Quarries in Sissa, Wakiso District

Margaret Tuhumwire, Director, Entebbe Women's Association, Uganda

The Entebbe Women's Association (EWA) project, funded by CASM, has three main objectives:

4. To promote livelihood diversification within mining communities through provision of alternative sources of income and training;
5. To reduce the occurrence of child labour and its implications within mining communities; and
6. To reclaim artisanal mining sites of sand mining and stone quarrying in Kigungu and Buzzi respectively for use for other economically productive activities such as agriculture.

¹ This is based on a summary provided by Adriana Eftemie.

The project has so far proven to be successful in helping women at three sites to diversify their livelihoods and get access to alternative sources of income, through the provision of training in small business management and livestock (piglets and chickens) to start small businesses. Four ASM communities have been trained on child labour policy and four Child Rights Support teams have been formed to track down child labour occurrences in the mines. Reclamation of the artisanal sites is in the advanced stages, through back-filling of sand pits and tree planting.

The presentation was very well received by the audience, especially by the women miners from Mongolia who saw an opportunity for them to find alternative sources for income generation.

Mainstreaming Gender issues into Standard Zero for Fair Trade Artisanal Gold

Cristina Echavarría, Secretary General, Association for Responsible Mining

The presentation focused on the gender dimension of the proposed Standard Zero for Fair Trade (FT) Artisanal gold, in order to achieve responsible ASM. One of the principles for responsible ASM stipulates that “gender equality in fair trade means that women’s work is properly valued and rewarded; women are always paid for their contribution to [the] production process, are empowered in their organisations and do not feel discriminated against by virtue of their gender.”

The standard has three main areas where gender dimension is mainstreamed:

4. Economic Development Standards: women have equal access to mineral resources and technological innovation.
5. Labour Development Standards: request for equal payment for similar tasks or function; proportional representation in decision making bodies; participation on equal terms in mining/processing work and management of the ASM producer organisation; support for pregnant women and mothers with infants to ensure safe work for themselves and their infants while mothers at work; equal access to safety equipment; a clear policy and process to deal with violence and sexual harassment at work; and recognition of rights of a widow/widower to occupy the position and prerogatives held by the deceased miner in the mine and organisation.
6. Environmental Development Standards: storage and management of toxic substances, such as mercury and cyanide should not take place in domestic residences.

Girls in Mining – Research findings from Ghana, Niger, Peru and Tanzania

Martin Hahn, International Labour Organisation

The research was carried out in 12 mining communities and processing zones, and, in order to get a broader perspective, over 400 girls and boys were interviewed, plus heads of households, community leaders and local authorities wherever possible.

In the context of small scale mining little was known of the roles and activities of girls and the effect that this have on their lives and livelihoods. The results of the research show that girls in the small scale mining communities are forced to juggle their domestic tasks with other paid or unpaid work. Often girls are performing just as hazardous tasks as boys, working

longer hours, with a great workload and at the same time they must maintain their traditional female responsibilities in the home. Trapped between these twin pressures, girls in the small scale mining communities are especially vulnerable as their schooling inevitably suffers and their physical and emotional well-being is undermined.

Development programs and efforts on behalf of workers and children's rights in small scale mining communities must pay attention to gender and the hazards and risks of this work on women and girls must be granted the same recognition as those of men and boys.

Panel discussion

Participants agreed that when addressing ASM issues this should be done in a gender-sensitive approach, so that both men and women would be in a better position to have access to economic opportunities. The dual role of women in ASM as miners and also as housewives was emphasized. One of the participants recommended that there is the need to find resources to help ASM communities to learn from each other and not look only at examples from developed countries. The role of NGOs in filling the gaps in providing services and capacity building to the ASM communities was also discussed.

Part II – Breakout Groups

In the part two of the session, four breakout groups were organised focusing on:

1. Fair trade
2. Health and safety, environment and technologies
3. The interface between Large Scale Mining (LSM) and ASM
4. Conflict resolution and security

The group discussions focused on responding to three key questions:

1. What is the role of women in that particular area and how are they impacted?
2. What are the challenges that women are facing in trying to mitigate the impacts?
3. What are the actions to overcome challenges and mitigate impacts that can be taken by:
 - Governments
 - Community/Civil society
 - Private sector/LSM
 - Donors and IFIs, including CASM

The discussions resulted in the identification of actions that each relevant stakeholder should take in ensuring that the ASM sector is developed in a responsible way and provides equal development opportunities to both women and men.

The actions identified by the participants were as follows:

Governments

1. Establish a gender sensitive ASM policy and regulatory framework including the rights of women ASM miners, access to technology, environment, health and safety.
2. Develop procedures to address gender related issues and risks; they should be in local languages, in a simple format and disseminated to ASM communities.
3. Recognize gender issues in ASM and increase awareness of relevant government officials at all levels.
4. Increase the participation of women in decision making in ASM strategy, policy and design.
5. Develop and implement direct intervention programs, e.g. training in environment & technology; access to finance, markets and information.

Community/Civil Society

1. Support women in leadership roles in ASM communities.
2. Help women to organise themselves and support women's groups/associations to influence government policy at various levels.
3. Build NGOs that do advocacy for women.
4. Support women's groups/associations in influencing community leaders through raising awareness on gender issues.
5. Facilitate access to and training for new innovations and safe technologies.
6. Facilitate networking and information sharing within the community and with other ASM communities.

Private Sector/LSM

1. Expand the definition of "community" for LSM to include ASM groups, where appropriate.
2. Ensure a more sophisticated social and gender analysis, which includes gender roles in wider society as well as ASM.
3. Acknowledge the existence of women in ASM and the potential they have to contribute to community development.
4. In relation with Fair Trade, promote:
 - the formation of women producer organisations, and
 - jewellery and other mineral commodities that benefit women in the developing world.
5. Promote women's role in conflict resolution between ASM and LSM and ensure that women are involved in leadership roles in ASM/LSM interactions.
6. Act as a role model (e.g. good working conditions and social protection programs).
7. Help women and men in ASM to find alternative livelihoods, as a family, through capacity building.
8. Through private sector foundations, directly contribute practical help (i.e. tools/equipment/donations where appropriate).

Donors and IFIs, including CASM

1. Formalize the establishment of the Gender Task/Working Group within CASM.
2. Take a holistic approach to ASM and advocate for gender mainstreaming in the ASM legal and regulatory framework and influence governments to act on this. There is a role for the regional CASMs in this.
3. Help strengthen the CASM network of ASM women's associations in various countries, through a regional approach.
4. Increase funding to build the capacity of women producers.
5. Enable the provision of microfinance to ASM families.
6. Flag gender as a critical issue to consider in ASM/LSM interactions and help understand the local context within which ASM/LSM interactions take place.
7. Support direct interventions such as:
 - building awareness on gender related issues through training for both men and women at all levels;
 - accumulating evidence on the role of women in conflict resolution, as instigators or mediators, and in household livelihood strategies; and
 - organising a global meeting of women miners, that would allow them to share experiences and develop networks.

Breakout thematic session 2: Environment and Technology²

The session was chaired by Felix Hruschka, Technisches Buero für Bergwesen, Austria

Environmental Impact of Mining in Mongolia

Ms Ariunzul, State Specialised Inspection Agency of Mongolia

Environmental impacts:

- Mongolia has 100 areas that are contaminated by mercury, but the government considers ASM use of mercury to be excessive.
- Cyanide and mercury are thought to enter the groundwater system and threaten deep underground water with contamination.
- The Gobi Desert is perceived to be threatened.

Regulatory framework:

- Mercury import and use is banned.
- Cyanide use by ASM is also banned.
- Last October the government ordered all inspectors to carry out inspections for ASM mercury and cyanide use, and to confiscate mills; criminal cases will be brought against miners if they continue to use mercury.
- In 2002 the ASM law was presented, but it still has not been adopted.
- The current law allows small companies and citizens to mine areas which are identified as not suitable for large-scale mining development.

Global Mercury Project Environmental and Health Assessments

A J Gunson, University of British Columbia, Canada

Environmental findings are as follows:

- Whole ore amalgamation is the biggest problem.
 - There are high levels of methyl mercury in fish in Indonesia, Zimbabwe and Brazil.
 - Cyanidation of whole ore amalgamation tailings leads to a tenfold increase of mercury in fish tissue. Cyanide appears to speed up methylation in mercury-rich tailings.
- Exposure in gold shops because retorted gold still has 2-5% of mercury per gram.
- In general, mercury levels in water and vegetables were low.

Neurological problems were identified in exposed miners in all six countries.

- High mercury levels in lungs and urine of miners in all countries;
- Low mercury in hair in Zimbabwe and Indonesia due to low consumption of fish in the mining areas;
- Measured mercury in expired air of miners is about 100 times that of a normal person.

Recommendations are:

- Whole ore amalgamation is unacceptable;
- Amalgamate and burn in designated areas;
- Open burning increases mercury levels for miners and their families.
- Best practices can significantly reduce intoxication.

² This is based on a summary provided by Stephen Metcalf.

Are the Philippines Heading for a Minamata Disaster due to ASM?

Peter Appel, Geological Survey of Denmark (GEUS)

Mr. Appel described a training program in safe handling of mercury in the Philippines which focused on how to reduce or eliminate the release of mercury. This programme included the introduction of retorts and teaching communities and health providers about the symptoms of mercury poisoning.

He observed that the use of mercury in rod mills causes the loss of 25 – 35 grams of mercury per one gram of gold recovered. Five tonnes of mercury are lost per year in the project area and 140 tonnes per year are lost in the Philippines at-large.

The possible solution is smelting with borax. Borax is suitable for use with high grade concentrate. This has been practised north of Manila for decades. It is based on the principle that borax reduces the melting temperature of gold. The concentrate has to be high grade, in so far as you need to be able to see the gold. This means that the panner must be good at his or her job! The concentrate is mixed with water and borax in a plastic bag. When the gold melts it forms round buttons, and the slag floats on top and slides to the side. The process takes only a few minutes.

Improved Technologies for Small-scale Miners

Professor Bern Klein, University of British Columbia, Canada

The questions to ask about technologies are:

- Is it the right equipment?
- Is it operating efficiently?
- What are the proper operating conditions?
- Can more gold be recovered?

ASM can learn from large-scale mining. LSM like simple processes, usually use a form of pre-concentration (e.g. a sluice), monitor and control processes more effectively, and design processes based on how the gold occurs, e.g. the size of the gold particles.

In addition, bad practices can be eliminated by borrowing the expertise of LSM. For example burning mercury in the open, amalgamating the whole ore, grinding with mercury (flour gold losses), cyanide leaching of mercury-contaminated ore, carbon burning, and discharge of waste into the environment.

Recommended best practice includes ore testing, monitoring processes, using efficient technologies such as zig-zag sluices and centrifuges, pre-concentration (better than whole ore amalgamation), and tailing ponds and process water recycling.

Recent trials in Ecuador on replacing mercury with cyanide in ball mills led to a 95% recovery and a simple method to strip the gold from the carbon was used.

ASM mining practice, mining safety and waste management need more attention.

Banka and Bore-Pile Drilling Techniques for Deep Sampling Gemstone Placer Deposits

Ruay Limsuwan, gemstone exploration and mining consultant, Thailand

Mr. Limsuwan described techniques for drilling through deep overburden in order to search for gemstones. He showed many examples of thick overburden at sites in Thailand and

Madagascar.

He also showed pictures of a Baka drilling method as well as a pile driving mechanism.

Ruay's presentation was a good reminder that ASM involves many other minerals and challenges, not just mercury and gold!

Mercury Emission Reductions in Small-scale Gold Refining Facilities

Marilyn Engle, Office of International Affairs, Environmental Protection Agency, USA

In Tapajos River region of Para State, doré containing 5-15% of mercury is burned in poorly designed and dilapidated hoods which are typically ventilated directly to the street.

The EPA approach is to find a solution to fit the existing, established technologies.

In the Tapajos, the EPA tested two low-cost filters that can easily be fitted between the existing exhaust hoods. Both designs were remarkably effective, recovering about 95% of the mercury vapour.

The first prototype used a pebble condenser bed that cost about USD1,000.

The revised prototype uses 200 litre fuel drum containing 4 layers of metal condenser baffles, and no pebbles. This costs less than USD500 and can be installed vertically or horizontally.

The EPA is currently seeking partners to promote the use of this technology.

Optimal Method of Mercury Extraction from Amalgamation

Professor Ts. Ochir, University of Science and Technology, Mongolia

Professor Ochir reported on a Mongolian government-commissioned and funded research programme which took place in 2003 to 2005. This programme looked at how to stop the loss of mercury from mills, by examining the effects of the mill's rotational speed, the depth of slurry in the mill, the quantity of water used, the temperature, and the quality of the mercury itself.

The findings are as follows:

- It is best to run mills well under capacity to minimise mercury loss
- Putting only two tonnes per day through a five tonne mill dramatically lowered the mercury loss.
- Mercury losses can be cut by up to 90% if the miners are technologically disciplined.

Observations on the presentations

Compared to past years, we are seeing that technical research is now linked with concepts for implementation. This means that approaches are more realistic as the former idealistic requirements have been abandoned. This is progressive.

The need to use mercury and cyanide is recognised by the international presenters. It is more realistic to focus on promoting cleaner technology than arguing for a complete ban. The recommendations would therefore be to never try to prohibit mercury that it is best to define and disseminate best practices.

The word “gender” was not mentioned. Technicians still need to understand the socio-economic and cultural situation better. More interdisciplinary work is required. Technical advances are only part of the goal, as the overall goal is to improve livelihoods. So there is a need to focus both on the whole production process as well as on all stakeholders, taking into consideration gender issues, when dealing with new technologies.

New technologies need to bring economic advantages to be accepted by artisanal and small-scale miners. Win-win options promote sustainable development.

Presenters showed new proposals for mercury free technologies. This development is important because trainers need to have a portfolio of technologies; one solution does not fit all challenges.

The best guarantee of acceptance and implementation is to adapt technical solutions to the mindset of miners, rather than try to change the mindset of miners to fit the technical solutions.

Breakout thematic session 3: Institutional and Legal Frameworks

This session was chaired by Graeme Hancock of the World Bank and involved presentations, followed by a group discussion. Two of the presentations follow.

The presentations given were as follows:

- “Issues facing the Development of Legislation,” Professor Mombali
- “Legalisation from the Small-scale Miners’ Perspective: Experience from the Latin American Region,” Manuel Reinoso Rivas, Head of Small-scale Miners Association (AMASUC), Peru
- “International Perspective,” Peter Nelson, Land Use Policy, UK
- “New Legislative Framework for ASM in Papua New Guinea,” Trevor Neale, Wau Ecology, Papua New Guinea
- “ASM and Legalisation Issues,” Laura Barreto, Environmental Rights Specialist

New Legislative Framework for ASM in Papua New Guinea

Trevor Neale, Wau Ecology, Papua New Guinea

There are an estimated 50,000 ASM countrywide. Between them, they produce 4.5 tonnes of gold each year, equivalent to Kina 180 million (US\$60 million). The average annual income of a miner is K4600 (US\$1080), compared to an average national income of K994 (\$300). Mining improves people’s income and economically reduces poverty, therefore. Approximately 400,000 people benefit from ASM, given the national average family size of eight.

Indigenous land rights have been recognized since 1884, but the State owns the minerals. Today, 97% of the land is owned by indigenous people, with the Government owning the balance. In this way, Papua New Guinea is unique. It is also unique in so far as small-scale mining is well regulated as a consequence of a robust mining law and strong customary ownership rights to the land.

The Mining Act has grown from a framework to regulate small scale mining to accommodate large scale mining, and is currently under review. SSM are also seeking more regulation.

In Papua New Guinea, the Mining Tenements include exploration licences, alluvial mining leases, mining leases (tribute agreements), and other support leases, namely, a lease for mining purposes and mining easements.

Exploration leases can be any size up to 2,500km². The holder has the first right to apply for a mining tenement. Landowners are consulted prior to the lease being granted. There are technical and financial conditions. It is granted for two years or five years, and the maximum term is 15 years.

Indigenous rights mean that indigenous people have the right to mine their own land, provided it is non-mechanised extraction of alluvial gold only. However, if the mining is mechanized, an Alluvial Mining Lease (AML) is required. This can be up to five hectares and a landowner can amalgamate up to five AMLs. Other landowners have to be consulted prior to the granting of the lease, which lasts for five years. The conditions attached to an AML are limited.

A mining lease is for hardrock mining only, up to a 60km² area. It can cover any size: small, medium or large-scale. The lease is granted for the life of the mine. There is an extensive

consultation process prior to the lease being granted, involving all stakeholders, namely the State (National, Provincial, Local) Company, Landowners, and impacted communities.

The community gets a Community Benefit Package in the form of a 2% government royalty which goes towards infrastructure, health, education, and a Future Generations Trust. The company generates employment and conducts community projects; its presence also induces spin-off businesses. Development projects are selected by the communities. There is a compensation agreement set up with Mining Lease landowners.

In a Tribute Agreement the lease-holder reaches agreement with a miner or contractor to mine on the lease for a percentage of the gold (normally 15%). This arrangement is registered under the Mining Act and benefits both the leaseholder and the contract miner.

Mine closure is planned for when mining begins and the plan is regularly reviewed. The plan begins to be implemented five years prior to closure. The aim is to achieve community security after the mine. Projects that are implemented during the life of the mine must be sustainable after closure. The community has reporting obligations in this respect. Photographs of Misima mine, which has been reforested, were shown.

The relationships between Tenements are as follows:

- Prior existing Alluvial Mining Leases or Mining Leases are excluded from Exploration Licences;
- Compensation is payable to prior Leaseholders but not to Exploration Licence-holders;
- Alluvial Mining Leases can be granted within an Exploration Licence with the permission of the EL Holder;
- There is a 30 day period between new EL applications to allow other lease applications.

Altogether, the PNG process is open and transparent. Prior, informed consent is required of all tenements. Generally, landowners are great supporters of mining resource developments. The benefits which come to communities is publicized, though the use of resource revenues by Government is less transparent. This process has been tested and modified over 30 years since Independence and it works.

ASM and Legalisation Issues

Laura Barreto, Environmental Rights Specialist

Laura Barreto's presentation provided a number of recommendations as to how to legislate and regulate ASM successfully. She proposed that a new legal framework for ASM is necessary for a number of reasons. Firstly, mining regulations are partially responsible for the process of marginalization of ASM (Brazil is a paradigmatic example). Secondly, the new processes of regulation of ASM happening in several countries (e.g. Peru, Mongolia) need to learn from old mistakes. Thirdly, ASM is currently difficult to regulate because the traditional mining framework does not really fit the on-the-ground reality of ASM. The legal framework needs to distinguish between the real phenomenon of ASM and the characteristics and distortions that have accumulated in the absence of legalization and other appropriate policies.

Is it possible to build a legal framework that can be used effectively in different countries? The answer is yes. ASM has characteristics, problems and challenges that are similar independent of the country where the activities occur. The proposed framework consists of a series of principles and recommendations which are set out below. It is based on the theories of natural resource management in the situation of open access, but takes into account ASM

realities, understanding ASM to be a mining activity that has many unique social, economic, labour, technological, and environmental characteristics.

The legal framework proposed understands ASM as an activity of simplified mineral extraction of secondary deposits (alluvial, eluvial and residual) and occasionally shallow primary deposits (generally not more than 50m). ASM is characterised by an absence of exploration and the use of very simple technical processes, and machines and instruments that do not need specialized skills, during extraction and processing. The typical duration of extraction until the resource is exhausted is generally 5 years.

The main principles of the legalization process are as follows. Legalization is necessary but is not sufficient for formalization. The legalization process has many legal dimensions relating, for example, to health and safety, economy, environment. Legalization is a progressive, incremental process, starting with the attribution of mining titles. Human rights are a fundamental component of legalization. Small miners and their associations have to participate in the process of developing the ASM regulatory framework and in implementing, enforcing and monitoring the regulations. Indeed, the miners' capacity to participate at a legal level is as fundamental to success as the existence of legislation.

General principles for the ASM regulatory framework are as follows. ASM has to receive specific legal treatment, different from other mining activities. In this respect, legislation has to recognise that ASM is an economic activity and a mining activity; it has to allow for the development of ASM as a legitimate economic activity; and it has to include *all* ASM activities. Furthermore, the diversity of ASM has to be recognised in law and ASM actors have to have freedom to choose the appropriate legal entity for their mining project. The law should promote partnerships between ASM actors and between ASM and other actors. Legal restrictions of the use of specific technologies have to be avoided or used with extreme caution. The stability and the transparency of the legal framework is vital to success.

In order for mining titles and environmental licences to be effective, the licensing process has to be simplified without compromising the environmental and social standards required of ASM. Furthermore, each type of ASM requires different types of mining titles (concessions). Mining titles must have value in the market because the quality of mining titles depends of the permitted area, duration, conditions of transfer, rights and obligations, and suchlike. A single concession and environmental license is recommended for the all three work phases of the ASM, i.e. exploration, extraction and closure. Lastly, the governmental agencies responsible for the management of the mining titles and environmental licenses have to be near the ASM areas.

In terms of legal entities, all legal entities that do not contradict the commercial legislation in the country should be allowed. If the legislation promotes or stimulates the use of a specific type of legal entity, research should be done to support such a decision. Furthermore, the promotion of one legal entity doesn't have to mean the prohibition of others. Formal economic and commercial associations between different legal entities, e.g. ASM and LSM, should be promoted by law

With regard to the 'mining area', this concept is a fundamental legal policy instrument for ASM. As with other mining activities, the concepts of "exclusivity" and "priority" of the holder(s) of the area is vital for ASM. Should the legislation defines the size(s) of the granted area, this decision can impose economic restrictions by determining the dimension of the mining project and the forms of legal organization of the activity. The use of exclusive areas or reserves for ASM seems attractive but can create significant problems and should be approached with caution.

Regarding technology, regulations should promote the use of environmentally friendly technologies. The use of machines and equipment that cause major environmental and social impacts have to be prohibited and the *specific* characteristics of them specified in law.

Any legal restrictions on *frequently* used processes or chemical substances essential to some processes have to be avoided when there are no substitutes in the market.

The integrated management of environmental and social should be promoted through environmental regulations. Environmental and social impact assessment and management plans have to be related to the characteristics of the activity, the category of the ASM title and scale of the project. The uncontrolled use of mercury is one of the most serious environmental issues, but ASM generates other important impacts that the regulation needs to address, such as sedimentation, erosion, etc. In the same vein, where ASM occurs river banks and river beds, this has to be confined by area, and limits to the number of titles attributed. ASM has to have specific regulations for attending to health and safety, and these have to be based in reality.

In protected areas, the attribution of ASM titles has to respect the legislation in place in respect of the management of the protected area. If ASM existed prior to the creation of the protected area, this has to be taken into account. Some social, cultural or environmental sensitive areas have to be classified as “no-entry areas” to mining activities in general, including ASM, and this should be clearly defined in law.

ASM has to have a specific taxation policy and regulations. Progressive taxation and tax stability are important principles for this policy, as the historic social contribution and undercapitalization of ASM have to be taken into consideration. Fiscal exemption in the initial years (at least 5 years) has to be considered.

Development banks have to be the pioneers in the creation of credit programs for ASM. Different types of credit have to be developed for different categories of ASM. The provision of credit has to depend on the formal status of ASM activities. Credit renewal has to depend on evaluation of the environmental, economical and social performance of the mining project in relation to legislation and regulations.

Session 5: Plenary Thematic Keynote Presentations

Sustainable Development, Security and ASM

Takeshi Ishihara, Ministry of Foreign Affairs Japan – Head of UN Trust Fund for Human Security

Human security (HS) is a new but essential concept for sustainable development.

