

CASM Annual General Meeting 2003
Elmina, Ghana – September 6 – 12th



**COMMUNITIES
AND
SMALL-SCALE
MINING**

EXECUTIVE SUMMARY

The Communities and Small Scale Mining (CASM) Secretariat held its 3rd Annual General Meeting and Learning Event from Sunday Sept 6th to 12th in Elmina, Ghana where more than 180 conference participants from over 20 countries came together to share knowledge, experience and desires for positive change in the small scale mining sector. The CASM conference had four primary objectives: (1) to share knowledge and experience on the major environmental and socio-economic challenges associated with the artisanal and small scale mining (ASM) sector; (2) to provide a forum for Ghanaian stakeholders to discuss the successes and shortcomings of 15 years of efforts to “regularize” ASM in Ghana and reflect of how to move forward; (3) to review the role and work of CASM and provide recommendations for its future direction; and (4) to build on recent initiatives within the region and support new ones, such as the implementation of the [Yaoundé conference vision](#) and the launching of the African Women in Mining Network respectively.

The CASM conference examined lessons derived from the African experience, investigated links to issues such as biodiversity, conflict diamonds, and HIV/AIDS, and conducted intense, interactive workshops on some of the key environmental and social challenges facing the sector. This was further supplemented by presentations on international experiences from Peru, Brazil, Indonesia and other countries and sessions related to the various initiatives being conducted by international organizations throughout the world. Some key observations from the conference include the following:

- Regularization is an ongoing process – it is not an easy process and immediate results are unlikely.
- Thinking outside of the “mining box” by incorporating other sectors in ASM efforts can be an effective means to identify and implement new approaches, such as community-managed mining contracts, alternative marketing arrangements and value added processes.
- The transformation process – from enclave communities to sustainable communities – has not been well documented and should be better exemplified.
- Most miners have a strong interest in improved, environmentally sound technologies and are willing to learn and to change their old methods; however, there is a lack of information in geology, mining, processing, environmental technology, and management.
- More coordination between the organizations and individuals working in ASM is needed.

Also in conjunction with the event, women from more than 12 African countries convened to launch the African Women in Mining Network (AFWIMN). As women comprise on average 40-50% of the small scale mining workforce in Africa and generally benefit much less than their male counterparts, this network represents an important opportunity for African women to create a unified force by which the challenges facing women can be transformed into opportunities.

With input from small scale miners, government officials, representatives from international organizations and donor agencies, and researchers working with miners, this conference also put forth a strategy for CASM to better contribute to the amelioration of the many challenges facing the sector. National governments in countries such as Ghana and Tanzania, and international agencies and donor organizations, including DFID, UNIDO, and UNECA, are currently undertaking a number of initiatives to address major environmental, social and economic challenges in small scale mining. However, as one participant stated, there is a critical need to “link together the different programs so we make a coherent progress in the right direction”. Many conference participants believe that CASM could play a vital role in filling this gap. As one small scale mining expert commented, we should always keep in mind that “What we are really here for is people on the ground.”

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1.0 INTRODUCTION

Artisanal and small-scale mining (ASM) provides an important source of livelihood for rural communities in developing countries throughout the world. ASM refers to a wide spectrum of activities including small, medium, large, formal and informal, legal and illegal mining which typically involves the use of rudimentary processes to extract economic minerals from ore bodies. In some cases, ASM is well-established and has provided benefits for miners and their families for extended periods of time. However, more frequently, ASM is characterized by extensive negative environmental and socio-economic implications. The CASM Annual General Meeting (AGM) sought to tackle some of the main issues plaguing the ASM subsector, ultimately aiming to advance CASM's primary mission – to support poverty alleviation by advancing sustainable development in communities affected by ASM. Critical challenges include the challenges in regularizing ASM, implementation of alternative and improved mining techniques, understanding the impacts of ASM at both a macro- and micro- (i.e. household) level, biodiversity issues, HIV/AIDS and community health, and effective implementation of ASM interventions, among many other topics.

The CASM AGM had four primary objectives:

- 1) Share knowledge and experience regarding the major environmental and socio-economic challenges associated with small-scale mining.
- 2) Provide a forum for Ghanaian stakeholders to discuss the successes and shortcomings of 15 years of efforts to “regularize” artisanal and small-scale mining in Ghana and to reflect on what remains to be done and how best to move forward.
- 3) Build on recent initiatives within the region and support new ones, such as the implementation of the Yaounde conference vision and the launching of the African Women in Mining Network respectively.
- 4) Review the role and work of CASM and provide recommendations for its future direction.

Over 180 people from various African governments, the local mining community, multilateral and bilateral development agencies, research and academic institutions, non-government organizations, and private consultants convened in Elmina to participate in the opening ceremonies and technical program, which ran from September 8 to 10, 2003. Of the participants, around 80 were Ghanaians; 61 people came from other African countries and another 36 from outside Africa, including Europe, North America, Latin America and Asia (Appendix I). In addition to technical sessions that targeted critical ASM topics, the conference was highlighted by five workshops which examined: possible community-level responses to HIV/AIDS in artisanal mining areas; consensus-building techniques involving diverse stakeholders; the incorporation of small scale mining within national poverty reduction strategies; the development of more efficient and environmentally friendly mining and processing technologies; and guidelines for profiling of small scale mining for improved policy making and assistance delivery. A special one-day workshop which preceded the formal conference explored the economic influence of small scale mining at a household and community level.

The knowledge building component of the event continued on well after the conclusion of the formal conference. More than 60 participants visited the Tarkwa and Bonté mining regions during a two-day field trip. This provided first-hand insight into the difficult conditions endured by some small scale miners and the challenges the Ghanaian government has experienced in translating their policy objectives to real change on the ground.

2.0 MONDAY SEPTEMBER 8TH

The first official day of the CASM conference set the stage for the event by introducing the key objectives for both CASM and the meeting, highlighting some of the broader challenges facing the ASM subsector and providing a rich description of the successes and challenges experienced in Ghana.

2.1 *Morning Session: Opening Ceremonies*

The Communities and Small Scale Mining (CASM) Secretariat opened its 3rd Annual General Meeting with an esteemed panel of representatives including the Honourable Minister of Mines, Mrs. Cecilia Bannerman, Mr. Essandoh, representing the Regional Minister of Ghana, Chief of Elmina, Ms. Joyce Aryee, Chief Executive of the Ghana Chamber of Mines, Ben Aryee, Chief Executive of the Minerals Commission of Ghana, R.T. Yakubu of the Minerals Commission of Ghana, Jon Hobbs of the UK Department for International Development, Peter van der Veen, Manager of the Mining Policy Group at the World Bank, and Jeffrey Davidson from the Communities and Small Scale Mining Secretariat.

The session, which was chaired by Mr. Idrissu Yakubu of Geoman Consult, commenced with an opening prayer by Mrs. Joyce Aryee, which was followed by a brief review of CASM's history by Yakubu, who described the formation of CASM and its recent activities. The Communities and Small-Scale Mining (CASM) global knowledge sharing initiative was inaugurated at a meeting held in London, England, March 27 and 28, 2001. The formation of CASM was catalyzed by a series of international meetings which identified a need for integrated, multi-disciplinary solutions to the complex social and environmental challenges facing ASM communities and improved coordination between the various institutions working in this sector. An independent, not-for-profit organization, CASM is sponsored by the UK Department for International Development (DFID), the Japanese Institute for Geo-sciences and Environment and the World Bank Mining Department.

Introduced as “the head of the World Bank Mining Division and the guy who has the money”, the opening address was given by **Peter van der Veen, manager of the Mining Policy and Reform Division at the World Bank**, who provided a thought-provoking review of the major challenges associated with the small scale mining sector and suggested a future direction for CASM. Van der Veen suggested that one of the critical questions remains to be “How to move (small scale mining) forward to a more integrated, sustainable activity?” He highlighted the need to approach ASM at a community level, specifically looking at how ASM that takes place in “marginal enclaves” can be transformed into sustainable communities. Issues impeding this transformation include opportunistic and self-serving types of government, social dysfunction, degraded environments and distorted mono-economies. Shifting to transparent, supportive governments, socio-cultural wellbeing, environmental integrity and economic diversity requires the implementation of specific mechanisms and tools at local, regional and national levels. Van der Veen then described how CASM could contribute to this transformation, specifically by expanding its role as a knowledge developer, knowledge sharer, and research supporter to also become an active facilitator in the development of sustainable communities.

This presentation was followed by an address by the **Honourable Minister of Mines of Ghana, Mrs. Cecilia Bannerman**. Mrs. Bannerman described the efforts of the Ministry of Mines to support the legalization and good practices of small scale miners in Ghana. In Ghana, small scale mining was advanced in 1989 through inception of the Small Scale Mining Law and Precious Minerals Marketing Company Law, which required inclusion of small scale miners in the marketing of gold by the Diamond Marketing Corporation. Establishment of the Small Scale

Mining Department in 1991 and implementation of interventions, such as the allotment of designated sites to miners, represented another important step in government policy. Mrs. Bannerman attributed increases in formally captured small scale gold and diamond production to these shifting policies. Although a national licensing program is in place, a large number of unregistered “galamsey” miners continue to operate outside of the law. Mrs. Bannerman described how these miners extensively contribute to land degradation and mercury pollution, issues which are currently being addressed through World Bank supported reclamation projects and UNIDO and UNDP assisted mercury programmes, which involves the distribution of retorts to miners. The address concluded with Mrs. Bannerman remarking that “illegal mining is a menace and a health hazard” and that “education, empowerment and exposure to other alternatives” are needed to address the poverty which underlies illegal small scale miners predicament.



Photo One: Conference participants discuss the challenges facing small scale miners

In the discussion which followed the opening presentations, Mrs. Bannerman was questioned about the impacts of a recent move to allow miners to operate in forest reserves. Bannerman responded that the government intends to allow as much mining activity as possible without harming the environment, and if it is harmed, it will be at a minimum. Rehabilitation programs will ultimately be used to repair damage incurred. In responses to comments from Ghanaian small scale miners that the “(Ghanaian) registration process is very cumbersome and it needs to be addressed” and that registration costs must not be prohibitive, Bannerman stated that efforts to educate miners will be increased and that a license costs just

200,000 cedis (\$20)¹. The Chief of Elmina concluded the session by reflecting on the importance of holding the conference in such a historic town. where the name “Elmina” means “The Mine”.

2.2 Afternoon Session: The Ghanaian Experience

As many countries have much less developed policies than Ghana, valuable lessons can be learned from the Ghanaian experience. This session was comprised of government representatives reviewing ASM policy changes and technical interventions in Ghana, a “view from the bottom” provided by local small scale miners and a perspective on the roles of majors in ASM. With a strong local presence, this session stimulated an animated discussion on the strengths and weaknesses of recent policy and assistance efforts in the round table which followed.

Ben Aryee, Chief Executive of the Minerals Commission of Ghana, began the session with a history of mining in Ghana and a retrospective on the regularization process in Ghana. Alluvial gold mining was documented in Ghana as early as 1471 along the Gold Coast. Hard rock mining was believed to have begun in 1812. With increased mechanization in the late 1870s and colonization by the British (who instituted measures such as the minerals law that made buying and selling of gold illegal unless for a specified purpose), small scale mining became an unfavorable

¹ The minimum wage in Ghana is approximately 9,500 cedis (~ \$1) per day.

activity. In the 1970's economic conditions drew great numbers of people into illegal mining, or *galamsey* ("gather them and sell") operations.

Diamond mining began much later than gold. In 1919 the first recorded diamond find catalyzed an alluvial diamond mining rush which saw substantial increases in diamond production by the 1930s. Although a large proportion of small scale diamond miners operated under a treaty to assist them, and many had agreements with large scale mine license holders, much of the diamonds, particularly in the 1970's and 1980's were sold to smugglers.

With the passage of the Small Scale Gold Mining Law (PNDCL 218) in 1989, which addressed small scale gold mining, the government began to initiate projects to facilitate the regularization process, including the establishment of 8 district centers. In 1991, the establishment of the Small Scale Mining Department in the Minerals Commission further enabled the government to assist small scale miners and develop appropriate policies. Since the regularization process has commenced, more than 620 mining licenses have been granted and the official total production has increased from 2% (gold) and 40% (diamonds) in 1989 to 7% (gold) and 82% (diamonds) in 2002. Despite these improvements, legal limitations still exist for small scale miners, there is limited availability of land known to be suitable, and environmental concerns persist. It is hoped that programs related to miners' education, demarcation of suitable lands, and promotion of alternative sustainable livelihoods will effectively encourage miners to work in a legal framework.



Photo Two: Jeffrey Davidson (CASM), Peter van der Veen (World Bank), B.R. Yakubu (Minerals Commission of Ghana) and Jon Hobbs (DFID)

Mr. B.R. Yakubu, Director of the Small Scale Mines Department at the Minerals Commission, provided additional details on the regularization process in Ghana. He described efforts to educate miners through workshops in the mining laws, geology, and health and safety issues. Other training programs focused on environmental management and marketing. In order to address the issue of inconvenience associated with traveling to district offices, Yakubu described how district officers visit mine sites at the start-up of operations and provide free technical assistance in addition to registration services. One program that encountered some challenges was the rent-a-pump scheme instituted in 1991. Recognizing that much of ASM takes place along river beds and pits infill with water rapidly, 5 hp pumps were provided to miners. Due to the low pumping capacity, pumps were often left on overnight, resulting in burn-out. Broken pumps were typically not returned for repair or exchange for new ones and, as it was difficult to recoup rental fees, it became prohibitively expensive to purchase new equipment. A number of other programs, ranging from pilot-testing of hammer mills to assess their suitability for small scale miners, to workshops conducted in conjunction with the World Bank on issues related to mining methods, marketing, the environment, and geology, have also been undertaken in Ghana. Two of the big lessons from these endeavors are that many interventions to date have not stressed the commercial value of the changes being proposed and small scale miners still do not have sufficient geological information to select appropriate mine sites.