Since the end of the cold war the international community has experienced rapid globalisation including the proliferation of information technology. There is increasing interdependence in the world but also a widened gap between rich and poor. Today as many as 1.3 billion people subsist on less than \$1 per day. Rapid movement of people and money has caused trans-national problems to spread, including diseases, people smuggling and terrorism.

The post-Cold War order has triggered numerous conflicts – religious, economic and other – including conflict concerning minerals and small arms. Efforts to protect state boundaries are no longer sufficient to overcome this threat.

HS aims to protect people from threats to their rights, environment and dignity. It tries to integrate and strengthen human-centred perspectives, based on the view that each of us is equal and should be regarded as such.

People cannot achieve their full potential when their survival is threatened – the future of society as a whole is threatened. Efforts to enhance human capabilities by building HS should be integrated and a multi-sectoral approach to empower individuals is needed. The essence of HS is to protect the vital core of human rights that enhance human freedoms.

In 2000 a commission on HS was established by the UN. Its aim was to foster healthy dignified life, protection from various fears and insecurities and the opportunity for people to develop as fully as possible, whatever their nationality, religion or gender.

HS is composed of two key factors: protection and empowerment. It is focused on how to provide people with the knowledge and experience to deal with the threats they face.

In the 1980's the term was starting to be used and discussed but the real turning point was the 1994 UNDP Human Development Report. The life and dignity of individuals in the context of development was the main focus. In the late 1990's the world witnessed conflict in Kosovo, financial crises in Asia and other conflicts. In 2000 at the Millennium Summit Kofi Annan introduced the concepts of 'freedom from fear' and 'freedom from want'. At same summit, the Prime Minister of Japan said the country would uphold HS as a policy pillar.

In 2001 to 2002 a commission on HS was established. The final report from the Millennium Summit stressed action on HS and identified parallels between state security issues and the need to integrate individuals' perspectives on these issues. A strategy of protection and empowerment to secure peoples' lives and dignity was developed.

HS concepts began to be discussed increasingly at international fora, for example in the 2003 G8 summit. HS included in the agenda of the 2005 UN Summit. Some countries have established a network to discuss HS issues, for example Canada and Japan.

Promotion of HS requires understanding by stakeholders. In 1998 the Japanese PM expressed his view and declared that HS would be put on Japan's Overseas Development

Assistance (ODA) Policy. He established the HS Trust Fund in the UN, funded by the Japanese Government and later declared that a Commission on HS should be established.

The UN has organised multiple symposia to promote awareness and knowledge on HS, for example a December 2006 symposium in Tokyo entitled 'HS in Post Conflict Situations – Transition from Relief to Development'. At this symposium UNHCR and UNDP representatives made speeches and discussion was heated.

Japan's ODA Charter changed to include the HS perspective. In total 170 projects have been approved and implemented throughout the world. Assistance to international organisations includes bilateral assistance and grassroots assistance. Around 20% of projects concern poverty. In the last few years only 1 or 2 projects have been approved.

Asia was the first field of assistance, Africa the second, though activity is increasing there at a greater rate. Projects include nuclear projects in the Ukraine, and an arsenic project in Bangladesh.

Fair Trade Minerals: Opportunities, Challenges and Finding a Way Forward for Sustainable ASM

Estelle Levin, Minerals and Sustainability Consultant, UK

Fair Trade is one of several potential ethical branding opportunities for jewellery minerals based on the driver of conscientious consumption – when someone purchases a product because of its potential to bring social or environmental benefits or limit harms.

The discussion which took place at CASM Brazil in 2005 concerning fair trade and how best to set up processes for certifying minerals was carried forward by the Association for Responsible Mining (ARM). ARM established a technical committee to develop a process and standards for producing Fairtrade-certified artisanal gold. It was decided that Fair Trade was the optimal standard in mineral certification for helping stimulate local development in artisanal gold mining communities.

There has been a proliferation of efforts in ethical mineral production. There are five organisations which use the term 'Fair Trade' to describe their ASM minerals: Target Resources, Columbia Gem House, Rapaport Group, Thomas Siepelmeyer, and the Association for Responsible Mining (ARM). ARM is the only one working directly with the Fair Trade Labelling Organisation and using a multi-stakeholder process to develop standards, so it is their model that is used as the template in this presentation. There is debate on how to run the process and who it should be for.

Fair Trade is a trading partnership based on dialogue, transparency and respect. It is a vehicle for stimulating local development in mining communities, particularly in the developing world; stimulating continual improvement in the sustainability of supply chains as operators compete to attract 'ethical' buyers; and providing conscientious consumers with suitable products which uphold their values. Fair trade is an opportunity to realise these three goals.

The procedure for getting to Fair-trade certified artisanal gold is:

1. Setting standards (minimum and progress requirements) in areas of labour practices, economic relations, social conditions, ecological health and fair trading through global and local consultations.
2. Conducting scoping studies to find eligible communities.
3. Conducting pilot projects to test the standards on the ground and help communities work towards compliance (producer support).
4. Certification of Fair Trade producer organisations.

ARM is involved in standard-setting and producer support, while FLO-Cert manages the certification of their minerals.

An array of minerals could feasibly be certified as Fair Trade, however ARM is starting with gold and precious metals. There is a move to look at the market for industrial minerals, but this is a different type of market. The move towards 'green building' and the growing CSR trend requiring companies to have ethical sourcing policies could create a demand for ethically-certified construction and industrial materials.

In order to participate, community-based mining organisations must have demonstrated successes in achieving the socio-economic and/or environmental development of the miners and/or their communities; that they operate legally or are in a process for formalising their activities; and that they consider it desirable to participate in the Fair Trade process. 'Ethical' traders, refiners and jewellers can also participate, as can any organisations providing support to ASM, including public (government) bodies.

The principle challenges are as follows.

1. Stimulating local development

- Universal versus local: the compatibility between a universal system for Fair Trade and the local and regional diversity of ASM. Would an alternative model be to develop universal values but locally-developed standards?
- Finding ethical sources: there is over-demand for Fair Trade – the market is ready but suppliers are not. Larger producers are beginning to market themselves as FT or Ethical, but are they really? Would expansion to non-artisanal sources be a threat or an opportunity?
- Compliance gap: producers might underperform in some areas but capitalize on their strengths by developing a different type of certification system that speaks to these strengths.
- ARM's FT standards have targeted organised miners; they do not apply to individual, informal or rush mining. Is there an opportunity here for other types of certification to help these miners?

2. Sustainable supply chains: traceability and assurance of the chain; partial versus comprehensive compliance: should the whole supply chain ultimately be certifiable?

3. Conscientious consumers:

- There is a proliferation of 'ethical' actors using the same label in different ways, especially at the retail end. This can create consumer confusion and compromise the integrity of the FT label if the people calling their product 'FT' operate according to different standards.
- Should suppliers have a say on how jewellers market and promote their products, in terms of the label used, the story told?
- Different consumers have different values; is this an opportunity? Can products be marketed as partially ethical, or ethical in particular ways in relation to the gold miners' strengths, e.g. no use of mercury, or no child labour, or they're good on women's issues etc.?

FT offers much in terms of helping develop ASM communities and thus countries. It is a vehicle for converting a threat into an opportunity for sustainable development. But many challenges remain. The biggest one of all relates to the multiplicity of stakeholders across diverse sectors and cultures. These actors have different values and belief systems, different world views, and have different ideas of what should be part of the FT standards, who should be involved, how the FT process should be done. And there are competing efforts to develop

certification processes, be it for FT or other models for assuring ethical quality. There needs to be continued dialogue between the diverse stakeholders as to how to proceed in a way that does not violate anyone's interests, especially those of the vulnerable communities we are aiming to assist.

There is a tendency for people to see FT as the only viable ethical category. It has become the catch-all category, with some parties seeking to apply it to large scale mining production as well. But other labels can exist, labels which help the consumer, on the one hand, in so far as they are more specific to what development goods they deliver and thus which values they serve, and which help the producer, on the other, in so far as they offer a multitude of options for artisanal miners to take advantage of the potential of minerals certification for 'ethical' products to bring extra income, better living standards, and thus development.

Development Synergies between LSM and ASM

Jeffrey Davidson, Principal Advisor, Community Relations, Rio Tinto, Australia

The Madagascar 2006 session focused on interactions between LSM and ASM. Participants wrestled on how to manage relationships, and looked at positive and negative reactions to responses to the challenges of stabilising relationships. Examples from Ghana and DRC were given.

From the company perspective key concerns include: encroachment (trespass and invasion); unlawful removal of gold; environmental damage; injuries and accidents; violence and human rights abuses. The concerns of LSM employees are also taken into account.

Company initiatives to stabilise relationships include:

- Technical and material assistance (engineering and geology; tools and technology, contact with other assistance organisations);
- Access to areas within the concession;
- Employment (company workforce, alternative enterprises outside the gates);
- Dialogue and negotiations (work agreements, tributor arrangements – all were committed to this category without exception).

It is noted that there is a need to understand how responses are a function of company policy as well as company size, and to assess available resources and investment.

All companies recognized the importance of ASM to local communities and that this is a development issue and NOT an enforcement issues. They recognised that it is in the interests of LSM to find a way of living with ASM and that there are benefits to be gained by working in partnership with others.

In the last few days, we've heard the following positive statements from and about LSM:

- Reaffirmed commitment by Ashanti and Gold Fields.
- Recognition of ASM as a legitimate social and economic activity.
- ASM as part of a development challenge for the company and the country with a law enforcement dimension.
- Positive relations between LSM and ASM deliver mutual benefits.
- New commitments to positive engagement and working in partnerships.

In terms of positive statements from about government initiatives, we have learned that Papua New Guinea, Philippines and Mongolia are compelling LSM to provide technical assistance to ASM on their concessions. Laws have been adjusted to clarify rights and obligations.

Positive statements from and about ASM have shown:

- Willingness to cooperate and participate with government and companies in new ways.
- Importance of consultation and communication in developing laws, policies and projects which ASM are expected to comply with or participate in (e.g. Peru).
- Desire to learn how to work safely, legally and in an environmentally responsible way.
- Desire to be allowed to improve quality of life for themselves, families and neighbours.

The less positive things we have learned are as follows:

- New class of informal miners - entrepreneurs who prefer to operate illegally – e.g. mechanized miners in Ghana.
- Introduction of cyanide in Mongolia.
- Reactive, unilateral actions in situations which call for consensus and broad-based commitment in order to achieve sustainable solutions (on the part of both LSM and governments).
- Different expectations of responsibility – holding artisanal miners to account on chemical misuse while turning a blind eye to bigger formal operators.

More worryingly are the facts that:

- Both LSM and ASM are on the rise in many places. Despite the presence of legal frameworks, there are examples where governments have been unable to apply them consistently or equitably as pressures have increased with growing numbers of miners.
- Some countries still have no proper legal framework in place. How does a large-scale mine behave responsibly in these places with respect to ASM at its doorstep?
- In the absence of legalization ASM can evolve in distorted ways that make the challenge even more difficult.

Here I show you a photo. What do you see? At first glance perhaps you see a young man burning amalgam in an open vessel. Upon examination he is conscious of the hazard, burning the amalgam outside of the ger, on the edge of the compound, upwind and wearing a mask. This man has taken the first steps – when you do this, those that follow come more easily. LSM should help ASM take these first steps.

Break-Out Thematic Session 4: Sustainable Development, Security and ASM³

The session was chaired by Dr. Satoshi Murao. It opened with the review of the minutes of Sessions 2 and 3 which presented ASM in Mongolia and Asia, respectively.

Sustainable Development, Security and Artisanal and Small-Scale Mining

Takeshi Ishiwara, Head of Unit, UN Trust Fund for Human Security, Global Issues Cooperation Division, Ministry of Foreign Affairs of Japan

Human security is a new but very essential concept for development. It is about ensuring stakeholders co-operate around a certain activity such as ASM. It involves protection by the Government and the international community, and the empowerment of individuals and local communities to enable them to address threats themselves.

National security is not enough anymore. There is threat to life, livelihood and integrity.

The concept of human security started in 1994 when the UNDP that came up with the “Human Security Now” report in 2003. This report stresses the need for comprehensive and integrated action of the international community in addressing the issue of human security. The UN General Assembly gave their commitment to the agenda “Freedom from Fear, Freedom from Want” during the World Summit in 2005.

Introduction: Human Security and ASM

Satoshi Murao, CCOP Coordinator and CASM Asia Chairman

This presentation centred on why human security should be introduced to ASM. The precept is that different commodities are mined by ASM in different countries and problems differ according to each commodity and each country. ASM operations, therefore, and stakeholders are faced with varying hazards and risks.

The perception of risk is dependent on the perspective of the target group. A risk for one may not be a risk in the eyes of another. The risks that are fundamental to human security are collectively understood as threats to life, livelihood and dignity. These risks have to be determined in relation to ASM.

Risk management entails the following procedure:

1. Hazard identification,
2. Assessment of risk,
3. Determination of countermeasures,
4. Planning for the community, and
5. Communication of the plan to professionals and people.

In risk management, one may be guided by the following statements:

6. Miners and local people are the centres of concern.
7. Emphasize education.
8. The community is the centre of deliberation.
9. Risk management is a generic methodology.
10. The local community should identify the risks, prioritize and plan the measures to address them.

³ Based on notes provided by Alicia Reyes.

Conflict Gems: Mining, Marketing and Terror Funding

Usman Ali, and Ligia Machado, Pakistan

Precious stones collectively refer to coloured stones and diamonds. However, the term “conflict gems” is used only in referral to diamonds from conflict areas. Diamonds and other gems may be sourced from legal sources and traded through legitimate markets, but a portion finds its way into the underworld to fund wars, genocides and international terrorism. Rough stones are smuggled from conflict areas and benefits go to terrorists or rebel groups.

In 2000, the Kimberly Process Certification Scheme (KPCS) was developed to prevent conflict diamonds entering the legitimate market. Statistics show that the scheme is effective but still much has to be done. This scheme should be extended to coloured stones. The geological survey of mines in the conflict regions and an integrated approach in the identification and addressing of risks concerning conflict gems is necessary. This is relevant to CASM as 95% of precious and gemstones are mined through ASM.

Mercury Awareness and Human Security of ASM in Mongolia

Baatar Tumembayar, Progrès Sans Frontières (NGO), Mongolia

A study of mercury use in Mongolian ASM shows the employment of poor gold ore processing systems, i.e. children as miners, mercury evaporated at home, ore processing by expectant mothers, etc. Hair analysis of people involved in gold ASM shows a higher mercury content in children than adults, and in people buying the gold.

A Mercury Awareness Program was launched in Mongolia. Training sessions are conducted in the evening after work, and most participants are children (60%). Education extends to the members of the family through information materials distributed for free consisting of calendars, posters, and notebooks with sketches about mercury by the children who attended the mercury awareness classes. Educated children also teach their parents. Survey results show an improvement in the avoidance of such bad practices in gold ore mining and processing but much still has to be done.

Lessons from Two Meetings for Luzon Cordillera, Philippines on ASM

Victor Maglambayan, Exploration Manager, Philex Mining Corporation, Philippines

ASM flourishes despite difficulties in joining the mainstream. ASM law is ineffective in monitoring ASM operations in this area as only 2 out of 68 artisanal and small-scale mines are operating with permits. This is alarming as there is unregulated use of cyanide in these ASM activities.

In 1999, two meetings with the small-scale miners were held 9 months apart. The first studied the business practices of small-scale gold miners in Benguet Province. It also served to educate the miners about government instruments that can assist them in improving their trade and welfare. The purpose of the second meeting was to communicate the results of the study to the ASM community. In both meetings, the speakers consisted of NGOs, government representatives, LSM project proponents, and local government officials.

An important lesson from the meetings is that the ASM community was willing to find solutions to their plight in their desire for acceptance and recognition. However, they tended to deny the possible effects of their mining practices on their health even when confronted with facts. Understanding of the situation of artisanal and small-scale miners was gained in

the meetings but much has to be done to sustain the relationship and implement solutions to ASM risks.

Facilitating Dialogue Concerning Risk

Professor Seiji Suzuki, Head, Department of Intercultural Studies, Tezukayama Gakuin University, Japan

The purpose of the paper is to present a method to bridge the gap between the experts (administrators and technical people) and local people in understanding the risks involved in ASM. It is important to note, however, that knowledge of the risk is not enough to address a risk and problems normally erupt for reasons of equality and need.

We may all be aware that crossroads are encountered in decision-making concerning ASM. The Crossroad Analysis may be a solution as it serves to look at the interests/perspectives of different stakeholders. This leads to the involvement of more parties to the project, minimization of unknown areas within the project boundary, integrated information, sharing of responsibility in the success/failure of the project and in the review and planning of measures.

The solution is not always elimination of the activity but may also be maintenance or fine tuning of the current method.

Open Forum

A participant commented that the Crossroads Analysis may be applicable in Japan because of high literacy among Japanese but the Mr. Suzuki countered that the method is not complicated and is applicable regardless of literacy.

Main discussion points included:

1. Risks and threats to life, livelihood and integrity exists in the ASM
2. Risks and hazards are real in gold ASM in terms of mercury poisoning or contamination but risk assessment and management should extend to other commodities mined through ASM, such as gemstones.
3. Despite a rigorous study, acceptance of facts may be avoided by local people who fear disruption of livelihood.
4. Participatory methods may be the solution in view of shared responsibility.

The participants concluded that much needs to be done and expansion of borders is called for in the analysis of ASM practices. Collective and coordinated efforts can be done under the CASM.

Breakout Thematic Session 5: Fair Trade

The Fair Trade session was chaired by Estelle Levin. There were sixteen participants. The session began with presentations followed by a general discussion to consider the following questions:

1. How do we advance the process for developing fair trade artisanal gold in Asia and Africa?
 - a. Where are possible pilot sites in Asia and Africa?
 - b. What are the specific opportunities and challenges?
2. What are the challenges and opportunities for expanding Fair Trade into other minerals?
 - a. Jewellery relevant
 - b. Non-jewellery relevant
3. What Role could CASM play in each of these?

Pilot Testing FT in Latin America

Cristina Echavarría, Secretary General, Association for Responsible Mining

Cristina Echavarría gave an overview of the objectives of ARM's Fair Trade certification of artisanal gold and associated metals, the criteria for selecting producer organisations and countries, the main activities planned, the toolkits which will be used to develop indicators and bring communities to compliance, and the geography and timeline for producing Fairtrade-certified artisanal gold.

Ms. Echavarría pointed out that this is a continual learning process and so the programme is developing over time. The main objectives include:

- Producing the first independently certified fair trade artisanal gold for the ethical jewellery market and develop partnerships with committed jewellers
- Working in partnership with the miners to:
 - Ground-test the requirements proposed by Standard Zero.
 - Develop the inspection indicators to propose to FLO Cert.
 - Test and improve ARM's self-learning and evaluation toolkits.
 - Identify gaps in the standards
 - Identify training, technology, credit and financial needs for miners to comply with the requirements
 - Contribute to the organizational processes of ASM producers
 - Strengthen and consolidate a network of local ASM support organizations.

The criteria to select the pilot sites include a wish to test the standards within the diversity that exists in ASM. This means that ARM is looking for variety in terms of the national contexts and laws, different types of gold mining, different associated precious metals or gems in the same producer organisation, different processing techniques, different types, sizes and levels of organization of ASM, and different ecosystems.

In order to be selected, producers must be legally organised and have a demonstrated trajectory as an organisation towards social and environmental responsibility. They must show interest and commitment to be a leader and to multiply the process among other producers. There must be a prior partnership between a miners' organisation and a support organization to undertake the pilot project building on ongoing local processes - we cannot begin from zero. They must have legal title to concessions with mineral potential. They must

commit to improving levels of gender equity within their organizations and in the decision processes regarding use of the FT premium. The national legislation must have transparent mechanisms for private precious metal exporters.

The main activities planned include regional workshops to train trainers and plan the specifics of methodology and timeline; local workshops for hands-on learning and toolkit refining; ongoing evaluation and reinforcement by ARM and its Technical Committee; use of Internet Communication Technology to consolidate network of organisations and their trading capacity; creation of a miners' exchange and provision of ongoing support to strengthen ASM organisations; and participation of pioneer producer and support organisations in key events.

A major activity is the development of five toolkits by knowledgeable and committed consultants with practical experience with ASM. These toolkits will be tested and refined by producer and support organisations, as 'pilot teams'. The tested and refined toolkits will be used by new groups who want to enter the FT scheme to measure themselves against the Standard Zero, and to analyse how best to improve the social, environmental, economic and labour performance of their operations

The ARM toolkit for FT producers will comprise tools for conducting a baseline self assessment against standard zero and developing indicators for assessment; determining the cost of production for different types of operations to define the premium and the level of pre-financing, as well as aiding business planning; evaluating the supply chain from mine to market to determine bottlenecks, value distribution, allies and adversaries; doing community monitoring of the system and tracking traceability; assessing the needs to determine what producer support is required.

ARM is already working with producer and support organisations in Bolivia, Colombia, Peru, and Ecuador. They are fundraising jointly with local organisations, as well as with FLO and the UK's Fair Trade Foundation. The first regional workshop was to take place in November 2007. The last one was due to take place in November 2008. Inspection and certification by FLO Cert. is due in 2009. Throughout this timeline, ARM will operate through horizontal learning and mutual reinforcement with partner institutions.

Challenges and Opportunities for Fair Trade in the Cotapata Mining Cooperative

Daniel Lafuente, Cumbre del Sajama, Bolivia

Mr. Lafuente presented a brief overview of the ARM fair trade project his organisation was due to start in October with a group of miners in Bolivia's mining region of Cotapata.

Artisanal mining has been taking place in Cotapata for the past 20 years. There are now 5 mining cooperatives in this zone, namely Cotapata (the main cooperative), Jesus del Gran Poder, Beta Dorada, Union Ideal and Salvadora Yervani. The mining site is located in the Cotapata National Park, which is a protected area. The miners have an environmental license to work here.

There are many gold mining cooperatives in Bolivia but Cotapata was selected to be part of the ARM project because it is one of the most organized and responsible groups. In other mining areas, for example, there are problems with child labour, excessive use of mercury, women working in bad conditions, and so on. This project has the financial support of BTC, the Belgium Technical Cooperation. Cumbre del Sajama is coordinating all the activities with ARM with a view to bringing the Cotapata Co-operative to compliance with Standard Zero within one year.

Cotapata is located in a tropical region named Nor Yungas, about 100 km from La Paz, Bolivia's capital. The mine is two thousand eight hundred meters above sea level. From the

main road, the only way to visit the mine is by a 500 metre path, which takes about 20 minutes to descend. The way back is harder since the mountain is vertical and the path can be especially dangerous in the rainy season.

The cooperative produces gold of 85-90% purity; the average production is 2 kilos per month. The cooperative has 40 miners, and there are 8 leaders and managers, who do not work in extraction activities. The workers' monthly salary is 1,500 bolivianos (around 200 US dollars).

Mining in Cotapata is done almost six hundred metres underground. Dynamite is frequently used to blow up the rock. The ore is removed using a railcar. The extracted rock is then crushed and jigged with a spiral classifier to recover the major part of laminated gold and an important part of the gold bearing pyrites. Concentrating tables, also called shaking tables, are then used to recover the fine gold. The last stage involves amalgamation of the gold with mercury. Miners use retorts to burn off and recover the mercury.

Cotapata's current buyer pays around 150 bolivianos per gram (US\$19.50) to the miners. The cooperative does not pay any taxes at the moment, so the buyer discounts this from the payment.