One of the most significant issues in terms of advancing the ASM sector relates to effectively access and creation of markets for small scale miners. **George Asante, Deputy Managing Director of the Precious Minerals and Marketing Corporation (PMMC) of Ghana**, described the challenges faced by miners in marketing and the role of PMMC in promoting regularization by market provision. Established in 1989 with the passing of Law 218, the PMMC expanded the role of the Diamond Marketing Corporation (née the Diamond Marketing Board established in 1963) to include the small scale gold mining sector. Among other objectives, the PMMC sought to enhance the creditworthiness of the mining industry, minimize smuggling by providing a regular market with competitive prices for small scale miners, and increase the revenue generated for the PMMC by small scale miners. PMMC has succeeded in bringing markets to producers by establishing purchasing offices in Accra and Tarkwa and agencies in six major centers, and by licensing 500 local buyers who sell directly to PMMC. Although the majority of products are exported (e.g. 80% of diamonds are polished in India), PMMC is allocating a portion of gold produced for local jewelry production. Artisanal gold and diamond mining in Ghana reportedly produces more than 250,000 ounces/year (>\$75M) and 1,000,000 carats/year (\$20M), respectively. Over 600,000 ounces of gold valued \$200M and 7.3M carats of diamonds valued \$170M have been purchased by PMMC from ASM since its legislation in 1989.

Another perspective on regularization was provided by **Emanuel Azameti, a Small Scale Gold Miner and President of the National Association of Small Scale Gold Miners**. Azameti commenced his address by stating that “they (the previous presenters) gave you only answers. Maybe I’ll give you the questions.” Azameti described the logistical challenges associated with registration and licensing. Submission of a site plan, which is posted for 21-days to ensure others do not have rights to the property, is followed by a long process of application review by the district office, field inspections, subsequent review by the District Chief Executive, processing by the Minerals Commission in Accra, and application for an Environmental Permit with the Environmental Protection Agency. If the applications are approved, an agreement is signed before the Operating Permit is granted, at which time the applicant must register with the Registrar of Land. Approximately three months after this point, the license may arrive, although the entire process takes approximately six months. In some instances, mining activities have been completed before the license arrives. “The result is that most small scale miners choose to become *galamseyers* than having their activities regularized.” In addition to the bureaucratic hurdles faced by small scale miners, Azameti highlighted other challenges, including negative press coverage of small scale miners, unfavourable government policies, lack of capital and land ownership issues related to chiefdoms. Recommendations put forth include the following:

- Streamlining of the regularization process;
- Fairer media reporting;
- Publication by Minerals Commission of companies in Good Standing and those whose licenses have expired;
- Inclusion of small scale miners in the Poverty Alleviation Fund;
- Implementation of a Plant Pool by the World Bank, which would be comprised of heavy equipment (including a dozer and excavator) that could be rented by small scale miners;
- Purchase of a pick-up truck by the World Bank to be used to facilitate membership drives and monitor illegal activities;
- Opening of a bank for small scale miners; and
- Education of land-owners on Mineral Laws.

The role of majors in promoting good small scale mining practices was addressed in a presentation by **Ms. Joyce Aryee, Chief Executive of the Ghana Chamber of Mines**. The Chamber of Mines is a private mining industry association whose primary purpose is to support a dynamic mining sector. Aryee commented that Ghana is well endowed with a number of commodities. In addition

to gold and diamonds, manganese, bauxite, feldspar, iron ore, salt, kaolin and limestone are also important; thus, it is important to consider diversification. Small scale mining provides employment for approximately 180,000 miners in Ghana, it generates state revenue and local income and curbs urban drift. However, the environmental impacts are serious and it has a number of health and safety issues, occupational and otherwise (e.g. HIV/AIDS). Furthermore, children too frequently opt for mining over attending school. The Chamber of Mines are prepared to make small scale miners members through a special branch, however, the numbers are too large to deal with. A formal association should be established to respond to this. With respect to the majors, they could participate in responding to health and safety issues, supporting rehabilitation efforts and environmental management, and exploring land swaps. Ms. Aryee concluded by stating that the World Bank does not owe Ghana an obligation and that Ghana must look inward for the development of the nation “because the resources are here.”

In the round table discussion themed *Where does Ghana go from here?* speakers from the previous session were invited to respond to questions from the audience. Session chairperson, **Felix Hruschka**, noted that efforts to regularize in Ghana are not recent, but have actually been in the works for more than 15 years. Thus, one of the most important lessons for other countries is that this is an ongoing process, it is not an easy process and immediate results are unlikely. Comments in the subsequent dialogue, which continued for the remainder of the afternoon, revolved around the lengthy licensing process, the high proportion of galamsey miners, and comparatively low number of licenses issues (~600). Following this, it was mentioned that “A small scale miner who is legal today, may become illegal tomorrow.” Additional highlights include the following:

- A blasting certificate of competency program, which currently doesn’t exist in Ghana but has been initiated in South Africa, was proposed. A sub-contracting company to undertake blasting was also suggested. Currently, Ghanaian small scale miners are not allowed to handle explosives.
- Selling gold in country (for instance at licensed PPMC dealers) results in revenues that are at least 2% less than the “laundromat exchange”. As PPMC is a state-owned institution and the “government is not in the business of doing business”, it is not always as competitive as private buyers.
- Allocating land to small scale miners without knowing what resources lie there continues to be a major problem. This represents a major contradiction as a large scale miner would not receive a mining license without exploration.
- It was recommended that large scale miners cede some portions of the lease to the Minerals Commission for use by small scale miners. In this case, it must be agreed that the Environmental Protection Branch must release the large scale miner from liability for damage incurred by small scale miners.

This dialogue, which continued for several hours, was deemed to be extremely valuable, particularly in terms of strengthening the relationship between miners and government representatives, and sharing the lessons of Ghana with international participants.

3.0 TUESDAY, SEPTEMBER 9TH

The learning continued on day two of the conference when issues such as biodiversity and conflict diamonds were tackled, lessons and insights from interventions in Africa were shared, and five parallel learning modules were conducted. Specific topics ranged from integrated assistance projects to broader policy level initiatives to concrete tools for more efficient and environmental mining techniques.

3.1. Morning Session: Lessons from African Projects and Interventions

Biodiversity is a topic infrequently broached by those working in various facets of the ASM sector. However, as shown in a presentation by **Serge Rajaobelina of the non-profit organization FANAMBY**, integrating the protection of biodiversity with ASM assistance projects should be a key consideration, particularly in environmentally sensitive areas. In a CASM sponsored project in Madagascar, FANAMBY is working to identify strategies and actions to increase mining productivity while respecting the integrity of the forest. It is also working with locally authorities to support the creation and management of an institutional mining structure. In the Daraina Region of Madagascar, labour intensive surface mining (producing approximately 0.5 grams of gold per producer per month) is widespread in an area which is home to one of 20 most endangered primates in the world and a forest slated as a conservation area.

The project has identified and been promoting regional best practices including: maintenance of production at the family level to avoid large scale land transformation; identification and dissemination of a generalized list of production techniques; cessation of all forms of environmentally damaging mining techniques; and post-mining management and land rehabilitation. One of the interesting components of the project is a *community-managed mining contract*. Objectives of the contract include:

- Stabilization of the mining zone and delineation of activities based on regional management plans.
- Assurance that mining areas will be managed from start to the post management phase.
- Establishment of contracts (GCF) that bind communities to strict site management.

FANAMBY is also working with mining associations in order to improve their marketing abilities (i.e. obtaining a higher gold price, selling to regional buyers instead of intermediaries), increase their awareness of ecological issues, and ultimately prepare them to take over the project, with ongoing support from other institutions.

Ralph Hazleton, a Research Associate at the Partnership Africa Canada Human Security and Diamonds Project, furthered the provocative morning session by addressing a topic of immense regional significance: conflict diamonds. Hazleton noted that although many people in the world believe this issue to be an African crisis, this is really a problem with what can only be called international criminals. Diamonds can have a tremendous impact on national economies and standards of living. In Botswana, where diamonds make up 79% of total exports, there exists universal health care and education. In Sierra Leone, where diamonds make up 0% of official exports, health, education and other indicators are drastically lower. To date, wars funded by conflict diamonds have resulted in the deaths of hundreds of thousands and have led to widespread displacement and decimation of national institutions, mainly in Angola, Sierra Leone, Liberia and the Democratic Republic of Congo. “Historically people have assumed that even fighters want to end the war,” but this hasn’t been the case in many of these conflict zones. The Kimberley process, an international certification system for rough diamonds, has been proposed as one means to prevent the purchase of conflict diamonds. Countries are accepted as signatory to the process when they establish national legislation and mechanisms that meet the requirements put forth by the certification scheme. The Process has some obvious limitations, for instance, countries such as Dubai, who choose not to be signatory to the Process, can erode the strength of the initiative. Also, tracking the origin of diamonds smuggled into participating countries continues to be problematic, but is one issue for which new technologies are likely to be developed in the future. Hazleton contends that the Kimberley Process is “not a panacea, but a move forward in processes that deal with illegal diamonds”

The discussion that followed these morning presentations - themed *Can ASM and concerns like biodiversity, civil strife, etc. be reconciled?* - focused on the difficulties in implementing biodiversity-related policies within a mining context and challenges associated with reducing cross-border smuggling of diamonds. Key comments include:

- Scientists are currently working to fingerprint diamonds based on chemical properties unique to the source. This will ultimately require a databank of every pipe in every country, and will require special consideration for alluvial diamonds;
- People from Guinea and Liberia continue to bring diamonds to Sierra Leone where they can obtain a certificate of origin.
- Although policies in Sierra Leone have changed, the lives of art miners have not, often miners are making less money. One participant stated that we “Haven’t broken the shackle between the diggers and the investors.” It was noted that the Kimberly process is not oriented to the welfare of the small scale miners, but was developed to change illicit behavior.
- In countries such as Sierra Leone, where the government is now receiving substantial revenues from diamonds production, it is important to keep in mind how this revenue is spent. This represents a tremendous opportunity for the country.
- When miners earn very little (e.g. \$45 per month), support of reclamation and environmental protection is extremely difficult. Efforts such as increasing gold productivity, including communities in development efforts and NGO-supported rehabilitation activities in conjunction with miners are possible means of dealing with this while establishing the ecosystem as a priority to the local community.
- As illegal wood cutting often takes place in the same region as illegal gold mining (and can create conflict between these groups), it is important to also work with community logging associations (or informal logging groups). Informing wood-cutters about the law, trying to find alternatives and exploring sustainable forest management are possible courses of action.

The morning continued with a review of a capacity building project in Burkina Faso by **Jo Bayah of GEOMAN Consult**. With more than 200 active sites in Burkina Faso, more than 100,000 artisanal or small scale miners are actively conducting surface and underground mining, mainly using very rudimentary techniques (e.g. manual rock breaking, hauling with a sack and rope, transport via donkey or on foot). A World Bank project is currently underway in Burkina Faso, the activities of which include fostering investment, building capacity for environmental management and supporting the development of a healthy small scale mining sector. In one of the project sites where a cooperative is in place, activities have ranged from the purchase of two hammer mills and a crusher to the establishment of a baby/child care facility. As children would normally be at their mothers sides throughout the workday, a separate daycare prevents children from inhaling harmful dust and risking other injuries. The childcare center is sustained by contributions from the mining cooperative, with proceeds being used to feed the children, and the center is managed by a local women’s group. This project has demonstrated how multi-disciplinary approaches are critical in order to effectively address all facets of artisanal mining communities.

A successful cooperative program in the prefecture of Kouroussa, Guinea was the topic of a presentation by **Seth Barnes, of the Sanimuso NGO Rural Gold Producers’ Co-Operative**. The Sanimuso Co-operative, which covers over forty gold-mining villages and has an ever-increasing membership of over 5000 artisanal gold miners, is working to generate funds between the coop and external partners for inputs such as motor-pumps, jigs, Medicaid, social amenities such as schools, hospitals and markets, potable drinking water, and environmental and soil restoration programmes.

Sanimuso, which means *golden ladies*, was founded by four women and one man – all veterans of traditional gold workings. The aims and objectives of the NGO include:

- Improved and modernized artisanal (small-scale)gold-mining;
- Collaboration with other small-scale gold miners and mining villages in the Prefecture;
- Stabilization of income of the small-scale gold miner;
- Protection of the environment;
- Contribution to the development of the micro-economy of the Prefecture of Kouroussa;
- Education of small-scale and artisanal miners using a number of techniques;
- Collaboration with international organizations, the mining industry, and other private and public entities;
- Provision of viable business opportunities to small-scale miners such the creation of a micro-finance institution (miners' bank);
- And many others.



Photo Three: Seth Barnes presents on the Sanimuso Rural Gold Producers Cooperative, Guinea

A major initiative sponsored by the GEF, UNDP and UNIDO, the Global Mercury Project in Africa, was profiled in an entertaining presentation by **Dr. Marcello Veiga of the UN Industrial Development Organization (UNIDO)**. With an estimated 50% of the world's artisanal and small scale miners involved in gold mining and the numbers rising with increasing gold prices, the environmental and human health impacts of mercury misuse continue to be an ongoing concern. It has been estimated that almost half of all of the anthropogenic mercury released in the environment (800 t) is from artisanal mining. The Global Mercury Project, which currently has demonstration sites in Indonesia, Laos, Sudan, Tanzania, Zimbabwe and Brazil, is undergoing multiple phases with the environmental and health assessments and capacity building in laboratories to assess mercury pollution phases well underway. Subsequent phases include field-based efforts to reduce mercury pollution from ASM on international waters, the introduction of cleaner technologies at demonstration sites, and development of related capacity and regulatory mechanisms within the government. After reviewing the project, Veiga concluded that miners continue to be unaware of the harmful effects of mercury and many aspects of mercury behavior in the environment (such as its increased solubility in the presence of cyanide). Further, Veiga stressed that efforts such as the Global Mercury Project should focus on training miners and governments and the alleviation of poverty in conjunction with rural development strategies.