Challenges for the fair trade project in Cotapata include:

- Educating the miners about the benefits of this Fair Trade project. One of the benefits will be the reinvestment of the fair trade extra premium in technology, health, educational programs and other facilities for improving the organisation itself.
- Using practical, participatory tools to help the miners come to compliance.
- Establishing long term relationships with all the workers, leaders and managers.
- Meeting the expectations and maintaining the interest of the miners.
- Achieving compliance with Standard Zero in one year, including formalizing the payment of taxes.
- Establishing long term alliances with the buyers (jewellers) and being able to achieve the buyers' requirements in terms of providing a sustainable stream of gold that is of consistent quality.
- Being an example to and inspiring other gold mining cooperatives in Bolivia.

Achieving Standard Zero in Papua New Guinea

Trevor Neale, Wau Ecology, Papua New Guinea

PNG's ASM sector has about 50,000 miners producing 4.5 tonnes of gold per year. About 400,000 people benefit from SSM. The average income for a miner is about three times the national average. SSM is a rural employer and a great way of alleviating poverty.

PNG is not confronted with many issues endured in other countries. This largely stems from the fact that 97% of the land is owned by the indigenous people. 75% of the population is rural. We have a well regulated mining sector, including a well-regulated SSM sector. Unlike most other places, local people are allowed to work on their own land without a licence. If they mechanise, they need to have a licence.

In this presentation, I present in what ways Papua New Guinea's gold miners do or do not comply yet with ARM's Standard Zero.

In terms of social development, fair trade is pretty well established in the coffee business. This has brought particularly significant premiums to the smallholder growers, who are getting about three times the value for their coffee compared to conventional growers.

There are communities of miners, but there is no community mining in PNG; SSM is an individual or a family group business. We do have some frameworks to set up organisations, such as associations, co-operatives and companies. The rules attached to associations are pretty flexible.

In relation to the economic development requirements, in PNG, a lot of these organisations get politicised. The only way a Fair Trade producer organisation would work would be to have executive type management within an organisation to ensure good governance and provide training and guidance to the membership. The executives must be answerable to a board of directors or members, who need to know their role in this regard. Currently, PNG is fairly weak in this sort of capacity and though we do training in this, more training is required.

Wau Ecology has various programmes for business training under the Japanese Social Development Fund (JSDF) grant on SSM. We also have an extensive programme on trying to find new technologies to eliminate mercury, to improve productivity and environmental performance and we have developed a set of guidelines for some of these things.

Under labour development, PNG does not have slave or child labour. However, mining is a family business and if the children want to mine, they do. It is sometimes hard to keep children in school as they cannot make money at school.

PNG has 850 different languages and almost as many different cultures; In some places the men are the boss; in others, the women are. You have to be able to work through all these cultural differences. However, generally speaking, women are developing a voice. Twenty years ago you would go to a meeting and you would not hear a woman's voice. Now the men say, 'now it's time for the women to speak'.

ASM has the highest incidents of accidents and deaths, particularly because in a lot of places ASM operate illegally in someone else's lease, mining secretly or at night. It's a matter of educating people, raising awareness and having the mines department having greater control.

There has been a fair amount of training in Occupational Health and Safety and in ensuring the miners understand good operating practices. Wau Ecology has recently developed a guidebook for SSM operations.

A formal system of social security does not exist. There is a cultural support system, but it is not formalised.

We have developed environmental guidelines for SSM under our JSDF programme; we hope the government will adopt those as a regulation attached to the lease. We are producing new techniques that are reducing environmental impacts. Because the landowners manage only their own land and rushes are few, we do not have large groups of people working on one area. So the impact of SSM is quite small.

On the trading side, gold is freely traded. The only regulation says that if you send out gold, the money has to come back to PNG. The local buying market is competitive and miners are not forced to take a price. Recently we have had a jewellery company come to town that's buying gold and they offer some of the best prices.

The local price is completely disconnected to it the London fix, as it reflects the cost of refining the gold plus the costs of delivering it to London, and also a function of the amount of contained gold.

The premium or higher price will only be achieved by collectively selling larger lots to refiners or jewellers.

In sum, PNG is achieving a lot of these standards and is in a position to establish a pilot project for Fair Trade gold. The principal challenge will be in having miners recognize that a collective organisation will deliver additional benefits and better prices.

Group Discussion

Kuntala Lahiri-Dutt asked for clarification on what was meant by local price. Trevor Neale explained it as the London price minus refining and transportation costs, but that it was set by the local gold buyers and that there are in fact many local prices in PNG on any one day.

Cristina Echavarría clarified the meaning of the “community mining” in Standard Zero, pointing out that the initiative is directed at “community-based artisanal and small-scale miners’ organizations, including all possible forms of organizations that they constitute.” It can be a family production unit, such as in the Chocó in Colombia. The community mining means that they are people in the local community.

Kuntala then asked about the land tenure system in Papua New Guinea, pointing out that this is the ideal situation. Most of Asia is former colonial countries where the land belongs to the government or the mineral resources under the land belong to the government, so maybe we cannot use PNG as a model, but as an exception to Asia. I would say to the Asian governments, let mineral resources belong to the people, like in PNG.

Manuel Reinoso Rivas, the main mining leader in Peru, who has played a key role in the organization of miners in Latin America, asked if all the ASM in PNG are indigenous people. For them the term ‘indigenous’ is seen as a bad, discriminating term. The important thing is being indigenous or being native of that area. In PNG people are both indigenous and native.

Developing Feasible Systems of Fair Trade for Gems and Gold

Sally Dickinson DeLeon, the University of Vermont

Sally DeLeon studies jewellery supply chains with particular attention to coloured gemstones. Taking a systemic view, I investigate ethical supply chain policies, where are they working, and what factors cause them to work well, or not. She looks at large corporations and their supply chain policies, as well as small and medium sized businesses, including boutiques and privately-owned businesses.

Presenting a general supply chain view of the physical process, which is similar for gemstones and gold. The circles represent stocks of minerals; the squares represent places of physical transformation of the mineral; the diamonds represent social actors who are directly involved in the business of moving the things along the supply chain. The people who have the real power in the system are the retailers.

Reality is actually more complicated than this simple supply chain. There are a lot of external factors that are also impacting how minerals flow through the system. Some external actors are really giving proactive attention and making an effort to develop policies, such as the type of process that ARM has undertaken.

NGOs are developing partnerships with business and governments and CASM is providing the place for these relationships to occur. Without the NGOs, there are some cases where businesses are taking the lead but it tends to be a lot harder to actually have the process happen because they’re under pressure to actually run a business. When the NGOs get involved, it really helps move things forward. They are the ‘batteries’.

On the inside, things can happen very quickly and unexpectedly. There are larger real trends that are happening that the people on the supply side can always predict. So it’s a little bit

like a game where both businesses and NGOs are strategising. But the NGOs are the only ones who seem to be everywhere.

Media also puts pressure on the demand side, influencing jewellery market patterns in different parts of the world. This can happen in less developed countries as well which have their own jewellery consumption patterns, like in India where there's a lot of demand for gold. In the USA and Europe, the tastes and preferences are different, are a little less total and can change very quickly, in response to movies and suchlike.

I'm going to focus mostly on coloured gemstones. With diamonds, there's a lot of competition b/w ASM and LSM; there are a lot of companies that are branding stones as ethical when they are sourced only from LSM in places like Canada because those are the places with strong environmental regulations, where things can be controlled and where the KPCS is properly enforced. There are jewellers who fear using the KPCS because they say it's not working so they'll say it's more ethical to get the diamonds from Canada. That's definitely a competitive thing that's happening in the market.

With coloured gemstones it's a little bit easier to keep the niche available for SSM because most of them come from SSM. In tracing gold, you can trace whether they've been mined in environmentally friendly ways, as you can check at certain points to see if the gold is mined with mercury.

This is a supply chain for a sapphire from Madagascar. In the producer country you may have many people involved in getting the gems out of the ground to the international buyer. One of the environmental challenges is siltation, but there aren't as many environmental challenges as there are with gold.

Then it goes through many hands before it gets to the market. One of the challenges here is that cutting out some of these middle men could possibly do more harm than good to the producer country's economy. If you're using a fair trade model, the FT buyer goes straight to the producer and in the gem supply chain, by doing this you may be cutting out a lot of people and affecting their livelihoods. It's challenging to figure out how to have partnerships between all these people so everyone can stay involved.

After it's exported it journeys through many countries before it gets to the market where it's sold. Heat treatment happens, especially in Thailand. There are families which have developed this skill over many years. Then there's cutting and polishing which is often done by hand, especially for the high end stones. This requires a lot of skills and training and without their expertise the stones would be worthless. This is one of the really big challenges that I want to highlight: you cannot really tell a gemstone's actual value until it has been cut because if it is not cut in a way that improves brilliance or makes it look good to the buyer, it's worthless. Cutting and polishing mostly happens in a different country to where the stone is mined and there has to be a way to return some of the value of the cut stone back to the miners; it's a fair price issue.

From the cutting and polishing factor the stone goes to jewellery designers and manufacturers who are often small, artisanal artists. And then it goes to the retailers, sometimes to trade fairs. So it's a very long supply chain sometimes with many small-scale producers involved.

I want to give a quick overview of what Trigem Designs has done. Their FT protocol is not officially FT because it's not third party certified; also, it places a lot of emphasis on environmental standards and on the cutting and polishing factories. They have done a lot more work on improving conditions for the cutters than for the miners. They do have relationships with a few mines to produce systems in a way that is compatible with these principles. They have also created a separate website, the Columbia Gem House, to educate consumers and jewellers about what the idea of FT is. Eric Braunwart is the person who

came up with this model. It's the only initiative to do fair trade gemstones as far as I know right now.

There are lots of lessons to be taken from efforts to develop these types of standards in other commodities. I'm looking at ARM but also FT coffee and timber and community development in general. The learning process approach has been empirically shown to be the thing that works the best, that is, taking the time to develop something effective and then efficient and then move to expand. Without this approach it tends to fail.

Another lesson from coffee is that there has been a lot of tension between the business side and the participatory process. Keeping it competitive for business and also making it democratic and participatory produces a tension. This will definitely be the case for gemstones.

Timber has worked a lot with tracking the material through the supply chain; working with the mills, the manufacturers, the foresters to really develop standards. This process has been very successful and the retailers are very happy that they can track exactly which forest the timber came from. For gemstones it is a lot more difficult, because they are a lot smaller and easier to smuggle. Some way of tracking them needs to be developed. Diamonds are tracked by marking them and using paperwork but there is no way to trace them back to the original mine, which is one of the reasons why the KPCS has had some failures.

Coloured gems are easier to trace to the origin, if you do enough geological studies of the mines they come from. This is what Columbia Gem House does. When they receive a shipment from their suppliers, they analyse it in their lab to check consistency with the geological characteristics and inclusions of stones that come from the certified mine. This gives the retailers a lot of confidence that their process is working and they're able to track where the gemstones are coming from.

In conclusion, I think that this big picture understanding is really important to have along with a localised approach for each of the communities that you work with. Something could be developed for coloured gems but maybe it would not be done as traditional fair trade systems have been done.

If you're interested in learning about gemstone mining, then this website has case studies: www.gemecology.org

Ethics and Integrity in the Contemporary Market Place

Vivien Johnston, Fifi Bijoux, UK

I previously worked as Head of Design for a UK jewellery company. I felt so strongly about the issues of exploitation and environmental damage that I began to research alternatives to the mainstay supply chain for bullion and gems. I was asked to produce a 'fair trade' or ethical engagement ring; one commission led to another and I realised that there was a rising demand for ethical jewellery. I spent 18 months completing further research and then left my job to launch the Fifi Bijoux brand.

In the UK alone, the Ethical Purchasing Index showed a spend of £25.8 billion pounds in 2004. Of that, £680 million (equivalent to around \$1,400 million US dollars) was spent on ethical fashion. The ethos behind Fifi Bijoux is to offer a designer brand with the luxury value of fair trade provenance of the raw materials.

I use gold, gems and diamonds sourced from socially and environmentally responsible mining programmes. I design the products and these are made by master goldsmiths in London. Fifi Bijoux offers ready-to-wear collections as well as a bespoke design service.

I supply to retailers across the UK and am now embarking upon the export market.

The first challenge I faced was sourcing my raw materials. I approached several large mining companies, bullion suppliers and well-known gem dealers. My questions on their ethical policies were largely ignored, even having people hang up the telephone on me. I had, of course, known that this was the likely outcome but it confirmed my fears. The jewellery industry was facing a minefield of problems, questionable moral principles and secrecy in an accelerating climate of transparency, consumer awareness and politicised buying patterns and yet it was failing to deliver any suitable answers.

The breakthrough came when I saw Greg Valerio, ARM's vice-chair, on a TV morning chat show speaking about ethics in the jewellery industry. I emailed him immediately. Greg was able to give me information on ARM and I was soon in touch with Colombia Gem House in the USA. Having successfully sourced a small amount of gold and secured an initial order of semi-precious gems, I was ready to manufacture.

My supply chain has since expanded and I'm privileged to now work with geologists and mining programmes around the world, all sharing a commitment to fair trade and promoting a positive, ethical industry.

I define ethical business as that which ensures that no one suffers exploitation or that unwarranted environmental damage, from the raw materials through to the design, and the manufacture through to the customer service. In jewellery terms, precious materials are a valuable natural resource and it's my belief that by imbuing each product with respect, my customers take pride in owning a piece of jewellery which reflects the precious and exquisite nature of the materials we use.

I defined my own code of ethics which largely cover the International Labour Organisation and UN protocols. I have tailored these further to apply in general terms to mining, gem cutting, manufacture and production. I also apply these standards, incidentally, to suppliers of sundries such as boxes and packaging.

From my position at the end of the value chain, I thought it would be helpful to consider the manufacture of gems and jewellery, with a special focus on Asia. The majority of manufacture takes place in Thailand, and China. India is also growing its reputation and export of jewellery.

Within my previous employment I was being asked to negotiate with manufacturers to pay for only the price of the silver or gold; the labour costs and fashion charges were expected to vanish. I was aware from speaking to the factory staff that they were forced to work under unacceptable conditions: twelve hour shifts, seven days a week, for little pay. Many were brought in from rural areas and relied on the income to support their families back home where little work could be found. Western companies' pursuit of profit was producing this cycle of exploitation and it is the desperately poor who suffer. I also learned of extensive use of child labour and of the problems of gender and of caste or class in many factories, specifically in India.

I was seeing a steam train of trouble coming our way. The drive for ever-greater profit margins had created a sinister disregard for values, product quality and reputation. It was only a matter of time before this Dickensian neglect of human rights and this stark gap between class and culture would become a major issue for consumers. I perceived a rising trend for ethical jewellery. To me, ethics are not merely a fashionable trend to capture affluent middle class consumers, but, combined with integrity, are a tool for survival and sustainability in the contemporary market place.

The jewellery industry needs cohesion and transparency. CASM's work is an example of how an inclusive programme drives government policy, the mining sector and the miners

themselves to commit to best practices. This example should be adopted throughout the jewellery sector.

The market for fairly traded, ethical precious jewellery is still in its infancy. But demand has grown significantly in the past 6 months, as has the interest from would-be competitors. Whilst I believe that the market could at this stage be grown effectively by a selection of competitors, I also see the potential threat of abuse should unscrupulous companies using the terminology disingenuously to mislead consumers. I also fear that poor quality goods would serve to further damage the reputation of this as a movement.

In order to address this danger, it would be appropriate to develop systems for independent verification for the metals and gems (for instance, by ARM) as well as finding methods of extending this further to tackle manufacture and gem cutting. However, currently the demand for certified gold outstrips the supply and this presents a further threat as 'fair trade jewellers' struggle to meet demand. If I fail to meet orders, my customers lose faith in me and in the reliability of this as a process and of our ability to deliver fair trade gold.

I am setting up the British Ethical Jewellery Association; this is an early endeavour to address these issues which I hope will ultimately link to the work of ARM and CASM.

Group Discussion

The group first considered possible pilot sites for producing Fair Trade Artisanal Gold in Asia and Africa. In Asia the group identified Papua New Guinea (with Wau Ecology), Mongolia (with the SAM Project), Thailand (with Ruay from World Gemstone Consulting Company). Kuntala Lahiri-Dutt suggested that a study on the supply chain and demand for jewellery in India may usefully inform whether or not there is a potential Fair Trade market there. In Africa the group identified potential pilot sites in Ethiopia and Zambia.

The group then considered whether or not a fair trade model could be used for artisanally-mined industrial minerals. It was agreed that there is not enough focus on industrial minerals within CASM, even though a large amount of ASM produces these and the potential for poverty reduction is therefore large.

Potential was identified in two areas:

- 'Feel good' industrial minerals, e.g. ornamental stones, dimension stones, could be FT certified; ornamental stones have a place in the jewellery market.
- Construction materials and other industrial minerals could be certified in some other way?

There is evidence of demand for both. Participants gave examples of demand for ethical construction materials in the UK and for 'ethical coltan' for a socially responsible defence industry! There is also evidence of supply of vermiculite in Uganda, and India is one of the largest suppliers of buildings stones, and the predominant supplier to Australia.

One issue raised was that the carbon footprint of transporting industrial minerals, compared to jewellery minerals, which weigh much less per dollar value, undermines the ethical credentials somewhat.

On a positive note, thinking is already developed in this field. The Durban Process was developing system for certifying and tracing coltan, cassiterite from DRC. And BGR is conducting research on certifying industrial minerals, particularly stanniferous metals (e.g. coltan), and has pilot projects working on these. There are opportunities to find synergies and synchronise efforts to certify industrial minerals. It should also be noted that different types of certification can supplement each other, e.g. certificates of origin, which generally aim to prevent conflict minerals, and certificates of ethical quality, which typically assure based on social, environmental, and labour standards.

The following activities for CASM were identified in relation to advancing the process for Fairtrade-certified gold:

- The regional CASMs could identify artisanal mining organisations and communities who could become part of certified minerals supply chains
- CASM could supplement the financial support already given to ARM for conducting scoping studies for Fairtrade Artisanal Gold in Africa, for them to do the same in Asia.
- In order to establish viable certified minerals supply chains, CASM could identify the Asian and African countries that allow for individual export of gold through a competitive export market, i.e. not through a central body.
- In countries where gold is exported centrally, CASM could talk with Central Banks to determine how fair trade exports could be done through them.
- CASM could design a strategy for some type of 'ethical' certification of ASM industrial minerals.
 - Conduct or commission desk research and eventually scoping studies to characterise the industrial minerals sector, incorporating gender and quality issues and identifying opportunities and challenges for different types of certification.
 - There is an opportunity for a partnership between CASM's Fair Trade working group and BGR to investigate the potential for certifying industrial or stanniferous minerals as FT?
 - Commission research on the potential market for industrial minerals, including
 - Looking at the LEED standards for Green Building, and starting dialogue with Initiatives such as the World Green Building Council in Toronto and the U.S. Green Building Council in Washington D.C. on issues such as ethical sourcing
 - Identify interested parties
 - Identify interest and market potential
 - Assess potential obstacles and opportunities for FT building materials
 - Identifying interior designers, architects, builders through building relations with relevant associations in developed countries
 - Support research into legal frameworks and public policy to enable responsible ASM and facilitate fair trade labelling.

Breakout thematic session 6: Development Synergies between Large Scale Mining & ASM

This session was chaired by Aidan Davy. The session began with presentations on Mongolian companies' perspectives, followed by presentations from international stakeholders and a discussion on what development synergies can be created, possible approaches to achieving synergies, and practical actions for CASM and others to encourage good practice.

Mongolian National Mining Association

Ms. E. Sodontogos, Adviser to the President of the Mongolian National Mining Association

The Mongolian National Mining Association (MNMA), the industry's largest professional NGO, has been watching closely and attentively the emergence an evolution of a social phenomenon – artisanal mining. As artisanal mining emerged as a major societal response to deteriorating livelihoods of the people resulting from economic transition, the MNMA has been supporting LSM efforts and programmes on community relations and development, which aim to address the factors giving rise to ASM.

In its capacity as the formal representative of the private stakeholders in the minerals sector, the MNMA has made efforts to address institutionalisation of ASM. In 2002 it initiated and hosted a National Consultative Meeting on Artisanal Mining. Over 90 delegates from relevant ministries and government agencies, local governments, NGOs, and LSM and ASM representatives attended. We considered virtually all aspects of ASM, namely government policies on informal labour, enforcement of provisional regulations on artisanal mining, the status of environmental reclamation, child labour, and introduction of environmentally friendly technologies and equipment.

The need for prompt creation of the legal and regulatory environment for ASM was emphasised. Yet, the progress made toward this end has been meagre. In the absence of legal and regulatory framework, the relations between the LSM and ASM tend to become fractious.

The unregulated, disorganised, and unlawful behaviour of ASM leads to LSM production losses due to stolen licensed fields; Financial losses, e.g. hundreds of Ninjas invaded Altan Dornod Gold Mine in 2005 and Monpolimet Gold Mine in July 2006; Operational disruption; and serious disruption, termination and even cancellation of planned and ongoing environmental reclamation efforts and programmes when ASM unlawfully invade the sites after restoration has terminated, e.g. over 30,000 Ninjas are working today at former Erel Gold Mine in Uyanga soum of Uvurhangai province.

The laws which have been enacted to regulate relations in the formal minerals sector have entailed negative repercussions on the LSM, and have eventually caused migration of LSM workers into ASM.

Furthermore, official statistics prove that the volume of gold sold to the Mongolbank after the enactment of the 68% Windfall Tax Law has drastically reduced. This may well be due to an increase in illegal gold trading and smuggling, which already are common among the ASM.

So the problems do exist, and they are likely to be further aggravated, especially in the absence of necessary laws and regulations.

Yet, as I mentioned earlier, the formal minerals industry is not hostile toward the ASM. LSMs have tried to resolve conflicts amicably and sought to engage the ASM in their community development programmes. Yet, such efforts will not yield tangible improvements if the legal and regulatory matters remain unattended by the lawmakers and enforcers.

Therefore we propose the following:

- Establish optimal legal and regulatory settings whereby ASM are motivated to formalise. Such incentives and supporting mechanisms could be:
 - Tax holidays or exemptions for newly established legal entities such as companies, cooperatives, partnerships originated from ASM;
 - Micro-credit programmes;
 - Consultation services on creating cooperative forms or legal entities, marketing the products, etc.
- Create supportive mechanisms to enable ASM to comply with environmental and safety standards.
- Encourage the creation of an organised representative structure, e.g. a separate association of ASM miners or associate member of LSM associations.

What could LSMs do about ASMs? Building on best national and international practices of synergies (examples of Placer Dome in Venezuela and Excalibur in Bolivia):

- Allow ASM to use some part of the licensed fields, where no industrial production is run, under utilisation contracts.
- Offer and provide jobs to artisanal miners (disseminate information about employment opportunities in LSMs).
- Involve artisanal miners in training programmes, provide technical advice, emergency assistance, and mine rescue services.
- Advise on commercialisation of their minerals.
- Assist in solving social problems in community (community development programmes).
- Transfer knowledge, technologies and equipment.

All these efforts should be run under the flagship of the Responsible Mining Initiative. Mongolia's minerals sector stakeholders (Parliament, civil society, NGOs, corporations) have formed this Initiative to ensure that all and any mining practices are free of any negative effects on human health and the environment. We will not be able to achieve this goal if some of the stakeholders are informal, marginalised, neglected and illegal. The MNMA welcomes any effort and initiative to support legitimate interests of ASM to enrol as full-fledged members of the Mongolia development community.