Kevin D'Souza of Wardell Armstrong continued with the theme of interventions by stating that he has been concerned about the lasting impacts of assistance projects in recent years. As the number of people working in ASM is expected to triple in the next decade, testing an integrated policy and practice model at the country level is critical to ensuring that future endeavors provide a long-term benefit. Key issues include the lack of livelihood choices in many areas, the poverty cycle, and the massive contradiction between planning from a subsistence versus sustainability perspective (i.e. day-to-day versus long-term). An integrated policy framework would tackle all of the major issues facing the ASM sector by:

- Delineating and defining the mineral potential suitable for ASM exploitation;
- Establishing a Government institution or unit to handle and/or manage the ASM sector;

- Formulating an enabling, appropriate and transparent legislative framework and licensing scheme;
- Encouraging the formation of ASM associations or co-operatives;
- Providing outreach services - regional self sustaining technical assistance and training schemes (appropriate technology);
- Providing a viable and sustainable financing scheme for the ASM sector;
- Providing a fair and effective marketing system for ASM products;
- Defining relevant and consistent health & safety standards and practices; and
- Establishing appropriate and realistic environmental protection practices and principles.

DFID is exploring these and other specific issues through a series of projects related to livelihoods, policy frameworks and vulnerability to commodity prices. These projects are scheduled for completion in 2006 and 2007.

The Yaoundé Conference represented the culmination of a 3 year project which aimed to "develop an understanding of poverty in artisanal mining communities and the role that the sustainable livelihood approach can play in eradicating poverty in these communities." **Antonio Pedro of the UN Economic Commission of Africa (UNECA)**, provided an extensive review of major conclusions from this important event and the actions taken post-Yaoundé. Approaches to responding effectively to the challenges facing the ASM sector include increased availability of alternative livelihoods, improved regulatory frameworks, an enhanced network of support services, improved capacity of miners, and the provision of affordable and appropriate technology options. Agreed upon strategies include:

- Acknowledgement of ASM sectoral issues in national legislation and codes;
- Inclusion of mainstream poverty reduction strategies into mining policy;
- Integration of ASM policy into Poverty Reduction Strategy Papers (PRSPs) with linkages to other rural sectors;
- Development of a strategic framework for PRSPs;
- Review of existing thinking on ASM policies and legislation, and undertaking necessary reforms of the ASM sector (e.g. traditional land rights, and modern land use legislation nexus); and
- Improvement of policies, institutions, processes and the ASM stakeholders' livelihood, develop partnerships, and promotion of sustainable use of natural resources, infrastructure development and land use management.

Pedro put forth a number of specific tasks for governments, NGOs, international organizations and other stakeholders, and outlined what has been accomplished post-Yaoundé. A number of issues must still be addressed, however, in particular the inclusion of ASM into PRSPs and establishment of an HIV/AIDS and ASM working group.

The final presentation of the morning session described the preliminary results of a post-Yaoundé World Bank project entitled *Reprofiling Artisanal Mining in Africa*. According to **Richard Noetstaller of the University of Loeben, Austria**, a review of 23 baseline reports completed between 1987 and 2002 from 15 African countries indicates that considerable variability exists in terms of study scope and detail. Further, Noetstaller contends that the quantitative information provided is insufficient to inform policy and programs. In response to this, the drafting of a toolkit to systematically carry out baseline studies has been initiated. The toolkit includes a checklist of critical issues, benchmark indicators, and guidelines for carrying out field surveys. The draft toolkit was subsequently "pilot-tested" with conference participants in one of the workshops (summarized in Section 3.2.5).

The theme of the discussion which followed the second portion of the morning session was *defining key elements for successful intervention within a poverty context*. Major points discussed include the following:

- The small scale mining sector must work in conjunction with other sectors if we to make progress in terms of poverty alleviation and mitigating some of the impacts of these activities. This is recognized but little advancement has been made in this respect.
- Research fatigue of communities represents an often overlooked issue, but is one which should be considered particularly when it is expected that baseline and follow-up studies incorporate more data. Increasing the use of local consultants and ensuring that communities receive long-term benefits, and these are effectively communicated, may be means of responding to this issue.
- In order to avoid or reduce the introduction and use of mercury in ASM it was suggested that both the consumer and producer be targeted. As most mercury is introduced into countries legally (i.e. for industrial purposes), restricting flows coming in is complicated. Pressure could be applied to governments in order to better monitor in-country mercury flows or limit the mercury coming in.
- The transformation process – from enclave communities to sustainable communities – has not been well documented, but should be better exemplified. For instance, indicators for these communities should be shared. The UN has documented some related information through livelihoods studies and should have documentation to this effect.

3.2. Afternoon Session: Workshops

Five learning modules were held in parallel for the remainder of the day with the intent of sharing knowledge and building skill sets on selected topics.

3.2.1 Incorporating Artisanal Mining into Country Poverty Reduction Strategies

Facilitator: Professor George Gyan Baffour, National Development Planning Commission, Ghana

By conducting a detailed review of the poverty reduction strategy defined for Ghana, this workshop enabled participants to identify successes and shortcomings which could be useful to other contexts and circumstances. The workshop commenced with a presentation of the links between artisanal mining and poverty. Four different types of artisanal mining were defined: seasonal, permanent, shock-push, and “gold-rush” mining. Understanding the drivers of participation in each of these is needed to develop an appropriate poverty reduction strategy. The vicious cycle of poverty that often pervades many mining areas was also a key focus. Drawn by a lack of alternatives, increased commodity prices, or “hitting the mother lode”, the influx of a large number of miners can result in dilution of the resource revenues, resulting in low incomes. Low incomes, in turn, can lead to the use of primitive technologies that result in degraded environmental and human health conditions. Poor health leads to low productivity which in turn equates to a low income and, thus, the cycle continues. This cycle has been exacerbated by issues such as lack of land tenure for miners, lack of incentives for sustainable land use management, inability of miners to obtain credit and invest in technologies, and insufficient regulatory frameworks. Strategies for breaking the poverty cycle were put forth during the conference including:

- Provision of alternative livelihoods to reduce numbers and raise incomes;
- Legalization of artisanal mining;
- Provision of credit for technology;

- Education about appropriate methodologies;
- Information on disease, sanitation, and occupational safety;
- Restricting child labour; and
- Encouraging and supporting initiatives for collective and cooperative actions.