Mongolbolgargeo LLC

Mr. Battulga

Mongolbolgargeo started in 1982; placer gold mine with approximately 100 employees. It established an ASM cooperative in 2005 for family members of employees who did not have jobs, or for local poor people and students. Employees come from 500-600km away and families often move to the mine area, creating a need for economic opportunities

The ASM cooperative works as follows:

- ASM miners enter into agreement with the company that dictates where they can work before reclamation takes place. They mine gold from the pit sides and bottom and are required to abide by some safety rules.
- The Company helps direct the cooperative's efforts. Gold mined by the cooperative is collected on a daily basis, and sold to the company, based on the regional centre price.

- The ASMs work the same working hours as employees, and do not work outside of normal operating hours.
- Support from the company includes instruction in health and safety, and the provision of security to the main project and ASMs, medical services, and professional and technical advice.
- The ASMs support the company by maintaining the cleanliness of the site and its environs.
- The company has a 'personnel' file on each ASM worker. In 2007, there were 60-70 ASM 'employees'. The ASMs enjoy the rights of full employees in 'public activities.'
- Earnings are typically \$250-450 per month per person

The advantages of cooperation include a more complete extraction of gold than would be provided for by 'industrial mining methods', improved incomes for otherwise impoverished families, and an increase in the ability of mine-workers' families to live together.

Group Discussion

The group discussed what they understood by 'development synergies between LSM and ASM'. The following was noted:

- Government as facilitator of relationships and development as opposed to controlling or policing
- Involves recognition of rights and responsibilities of all parties
- Mutual cooperation and shared responsibilities, e.g. environmental protection and social development
- A recognition of inequities in strengths and capacities
- Identifying and exploiting synergies in a variety of areas
- Knowledge sharing and technical assistance
- Effective blending of common interests on basis of mutual respect and agreement to deploy available resources

The group then discussed possible approaches to achieving synergies. Suggested approaches include:

- Critical importance of developing an enabling and supportive legal framework
- Development of formal agreements or MOUs between ASM and LSM – with enabling & enforcement role for government
- Compelling need for technical assistance and technology transfer to ASMs
- Reality check on limits to LSM's engagement (e.g. mandate to shareholders, challenge of illegality, avoid becoming 'operator')
- Need for government to balance imperative of attracting foreign investment but avoid marginalizing ASM activity

Suggested practical actions for CASM and other partners to achieve good practice are as follows:

- Clearer definitions of ASM required (in terms of scale, formality, and legality): some practical constraints to engagement
- Review of existing mining codes and regulations to distil elements of best practice – with practical focus on enabling
- Identification of legal and contractual arrangements that are most supportive of achieving development synergies (e.g. reaching agreements between LSM, ASM and wider community)
- Capture best practices more systematically... and lessons from less positive experiences [case studies]
- Disputes inevitable – so need clearer guidance on mechanisms to resolve disputes
- Move beyond theory to practice: undertake practical joint initiatives at project level to road test what we know in real world

Day Three

10th September 2007



From left, Tamrat Mojo (Ethiopia), Hundi Melka (Ethiopia), & Kuntala Lahiri-Dutt (Australia) enjoy the last of the plenary sessions. Photo courtesy of J. Hinton, 2007.

SUMMARY

Facilitators or rapporteurs from the breakout groups reported back to the plenary in the morning. This was followed by an overview of international initiatives, namely BGR's certified trading chains project and technical cooperation project, the ILO, and CommDev. The CASM Secretariat and regional CASMs then gave their annual reports. The conference was ended with concluding remarks and an opportunity for participants to give feedback and recommendations to CASM.

Session 6: Report from Thematic Discussions

Greater detail of the content of the Breakout groups can be found in the write-up of day two.

Legal and Institutional Framework for ASM

Rapporteur: Peter Nelson

Presentations were made by Peter Nelson on the importance of making sure mining legislation stays in the broader ASM context; by Professor Mombali on issues facing development of legislation; by Manuel Reinoso of Peru on progress in Peru; by Trevor Neale on the links between ASM, clan systems and land use, and by Laura Barreto on issues relevant from a legal standpoint.

Principles for consideration brought up in the discussion led by Graeme Hancock included the importance of keeping things simple in recognition of the fact that ASM are generally uninformed and illiterate; ensuring links between the national and local administrations; making information locally accessible and transparent; and producing an equitable and culturally appropriate system.

In recognition of the wealth of experience amongst CASM members of how legislation operates across the world, and with some people having worked in the field, the group recommended that CASM, as a secretariat and/or a network, produce simple summaries to be distributed to government, possibly in the form of a guidebook, of how policies, laws and regulations interlink in different countries. This guidebook could show what we mean when we say regulations should be accessible to small-scale miners. It could be developed as an actual working tool.

CASM's Approach to Gender

Rapporteur: Adriana Eftemie

The session was structured into two parts, presentations then breakout groups. Presentations were given on mining and gender in Mongolia (P. Bolormaa); women in small-scale quarrying in Uganda (Margeret Tuhumwire); mainstreaming gender issues into Standard Zero for Fairtrade-certified artisanal gold (Cristina Echavarría); and girls in mining in Ghana, Niger, Peru and Tanzania (Martin Hahn).

The four breakout groups looked at how gender could be mainstreamed in ASM in relation to the sub-issues of: 1.) fair trade; 2.) health and safety, environment and technologies; 3.) the interface between LSM and ASM; and 4.) conflict resolution and security. Numerous actions were identified for various stakeholders. Principal themes are presented here:

LEARNING

- Ensure a more sophisticated social and gender analysis, which includes gender roles in wider society as well as ASM.
- Facilitate access to and training for new innovations and safe technologies
- Facilitate networking and information sharing
- LSM can act as a role model by having good working conditions and social protection programs for women.
- Flag gender as a critical issue to consider in ASM/LSM interactions and help understand the local context within which ASM/LSM interactions take place.
- Organise a global meeting of women miners to allow them to share experiences and develop networks.

POLICY

- Establish a gender-sensitive ASM policy and regulatory framework
- Develop procedures to address gender related issues and risks
- Recognize gender issues in ASM and increase awareness of all stakeholders at all levels
- Formalize the establishment of the Gender Task/Working Group within CASM.
- Take a holistic approach to ASM by advocating for gender mainstreaming in the ASM legal and regulatory frameworks and influencing governments to act on this. There is a role for the regional CASMs in this.

PARTICIPATION

- Increase the participation of women in decision making and negotiations on ASM issues and ensure women are in leadership roles.
- Help women to organize themselves, build capacity of women's groups and associations, and build NGOs that perform advocacy for women
- Acknowledge the existence of women in ASM and the potential they have to contribute to community development.
- In relation to Fair Trade, promote the formation of women producer organisations, and jewellery and other mineral commodities that benefit women in the developing world.
- Promote women's role in conflict resolution between ASM and LSM.
- Help women and men in ASM to find alternative livelihoods, as a family.
- Help strengthen the CASM network of ASM women's associations in various countries, through a regional approach.

ASSISTANCE

- Directly contribute practical help (e.g. tools, equipment, finances) as appropriate.
- Increase funding to build the capacity of women producers.
- Enable the provision of microfinance to ASM families.

Development Synergies between ASM and LSM

Rapporteur: Aidan Davy, ICMM

The discussion focused on three things: what the group's understanding of development synergies was; possible approaches to achieving synergies; and practical actions for CASM and partners to encourage good practice.

There was a strong sense that development synergies are dependent on mutual cooperation and shared responsibilities, and some examples were mentioned. Sharing knowledge and technical assistance is also a part of it. Participants made it clear that development synergies are bound up in the common interests between parties on the basis of mutual respect and agreement around the deployment of available resources. There should be concern for the rights and responsibilities of all parties, not more on one side than the other. However, achieving development synergies requires recognition of the power differentials that may exist between different parties.

A supportive legal framework is essential for achieving synergies. Formalising relationships forms the basis for constructive cooperation; government can play a role in enabling and enforcing formal agreements. There is a compelling need for technological assistance to ASM from LSM, but pragmatism as to the ability of LSM to engage is required especially where the artisanal activities are conducted illegally. And finally governments have to keenly balance the need to attract foreign direct investment against the necessary avoidance of marginalising ASM.

Practical actions suggested for CASM included the need for clear definitions of ASM in terms of scale, formality and legality as these effect some of the constraints faced by LSM in engaging with the ASM sector; review of existing mining codes and regulations; reflection on

the form contractual relationships should take for achieving development synergies and including the wider community in these cooperation agreements; there needs to be more systematic capture and reporting of best practice; dispute resolution mechanisms must be developed; and practical joint actions at project level should be taken to road test current theory.

Sustainable Development, Security and ASM

Rapporteur: Alicia Reyes

The session offered a possible methodology to materialise human security, i.e. risk management, and offered participants an instrument to do this. It opened with a review of the minutes of Sessions 2 and 3 which had presented ASM in Mongolia and Asia and continued with presentations including a tone-setting speech by Takeshi Ishiwara, Head of Unit for UN Trust Fund for Human Security.

The main points of the discussion were that risks to life, livelihood and integrity exist in ASM; risks from mercury poisoning are real in gold ASM but risk assessment and management should extend to other commodities; and that since local people sometimes do not accept the facts because of potential disruption of their livelihoods, participatory methods may be the solution.

The session concluded that much needs to be done in the analysis of ASM practices, and that efforts can be co-ordinated under CASM.

Fair Trade

Rapporteur: Estelle Levin

The objectives of the session were to contribute to ARM's Fair Trade process; to produce recommendations on how to tackle challenges related to building sustainable ASM communities through FT certification; and to consider what CASM's role should be in implementing these recommendations and in the FT movement generally.

Presentations were given by Cristina Echavarría on pilot testing in Latin America; Daniel Lafuente on challenges and opportunities for Fair Trade in the Cotapata Mining Co-operative in Bolivia; Trevor Neale on Papua New Guinea; Sally Dickenson De Leon on developing feasible systems of FT for gems and gold; and Vivien Johnston on ethics and integrity in the contemporary jewellery marketplace.

The group then chose to have a general discussion to address two questions: where are potential pilot sites for FT gold in Asia and Africa; and how might a fair trade process be extended to other minerals?

It was noted that CASM's support to Fair Trade initiatives have so far included a side event at their 2005 conference on the Millennium Development Goals and ASM; a breakout group in the 5th ACC in Brazil; a workshop in the 6th ACC in Madagascar and financial support to those working on FT to attend; the formation of the CASM FT working group in 2006, ARM global consultations in Madagascar and Mongolia; this breakout group on FT in Mongolia; hosting and financing the Madison Dialogue summit in Washington D.C. in 2007 and financial support to ARM and other initiatives working on FT.

Recommendations to CASM included having the regional CASMs help identify potential pilot projects in Africa and Asia, especially in countries that allow the private export of gold; continuing to support ARM in conducting scoping studies; conducting desk research and scoping studies on the potential for FT in industrial minerals; conducting research

downstream to assess the potential market for fair trade industrial minerals, e.g. by talking to the architects and others involved in the LEED standard for green minerals.

Environment and Technology

Rapporteur: Steve Metcalf

Presentations were given on the environmental impact of mining in Mongolia (Ms. Ariunzul); the GMP Environment/Health assessments (AJ Gunson); mercury contamination in Filipino mangroves (Peter Appel); partnerships between LSM and ASM (Bern Klein); banka and bore-pile drilling techniques for deep sampling gemstone placer deposits (Ruay Limsuwan); survey of filters for gold shops in the Amazon (Marilyn Engel); and research on reducing mercury in Mongolian muller mills (Professor Ochir).

Among the general observations made were that approaches are more realistic now; the use of mercury and cyanide is necessary and it is better to introduce best practices than to try to prohibit their use; the word 'gender' was never mentioned in the session and technological people need greater awareness here; new solutions for mercury-free technologies are needed as is more training; and it is better to adapt solutions to the mindset of the miners and not vice versa.

Session 7: International Initiatives

Certified Trading Chains

Markus Wagner, Federal Institute for Geosciences and Natural Resources (BGR), Germany

BGR focuses on the Great Lakes region of Central Africa. Germany raised the mineral resources issue at the G8 meeting. What struck us most is that the original wording of the draft emphasised strong support at the G8 for attention on artisanal mining.

Why are world economies looking at ASM and SSM? ASM contributes in large part to western mineral consumption. In most cases is ASM a poverty-driven activity, poverty affects stability and hence it affects us all. ASM has a legitimate place in the economy.

The intention of the G8 goes beyond development issues. There's a dual policy objective that we also adopted in our approach: poverty alleviation and fair access to raw materials worldwide. Key features of the approach include directly linking business partners, introducing minimum ethical standards and implementing pilot projects on the ground and at the international level.

The Certified Trading Chains (CTC) concept is designed for industrial minerals. The chain is built of the producer, the customer, and an independent auditor who eventually needs to be qualified by some institution, be it private, civil society, or government. National government also plays a distinct role, and there may be a need for financial institutions and consultants to assist the producer.

The CTC matrix for responsible use of mineral resources shows that certification and good governance go hand in hand. Single isolated pilot projects require capacity building and a proper institutional framework to work.

Key drivers of success are:

- Long term mutual economic benefit for producer and consumer
 - Increased productivity, revenues, livelihood quality (producer)
 - Diversified supply and branding advantage (consumer / retailer)
- A multiphase approach based on progressive improvement
- Stakeholder acceptance, credibility and broad support on the international level
- Reality check on the ground

This all sounds very theoretical, but these are the people we hope to work with. At least 50,000 tin and tantalite artisanal miners operate seasonally in the Great Lakes region. This affects almost 250,000 people in Rwanda, 8% of the country's population. One option is a pilot trade relationship between a concession holder in Rwanda engaging artisanal miners, and a German processing company. This company was blacklisted in 2002 by the UN Panel of Experts so there is a strong incentive for them to work with this initiative.

This year we have commissioned a baseline audit commissioned based on the OECD integrity instruments, the IFC performance standards, the Voluntary Principles on Human Rights and one other framework. Next year we will conduct a technical assistance programme on community development, health and safety, security, and environmental issues. By 2009 we intend to integrate this CTC concept into our bilateral co-operation with the DR Congo.

We are already developing a system for verifying proof of origin through analysing the radiometric age of the minerals. This analysis can define 5 distinct provinces in Africa but it is very complicated and sophisticated. Instead, a blender tracer is in production to be implemented as a standard method.

International dialogue began with the G8 Summit Declaration and continues with the November 2007 conference in Cape Town on the eve of the G20 Finance Minister Meeting. We have already identified champions, but there is a need to identify exchange with other initiatives.

Technical Cooperation Project: Policy Advice Mineral and Energy Resources

Gisa Roesen, BGR Political Scientist, Germany

Together with partner institutions, BGR works in 35 cooperation projects worldwide. The main focus is on capacity building measure to ensure efficient institutional structures and frameworks. The main thematic areas are groundwater management, geological environmental and resource conservation; management of geological risks; mining consultation and mining environmental protection; and raw materials: energy, rocks/sands, metal.

Examples of projects in the mining sector include:

- Chile: remediation of environmental legacies of mining activities
- Columbia: reduction of environmental impacts caused by small-scale mining activities in Bucaramanga
- Mongolia: environmental protection in the mining sector, Production of Certificated Reference Materials
- Namibia: support to the Geological Survey
- Vietnam: support to the Mines Inspectorate

A new July 2007 project called 'Policy Advice Mineral and Energy Resources' addresses mining issues on an international policy level. We are implementing this for BMZ, the German Federal Ministry for Economic Cooperation and Development.

In about 50 developing countries minerals contribute more than 10% to GDP, which translates as over \$90bn 2005 or three times more than the foreign aid provided. With increasing global demand for mineral resources, this sector can help improve life in the developing world.

Due to mismanagement in the mining sector, high dependence on mineral resources can provoke political and social conflicts, as well as environmental and social issues, thus jeopardising sustainable development. We formulated our objectives based on the G8 chair's document. We focus on 3 areas:

- Sustainable development for poverty reduction – providing analysis to detect positive correlation between mineral resources and policy development'
- Social and environmental standards – developing institutional programmes to introduce these, enhance compliance for transparent resource use and promote ASM and responsible management of resources.
- Transparency – supporting initiatives to enhance transparency and promote approaches for transparency in related fields in the mining sector. We mostly focus on Africa and we also concentrate on SSM.

How are we going to do it?

- Concepts and strategies towards a sustainable resource economy;
- Advising BMZ (the German Ministry) regarding development policy and mineral and energy resources;
- Supporting international initiatives, co-operations, dialogue and donor co-ordination;
- Conference on transparency as part of the G8 follow-up process.

The Global Mercury Project: Past and Future

Kevin Telmer, GEF/UNDP/UNIDO Global Mercury Project, University of Victoria, Canada

Working on mercury offers an entry point to the ASM community to work on many other issues as well. ASM is the largest intentional-use source of mercury pollution in the world, indirectly involving and potentially exposing up to 100 million people.

The GMP works in 6 countries. It teaches, assesses and innovated best practices in technical know-how and governance (local to international) to assist small-scale miners in moving towards cleaner technologies, sustainable livelihoods and better health. Essentially it is a field operation in local communities but with frequent visits to national and international governments and partners. This phase was a pilot study to test the approach and methodology to engage ASM communities and reduce their consumption of mercury.

The GMP's objectives are:

- Environmental, health and socio-economic evaluation;
- Creation of policies to insert artisanal mining into the formal society;
- Education of miners and communities;
- Improvement of gold recovery; building of equipment;
- Reduction in mercury exposure and emission; and
- Evaluation of mercury mobility in water streams.

A perspective that guides the project is that through bad practices miners frequently leave gold behind while polluting the world with mercury. If miners are taught how to get a little more gold while reducing mercury use, the change pays for itself.

The GMP takes a two-phase approach to capacity building in technical know-how and governance:

- less mercury, more gold, better health;
- zero mercury, more profits, community development

In GMP's forthcoming second phase it will build on lessons learned, developing a three-level intervention strategy with seven objectives:

- Inventory
- Policy
- Health and the environment
- Training of the trainers
- Awareness campaigns
- Technology transfer
- Sustainability initiatives

There are three levels of commitment. At Level 1, GMP works on all 7 initiatives for 5 years. Level 2 features the same activities on a smaller scale. Level 3 consists of a 3-month assessment of the ASM community in the country.

We are looking to develop and partner a Global Centre for Artisanal Mining to multiply in GMP countries. GMP has committed with a variety of partners (NGOs and government) to reduce mercury use in ASM by 50% in 10 years.

International Labour Organisation

Martin Hahn, International Labour Organisation

ILO is a specialised UN agency in which workers, employees and governments are equally represented. Our very early involvement in CASM was due to a decision at the 1999 Tripartite Meeting on Social and Labour Issues in Small-scale Mines.

Specific ILO tools include a handbook on safety and health in small-scale surface mines. SAM is using a similar approach for its own publication.

Child labour is an important issue for the ILO. In 1973 mining was identified as a hazardous industry for children. This was originally in the context of the formal economy, but is clearly relevant for ASM. Since 1999 a lot of work has been going on to target the worst forms of child labour.

At the World Day against Child Labour in 2005 a Call for Action was signed that sets out ILO and partner strategy. ICMM and CASM are involved in trying to eliminate child labour in small scale mining by 2015. The target countries of the Call for Action are: Brazil, Burkina Faso, Colombia, Cote d'Ivoire, Ecuador, Ghana, Mali, Mongolia, Nicaragua, Pakistan, Peru, Philippines, Senegal, Tanzania and Togo.

There are 4 categories of target country. Those which have:

1. signed call and ratified C 138 and C 182: high incidences of worst forms of child labour; long-going ILO involvement;
2. signed call and ratified C 138 and C 182: fewer children at risk; ongoing work (e.g. Brazil);
3. signed call and ratified C 182: special challenges in reducing child labour and regularising the industry (e.g. Cote d'Ivoire); and
4. countries that have not signed the call but have requested IPEC assistance.

We have done a working paper on girls in mining in Ghana, Niger, Peru, Tanzania: the main findings are that girls are far more of a problem than we had thought. Project design often assumes that girls do not go into the mines. In Peru women work in the mines and girls are going too. Project planning and implementation needs to take this problem into account.

ILO has been working in Mongolia for some time to make sure that now Mongolia has ratified C 182 it can successfully eliminate the worst forms of child labour by strengthening the enabling environment for national action and developing the integrated area-based intervention model.

ILO is also involved in the informal policy draft adopted in 2006 relating to social security (occupational health and safety). ILO has provided comments on the law that is to be adopted in Mongolia on ASM. Mongolia should also consider ratifying the Safety and Health in Mines Convention No 176.

ILO also has guidance documents targeting LSM. More information can be found at www.ilo.org.

CommDev

Veronica Nyhan Jones, Social Development Specialist, COMMDEV, International Finance Corporation and the World Bank

CommDev is the World Bank group's Oil, Gas and Mining Sustainable Community Development Fund. It is a \$12 million fund supporting information exchange. It has a global focus with emphasis on Africa. It supports tri-partite approaches, and was born of the Extractive Industries Review.

Community development is not philanthropy and shouldn't be done ad hoc but has a real strategic aim. Features of effective community development include:

- Community consultation;
- Clear understanding of the local context and impact of extractive industries on the community (early baseline data);
- Trust, shared ownership – processes are key;
- Expectations contained by clearly defined roles and responsibilities of all stakeholders;
- Capacity building;
- Participatory Community Development Strategies;
- Resources allocated to deliver outputs;
- Monitoring and evaluation are integral parts of programs;
- Strategic partnerships; and
- Sustainability.

The following are key themes for CommDev. We think these are essential for effective development but also where our constituents tell us there are gaps in the international knowledge base:

- Stakeholder engagement
- Participatory planning
- Local conflict management
- Local revenue management
- Capacity building for government, companies and communities
- Participatory monitoring and evaluation
- Communication and information sharing
- Artisanal and small-scale mining (with CASM)
- Gender

One project identifying alternatives for artisanal and small-scale miners is being implemented by PACT in DRC focusing on:

- Mine employment
- Local supply chain development
- Livelihood alternatives
- Co-habitation
- Environmental standards programs
- Appropriate vocational and alternative education

6 other projects are underway worldwide with 15 in development. CommDev is also developing learning products in partnership with many of the organisations present at the conference including:

- ASM and LSM Good Practice Guide (with CASM)
- Local Conflict Management Toolkit

- Participatory Planning and Monitoring for Companies and Communities
- Indicators for Monitoring Corporate Community Development Initiatives
- Foundations for Community Development

An example of CommDev's monitoring and evaluation initiatives is its participatory environmental monitoring project in Guatemala. Potentially we have convinced some people that monitoring and evaluation is important and should be participatory. We want to look at the bottom line too so that investors can understand what everyone is getting out of the process.

CommDev's clearing house will be launched in October 2007. The emphasis will be on tools, supported by an online database. We also hope to host online discussions and dialogue to continue some of the discussions that have happened here.

Session 8: Reports from CASM Global and Regional Networks

Highlights from CASM Annual Report

Dr. Gotthard Walser, CASM Secretariat

CASM is a global partnership initiative to promote development in ASM and surrounding communities through a holistic approach. The organisation of CASM is becoming more and more complex each year. It's not yet a huge initiative. We more or less have \$1m per year, mostly from DFID, WB and a number of private initiatives. We recently established a multi-donor trust fund so we can now organise grants for different projects.

During the years of CASM we have established over 40 partnerships worldwide. What have we been doing for 2007 and 2008 with the commitments from last year's 6th ACC in Madagascar?

- Large-scale and artisanal mining/Great Lakes: focus on DRC
 - ASM donors' co-ordination meeting held in Kinshasa (8/07) and follow-up
 - LSM and ASM synergies: regional infrastructure workshop in Katanga (11/07)
 - Publishing a background paper (9/07) and best practice guidelines (IFC/PEP, CommDev and CASM: Indaba 2/08)
- Gender
 - Set up Gender working group
 - Strategy paper Gender and ASM
 - African countries assessments
- Fair Trade
 - Ethical jewellery conference (Washington 10/07)
 - DDI Standards and Guidelines publication (11/07)
 - FT standards '101' publication (6/08)
 - FT and ASM Community Development: increased partnerships and support to FT initiatives
- Advocacy, awareness building and partnerships
 - Kimberley Process, US Agencies, Donors' meetings, Jewellery Associations, EITI
 - New active partnerships with bi-laterals and the private sector
 - Systematizing sensitisation, communication and media information
- Knowledge sharing
 - 7th ACC in Mongolia (September 2007)
 - ASM day at World Bank (2007)
 - Regional workshops
 - Policy support to governments
 - Revamped website
- Continued support to CASM regional networks
- Development project grants (DGF): Diamond Development Initiative (West Africa), the International Labour Organisation, Kimberley Process ASM Working Group and grassroots initiatives
- Improvement of CASM management and fundraising structure

CASM is a multi-stakeholder network and is developing a lot. First it is important to link ASM to development, not just in terms of mitigating environmental and social impacts, but linking ASM to development goals. We have a clearer focus also on what we should do from the global and advocacy level, and also concerning regionalisation of work on the ground. We are prioritising four issues: fair trade, gender, the Great Lakes region and LSM versus ASM. CASM is now recognised as a leading initiative in the field of ASM and SSM. A specific mention was made to CASM in the G8 declaration in June.

We now have a stronger team and it's growing. But we still need to develop synergies with the SMAG members, as well as with partners and regional CASM members. We are ready to focus on advocacy and fund raising. What will be our role in the future? We want to hear what you think.

CASM Africa

Nellie Mutemeri on behalf of Linus Adie, Chairman of CASM Africa

CASM Africa was initiated at the 4th CASM conference in Sri Lanka by a group of African participants. About a year later, some structure was put into this idea at a meeting that was facilitated by UNECA in Uganda. The official launch was in Ethiopia with the support of the Ministry of Mines. CASM Africa is now recognised by the Africa Mining Partnership (AMP), a link that has allowed us to participate or partner with the AMP on their projects because the AMP itself is not an implementing body.

Secretariat activities:

1. Donor coordinating workshop in Kinshasa, DRC – participated
2. LSM-ASM workshop in Katanga – planning
3. Annual Learning Event in February 2008 in Cape Town – planning

Other activities relating to strengthening the secretariat:

1. Funding secured from CASM global
2. Action plan for current CASM grant
3. Engaged a part-time assistant.
4. Database of ASM activities in Africa
5. Management of the small grants facility on behalf of CASM Global
6. Designing promotional materials

At the moment CASM Africa is reviewing criteria and working with CASM Global to draft a new process for divestment to include a monitoring process.

Informal activities include information sharing; support of AMP projects; and strengthening of links with ICMM via Toni Aubynn.

CASM Africa nodal points:

- West Africa – Toni Aubynn (Ghana)
- Central Africa – replaced by a new person at the DRC Ministry of Mines (Technical Cell for Mining Planning and Coordination (CTPCM))
- East Africa – Kateme Tadesse (Tanzania)
- Southern Africa – Salvador Mondlane (Mozambique)
- North Africa – still to be identified

CASM Africa plans for 2008:

- CASM-Africa Workshop in 2008
- Scoping study to establish interventions to implement
- Regional technology demonstrations
- Training collaboration: MINTEK, SEAMIC and SANTREN
- Strengthening the network: nodal points by region, website
- Website to be launched and fully operational

CASM Asia

Satoshi Murao, SMAG, CCOP Coordinator and CASM Asia coordinator

CASM-Asia was approved at the second SMAG meeting in 2005 and the secretariat function was entrusted to the Coordinating Committee for Geoscience Programmes for East and Southeast Asia (CCOP).

From 2005 to April 2007 a grant was provided to the secretariat to support development of the network. Since then CASM Asia has been sustained mainly by in-kind contributions from the Geological Survey of Japan and CCOP, as well as member country government contributions to the costs of CASM Asia events.

The core network group includes Cambodia, Indonesia, Japan, Republic of Korea, South Korea, Thailand, Malaysia, Philippines, Papua New Guinea and Vietnam. Other countries like India and Mongolia are co-operators.

Goal-Oriented Project Planning workshop (GOPP) is directed towards clear project planning. Two workshops were organised as CASM Asia activities.

The 2006 Hanoi meeting took place 16-18 August and discussed social and environmental issues in Asia. This workshop provided the participants an opportunity a methodology for enlightening people on environmental issues. Professor Suzuki and Professor Kikkawa designed a game on community survival and policy implementation through risk communication to be used in this workshop.

CASM Asia's second workshop was from November 27th to 29th 2006 and was a scientific and technological meeting called the CCOP-GSJ-ESD-Geological Agency of Indonesia Workshop on State of the Art Science and Technology to Protect the Environment and People. All of the local cost was shouldered by the Geological Agency of Indonesia. During the workshop a draft manual of the analytical technique, Proton Induced X-ray Emissions (PIXE), which is used to determine trace elements, was designed and CCOP is now planning to publish it.

Last year, an ASM database was developed giving information at the national and mining site level. The database management system developed by Mihir Deb has been distributed to each CCOP member country and to CASM Africa. In October we will probably have one Asia-wide database on the website and must soon look for another server with large capacity.

A page is dedicated to CASM Asia on the CCOP website for information dissemination; we are also trying to link to the websites of other institutions with ASM activities.

CASM Asia has very good co-operation with some CASM Global projects and also some Mongolian geologists. We are very closely working with the SAM project as agreed in Madagascar.

A key activity for CASM Asia is environmental analysis support programme for CCOP and other regions. We offer complimentary analyses of specimens from local communities facing environmental problems. CCOP can use PIXE to analyse up to 400 specimens per year.

The Geological Survey of Japan and CCOP have made official decisions to serve for CASM. We also continue to co-operate with the Ministry of Foreign Affairs, Japan, and continue to look for further co-operation and funding. Other actions this year are:

- Train the trainer programme, Japan
- Japan Society for the Promotion of Science - environmental analysis and support programme.
- JSPS – Professor Suzuki’s project.

The GSJ and CCOP are happy to host CASM. This is an official decision. It is my pleasure to inform you that CASM Asia has already succeeded in getting three types of funding. One is from APEC for a train the trainer programme in Japan. The second is from the JSP, the Japanese Society for the Promotion of Science (JSPS), to support the environmental analysis programme. The third funding is also from JSPS for Professor Suzuki’s project, which is developing a community-based participatory programme for environmental protection. In these ways, specific CASM Asia projects are supported.

We continue to cooperate with Japan’s Ministry of Foreign Affairs. The GSJ understands that CCOP and CASM can materialise the concept of Human Security.

We will try to widen the network. Our former director of CCOP and the director of SOPAC (the Pacific Islands Applied Geoscience Commission) talked about cooperation and extending CASM Asia into CASM Asia-Pacific.

CASM China

Professor Lei Shen, Chinese Academy of Sciences, Chair CASM China, Institute of Geographic Sciences & Natural Resources Research (IGSNRR), Secretary General in China Society of Natural Resources (CSNR)

CASM China also continued to improve the development of SSM in China by way of two approaches: top-down and bottom up.

From the top downwards, CASM China has:

- Influenced central government decision-making. We are responsible for the drafting of legal articles in the second revision of the mineral resources law.
- Carried out a national policy study for SSM for the Ministry of Land Resources. We have organised a research group to finish this study, before sending this policy to the Ministry.
- Joined a national forum for strategic decisions concerning the central government’s resource consolidation campaign.

From the bottom upwards, CASM China:

- Taught people how and why to use environmentally friendly methods;
- Shared international and domestic experiences and knowledge in the field of ASM; and
- Expanded the network of CASM-China.

CASM China continues to provide useful support to ASM workers and local communities and technological support and consultation for ASM.

Key features of SSM in China are as follows. ASM happens over China's 31 states, with a clear S-shape allocation. ASM is predominately of chemical and energy minerals (86%), though a diversity of other sectors is exploited. The number of ASM in China has been sharply reducing over the last 8 years as a result of closure and resource consolidation policies, which started in 1999-2000 and 2004-2005 respectively. Now more than 80% of artisanal mines are privately or collectively owned. Other types of ownership include state-owned, share-limited, share-cooperative, joint operation and foreign direct investment. All in all, SSM in China has made a great contribution to the national economy.

What has CASM China done since the last conference in Madagascar? As well as the achievements mentioned above, CASM China has:

- Shared some knowledge of CASM with CASM-China;
- Translated the CASM brochure into Chinese;
- Introduced international experiences of CASM into China;
- Organized Chinese delegation for the 2007 ACC;
- Shared major events in the website of CASM China;
- Joined the CASM logo competition!

Finally, I would like to introduce what CASM China plans to do. It's very important for CASM China to find international partners. CASM China can do a lot of work. We can do work for the government to help them identify priorities for SSM policy.

CASM can also look for cooperation with some small scale mines, for example by investing in resources, technology, training, safety and the environment.

Session 9: Conclusions and Recommendations

Reflections on the Conference

Ed O'Keefe, Synergy Global Consultants, UK

Before I begin, it would only be responsible to put a big health warning on this presentation. It's my first visit to CASM and I've been on a very steep learning curve since most of my work has been in rural development and large scale mining. This is very much a personal perspective, my own thoughts.

The theme of the conference was partnerships. Starting with one of the main partnerships that has been discussed, ASM and government, it's been an interesting transition to see the expansion of the role of government from policing to enabling for sustainable ASM.

Obviously the situation in Mongolia is at the top of everyone's minds, and it's good to see things working elsewhere, as in Peru and Papua New Guinea.

The fact that ICMM have identified the relationship between large scale and ASM as an issue is a really important step which says a lot about the role of CASM. It's good to see how these relations can work, for example in the Philippines and Ghana, and to see that LSM is partnering government in some cases to address ASM issues.

I think there is so much scope and potential in supply chain partnership through initiatives such as Fair Trade. There are particular challenges to working on the supply chain – there are complex, trusting relationships; it's different in each different context.

Also partnerships within the ASM community: it's been an amazing opportunity to share experiences and learn from over 40 countries and all the disciplines. There is a growing consensus about the role and responsibilities of ASM. Shared responsibilities are also really good: coming to ground and saying, "Be more realistic! There are limits to what we can do", as we saw with Goldfields in Ghana.

The conference has been about recognizing different strengths and capacities, recognizing that different perspectives are valid and that building trusting relationships takes time.

A lot of the issues we've been talking about today are fundamental human rights issues. A big theme has been that rights go hand in hand with responsibilities.

The right to employment came out when the Mongolian artisanal miners were talking. They have a right to make a wage but can't do it through herding alone, so do ASM. It's also great to hear people say we're prepared to pay taxes.

The right to security: some of the ASM told how they wanted to be secure in their work.

One responsibility is to develop an enabling legal framework to protect and report these rights. Beyond that framework there is the responsibility for companies, communities and governments to protect the rights of women, children and workers and manage the environment.

We talked of provision of services. There was talk of technology in the mercury talk, but education was everything: it's a responsibility to share those technologies and training.

Access to credit and markets: the combination of cyanide and mercury was about access to credit, not technology. Inclusive consultation: the amount of consultation involved in Standard

Zero is really commendable. Accountancy and transparency: we have to be accountable for protecting these rights.

There are also huge dilemmas in balancing interests, and balancing the right to employment with a safe working environment.

It has been a real honour to listen and talk to some of the miners who have been operating in Mongolia – we've learned a lot from you and hope that you've learned a lot from the conference.

Mongolia is in an interesting situation: ASM is an option of last resort, as a consequence of wider things that are happening here. It was amazing to hear how dependent some of the areas here are on ASM, even if it's recent. Where it's working it's having a massive impact on poverty reduction. Models of best practice are being developed and Mongolia has a huge opportunity to create an enabling environment for ASM through its legislative reform.

There's a real sense that CASM has matured, is in its teenage years, becoming a bit more independent, testing and pushing boundaries. People are asking if the annual conference is out-growing itself. But CASM has had a big role in promoting ASM on the international stage.

CASM is starting to extend its linkages. How can it go into the supply chain, work with LSM, adjust climate change? That will be one of the emerging issues for ASM in the coming years.

How do we make these partnerships more effective or sustainable? One question is not just defining ASM but what outcomes we want. Do we just want an effective business? Or do we support it for its community benefits? Or as a route out of poverty? To help people move out of ASM? Will the ninja miners in Mongolia return to herding?

Feedback and Recommendations

The feedback and recommendations were conducted in an interactive way. CASM's Chairman, Jon Hobbs, moved amongst the participants to solicit short recommendations, issues, and perspectives on how things can improve. These will be recommendations for CASM's Strategic Management Advisory Group (SMAG) to take on board, so the SMAG were invited to sit at the speakers' table on stage.

The purpose of this session is to check that everyone's needs have been met. You have all sorts of expectations from coming to these events: to strike deals, build partnerships, learn all the time. We want observations, recommendations for CASM, for Mongolia. Any issues that remain unresolved, what you'd like to see next time, how to be better next time, what this conference has meant for you...

Peter Appel, GEUS, Denmark

There have been lots of interesting presentations, but one of my main reasons to come here is to network. I can give you an example. About six months ago, UNDP issued a project in Zambia for tender. I remembered I'd met a consultant who'd worked in Zambia at a CASM conference, so got in contact. The next step was to learn what gemstones SSM mine. Last year in Madagascar we had an excellent tour at a World Bank-funded cutting and polishing school for ASM. So the survey was awarded this contract.

This morning I spoke to an SSM from Zambia who was very interested in the borax I'd talked about. So it's also an opportunity to go and teach people before they get bad habits.

Women Government Employee, Mongolia

I believe mercury should be banned and think that CASM should make a call to ban the use of mercury in Mongolia.

Participant from Tanzania

Global CASM should continue to help the regional CASMs and governments in advocacy on issues of poverty reduction, LSM and ASM conflict management, environmental protection, treatment and prevention of HIV/Aids and other communicable diseases, and gender empowerment. This will help countries meet the MDGs.

Participant from Ethiopia

Among the things we learned about was the importance of consultation and communication at all levels, including with ASM. We have a lot of experience in this. We have more than 500,000 artisanal miners and the sector has been recognised as a legitimate livelihood for Ethiopians. Recently the Government and the Ministry of Mines has committed to ASM as a development opportunity, in cooperation with different stakeholders. For example the National Bank of Ethiopia is revising its directives in the sector and has reduced its purchase limit of gold. It now takes a 20% retention and 1% service charge and authorises the purchase of gold by other financial institutions. The Ministry of Mines and Energy has established a unit responsible for the ASM sector and is revising the mining regulations with the assistance of the World Bank. We have also established a unit for women's affairs. The regional mines bureau has established co-operatives in the mining areas to facilitate access to microfinance for the miners. Consequently, gold exports passing through the National Bank have increased to 109kg and 905 kg of gemstones have been exported.

Representative of PACT, Mongolia

CASM is the organisation which is representing our ninjas. There is a need for the government to address the legal status of ASM. I have talked with many Mongolian artisanal miners who say that legislation is a problem. The government has been policing but should be facilitating change.

There are also lots of concerns over how the non-mercury practice could be implemented. We have to reduce mercury use, eventually to the level of zero mercury. If people were aware of available technology they'd be interested in changing their practices. I'd like to thank CASM for the practical environment and technology session.

Nellie Mutemeri, CASM Africa

In response to colleagues from the CASM Africa network, the reason why we've identified an ASM database project in Africa is because we realised there is a big gap in the recording and sharing of information. It's an opportunity to let the world know what we're doing and what we need to do.

Markus Wagner, BGR, Germany

This is my second CASM conference. It's a wonderful opportunity to liaise with people from the host country and the international community. Most standards initiatives have the moral support of the CASM secretariat. But can the CASM network build a stronger umbrella to support those initiatives that have common ground?

Marilyn Engle, US EPA

I also support the strong partnerships shaped by CASM. Perhaps we could strengthen the link between CASM and UNEP. As a matter of fact, UNIDO is perhaps taking the lead with a working group addressing ASM. The purpose of global partnerships for mercury management in SSGM is to reduce mercury use and emissions. In that regard we're hoping to provide training, outreach and technical support, for example to help participants identify sources and uses of mercury in the country.

Mongolian miner

I learned that in Mongolia we're quite lucky. In many countries where people have 100 years' history, there are a lot of experiences that could be transmitted here if we made the legislative environment favourable. I hope we will have progressive, supportive ideas for ASM. We have the SAM project and I think there's a need to do more study and research so the world will pay attention to this matter in the future. When we talk on the issue, we need evidence and statistics. Secondly, banning ASM will make the problem go underground. We need to promote environmentally friendly technologies. Another issue is that ASM support contributes to rural development.

Victor Kalesha, Miner, Zambia

It's my first time at CASM, but I've been told about the previous meetings in Brazil and Madagascar. My colleagues who came home went to disseminate the information to the grassroots. Coming here a lot has been highlighted and you say 'oh, so it happens in other places too' I'd like to ask all our colleagues who go to different areas to take this information to the grassroots there.

Baguma Zachary, Geological Survey, Uganda

We, the Ugandan delegation, endeavoured to participate in the plenary and to attend most of the workshops sessions and have observed as follows. First, we would like to acknowledge the support of the Government of Mongolia and the Office of the Prime Minister who made this conference a great success. We also express gratitude to the Mongolian hosts and the CASM Secretariat, who really have done a very fine job in pulling together this conference.

Fair Trade: this initiative is timely and the objectives are well thought. It is our desire that all the stakeholders fully embrace the FT initiative and they participate in the development of SMART standards to benefit ASM all over the world.

Environment and technology: we realised that alternative technologies should play in favour of the status quo of ASM. We strongly believe it's our obligation to sustain the environment for future generations.

Institutional framework: most ASM is informal, but great efforts have been made in some parts of the world to formalise ASM. We call upon all stakeholders to continually share these approaches.

Synergies between LSM and ASM: different countries have different laws and cultures. It is important for stakeholders to adopt the best models available.

Mongolian ranger

I'm from Bayankhongor aimag; I am an environmental ranger. There weren't many presentations on environmental education in this conference, so my wish is that you do this more next year.

Mihir Deb, India

We've learned in the last two days how extensively ASM is done here in Mongolia, and what kinds of environmental degradation it is causing. But I would have loved to know more about ASM in Mongolia: for example how much gold is produced in Mongolia? How much does an ASM family or a group earn per month or per year doing the ASM and then who do they sell it to? What are the trading channels? Where does it end up finally? We're asking about what type of trade goes on here.

Jose De Souza, Brazil

This is my second CASM; the first one was in Bahia, Salvador, in Brazil. I would like to say thank you for the hospitality of the Mongolian government and to congratulate them for efficiently organising this conference. But I would like to say with some depression that I haven't seen a good evaluation of our problem. As you know Brazil is like a continent. If you measure it, the whole of Africa and Brazil are similar in terms of area. In the Amazon we have a great problem. In this conference just two people spoke about Amazonia, especially in the Tapajos area. I'd like to propose that as soon as possible we have this conference in the north of Brazil, and if it's possible in the area where we have the problem. Because unfortunately, the presence of ministries in Brazil, state and municipal governments are not present. So it is a big effort to find a solution to the mercury problem. As a medical doctor, I am depressed because of the people that really suffer.

Robin Greyson, Eco-Minex International, Mongolia

The point I want to raise is that at my first CASM meeting I would have hoped to find some simple technical information on how to make a reasonably safe windowless retort, or how to do a homemade method of scraping the land to restore it. As it happens, we have managed to solve these issues with simple windowless retorts from Mexico and scrapers from California and Costa Rica. I think CASM every year should set a few technical challenges to people to present, then compile them on the website.

Luvsanvandan Bold, Chairman of MRPAM

I'm very humbled to be one of the last speakers today in summarising the conference deliberations. I'd like to wrap up the general technical side of this CASM conference. We had 4 days of conference proceedings, including the pre-conference technical workshop, 3 days of conference, and tomorrow there will be 2 days of field trips; in total 3 technical workshops, 6 thematic sessions, 9 plenary sessions. We had 170 official foreign participants and 180 national participants, including 30 artisanal miners. The presence of ASM at the conference has been a great achievement and contributed to its very positive outcome.

We had a number of important events but I'd like to highlight the roundtable meeting between members of the Mongolian government, the panel and CASM experts. There is a keen interest to address the issue in the parliament.

I think CASM is the most essential think tank addressing this pressing and crucial issue. If there is any solution possible to help us resolve this crucial issue, it would be the CASM conference. All the documents will take time to study, but I'm confident that the countless presentations and speeches and opinions have already enabled us to start action.

I have to summarise the conference results with regards to Mongolia. I'd like to thank you all for saying this CASM conference is technically well organised. There were some developments we didn't prepare for - like the issue of mercury becoming the eye of the storm in today's daily life in Mongolia, if you see the press here these days! And also the general interest and participation of all the governments, NGOs and civil society at this conference.

During some events like the poisoning in Hongorson, actions taken by government can result in a 'Wild West' type of situation. You have some casualties, step on the horse and start shooting. So the government had to take some actions. All the mills have been confiscated and there's been a really harsh approach taken on the ASM. We have had time to think in a reasonable way about the comments, views, and advice of our international experts and all our other stakeholders who are taking part in development. That's why we see this as a chance for future actions.

Mongolia is really a great nation, a great people. We are always close to earth. In Mongolia there are three times as many ASM as the formal miners. This shows the Mongolians' natural talent for working with earth and minerals, close to nature. Mongolians were herders but when the herds died, they turned to mining. What is the contribution of the Mongolia ASM to the economy? Do we have reliable statistics? I should say no. We are really right now at the beginning of addressing this phenomenon. The official statistics state that there are 100,000 people producing 500kg of gold. But all the international surveys show that the number is at least 5 to 10 times higher. Either we make it a catastrophe or a foundation for rural economic development in Mongolia.

I'd like also to outline one idea that came during this session today. It was always said that ASM in Mongolia began to be raised as an issue in 1997 when the first international standard mining law was introduced. But it reached its peak around 2002-3 when harsh winters displaced a lot of herders. But if I look at what is behind ASM in reality, then maybe there are other reasons. In 1997 we had a new mining law and international investment poured into geology and mining. The investors enjoyed tax freedoms and so on and there was really a need for Mongolian people to compete with the investors, to keep something. This has been the ideology among certain levels of the population.

In 1992 we had the new constitution which made us a free country and free market economy. This meant political and economic freedoms. The Mongolian people felt that now they were really the owners of their country: not the government, the people. Which stimulated ASM, as the people felt their freedom. This is a broad issue the government has to deal with. We have learned a lot from the conference. There are many actions I could touch in this summary report. The process has started and we are very happy that this conference has contributed so much to our wisdom and to the right perspectives for the future.

Last but not least I just want to thank the CASM secretariat for the excellent work and collaboration; and to all the international participants who have been really guests of honour in Mongolia, you've been friends and partners, brothers and sisters. We all see a great future together. Nature takes away most borders. We are all one humanity. We want to be one and resolve this issue which implicates each of us.

Manuel Reinoso, Chairman of AMASUC, Peru

I'm speaking as an artisanal miner, and I ask what would the 20-plus million artisanal miners and their dependents do if there wasn't ASM? Artisanal mining offers opportunities for employment, it's also a tool for poverty reduction and we're developing. We need to get organised but also to work more in order to address environmental problems. I also say that mercury contamination is not the only kind of pollution - we have other sources of pollution such as car emissions. The only thing I would ask my fellow Mongolians is to get organized to move forward and get good technologies.