It was observed that the cycle of poverty, as discussed within the conference, is generally limited to mining, but there are actually dynamic exchanges with other sectors (e.g. agriculture). Further to this, mining is often excluded from other areas of the economy, so it may be necessary to “fit mining under existing headings” of a country poverty reduction strategy. Finally, the participatory aspect of poverty reduction strategies, i.e. the incorporation of other fields, sectors and aspects within the process, must also be considered in incorporating ASM within national strategies.

3.2.2 HIV/AIDS Basics and Planning Effective Interventions for Artisanal Mining Communities

Facilitator: Rosemary Smart, HIV/AIDS Consultant, South Africa

The purpose of this workshop was agreed by its participants to be:

- To reach common understanding of the causes and consequences of the HIV/AIDS epidemic; and
- To discover what responses are possible in small scale mining communities by examining a “blue-chip” mining sector response and then subjecting that to a reality check.

Methodologies employed in the workshop included a video, plenary brainstorming and discussions, a presentation and group work.

There was consensus that the factors driving the epidemic in the mining sector in general also apply in the small scale mining context, for instance with respect to poverty, mobility and migration, high risk sexual practices, the status of women in society, etc. The consequences are also similar at individual, family and community level. At the level of the workplace, the differences that exist are in terms of labor replacements and costs (there is, however, no data to support this).

When examining what elements of a blue-chip response are applicable to small scale mining communities, it was believed that all elements are actually possible, e.g. workplace policy, behavior change, communication, involving people living with HIV/AIDS (PLWHAS), peer education, etc. The differences between how this would happen in a company as opposed to in a small scale mining company/community are mainly in terms of: (a) who would take the lead; and (b) using opportunities that already exist but are not HIV/AIDS related.

3.2.3 Basic Concepts, Assumptions and Tools for Building Multi-stakeholder Consensus and Developing Tri-sector Partnerships for Sustainable Development

Facilitator: Edgardo Garcia Larralde, Living Earth Foundation, UK

There is a growing understanding among international corporations and other key stakeholders, that win-win solutions to development challenges are not only possible, but they are the only guaranteed path towards sustainability. Tri-sector partnerships (between governments, corporations and communities) aimed at developing consensus-based win-win solutions to development challenges, are proving to be a powerful tool for managing complex and sensitive social and

environmental issues. Through this workshop, 26 participants from several countries focused on strengthening their consensus-building skills through interactive exercises and intensive dialogue.

The workshop commenced with an initial presentation on the basic concepts, assumptions and tools associated with consensus-building and developing tri-sector partnerships. This was followed by a dialogue that addressed: examples of successful partnerships, African experiences in partnership building, critical success factors in developing consensus-based solutions, the different roles played by NGOs, and capacity-building among stakeholders. The second part of the workshop started with a short role-play negotiation exercise in four breakout groups, the results of which were presented in plenary. The final part of the workshop consisted of a presentation and discussion of the roles, skills and ethics of a third party facilitator in processes of consensus-building and partnership development. The limits and challenges of partnerships were also debated. In evaluating the workshop, participants made the following observations:

- The concepts, tools and consensus-building approach presented can be very useful to the three stakeholder groups (governments, communities and companies).
- The exercise carried out during the workshop was very useful in enhancing understanding of how learned attitudes can foil win-win solutions, even when these are objectively possible and clearly superior to other solutions.
- It was widely felt that the workshop should be repeated for other stakeholders, with more time dedicated to practical exercises and discussion of case studies (at least a full day was considered necessary).
- Several participants expressed an interest in organizing training activities geared to developing facilitation skills among local actors.

3.2.4 Technologies for Small Scale Mining

Facilitator: Hermann Wotruba, University of Aachen, Germany

Approximately 50 small scale miner, academics, engineers and others participated in this in-depth exploration of commonly employed and alternative technologies used in small scale mining. A number of important conclusions were derived from the workshop, including the following:

- The small miners have a strong interest in improved, environmentally sound technologies;
- They are willing to learn and to change their old methods;
- There is a lack of information in all fields of mining, processing and environmental technology;
- The miners want to share experiences from other countries and/or continents and exchange information but they are limited by financial constraints. Short field trips like the ones offered in the meeting are a first step, but more events like this are needed;
- Although the miners appreciated the workshop, they felt that field demonstrations of technologies and opportunities to try appropriate methods in their operations would be more effective. They think written or spoken information is only a weak substitute for real demonstrations;
- Many gold miners are thinking of introducing cyanide leaching in their small operations. It would be very important to guide them right from the beginning in order to prevent negative impacts, as has happened in some parts of Latin America;
- The miners need access to appropriate equipment, like carpets. It was suggested that CASM could include a list of suppliers on the CASM website;
- There are considerable differences in technology between the highly rudimentary, manual methods that characterize artisanal mining (e.g. pick and shovel mining, hand panning and

sluicing) and the sophisticated methods of “industrialized small scale mining” (e.g. heavy equipment, washing plants). The latter is mostly carried out by foreign companies and/or joint ventures and is normally out of reach of local people. To develop an improved small mining industry, there is a need for “intermediate technology”, which means better productivity with relative low investment costs (e.g. hydraulic monitoring/gravel pumping with improved sluice boxes). Information about intermediate technologies is not available to the miners. It was mentioned that any increase of productivity means much higher environmental impact and this should not be introduced without proper education and training of the small miners

- Miners extracting commodities other than gold and diamond complained that their fields (gypsum, aggregates, limestone, salt, etc.) were not represented in more detail in the workshop. It was strongly recommended that CASM give attention to technologies used in mining of industrial minerals and other commodities.

3.2.5 Building a Toolkit for Profiling Artisanal Mining

Facilitators: Dr. Richard Noetstaller, University of Leoben, Austria
Bernd Dreschler, ITC, South Africa
Marieke Heemskerk, University of Wisconsin, Suriname
Felix Hrushka, GAMA, Peru

With participation from a multi-disciplinary group of 23 people from different parts of the world, this workshop sought to pilot-test the draft version of a toolkit to profile artisanal mining. The objectives of the workshop were to:

- Generate and test ideas for improving future baseline work; and
- Lead to improved policies and programs required to achieve the Yaoundé goals.

A number of ideas and recommendations were derived from the workshop, which reviewed the toolkit checklist, benchmark indicators and guidelines for conducting baseline studies. One of the first activities was to discuss what aspects are most critical in the five categories of the checklist (natural capital, social capital, human capital, financial capital and physical capital), which was developed in accordance with DFID’s sustainable livelihoods framework. It was apparent that cultural aspects are important in all 5 categories, thereby suggesting that this should be explicitly considered within the toolkit design. A ranking exercise placed the highest priority on natural and human capital, with environmental indicators and cultural norms, respectively, requiring special consideration. Health was also identified as a significant issue. Within the context of social capital, it was felt that characterization of the organizational structure of ASM, migration issues and the existence of a social safety net were primary concerns. Education and governance were also recognized as being high on the list in these categories. Physical assets should focus on schools, roads and infrastructure. Finally, it was that ASM should be targeted at the community level, not just in terms of mining activities.