Now I would just like to thank the World Bank and the partners for the opportunity they are giving us as stakeholders to work on these issues. And finally in the name of all my Peruvian compatriots I'd like to thank you all and all the countries during the hard times we faced, especially during the earthquakes where more than 500 Peruvians died. I thank you for your support.

Local Governor of Mongolian Province

We have quite a number of artisanal miners who are now becoming more organized. But we have geographically difficult conditions. There is one gold company in our area and they have rights to the land. We have been allowing around 500 miners to enter into that field with identity cards so they can do some extraction activities and improve the wealth of the people. This is one example of the arrangements that can be made with local government. We will inform miners about what is being done. I'd like to tell miners to work in a more organized way. The issue of ASM has been adopted by the mineral authority and other government departments. We've been helping miners to benefit from the services we offer. If we take appropriate measures then the goals we have mentioned will be successful.

Jon Hobbs, Chairman, CASM

I think one way CASM can help is getting some of the information translated into Mongolian for the people that need it!

Peter Appel, GEUS, Denmark

I was very struck that CASM got a mention at the G8 summit. It indicates that CASM is recognised as an influential body. One thing is that we need clear representation and I recommend that we give ourselves more emphasis. We take the logo and give it a stronger public image. I'd like to see CASM capture the wealth of experience available in this work. I recommend simple short guides, for example on simple technology, and maybe a draft guide on policies, laws and regulations. These should be presented back at next year's conference.

Satoshi Muraio, CASM Asia

Since its inauguration, CASM Asia has discussed a lot of issues. After brainstorming, two sentences were the result: 1. Protection is the purpose rather than ASM promotion, and 2. Every measure including alternative livelihoods is necessary.

At the CASM Asia Goal Oriented Project Planning workshop in 2005 it was identified that the core problem is poor living and working conditions at mining sites. The expected outputs were that the income of ASM communities be increased; that more ASM communities would adopt safe, healthy and environmentally sound practices; that the database should be properly functioning and utilized; and that ASM receive more basic services.

At the CASM Asia Workshop on State-of-the-Art Science and Technology to Protect the Environment and People in 2006 it was concluded that the ability to identify risks, prioritise countermeasures and select appropriate laboratories belongs to the community.

A major lesson from meetings with miners is that it appears that small scale miners, even when confronted by scientific facts, tend to deny possible negative effects on their bodies. There are different risk perceptions among different groups of people.

Miners have the will to explore their own happiness. Miners hope to pave their own road.

They feel anxiety but it is amalgamated with various kinds of risks. We need to empower them through risk management so that they can:

- Disaggregate vague anxieties into specific risks;
- Identify which risk is more serious and should be addressed first;
- Write development strategies;
- Co-ordinate professionals according to their preferred strategy.

Proper risk management means people are at the centre. This means that the risk miners want to solve first and what government wants to do first many not coincide. Miners want to

talk about is possibilities and opportunities, not problems. They feel that risks are brought into the community by professional scientists and they are forced to solve them according to the scientist's scenarios. Effective countermeasures can only be achieved when a 'sense of ownership' is obtained by the local people.

Conclusions and recommendations:

- Human security is in concordance with our idea to place people at the centre of deliberation. The concept can be a reference for our consideration and actions in terms of ASM.
- ASM poses various kinds of risks depending on the commodity, place, business tradition, social structure, culture etc. Risk management can be a generic methodology in ASM in that all of the issues are collectively treated under a common work – risk.
- We should empower the local community in terms of risk management. It should be the local community who identify the risks; who prioritise actions, who determine what kind of plan is appropriate; and who co-ordinate professionals and agencies towards a solution.

Mongolian woman

I will transmit all the knowledge from this conference to the people where I work. In our country we have quite a lot of issues including the use of mercury. The government confiscated the mills but the mills were dedicated to strong crushing, not for mercury. Mercury was just used to increase the effectiveness; mills can be used without it.

Miners live in poor conditions. I'm happy this conference provided some guidance to policy makers and I wish that the government will take serious steps to reduce poverty in our country. The miners' living depends on ASM and the issue of safety and risk management has been quite a challenge. It was the decision of government to reduce the use of mercury and in the future we can shift to no-mercury technology. A lot of willingness is there to use more advanced technologies.

We would like an assurance from the government of appropriate support for miners. Prohibition would not be good for us and we want support for more advanced technologies. This advanced approach would reduce pressure on miners; the government acting as police makes our lives difficult.

A J Gunson, University of British Columbia

I have a few short recommendations regarding environmental technology.

1. CASM in previous meetings undertook a technical training session with miners, bringing in an expert. I'd encourage CASM to bring back these technical sessions, perhaps as a pre-conference workshop.
2. We need to be looking more on mining as a holistic experience. We should not focus not on mineral processing but on Occupational Health and Safety, underground mining, waste management in isolation.
3. We need to consider the gender implications of any interventions. There has been a lot of talk about mercury reduction. It's not so much new technologies – most technologies are there already. But we need more of a way to develop technologies with the miners.
4. It would be useful to have a briefing note prepared for international participants to explain some of the key issues and cultural background before we arrive.

Alicia Reyes, Philippines

I'd recommend that strategic environmental assessment should take the place of the environmental impact assessment. Concerning safety, we are practicing multi-client servicing of mining engineers. In the Philippines, with the boom in metals we're experiencing a shortage in mining engineers. Dr. Murao mentioned that the database will be uploaded on the web. I encourage you to pursue this activity. We already have the database ready and we want it not just to remain in CASM Asia.

Cristina Echavarria, Secretary General, ARM

I would like to recommend that future conferences focus on how miners become organized. This would give opportunities for us and for miners to exchange information. Without an organised sector, there is no opportunity to move anything forward (i.e. in fair trade, information sharing etc).

Mongolian woman

I would like to thank Jon and Mongolian miners for these recommendations and decisions. I believe this will be effective. And I would like to note to policy makers and government institutions that the participants come from central provinces. There are some remote provinces which have no representation here. I would like the people in remote areas to receive the information from this conference. In our country there are a lot of difficulties with climatic conditions, and living standards have decreased with the loss of animals. We need some easy technologies because we literally cannot afford these technologies now.

Jon Hobbs

We may not have responses to some of the points raised but we've recorded it. What output would you like to see and how can CASM develop this type of guidance? There are hundreds of recommendations and we need to have the next CASM over 5 days instead of 3. I'm not sure when we started, but most people are here despite having to cross the road. I don't think we've lost anybody. I hope the media coverage will be collated and given to all participants. I understand that Mongolians have a deep respect and cultural understanding for the earth and the soil, given the history of the country. We've created a dialogue here now, we're all part of the family so we'll be communicating and creating an ongoing dialogue. I want to acknowledge the prime minister again, also Minister Davaadorj and Mr. Bold and thank all participants. Thank you!

Further Recommendations Provided After the Conference

Stephen Metcalf, UNIDO Global Mercury Project and the University of British Columbia, Canada

While presenting an overview of issues influencing legal and Policy Frameworks in advance of Sunday morning's breakout group, Peter Nelson briefly mentioned the need for supporting the development of credit schemes for ASM.

Access to credit by both artisanal and small-scale miners is extremely difficult, if not impossible, in almost all jurisdictions around the world. In many, if not most, situations, ASM need access to credit to implement practices that can improve income and environmental and personal health and safety. Access to credit is a high hurdle that prevents miners from adopting cleaner technologies.

The Global Mercury Project's micro credit studies commissioned in its six pilot countries illustrate some of the challenges miners face, and suggest possible solutions that may (or may not) fit the local challenges. During the past 15 to 20 years, other ASM projects have tested a range of micro-credit approaches, but the lessons learned have not been organized in a comprehensive manner. The collective wisdom is not available to inform today's discussions.

CASM, of course, is well positioned to draw on the financing expertise residing in the World Bank. Now may be a good time for CASM and its members to consider the history of ASM credit initiatives and to stimulate the fresh thinking that could lead to new solutions.

The lack is reflected in virtually all areas of CASM's focus (Gender, Legal and Institutional Frameworks, LSM/ASM synergies, Environment and Technology, Fair Trade, and Sustainable Development and Security, etc.) Therefore, I believe finance and credit should be included amongst our other activities.

Adriana Eftemie, the World Bank

Formalise the formation of the Gender Task Group, as more evidence and good practice examples of women artisanal miners' contributions to development are emerging globally.

Veronica Nyhan-Jones, CommDev, the World Bank and IFC

During the field trips, CASM should arrange small, facilitated, interpreted focus group discussions to allow the CASM participants and the miners to really get to know each other and to share experiences and information.

Jennifer Hinton, SMMRP, Uganda

Any site we visit should have people at the conference.

Closing Ceremony

The participants were awarded their certificates.

Evening entertainment

The CASM Conference was crowned with an evening sponsored by Boroo Gold and Centerra Gold. In the hotel's main dining hall, participants enjoyed the swinging tunes of a Mongolian Jazz Band and tucked into an excellent buffet and Chingiss vodka. There was a lot of dancing and, though the entertainment finished at 11 p.m., many were enjoying themselves so much that they went on to one of the city's top night clubs to continue the celebrations. Tired, but happy, participants came home in the early hours of the morning to pack and rest before the next day's adventures.



Dancing to the jazz band

Days Four and Five

11th - 12th September 2007



*Walking to the prayer mound
Photo courtesy of J. Okedi, 2007*

SUMMARY

The SAM project had organised visits to two gold mines and one coal mine, and a couple of tourist stops as well. The field trip was an excellent learning opportunity for people with different expertises to share their perspectives on what they were witnessing. Discussions and impromptu lessons on technology, geology, mining engineering, processing techniques, community benefits, issues of remuneration, modes of organisation, and environmental issues were discussed over the course of the two days. Participants shared personal experiences and we learned about other countries' practices and ASM cultures through learning about ASM in Mongolia. Altogether, the field trips were an enormous success and hugely enjoyable.

Field Trip: Day One

Journey from Ulaanbaatar to Gun Bilegt

Participants ventured into the bright morning and settled into eight minibuses that would take them on the three hour journey to the first mine. The drive took us through the Mongolian suburbs, past large factories, and gradually into the vast grasslands that stretch out to form the Mongolian Steppe.

Shortly after leaving the city, the buses stopped at a prayer site. A pile of stones, similar to a cairn, was crowned with sticks swathed in blue prayer flags, symbolising devotion, ascension and purity. People had clearly also left valuable or symbolic possessions; a dead eagle, a ceramic Buddha, and a steering wheel. Participants were instructed to take a nearby stone, lay it on the mound, and walk around three times clockwise to pray for a safe journey. The group did this enthusiastically.

As the morning progressed, so the heat increased. Fortunately, the organisers had set up a tent on the summit of a hill, presenting cakes, biscuits, savoury bits, coffee, tea, and mineral water to re-invigorate us. The beauty of the place cannot be overstated. Besides the sheer expansiveness of the blue sky, the hills were lush with vegetation, and the sun shimmered on the grass. Pockets of trees brought welcome shade, and participants ventured down the hill to take photos and admire the plants: purple daisies, wild thyme, eidelweiss. Slightly reluctantly, we got back into the buses, and set off once again for the mine.



Mongolian pastures

Gun Bilegt Mining Company

At the mine, participants split into two groups. The first went to see the processing plant, and the second group climbed the hill to the mine site. We then converged at the underground mine tunnel, and went to the respective places we hadn't yet visited.



The Gun Bilegt miner, Trevor Neale (Papua New Guinea) and the interpreter at the ventilation shafts

Gun Bilegt is in Bornom Soum of Tum Aimag. The name of the mine is Haram. It is a model for underground hard rock gold mining in Mongolia. Mining first took place in 1913 by a company called Mongosor, but ended in 1918. In 2001 the artisanal miners began to mine the area. Gun Bilegt have had an exploration licence since 2004 and began to formally employ artisanal miners in 2006. Ex-ninjas are employed and, working in small gangs, are involved in surveying, exploring, mining and processing.

The mine reserve is identified as 150 kg and one shaft goes to a depth of 138 metres. The underground tunnels are kept aerated by ventilation shafts, which the participants viewed at the top of the hill beside the artisanal mining site. A compressor is also used to get air down to the deepest part of the mine.

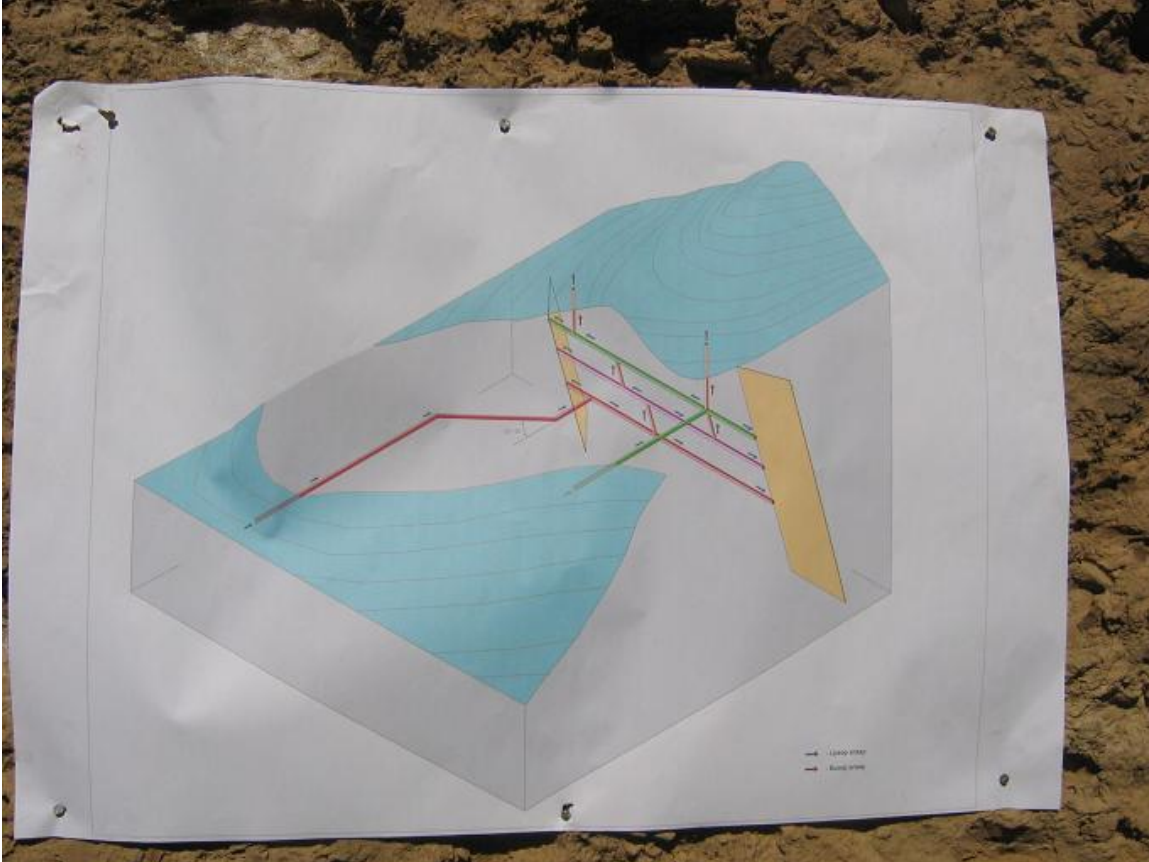
The veins travel south-eastwards and thickness varies from 15 to 90 centimetres. Part of the main vein was exploited using open pit techniques, and the pit is about 10 metres deep.

The miners use explosives to extract the ore and are paid according to the metres they dig and so are not involved in any sales of the ore or the gold. They can get between 250 to 300 US dollars per month.



*Shrine at the mine entrance
Courtesy of J. Sasirwe, 2007*

At the entrance to the underground mine, there was a shrine to the god of nature, who is understood to be the owner of all the wealth in the mine. In order to take the gold from his hill, the miners have to ask his permission to get his blessing and protection. They pray before they enter the mine. Participants from Andean countries noted that similar shrines and prayer rituals exist in their artisanal mining communities.



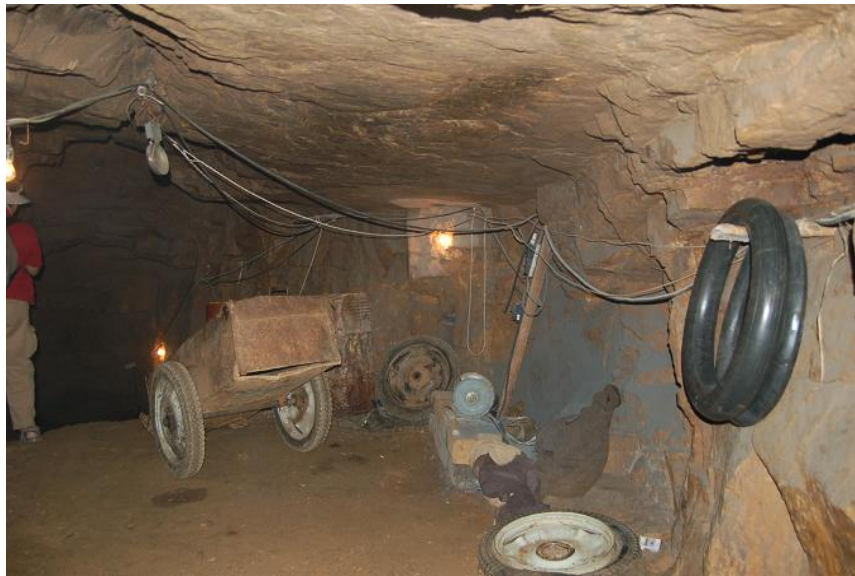
The mine plan

As air in the underground mine was limited, so the number of participants going into the mine had to be minimised. Participants therefore split into groups and went in and out in these. To the relief of the participants, the mine was much cooler than the exterior! One can only imagine, however, that in the sharp, Mongolian winter the mine would provide some shelter and possibly warmth.

The walk into the mine required you to bend over to fit into the 4 foot high tunnel, for a couple of hundred metres, until you reached a slope with carriages on rails to head deeper down towards the vein. At this point there was a hydraulic winch and safety notices. The entrance was well supported and lit. Expert participants commented that the mine was rather sophisticated for a typical small-scale mining operation. Participants, who had not been in mines before, joked about how it was like the Catacombs in Paris.



*The supported mine entrance
Courtesy of J. Hinton, 2007*



*Inside the mine
Courtesy of J. Hinton, 2007*

At the processing plant, the mills were churning and a deafening drone accompanied us as we inspected the operations. The processors stood by, wearing hard hats, ear protectors, and overalls. The process involved grinding the primary ore, then using a secondary grinder with three different sizes of balls, before running the crushed ore over a carpet to concentrate the heavy metals and prevent anything being lost. This concentrate was then re-circulated and the slurry entered another circuit. There was some speculation as to whether cyanide was being used, but upon inspection it was clear that a flotation system was being used to isolate the gold. As the bubbles rise to and float on the surface, the grains of gold attach to them and then a little paddle sweeps the bubbles that are rich in gold from the surface into a central tunnel and the gold is discharged down to a gathering place. Again, the operation was sophisticated for an ASM endeavour.



Inspecting the flotation system

Outside, participants discussed what they had seen and learned as organisers attempted to gather us all back into the buses. Upon leaving, we admired the mining camp, which was a series of concrete buildings with bathrooms and showers, and a doctor on site. Living standards were seemingly high for an artisanal operation.

Secret History of the Mongols Tourist Camp

Lunch was served, courtesy of SAM, at a Tourist Camp, that was reminiscent of an Alpine ski lodge. Participants tucked into plates of salad, meats, fish and pizza. Sitting on tables and on stairs, they relaxed in the sun, enjoyed a glass of wine, and discussed the day so far. Some took the opportunity to visit the demonstration Mongolian Nomadic village just downhill from the restaurant.

Sadly, three bus-loads of participants left at this point in order to make their planes at the airport. Cameras clicked and whirred as photos were taken with new and old friends, and whole-hearted goodbyes were shouted in a multitude of languages as the buses pulled away.

The rest of us got back into our own buses and set off for the Darkhan khar morit coal site.



Manuel Reinoso Rivas waves goodbye as he starts his long journey home to Peru

Journey to Darkhan khar morit Coal Mine

The journey to the coal mine took longer than expected and we pulled into the rest stop just as dusk was beginning to fall. The day had gotten a lot cooler so participants happily accepted the tea and coffee on offer but we were quick to set off to make it to the coal mine.

Darkhan khar morit Coal Mine

By the time participants reached the coal mine, it was dark. We wrapped ourselves up against the cold, and stepped out into the night. Nearby, we could see bright lights angled down a slope to where the coal face was just metres from the entry.

Participants huddled around interpreters and miners to learn what they could, and then some donned hard hats and went into the mine to inspect the exploitation techniques being used.

Inside were 6 miners, all wearing ear protection. They used a pneumatic drill to hammer at the coal face, and a pile of freshly dug coal was gathering in the centre of the mine.

Participants observed that the coal was very high quality coal and still wet. By law, the coal belongs to a private company who was given the license to the concession by government. The people that work in the mine earn \$120 a month. However, the artisanal miners are allowed to work on underground veins which would be uneconomical for the company to exploit mechanically, as they do surface mining. The ASM are allowed to sell the coal on the local market, provided that it does not influence the market prices too much.



Mining the coal face



Kevin Telmer (right) explains properties of the coal to skeptical CASM members

They can pay up to 20% of the coal they produce to the company in return for being allowed to mine on the company's concession. They have loans in order to get the necessary equipment and so presently the company was not expecting them to give the tithe. They do not pay royalties to government as their relationship is with the mining company. It is the company which pays royalties to government with the proceeds that they get from the coal dug by the ASM.

A Zambian miner noted this with interest, commenting that in Zambia the chiefs own the land and the government owns the minerals. In order to mine Zambian emeralds, as an example, the miner has to pay a royalty to the government, a royalty to the chiefs, and then land charges to the local authorities. Indeed, this system is the norm in African mining sectors.

There are fifty to sixty artisanal miners, who separate into two shifts, so twenty-five to thirty will work at any one time. The annual production given was 40,000 – 50,000 tonnes, but this

seems extremely high for this small number of artisans, as it would assume that each miner would be producing up to 40 tonnes a day.

Miners' Summer Camp

Tired and cold, the participants were glad to arrive at the mining camp which had been especially opened for their use. People found their way to their rooms, a few being fortunate enough to sleep in traditional gers, and then came out to the bar and the main restaurant, where the evening's entertainment would take place.



*Mongolian barbeque
Courtesy of J. Hinton, 2007*

In the restaurant, participants sat down to a traditional Mongolian Barbeque. Barbequed goat, butter tea, salads, and vegetables were served, all washed down with Chinggis vodka. As we sat to eat, some formalities took place. Dr. Satoshi Murao presented the results of his analysis of the presence of mercury in local populations and gladly reported to the local governor that the concentration of mercury found in local people was below the permitted limit for good health. This news was greeted happily by the governor and the participants.

The local governor then welcomed the international participants and Mongolian miners who had come to learn of the Dharkan khar morit coal mine, which was one of the first three coal mines to be developed in the country. He also spoke of other gold and coal mines in the area, which, although they have some problems on site, do make contributions to the local economy. He thanked Dr. Murao for bringing the results of the tests and awarded Dr. Murao a certificate, signed by local dignitaries, as a gesture of appreciation for the work he had done in the community.