Workshop facilitators noted that the workshop provided an excellent opportunity to undertake a “reality check” of the preliminary draft of the toolkit and the exercise will ultimately make a significant contribution to the quality of the final output.

4.0 WEDNESDAY, SEPTEMBER 10TH

The final day of the official conference signified an opportunity to share international experiences in ASM, exchange knowledge on how the environmental impacts of ASM can more effectively be mitigated, and to review the insights derived from a special workshop on microeconomics. The results of a parallel event on women in mining were also presented, signifying the birth of a new organization, the African Women in Mining Network (AFWIMN). The conference finally culminated with a plenary session that reviewed the event and discussed the future of CASM.

4.1 *Morning Sessions*

4.1.1 Sharing International Experiences

Maria Kathia Romero of Cooperaccion initiated the session with an update on the artisanal mining program in Santa Filomena, Perú. The site of last years AGM field trip, Santa Filomena is a remote, poorly-serviced mining community comprised of ~450 families, approximately a third of which are children. Beliefs that child labour prepares children for the workforce and that leisure time should be used for work, coupled with high levels of poverty and a lack of information on the consequences of child labour have led to a high percentage of children participating in mining. A joint programme has been undertaken in Santa Filomena to reduce child labour using an integrated approach that links awareness building with technological improvements, income generation, improved services, and capacity building. Major technical enhancements include installation of an electric winch, technical assessments of the resource, construction of a centralized, cooperative-operated cyanidation plant, and development of an environmental management plan. Project achievements include reduced mercury use, decreased involvement of children in mining, greater household incomes and more efficient, productive gold extraction. With these achievements, combined with the high level of organization in the village and their recent moves towards legalization, it is hoped that Santa Filomena will be an important example for other marginalized ASM communities throughout the world.



Photo Four: Participants enjoying the conference

Inspiring examples of adding value to artisanal mining products were then presented by **Nellie Mutemeri of Minteq in South Africa** and **Marcello Veiga of UNIDO**. In South Africa, the new Minerals and Petroleum Resources Act has emphasized the importance of adding value to minerals and has required that a social plan be in place when applying for a mining license. When approached in this respect, the viability of some mining-manufacturing ventures may improve significantly with inclusion of value-added processes, for instance with beneficiation. Targeting high-poverty regions, a number of related initiatives have been undertaken by Minteq in collaboration with others. Some ventures have been developed

such that they correspond to local market demands, such as a brickmaking project that coincides with a local housing construction project, an agrogeology initiative, which links industrial wastes with the needs of farmers by developing low-cost fertilizers, and a jewelry project, wherein women produce unique jewelry from recycled pop-bottles mixed with kaolin. In another example in Alta Floresta, Brazil, local miners have turned the depletion of gold resources, which had a devastating

economic effect on the region, into an opportunity. Small scale miners have since converted flooded artisanal mining pits into fish farms. With 500 fish farms now in the region, farmed fish cost less than market prices and, as the fish are artificially fed, mercury levels are low. These examples demonstrate that a little ingenuity and coordination of activities between sectors can result in some interesting opportunities to alleviate poverty in ASM communities.

The final presentation of the session was given by **Geoff Crispin, a community development consultant**, who has extensive experience working in ASM communities. Crispin's presentation described the small scale mining situation at Kelian in East Kalimantan, Indonesia. Large scale mining activities at Kelian commenced in 1991 and are approaching closure in 2004. One of the many issues in the Kelian closure plan is the impacts on ASM. The majority of the 2000 to 4000 small scale miners operating downstream from the mine have no ownership of the land and have been employing environmentally destructive techniques to extracting between 1-2 g/d of gold via panning and 20-100 g/d using a two-pump system. Considerations in the mine closure plan include community verification of the absence of alluvial gold in a proposed wetland treatment site, involvement of a community advisory group in protecting the integrity of the tailings dam, and a community awareness program on a number of issues including mercury exposure. Social sustainability of the community, inclusive of small scale miners, has also been considered in the closure plan. With significant risks of small scale miners invading the mine site and community regulations diminishing post-closure, it is evident that measures such as a multi-stakeholder community verification program and comprehensive education/awareness programs will be critical factors in addressing these risks.

4.1.2 Artisanal and Small Scale Mining Technology

In the first seminar of the second morning session, **Richard Couture from Natural Resources Canada (NRCan)** presented results from a sub-component of a CIDA sponsored project on alluvial gold and diamonds activities in Guyana. This project, which sought to understand the fate of mercury released from gold mining and its relationship to mercury levels in fish, was comprised of an extensive mercury sampling program in fish, water, sediments and tailings. Ultimately, this project determined that mining communities were at greater risk from consumption of mercury contaminated fish than non-mining communities. Erosion of fine dredged material into waterways was identified as an important precursor to mercury incorporation into the food chain.

Following this, **Ludovic Bernaudat of UNIDO** presented the first two phases of a major assistance project to assess and reduce mercury pollution from artisanal gold mining in Ghana. The preliminary phase commenced with a 1999 France-funded project, which indicated that the population of the village of Dumasi, with a long history of gold extraction, was at risk of exposure to elevated levels of mercury. Awareness campaigns were conducted that emphasized issues including mining techniques, sustainable natural resource use, mining legislation and marketing. Retorts, which are used to recover mercury released during amalgam decomposition, were also introduced to miners living in affected areas. The second phase of the project targeted hard-rock gold mining in the village of Gyapa. Retorts and training were provided to the most heavily mercury intoxicated miners. Efforts such as these raise awareness in targeting mining communities and the public at large.

The use of clean appropriate mineral processing solutions in Zimbabwe was the subject of a presentation given by **Kevin Woods of Small Scale Mining Supplies Pvt Ltd**. The presentation focused on the use of small, mobile plants that includes multiple processing units. Woods provided an excellent overview of a number of technologies, highlighting the Katanka Stamp Mills, Knelson Concentrators, swirler pans, Spiracon concentrators, PSA Hi-Y jigs, RG Scrubbing Plants, a

crusher, granulator and hand mill, and a small cyanidation plant (Consep Acacia 500). The situation at the Dericose Mine in Zimbabwe, where the upgrading of technology has been a key component of the mine's transition from artisanal to more formal practices, was the focus of a case study presented. Woods illustrated how consideration of the environment is incorporated within the operation and described the technologies proposed for use at the mine, including the use of mercury-free processes.

Lars Hylander of Uppsala University in Sweden provided an extensive review entitled "500 Years of Mercury Production: A Global Annual Inventory by Region until 2000 and Associated Emissions", which was based on work undertaken by himself in conjunction with Marcus Meili of Stockholm University. Hylander reviewed the history of mercury production since the 1500's and described the early exchange of mercury for gold and silver as facilitated by Columbus. Hylander further discussed the distribution of mercury through Almadén, Spain, and the misuse of mercury by artisanal and small scale miners, who are now the primary consumers of the product. Global efforts to reduce mercury emissions are underway, but, as Hylander observed, the Eastern European and Asian countries must be included within these strategies in order for them to be effective.