*The local governor (right) thanks
Dr. Satoshi Murao (left)*



Mongolian dance show

The governor's speech was followed by an exposition of singing, dancing and music by local communities. It was absolutely delightful. People were especially charmed by the children who sang and danced, and were impressed that such a professional performance was possible from members of a small community. At the end, the performers were given a deserved, rapturous applause. CASM's Chairman thanked the performers on behalf of the participants and requested an encore. He also pointed out that their photos would be shown to families and friends all over the world.

After the meal and the performance, the organisers announced that they had held a secret competition during the day to find the best singing bus. The winners, bus number three, were awarded a bottle of Chinggis vodka to enjoy. Happily, they then performed for the rest of the participants, singing a song in Kiswahili followed by a comical, alternative version of the Sound of Music's "Doe, a deer."



*Bus Number 3 perform for their prize!
Courtesy of J. Hinton, 2007*



*The bonfire
Courtesy of J. Hinton, 2007*

As participants began to pour out into the frosty night, a huge bonfire was lit and fireworks burst into the night sky, competing with the stars for attention, and accompanied by 'oohs' and 'aah's! Participants passed round plastic cups of vodka and beer to warm themselves up, and a DJ played a selection of tunes and so the dancing began. As the night went on, people moved between the bonfire and the large ger that served as a bar. People began to share the drinks they had brought from home and admired the international dance moves that spun around the floor. By

5 a.m., many were still awake, though the dancing had moved from the bonfire to the bar. Sensibly, given the next day's 7 a.m. start, the participants tumbled into their beds to get whatever sleep they could.



Canada, USA, Pakistan and Ugandan battle it out



Seydou Keita of Mali: the best dancer!

Field Trip: Day Two

Nomad Family Visit

In spite of the late night, people were up at eight and ate a quiet breakfast together of Mongolian butter tea, rice porridge, and bread. By 9 a.m. the buses were full and we were on our way.



The family's solar-powered ger

At a short distance from the Miners' Camp, outside their solar-powered ger, a family had set up a trestle table laden with local delicacies for us to try. Mongolian nomads live on dairy products in summer, and meat in the winter. We were presented with a choice of different cheeses, curds and milk, including the famous airag, which is fermented mare's milk. This slightly alcoholic milk fizzes lightly and tastes sharply of grass. Being supposedly excellent for the digestion, participants filled their plastic water bottles with airag for the journey.

The family allowed us to ride their horses, and showed us their herds of horses, sheep and goats. Some watched a horse being milked, and were allowed to taste the milk fresh from the bucket.

After an hour or so, we thanked the family for their very generous hospitality, and set off for the gold mine.



*Ready to milk the horses
Courtesy of J. Okedi, 2007*

Sharyn Gol Gold Mine

A short journey brought us to Sharyn Gol Gold Mine. Participants made their way either to the digging or washing sites to learn about the miners' techniques and particular challenges.



*The Sharyn Gol Mine. Note the mine to the left and the washing site to the right
Courtesy of J. Hinton, 2007*

The ASM are employed by the Sharyn Gol company. They work for twelve hours a day, seven days a week because they are paid according to the number of hours worked. They work throughout the year, including during winter, when they have to break holes in the ice in order to get water for washing. One could only imagine how difficult it would be working in those conditions. The women complained of pains in their arms, legs, and bodies, and stated that they buy their own medicine to treat themselves. Some of the workers had protective gloves and boots, but it was not clear who bought these for them.



A miner extracts the gravel at Sharyn Gol

Miners use carpet to wash the concentrate. In terms of cost and portability, this is a reasonably easy and efficient method, and works for people mining on an individual basis, but the opinion of some participants observing this method was that they would recover a lot more from the concentrate if they were to use a sluice and a pump.



A woman miner (left) interviewed by the author

The washing process seemed to be that they would produce perhaps 1kg of concentrate using the carpet, and then concentrate the heavy minerals using the bucket. The gold would then be amalgamated with mercury to extract it from the heavy mineral concentrate.

A group of women ninjas were interviewed through an interpreter:

Interviewer: Do the ladies do digging and mining?

Interpreter, on behalf of the miners: Yes, they do the same tasks as the men.

How do the women manage it if they also have to look after their families?

Mostly they come in the morning and go back in the evening, so they work the whole day.

Who looks after the children for them when they're working all day?

If they don't come to the site, they cannot get paid.

Please explain I understand that, I'm interested to know as a woman myself, I know how hard it is to balance a job and a family so I want to know how they manage that too as I have to manage it.

She says the older children take care of the younger ones. They just prepare some food for them and leave it with them for the day.

Do they enjoy the work?

It's very hard, it's a hard job. They work here to get some money for daily needs.

What kind of problems do they ever face in the mine, as women?

[the policeman was standing beside us so they may not have wanted to answer this question]

This work is very hard for them. They have pains in their legs, arms and body.

Are they able to buy medicines to help themselves?

They buy medicine by themselves.

One big problem is alcoholism amongst the men. If alcoholism is prohibited it would be OK to work here.

Is she implying that the men can get violent or that they can sexually harass the women?

Yes, this is the problem.

*So do the women organise themselves in any way to protect themselves in the mine?
I don't think so.*

*Do they work together as women or do they work...
Most of the women here are from female-headed families.*

*Do you mean that their husbands are dead?
Not necessarily.*

*So they could still have a husband but she is the boss?
Yes.*

*OK.
He is asking, why don't you ask about men? [laughter]*

*Absolutely! I know. Maybe because I'm a woman too. So what are some of the problems men face in the mine?
He will think.*

*So none?
Ha ha ha!*

*So as families, what other jobs do they do apart from mining to look after themselves? So do they work here as husband and wife or is it that one person of the family works here and the other person does something else?
The same as the women, they just leave their family and older children look after the younger ones.*

*But do they work together as husband and wife? Do they come together to the mine? Or does one of them come and then their husband or wife stays at home?
Yeah, both of them come. Especially on holidays. Sometimes one, usually the wife, stays at home. Most of them come here.
They are saying it's a real problem. They are unemployed people. Women, especially those over 35, cannot get any job in other places and this is why they come here.*

*So these are women who are mostly older than 35?
Yes, and that is why they come here. No other organisations will offer them jobs.*

*So what other kinds of job would they want to do?
No other jobs.*

*But if there was another job, just imagine...
No, they are discriminated against because of their age. Most jobs go to the younger people.*

*Where are you from? He asks if you have such ninja people?
I'm from the United Kingdom and ... in the United Kingdom, no. But I work a lot in Africa with other ninja people. And in the countries in Africa where I work, the women don't dig, the women do panning. So in Africa the men dig and the women pan, generally. So here I'm really glad to see that the men allow the women to work with them doing this or maybe it's the women allowing the men to work with them! So please tell them thank you very much, I wish them really good luck and I hope that this works for them in the future.*

*How about ninja people in Africa; do they work in Africa or all year round?
All year round, but they do not have winters like here. Tell them their winter is like late Spring here.*

In winter time it's very hard for them to work as the place is very icy. They have to break the ice and that makes it hard to work.

To participants' regret, the visit to the gold mine had to be cut short so that some group members would be sure to make their evening flight.

Drive to Jonon Camp

As we made our way to our lunch spot, we passed evidence of other mine workings. We stopped at a large-scale operation that was destined to become another model site. The mine is currently two concessions funded by Russian and Korean interests, but the tailings and benches up-valley from the active part were apparently left behind during Soviet times as the mines were first developed twenty years previously in the region.



The Russian and Korean-funded mine

Participants surveyed the mine in the valley below, speculating as to the processing systems that were being employed, and considering the geology of the deposit. There appeared to be four mines and three sluicing sites. No mercury or cyanide was being used to extract the gold. Where the mines were beginning to be closed, the company was apparently attempting to deal with environmental issues relating to closure.

Before these companies acquired their permits from Ulaanbaatar, ASM had been working in the old mine. Today, ASM are allowed to work on the fringes of the operation, but mechanised washing and concentration also takes place.

Participants speculated on the issue of displacement of nomadic communities. The notion of displacement of settled communities is less applicable in Mongolia, as most people outside of the main towns live nomadically. Whilst physical displacement may be largely ruled out as an issue, economic displacement is still relevant, especially if a mine is developed on land that had traditionally been used by nomadic groups for grazing their herds and that pasture is consequently destroyed. It was not clear whether nomadic groups who may have traditionally used this pasture land had been compensated in any way for losing access to this land, that they may have felt was theirs through customary use. Allowing people to artisanally mine on the fringes may be an attempt at compensation, or simply risk management.

Shortly after setting off from this mine, participants enjoyed a rest stop back at the monument where we had had tea at dusk on the previous day. Tucking into tea and biscuits, we looked into the valley beyond where we could see the Dharkan khar morit coal mine. This was the end of the visit for many of the participants, including members of CASM's SMAG, who were due to fly to Beijing that evening for a meeting. As people re-organised themselves into the buses that would go on to our late lunch and those that would head straight for the airport, people said their goodbyes.

Jonon Camp

It was a long time before we reached our lunch spot, but it was worth the wait. The drive through the hills, climbing towards the forested spot where Jonon Camp sat, was absolutely spectacular.

Upon arrival, participants were greeted with a buffet lunch of borscht, mutton soup, dumplings, meat kebabs, cold meats, salads, rice, and bread. Tired and hungry, people ate and happily recounted the lessons of the day, before helping themselves to second portions. Some even indulged in another Chinggis – or two – to temper the hangovers from the night before. It was a lunch to be savoured.

Jonon to Ulaanbaatar and beyond

Pressed with time, we reluctantly got back into the vehicles to set off for Ulaan Baatar and our hotels. As we turned our backs on the Mongolian steppes and towards the nation's capital, minds turned to what life is like for a Mongolian ninja and what lessons we would take home with us. We had learned that Mongolian artisanal miners are stoic and resilient, resourceful and hard-working. The bicycles we had seen at the mine sites were testimony to the fact that mining did make them an income that enabled them to purchase consumables. But conditions are tough in the mines, especially during the brutal winters that freeze the rivers and the earth.

The explosion of ASM in Mongolia is in response to economic transition from communist to capitalist relations of production; it is also a consequence of changing weather conditions that have seen thousands of herders lose their livelihoods as animals have died in particularly harsh winters. In particular, women ninjas confessed that ASM was their sole opportunity for making a livelihood, once they had passed their youth. ASM has been a space of opportunity for Mongolians, an opportunity to cope with their changing environment and economy and to raise their families in the face of discrimination. The Mongolian government is clearly working hard to help Mongolians use this opportunity optimally for the sake of sustainable development. Heading back to our respective countries, the CASM participants can be confident that they had learned a lot, but also that their presence in Mongolia has helped confirm ASM as a legitimate activity to be supported and enabled by government, business, and society.

The theme of CASM's 7th ACC was "Effective Partnership for Sustainable ASM Communities." Presentations, workshops, and field trips explored this concept at the theoretical and practical levels. The conference itself produced opportunities for shared learning between Mongolian stakeholders and international experts and miners. As part of the CASM network, we are partners in making ASM a force for development. In time, hopefully these new partnerships and shared learning will help build the sustainability of Mongolia's own ASM Communities.

Annex

Pre-Conference Workshops 7th September 2007



Participants in the Consultation workshop on Fair-trade certified Artisanal Gold

SUMMARY

Three workshops were held simultaneously to allow other organisations to take advantage of the gathering of CASM participants to consult or provide training on related ASM topics. The Association for Responsible Mining (ARM) ran a consultation workshop on Standard Zero, the draft standards and requirements for ASM producer organisations to achieve certification as producers of Fairtrade artisanal gold and associated metals. PACT Mongolia provided training in alternative technologies for processing gold without mercury. The German Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ) and the Gesellschaft für Technische Zusammenarbeit (GTZ) coordinated a training workshop on Strategic Environmental Assessments.

Global Consultation Workshop on Fairtrade-Certified Artisanal Gold and Associated Silver and Platinum⁴

Fifty-four participants met at the Children's Palace in Ulaanbataar, Mongolia, under the coordination of the Association for Responsible Mining to discuss the Standard Zero for Fair Trade Artisanal Gold. Participants included miners, government officials, support organizations and other interested parties from 17 countries.

After having received an explanation by Cristina Echavarría, ARM's Secretary General, about the proposed fair trade scheme and how it is being developed, we broke up into five groups to discuss the social, economic, environmental, labour and trading standards.

The working groups' comments and recommendations to the technical committee are as follows:

Social Development Group

Coordinator: Cristina Echavarría, Colombia

Participants:

| | |
|---------------------|------------------|
| Margaret Tuhumwire | Uganda |
| Tamrat Mojo | Ethiopia |
| Trevor Neale | Papua New Guinea |
| Zagdaa | Mongolia |
| Oljmedekh Dorjsuren | Mongolia |
| Uudus Byambaa | Mongolia |
| Joseph Okedi | Uganda |
| Hhurelsureh | Mongolia |
| Janmyuzc | Mongolia |
| Ed O'Keefe | United Kingdom |
| Satoshi Murao | Japan |

The group agrees with the proposed standards in general and suggests the following amendments (highlighted in UPPER CASE):

- 1.1.1 The miners organisation can demonstrate that fair trade revenues will promote HUMAN, social and economic development of ASM families and communities.
- 1.2.1 The MAJORITY of the miners in the organisation are community based ASM.
- 1.2.2 A 100% of the volume of FT certified gold must be produced by certified community based ASM. The PRODUCER ORGANISATION is not allowed to buy from non certified neighbouring miners.

Economic Development Group

Coordinator: Daniel Lafuente, Bolivia

Participants: Baguma Zachary (Mongolia), Felix Hruschka (Austria), Jargalsaikndh (Mongolia), Olzvoi (Mongolia), Munktur (Mongolia), Baynmun (Mongolia)

The group agrees with the proposed standards in general and suggests the following amendments:

- 2.1.1 Logistics and REASONABLE AND MINIMUM communication equipment ACCORDING TO LOCAL STANDARDS are in place.

⁴ This text is taken from the Association for Responsible Mining's minutes of the event.

- 2.2. The organisation has the commitment and capacity to administer the Fair Trade Premium in a way that is transparent for beneficiaries and for ARM-FLO. Decisions on the use of the Premium are democratically taken by the members, TAKING INTO ACCOUNT THE INTERESTS OF 'MAJORITIES' AND 'MINORITIES'.
- 2.2.2 The use of the FT premium is decided democratically, TAKING INTO ACCOUNT THE INTERESTS OF 'MAJORITIES' AND 'MINORITIES', approved at the Annual General Meeting and properly documented.
- 2.3.1. The organisation has an established accounting WITH AN INTERNAL CONTROLS system in place.
- 2.4.4 By-products of the mining process are identified STORED INTERMEDIATELY until the market potential is investigated and, if feasible, they will be developed too.

Labour Group

Coordinator: Laura Barreto, Canada

Participants: Tesfajeresh Lema (Ethiopia), Sfreknahlab (Mongolia), Bolormaa (Mongolia), Aidan Davy (UK), Jonny Ssasirwe (Uganda), Sisto Andama (Uganda)

The group agrees with most of the standards but have some recommendations as follows:

- 3.2.2 The organisation will recognise the same opportunities to men, women, and disadvantaged individuals regardless of their provenance or origin in all areas of mining activity, as a worker, associate or entrepreneur BY RECOGNISING THEIR CAPACITIES AND THEIR NEEDS.
- 3.2.5 Actions will be implemented by the producer organisation.
The producer organisation needs to be more precisely defined by the technical committee
- 3.2.6. Organisations provide support to pregnant and lactating women members to have safe work arrangements for themselves and for their infants while mothers are at work.
“safe work arrangements” needs to be specified as to what it means. Examples to be given. (This will be defined by each producer organisation.)
- 3.3.1 Should be put after 3.3.4.
- 3.3.1 Minimum contracted employment age must not be less than 15, EXCEPT IN EXCEPTIONAL CIRCUMSTANCES WHERE ORPHANS MUST PROVIDE FOR THEIR FAMILIES, or existing national law for the mining sector, if this age were older.

*Doesn't focus on disadvantaged children, especially orphans. This standard should consider the situation of AIDS orphans in Africa.
If children were specified as one of the groups in 3.2, this would be taken care of.
Reword 3.3.1 in line with the concern, and see if including it in 3.2 would cover this concern.*
- 3.2 We could include 'orphans as a disadvantaged group rather than refer to children generally.

The labour group met to re-discuss the issue of HIV-AIDS orphans. The solution was...

The group did not reach consensus on this issue. It suggests that the technical committee revisits this sensitive issue and undertake consultations with the ILO to address the situation of HIV-AIDS orphans who have to support their younger siblings. One option may be that producer organisations develop special training on the job programs for these youths, and ensure that they do not have to do the most dangerous types of work until they are 18.

Another suggestion was to include an additional point as follows:

3.5.4 Specific attention should be given to underage orphans of the deceased members of the organisation to ensure their livelihood is guaranteed.

3.4.2 to 3.4.4 *There has to be a mechanism of monitoring these organisations to ensure the minimum requirements.*

(The whole system will have a monitoring system)

3.4.1 and 3.4.2 *The organisation needs to be defined more clearly in these standards. So use "the producer organisation" throughout.*

3.4.3 Explosives and toxic substances such as mercury and cyanide will not be kept in houses, but in places with adequate conditions AND STORAGE.

3.4.2 The organisation ensures that all MEN AND WOMEN workers use basic equipment for personal protection...

3.4.7 The PRODUCER organisation will work towards making a GENDER-SENSITIVE diagnosis of the main risks and vulnerabilities to accidents and to disadvantaged ...

The organisation will recognise that the worker's widow / widower has the right ~~to occupy the position and prerogatives~~ TO BENEFIT FROM THE RIGHTS AND OBLIGATIONS held by the deceased miner in the mine and in the organisation, with the object of preventing her / his abandonment and that of her / his family. CONSIDERING THE WIDOWER'S CAPACITY OR EXPERIENCE

*The women can contract someone to do the job if she's not capable.
What if the husband's job was a specialised job? What happens if the replacement worker also dies? How do rights get split between her and the other man's family?*

The way that the paragraph is written: we're worried about "position and prerogatives" or should it be to "ALLOW THE WOMAN OR THE MAN TO ASSUME THE SAME RIGHTS AND OBLIGATIONS

3.5.1 In the event of the death of occasional or migrant workers, reparation should be given to the widow/widower and heirs, if there were any.

At the point of hire of this person, he should give a statement of wish or a will so that directly you know that in case something happens, this is what you're supposed to do. At times people don't want things to go direct to the widow or the widower. They should mention who exactly they want? E.g. if there is more than one widow.

Tony: I would suggest that where there is no will then it should go to the wife or the husband, except of course if in the course of his employment he or she made a will, then the will should be respected.

Also to make the point that occasional and migrant workers were isolated for this clause. Why? Why more than any other group?

3.4.1 Downwards

We spoke about monitoring the producer organisation. Here we're given standards, but we also have to monitor them. Monitoring is important here. The group believed that these points are so important that it needs to have internal monitoring, e.g. to ensure that the equipment is free and discounted from the workers' salaries.

Environmental Development Group

Coordinator: Jennifer Hinton Uganda/Canada

Participants: Jerry Ahadjie (Ghana), Batzaya Bungaa (Mongolia), Toni Aubynn (Ghana), Tahgorf (Mongolia), Tanyria C (Mongolia), Mishigdorj (Mongolia), Taivanbaatar, (Mongolia), Trabjakhalan (Mongolia), Salvador Mondlane (Mozambique)

In general we agreed with 74% of the requirements. We agreed and disagreed with the remainder.

4.1.3 Instruments and tools used for any operations with mercury must not be used ~~in~~ ~~FOR~~ any DOMESTIC PURPOSES ~~other activity~~.

4.1.4 NITRIC ACID should not be used for dissolving amalgam

4.1.5 Any residual cyanide solution must FIRST be CONTAINED IN A POND OR TANK AND neutralised before responsible discharge.

4.1.8 "If mercury is used for mineral processing, the organization makes progress in mercury recovery during the amalgamation process prior to and during amalgam burning."

What is the objective of recovering mercury from tailings? Why would producers spend money on doing this unless there is gold in the tailings.

The wording as it stands, the interpretation could be that we're proposing that miners go to their tailings dam and try to recover mercury from those tailings, when what you're suggesting is during amalgamation when there's hand squeezing from the amalgam, that is the recovered and recycled.

Clarification by TC member: the requirement is to handle the tailings at the moment of production of the tailings by recovering the mercury more than recovering it from old tailings.

4.1.9 The use of retorts or alternative mercury recovery devices by members of the miner's organisation ~~is to be considered~~ must be a minimum requirement for continued certification after the first year.

4.1.10 Amalgam burning must be made only in ~~organization~~ designated premises providing privacy and security and with proper equipment and trained personnel...

4.1.11 The organisation makes progress in ~~convincing~~ ENCOURAGING other miners and gold buyers ...

We use the word 'convincing' because it's something that is more measurable.

We spoke about encouraging to capture the activity of the miners' organisation to promote behavioural change in other groups outside. And the spirit was also in terms of how do you measure it? We could measure the number of interactions, and the efforts that the miners make to promote that behaviour. But 'convincing say would require going to measure the

outcome impact on the ground in the groups that were convinced and those mechanisms may or may not be there depending on the context.

Convincing is a result that you can measure, but you can't measure how many times you sit with your friends, drink beer and talk about it. It's easier to deal with convincing rather than encouraging.

There is disagreement as to use of the term convincing other than encouraging.

4.1.12 If cyanide is used for mineral processing Adequate controlling of process parameters, ESPECIALLY PH. ~~Operators of cyanide processing units should be able to control at least pH and CN without assistance of external 'experts'.~~

It's difficult to handle or measure the pH. So suggest delete the second sentence. [The group's comment was not that it is difficult to handle pH – we did not say that at all. Our group's comment was that it is redundant to say "adequate control of process parameters" and "controlling at least pH" when, in fact, pH is the primary process parameter to be controlled! It is simply a comment on grammar and not technical content.

Controlling pH in the field is a very simple technique using an indicator paper that costs less than a dollar. It's perfectly possible to control that operating parameter. It operates by change of colour.

Tony: we weren't against controlling the pH because in a limestone environment, is it relevant to control pH?

My interpretation of our discussion had more to do with the fact that this is the number one operating parameter to understand and control. So it's captured in that first sentence.

4.1.13 This should be mentioned in number 4.1.12 Fuse the two together.

4.1.14 The organisation demonstrates efforts to improve the environmental performance of their installations (avoiding involuntary losses, neutralising etc...)

The wording is too complex. Delete all the words in brackets.

These are more for the clarification of miners as they need these specific points. These will become the indicators.

4.2.1 The mining and mineral processing operators of the certified organization must ~~be the ones who~~ promote minimum environmental impacts within the region where they operate.

4.2.5 The introduction of any technological change should be accompanied by an environmental ~~mitigation~~-MANAGEMENT plan.

A management plan is much more complex than mitigation. We want to work with what miners can do now.

The concern of the group had to do with environmental mitigation plan sounds too big. It's a matter of looking at the wording e.g. conducting a basic assessment to identify measures to mitigate ...

Think about re-wording this.

Trading Group

Coordinator: Estelle Levin, UK

Participants: Gisa Roesen (Germany), Sally DeLeon (USA), Prishani Satyapal (South Africa), Remi Pelon (France), Steven Metcalf (Canada)

General recommendations and questions by the group:

1. Is this A standard or THE standard for Fair Trade? There are divergent goals between local and global actors. A universal standard makes it difficult to certify on the global level. Who wants to own the standard? How ambitious is ARM? Do they want to be the owner of FT gold forever?
2. Is this a framework or a standard? A standard would need to be more specific.
3. If it is a framework, it could be a useful guideline for jewellers, retailers or traders who are developing an internal code or policy similar to FT and looking at ways to implement that.
4. If it's a framework, it can be normative, but if it's standards, it should be less normative.
5. Application of getting the standard to work will depend on the involvement of traders and the standards as written are not oriented towards traders and may alienate them. Other commodities have shown that in order to make it successful, it's necessary to get the traders in early.
6. Maybe the green gold FT premium should be kept as a separate standard, rather than being rolled in.
7. There was some doubt as to the feasibility and fairness of progress requirements. Some need to be broken down and clarified
8. Within the framework, more guidance is needed on how to work with large scale miners on how to work with ASM to make FT work (????)
9. The terms buyers / traders etc. operators should be clearly defined. Are they term buyers or are they spot buyers? This would also help traders etc. (???)

Otherwise, the group agrees with the proposed standards in general and suggests the following clarifications or amendments.

1. What is meant by "free rider"? What level of involvement qualifies the miner as being part of the process? There will remain competition within the community. The community will be the locus of decision-making for this distinction.

1.1 Product description: Remove "community-based" and replace with "recognized".

1.2 ~~Fair~~-Traders cannot buy directly from individual miners but must go through their certified organisations.

2. The price of gold has fluctuated wildly over the past twenty years, from less than USD 300 to over USD 750 PER TROY OUNCE.

In addition to the market price the buyers shall pay a MINIMUM Fairtrade premium to be set by FLO-ARM.

2.1 FOB needs to be explained.

2.2 In addition to the market price and FT PREMIUM, TRADERS ~~buyers~~ shall pay an extra ...

2.3 THE MINIMUM PREMIUM IS SET ON THE BASIS OF A CONTRACT WHERE THE TRANSPORTATION COSTS ARE ASSUMED BY THE IMPORTER, unless producers and traders choose to agree on other arrangements that are not detrimental to the miners.

3.1.2 What is the term of this contract? Is this one consignment or a term consignment? And "and term" to the end.

3.1.1 All buyers seem to be term buyers rather than spot buyers in this case.

3.1.3 ...specifying the FT volume AND PURITY of metal per shipment.

Should there be a template contract of minimum expectations and requirements that the producers have of the traders?

Who pays for the certification? Would a retailer pay for the whole chain, or does each operator pay for it? The retailer is the real power-player in the system. How would this work?

The session ended at 6:30 p.m.

Gold recovery without Hg! Developing knowledge, changing practice and winning back an unpolluted future!⁵

This workshop had practical intentions and delivered on them. Rural miners welcomed the practical exposure to mercury alternatives. They are aware and concerned about mercury hazards but not familiar with alternative technology designs and success rates. The level of interest and absorption of information was evident in their contributions throughout the conference.

Topics covered included the development of a behaviour change communication campaign that starts where people are and accepts current practice, then moves towards knowledge development, attitude change and changed practice.

Technical presentations looked at alternative technologies and chemicals, the legal framework for Mongolia and its weaknesses, the rapid spread of mercury use in Mongolia and global parallels in ASM practice.

The Session was chaired by Tracey Naughton, Pact Mongolia Country Director

A behaviour change communication approach to raising awareness about mercury poisoning

Tracey Naughton, Pact Mongolia Country Director

The first presentation set the scene for the workshop. Tracey Naughton spoke about the recently launched Mercury Awareness and Data Collection Project. Pact's theory and approach to behaviour change communication were the foundation for developing the project's communication outputs, namely multi-media targeted to small scale-miners in the south Gobi region. Well-targeted appropriate communication that is grounded in the reality of the target audience can help build knowledge, change attitudes and enable people to take up and sustain new practice.

The project was funded by the US Department of State and implemented by Pact Mongolia and Sans Frontier Progres. Four of five panellists in this session were involved in the project. The fifth is a member of the Global Mercury Project Team.

The awareness project had two objectives:

1. Minimize the use of mercury (Hg) through the use of retorts;
2. Eliminate the use of Hg and cyanide by out-competing them with other methods introduced through the project.

The project outputs (materials were widely distributed during the conference) were:

- Information materials – a booklet on alternative technology, posters, stickers, matchboxes, schoolbooks, t-shirts, and caps, all of which were distributed in the South Gobi region;
- Data collection on mercury poisoning: 50 of 59 sites tested have shown high mercury levels;

⁵ This text is taken from PACT Mongolia's report of the event.

- Practical training on the harmful effects of mercury and harmless alternatives for extracting gold;
- Six radio public service announcements; and
- A television documentary on artisanal mining, mercury poisoning and alternative technology.

The project took a harm reduction approach that acknowledges that small-scale mining is a legitimate livelihood that needs to be made safer while completely safe methods are introduced. It accepted that Hg is the best known and most easily available methodology at this point in time.

As artisanal miners themselves have indicated, not everyone can afford the alternative technology or has the information about building it.

The ASM Sluice Program - Using Popandson Sluice Technology for ASM Fine Gold recovery

Steve Gaber: USA (PopandSon - Washington State USA)

The Popandson sluice is a simple gravity sluice device, about 6" wide and 48" long, designed for the recovery of fine gold. Laboratory testing shows high recovery rates of gold down to at least 50 microns in size (300 mesh). No mercury is used in the sluice, yet the recovery rate is equal to or better than traditional recovery techniques based on mercury. The sluice uses a layer of Nomad looped carpet under three different sizes of raised expanded metal to effect recovery of fine gold. It is simple and inexpensive to build and can be operated by unskilled workers with minimum training required.

The ASM sluice program is a not-for-profit organization, and promotes the idea that all are encouraged to make, use or sell the Popandson sluice. The designers waive all patent or copyright protections. The Popandson sluice Design and Operation guidelines are included in the conference proceedings for reference. The hope of the ASM sluice program is that the ASM will embrace the technology and that the Popandson sluices will be made by artisans local to the ASM. In this manner, more gold will be recovered, there will be a boost to the local metal fabricating trade, and neither health nor environment will be endangered by the use of mercury.

The EMI Toolkit for Total Elimination of Mercury using Cheap Gravitational and Chemical Alternatives

Robin Grayson (Eco - Minex International Ltd-Mongolia)

The free of charge EMI Toolkit includes a "world list" of 75 alternatives to mercury, of which more than a dozen are suitable for immediate use by ASM. Very few of these alternatives are known to artisanal miners or understood by ASM project implementers, and the EMI toolkit seeks to rectify this. Lacking until recently has been a scientific easy way to test the percentage of gold recovery of gravitational devices. An effective tracer is tungsten powder sold by Golf shops, and the participants will be shown how to use the latest new tracer – pen-balls that allow gravitational devices to be tested wherever ball-point pens are discarded, which is just above everywhere. Mercury projects should immediately shift some effort from important mercury REDUCTION initiatives to decisive market-orientated mercury ELIMINATION by competition from cheap, easy to make, easy to use gravitational devices.

Presentation title: " Technical challenge of Mercury in Mongolia"

Baatar Tumenbayar, Geochemist, Sans Frontière Progress, a Mongolian NGO

A brief review of the rapid spread of mercury usage throughout Mongolia- current situation. Also delivery of awareness training to ASM and herders in Gobi desert using night time presentations.

Reducing Mercury Consumption and Improving Livelihoods in Artisanal and Small Scale Gold Mining

Dr. Kevin Telmer, Ph.D., University of Victoria, School of Earth and Ocean Sciences, GEF/UNDP/UNIDO Global Mercury Project

As a consequence of poor practices, 650 to 1000 tonnes of mercury per year are released into the environment; this is a quarter to one third of all global anthropogenic releases. ASM is the single largest intentional-use source of mercury pollution in the world. Perhaps 100 million people are indirectly involved and potentially are directly exposed to mercury. This figure is greater if the global impact is considered, such as through the global contamination of fish. Mercury is readily available in most countries.

Mercury enters developing countries legally, often for dental use. The majority ends up being used in ASM. Over the last 30 years, there has been almost no success at limiting the supply of mercury to ASM at the local level. Stringent policy sounds good but drives the trade of mercury underground and out of reach.

Regulating exports from the big sources in developed countries is far easier and will more effectively control the mercury trade. Small scale miners are sensitive to the price of mercury and therefore a ban on mercury trade by big traders that causes the price to rise will stimulate mercury conservation at ASM operations. However, increased costs are often passed on to the poorest miners or labourers. Therefore, export bans can represent a unilateral action which can impoverish or further indenture the poor. We should not knowingly induce small scale miners to take a pay cut. An export ban therefore needs to be accompanied by the development and implementation of viable replacement technologies or replacement economies for small scale miners.

Limiting supply is an important step in reducing mercury consumption in ASM but must be ethically implemented. Don't squeeze people to change but rather help them to change. Field-based intervention programs like the Global Mercury Project must occur in synch with export bans and must remain a priority action for the international community.

Contact: ktelmer@uvic.ca

Strategic Environmental Assessment (SEA) – Training for minerals policy development⁶

This workshop was coordinated and facilitated by Michel A. Bouchard, consultant, on behalf of the German Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ) and the German Gesellschaft für Technische Zusammenarbeit (GTZ).

There were twenty-five (25)⁷ participants, including representatives from various mining related sectors mainly from Mongolia, but also from Zambia, Mozambique, Tanzania, Ethiopia, the Philippines and Mali. Mongolian participants ranged from representatives of central administrative authorities, mainly from the Mineral Resources and Petroleum Authority (MRPAM), its SAM (Sustainability for Artisanal Mining) project, and its Geological Surveys or Inspection Services. Other were regional delegates coming from different aimags (regions) of Mongolia or from other central services. One participant was from Mongolia's private mining sector.

Context and background

The importance of Strategic Environmental Assessment in the context of development cooperation has been stressed by international conferences and agreements such as the *Paris Declaration on Aid Effectiveness* (2005), which commits donors and their partner countries to “develop and apply common approaches for Strategic Environmental Assessment”. Taking this into account, the OECD Development Assistance Committee (DAC) has established a *Task Team on Strategic Environmental Assessment*. This was established in 2004 as a response to the demand for guidance on the most efficient and effective way to apply SEA in the context of development cooperation. The product was the OECD publication “*Applying Strategic Environmental Assessment. Good Practice Guidance for Development Cooperation*”.

Based both on this Guidance and the practical perennial experiences with impact assessment tools in development cooperation, the Deutsche Gesellschaft für technische Zusammenarbeit (GTZ, German Technical Cooperation) and Capacity Building International (InWEnt) have developed the GTZ/InWEnt SEA Training Manual on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). The objective of the course is to reinforce and to develop capacities in the partner countries in which there are both need for integration of environmental and social considerations into policies, plans and programmes and a high demand for the Instrument SEA due to legal requirements and international obligations.

Strategic Environmental Assessment applied to the development of mining policy can provide a tool to foster processes of integrating environmental and social considerations. The World Bank and the Chair of the SEA Task Team of the OECD DAC Environet have requested GTZ to deliver the GTZ/InWEnt as the Training represents an important contribution to applying the OECD SEA Guidance and because conference participants would benefit of discussing and experiencing the tool “SEA”. The Training was delivered as a pre-conference one-day workshop on “Training for minerals policy development - the SEA tool”, delivered on September the 7th.

⁶ This text is taken from Bouchard, M. (2007). *Strategic Environmental Assessment – Training for Mineral Policy Development. A practice oriented Workshop for participants of the 7th Communities and Small-scale Mining (CASM) Annual Meeting*, Ulaan Baatar, 7th September 2007. GTZ, BMZ.

⁷ In fact, up to 35 participants were present at times, as participants were free to visit other ongoing workshops, being delivered at the same time in different rooms on the venue of the Meeting. Twenty five stayed on for the most part of the workshop.

Objectives

The objective of the collaboration between GTZ (on behalf of the Federal Ministry for Economic Cooperation and Development) and CASM is

1. to illustrate the methodology and concept of SEA and its potential benefits of SEA with focus on the mining sector (Awareness Raising);
2. to illustrate the differences between EIA and SEA and the responsibilities and advantages of SEA for the authorities;
3. to familiarize participants with the GTZ/InWEnt SEA Training Manual;
4. to gather the discussions and recommendations of participants regarding the linkages between SEA and ASM.

Approach, methods and program

In line with the casework methodology of the Harvard Business School, the GTZ/InWEnt SEA training focuses on practical approaches to SEA. This methodology allows discussions on locally appropriate SEA approaches (based on insights put forward by the participants). Furthermore, conclusions are formulated through joint debate rather than providing 'ready-made' teaching messages.

Handouts provided to the participants were composed of

1. The workshop program (in English)
2. The paper copy of the main slide presentation (in English)
3. The paper copy of the GTZ/InWEnt Training Manual (in English) including the executive summary of the OECD SEA Guidance
4. A document of UNECE on costs and benefits of SEA (in Russian)

The first part of the workshop aimed at explaining what SEA is and why it is a recognized effective tool for sustainable development. The purpose of the presentation was to familiarize the participants with the tool and to demystify its usage, occasionally and erroneously believed complex, time consuming and costly; while the presentation was generic, numerous examples and applications to the mining sector were provided.

The second part of the workshop aimed at introducing the participants to the details and works of SEA using the Case Study approach, which is the trademark of the GTZ/InWEnt training. The Case Study is that of a fictitious country, namely "Ganama", and participants are invited to participate into the exercise of drafting a SEA of the "Transport Infrastructure Development Plan" of Ganama. Again, the purpose was to "show how it works" and get a hands on familiarity with SEA as a sequence of logical analytical tasks. Because of time constraints (the one day format of the training), the participants were guided through the full exercise, and were asked to complete fully one analytical task, that of scoping the generic issues.

The third part of the workshop brought progressively the focus to mining in general and to ASM in particular. Participants are asked, through debate, group work, discussions, and presentations to provide insights into the effective use of SEA as a tool for ASM management through planning or programming.

Expectations

Participants were asked to express and write down their expectations, after a brief introduction to the subject matter and exposition to the structure of the workshop. These expectations range from general in character (knowing more about SEA, about its differences with EIA, etc) to very operational (how can it be useful for management of ASM negative impacts, how could it facilitate coal mining projects etc).

The evaluation of the workshop has shown that the degree at which expectations were met, and the applicability of the workshop material to the participant's activity, rate as "good" or better at respectively 100% and 96%.

Outcomes

During the course of the workshop, the participants are called upon at several occasions to provide answers or elements of discussion with regards to questions which arise or issues that are raised.

First part of the workshop: What is SEA?

Most of the material is given as a slide presentation, where the following questions are discussed:

- What is SEA?
- Why is SEA important?
- How does it differ from project-level EIA?
- How does it work?
- Why is it useful?
- How is it implemented?

Following the slide presentation, discussions arose around the following questions:

Do you agree that SEAs provide comprehensive, but perhaps less detailed overview of key environmental, economic and social implications of proposed plans or programmes?

There was a unanimous Yes to this question. Many jumped directly to mining issues and pointed out specific issues that are best addressed or managed through SEA for ASM. Since most of these issues were discussed again in a different context later on, their listing is deferred to a later part of the report. However, we may point out already a very significant point made by the participants, in that (in ASM context but in general as well),

SEA may provide a way to integrate environmental concerns into a sector of activity when the players or the economic operators cannot afford it, financially or technically.

Do you agree that SEA should involve all stakeholders?

Again, a unanimous Yes. The list of generic stakeholders identified by the participants range from central Government Authorities, line ministries, financiers, project proponents, local administrations and communities, public associations, NGOs and international organization. While this list could be rearranged, it was considered quite exhaustive and clearly indicated that indeed,

SEA is (and must be) a consultative process.

Do you agree that SEA can provide for early and "user-friendly" key inputs into the elaboration of plans or programmes?

Participants quite unanimously agree that SEA advantages lie precisely in the early inputs of environmental and social issues into planning. Numerous examples were given in relation to ASM in Mongolia. Of the list of issues discussed, it also appeared that participants perceived

SEA as a coherent process where cost and benefits of a given activity can be balanced.

Second part of the workshop: How is SEA done ?

One of the materials provided during the training was the GTZ/InWent SEA Training Manual including the executive summary of the OECD Guidance, with a short slide presentation, introducing the fictitious country “Ganama” and its Transport Infrastructure Development Program. Its purpose is to demonstrate the practicality of SEA, to describe the various preparatory, analytical and participatory tasks involved, and show their logic as well the critical issues for their application.⁸

The GTZ/InWent SEA Training consists of eight modules based on: a) individual reading and preparation, b) a short introductory lecture, c) case work in groups, d) wrap-up sessions to formulate conclusions, e) facilitated debate on “how does this relate to our context?” and finally f) peer advice session to support transfer of lessons to day-to-day work of participants.

The various modules at hand include:

- Linking P/P/P and SEA, design appropriate strategy for SEA;
- Determining the right issues and scope of assessment;
- Analyzing the baseline trends (zero alternative) ;
- Assessing the proposed development objectives and elaborate their alternatives;
- Assessing the proposed actions and consider their alternatives;
- Designing and using effective means of participation;
- Ensuring sufficient management and monitoring in implementation of the P/P/P;
- Managing SEA efficiently within budgetary and time constraints.

As the training was delivered in condensed one-day format only one module was actually exercised, namely Module 2. Nevertheless, through the slide presentation, participants were guided through the whole sequence of analytical tasks, and based on the successful result of Module 2, at least the principles of the practicality of SEA, and potential benefits were discussed.

As part of the discussion on how SEA is done, much attention was drawn to the existence of reference documents that can be used for assessing development plans in various sectors or areas. These are normally:

- International conventions signed by the country;
- Millennium Development Goals Achievement Plan;
- Agreed sustainable development indicators, including health and social components;
- National norms;
- National Environmental Plan of Action;
- Poverty Reduction Strategy;
- Regional or international norms or good practices;
- Sector Guides (such as World Bank Environmental Sourcebook, chapter and update on Mining);
- Bilateral or Transboundary agreements related to environment.

Participants are then asked to list which of these documents or additional documents could be used in Mongolia. The discussion highlighted

the need for the development of sustainable development indicators on the one hand, and for sectoral and good practice guides for ASM & mining in general in Mongolia.

Third part of the workshop: SEA and ASM

⁸ The GTZ/InWent SEA Training Manual and numerous Training outcomes and evaluation reports can be found at the OECD SEA Task Team website (www.seataskteam.net).

This part of the workshop was opened with a short slide presentation on SEA and Mining. The slide set discussed mostly initiatives, and potential reference documents, for the assessment of the sustainability of large scale mining (LSM) and artisanal and small scale mining (ASM). These documents include:

- Reports on ASM produced as part of the MMSD (Mining and Mineral Sustainable Development);
- World Bank report on Environmental Impacts of Mining in Mongolia;
- Extractive Industry Transparency Initiative (EITI);
- International Council of Mining and Metals (ICMM);
- World Wildlife Fund (WWF) (“To Dig or Not to Dig: Criteria for Determining the Suitability or Acceptability of Mineral Exploration, Extraction and Transport from Ecological and Social Perspectives”, WWF 2002);
- International Union for the Conservation of Nature (IUCN) (“Environmental Sustainability Guidelines on Mining and Petroleum Extraction Activities in Arid and Semi-Arid Zones”, IUCN, November 2000)

The discussions centred on the following questions:

1) Would it be necessary or useful to use SEA for dealing with ASM in Mongolia?

Answers are unanimously yes. The main arguments are:

- Given the numerous negative environmental, social and health impacts, but at the same time, given its importance as a regional development sector, SEA appears an adequate tool to balance out costs and benefits and provide for a useful Framework Environmental Management Plan for the sector.
- Given the fact that the operators (Ninja miners, small communities) cannot afford to go into project level environmental assessment, and as the latter would be totally impractical, SEA appears to be the best way to integrate environmental issues while transferring the financial costs and responsibilities to local or central authorities.
- SEA can probably help “green” ASM, bring it into a relatively safe way of life, and integrate this important activity into the sustainable development of Mongolia at the community level, by incorporating well-planned Framework Environmental Management Plans into programmes for developing the ASM sub-sector of the Mineral Economy.

2) What are the key issues for SEA in ASM in Mongolia?

Answers turned into a long list. Remarkably, in a relatively short time, participants collectively recognized and listed almost all categories and types of impacts inventoried in reports and publications on the topic, including

| | |
|----------------------------|--|
| Nature-related Issues | <i>Deforestation, soil degradation, siltation, protected areas, wildlife, biodiversity loss</i> |
| Resource Management Issues | <i>Water resources, land use conflicts, water and groundwater contamination, non-rehabilitated areas transformed into ‘no-man’s-land’</i> |
| Health Issues (numerous) | <i>Working conditions, pit collapses, use of mercury and cyanide, accidents, sexually transmitted diseases</i> |
| Social Issues (numerous) | <i>Social cohesion, migrant workers, displaced persons, collectivity conflicts, individual conflicts, criminality, gender issues; economic issues (land rights, mineral rights); child</i> |

| | |
|---------------------------|---|
| | <i>labour or child being away from education services</i> |
| Value and Cultural Issues | <i>Destruction of valued sites; indulging an illegal cultural</i> |

Global issues, such as climate change or desertification, were mentioned but did not appear in the view of the participants to be major issues at the scale of ASM.

Many other issues however were mentioned such as positive economic impacts, and then, the various mitigation measures that could be employed for avoiding, attenuating or alleviating the possible generic impacts discussed above.

It appears that for all listed impacts, there are numerous solutions ranging from recognizing ASM as a formal economic sector, establishing education and awareness campaigns, providing technological support and health and social services, enhancing transparency in commodities' exchange and markets, enhancement of worker's status, banking facilities, improving communication between the large-scale mining community and the ASM sector,

The main conclusions emerging from the discussions are:

- There are numerous solutions and tools for the management of the Environmental, Health and Social Impacts of ASM.
- Those solutions almost all rest on the prerequisite condition that the sector be formalized into mainstream economic activities.
- The assessment of the Environmental, Health and Social Impacts of ASM is best carried at the central and regional levels, and their mitigation or attenuations should be planned and managed accordingly under both the regional and central authorities.

From this list of issues and their management, it appears that SEA at the regional and central level is probably the most suitable tool at the most appropriate institutional level for integrating environmental, health and social concerns into plans of actions, and into preparation of adequate framework programmes for supporting ASM.

3) Who would be the stakeholders in ASM to be consulted through an SEA?

Expectedly, the list provided by the participants is quite exhaustive, and ranges through the following (in no particular order):

- Individual miners and local people (non miners)
- Local municipal/provincial authority
- Central government agency responsible for the Environment
- Geological services
- Mining associations (if any)
- State Inspection Agency
- International organizations (such as CASM)
- Central and regional government authorities in social and health sectors

Recommendations

Based on the discussion during the workshop, it may be concluded

For the possible contribution of SEA to ASM

1. That SEA has the potential to provide for an integrated approach to ASM issues and may help to achieve the goal of potentially developing Artisanal mining into a formal, legal and responsible sub sector of Mineral and Economic Development

2. That SEA has the potential to leapfrog Environmental Assessment, which is out of reach of the individual operators, and would in any way be impractical in the case of ASM, to central and regional planning and programming level.

Based on the results of the workshop, it may be recommended

For capacity Building in SEA in Mongolia

1. That a subsequent Training Workshop be organized, this time in a full 4-5 days format
2. That a similar one-day format Awareness Workshop be organized and that responsible planning authorities or decision makers be invited. Such a Workshop could be streamlined for the proposed Government Sub-Program “Small Scale Mining up to 2015”
3. That a Capacity Building Plan for Implementing SEA in Mongolia be proposed to a Donor Agency and be started at once.

The Participants