4.2 Reporting Back

4.2.1 Summary of Microeconomics Workshop

Dr. Marieke Heemskerk provided a summary of an intensive one-day workshop devoted to sharing experiences and information on the micro-economic context of ASM. The workshop specifically aimed to document what is known and what relevant information is lacking and further sought to identify strategies to improve the collection of micro economics data that is critical to policy interventions, particularly those programs aimed at alleviating poverty and supporting sustainable livelihoods in ASM communities. Workshop participants identified a number of issues impeding reliable data collection including the uncertain and intermittent nature of incomes, the migratory nature of miners, the lack of experienced people and financial resources to conduct data collection, and mistrust towards researchers. Other factors that may influence the data collection process include endorsement of the research by local leaders, the incorporation of qualitative data into studies, and the use of control (i.e. non-mining) villages for data comparison. The group ultimately agreed that legalization and/or organization of miners can significantly improve the facilitation of data collection.

4.2.2 African Women in Mining Network

In a parallel event sponsored in part by CASM, women from more than 12 African countries convened to launch the African Women in Mining Network (AFWIMN). In her closing remarks of this important event, **Namakau Kaingu, a small scale gemstone miner and chairperson for AFWIMN**, described the challenging facing women in mining and highlighted the importance of women working together to address these challenges. A series of resolutions drafted by the fledgling organization outlined the objectives of AFWIMN and provided insight into the broader role that AFWIMN hopes to play. AFWIMN goals include information sharing, mobilization of resources, strengthening of partnerships with key organizations, establishment of training programs and provision of a voice for all women involved in mining in Africa. Equal participation in decision-making and gender mainstreaming in the mining industry were also identified as key aims

of AFWIMN. Kaingu closed by calling for support for AFWIMN and emphasizing the importance of the connection between CASM and AFWIMN.

In the coming year, CASM will be initiating a web page dedicated to women in artisanal and small scale mining.

4.3 Final Plenary Sessions: Summary of Outcomes

In the final plenary session, which was facilitated by **Jon Hobbs of the UK Department for International Development (DFID)**, conference participants discussed their expectations for the AGM and highlighted topics and issues which require greater attention from CASM.

Comments include the following:

- The CASM Conference was successful as a learning event. In particular, feedback from the workshops indicates that participants went away with useful, practical tools for their future endeavors.
- The event also effectively created a venue to link participating stakeholders, particularly local small scale miners and representatives from the Ghanaian government. It was suggested that more time be allocated to this in future events.
- CASM was commended for “thinking out of the mining box” and involving non-traditional participants, such as anthropologists and economists.
- The absence of civil society organizations represented a major gap.
- CASM and others working in ASM require a more eclectic integration of sectors. For instance, agriculture and forestry representatives should be involved.
- Commodities other than gold and diamonds, such as industrial minerals and gemstones, require much greater attention from CASM, as well as others conducting initiatives, projects and learning events on ASM.
- Although a few of the major current initiatives were highlighted at the event, (e.g. UNIDO, UNECA, and DFID projects), a means of sharing lessons derived from these efforts, as well as specific project details, must be established.
- CASM is still a quite young initiative and is evolving rapidly to find its niche.
- Clear indicators or measurement criteria are needed to gauge to efficacy of CASM efforts.
- CASM has had a positive impact in countries where the conference has been held; in order to have a broader and sustained effect in countries, country ownership is needed. A more systematic approach with country partners could be one means to facilitate this.

With input from small scale miners, government officials, representatives from international organizations and donor agencies, and academics, the final plenary also sought to provide a future direction of CASM. First and foremost, it was indicated that a detailed mapping study is critically needed in order to make coherent progress in the ASM sector. It was proposed that CASM undertake this project, with the primary purpose of identifying what is and has been undertaken by governments, NGOs, international agencies and donor organizations in the ASM sector. Objectives of the project would also include the following:

- To benefit from lessons derived from these projects and promote knowledge sharing;
- To reduce redundancy between projects;
- To generate a mechanism for peer review;
- To identify and communicate knowledge gaps and critical needs in the ASM sector;
- To strengthen the network between existing CASM members and encourage participation from other individuals and institutions; and
- To support partnerships between CASM and participating organizations.

Although the mapping project was repeatedly endorsed by conference participants, recommendations for CASM were not formally prioritized. It was also recommended that CASM:

- Take a more active role in advancing the inclusion of ASM into PRSPs.
- Become more of a catalyst/mobilizer/facilitator of projects, possibly partnering with countries in starting this type of work.
- Facilitate a greater number of forums, learning events and training courses.
- Identify best practices in ASM.
- Include industrial minerals, gemstones, and other commodities within the current scope of work.
- Explore avenues for the creation of markets and value-added processes.
- Participate at more conferences and meetings in order to make their presence known.



Photo Five: A group of participants convene to discuss the future role of CASM

Strengthening of partnerships was also a key theme of the event. It was informally suggested that CASM enhance interactions with organizations, such as ADB and UNECA. The World Mining Industries Forum was also identified as a possible organization to target. Formal partnerships were also suggested, possible in conjunction with IDRC Mineral Policy Research Initiative (MPRI) on the development of emergency response guidelines for ASM. MPRI is working with UNEP and others to review APELL guidelines and adapt for ASM. The preliminary generic guidelines will subsequently require adaptation for national and local contexts. Another suggestion was the creation of a partnership with UNIDO for the development of a mobile multi-disciplinary team to visit ASM communities and run workshops on selected topics.

In closing the final plenary, Jon Hobbs commented that “The whole is greater than the sum of the parts. That is the beauty of the (CASM) network.”

5.0 FIELD TRIPS – SEPTEMBER 11TH AND 12TH

Approximately 60 conference participants continued on after the formal event for a two day field trip to the Tarkwa and Bonte Mining areas. This trip provided further insight into the Ghana experience, grounding the lessons learned at the conference in the local reality.

5.1 Tarkwa Mining Area – September 11th

The Kyereyiaman Mining Cooperative was the destination of day one of the field trips. Work at this site preceded ASM legislation in 1989, but it was at this time that the Chief of Kadadwen and nine other formed a cooperative and obtained their 25-acre concession. In 1990, the property was optioned by the China Non-Ferrous Mining company, who brought equipment to the site. The equipment was subsequently purchased by the Peace SSM Company, who came to agreement with

the cooperative concerning the use of the equipment and mining on the property. Now the cooperative receives a royalty on production.



Photo Six: Claudia Sandoval (CASM Conference Organizing Committee) visits with a Miner in the Tarkwa Mining Region.



Photo Seven: A Panner at the Peace Mine – Tarkwa Mining Region

Conference participants observed the mechanized operation, which employs a dozer, excavator and dump trucks, as well as hammer mills. A small ore test area is located close to the test pits, providing for concurrent exploration and mining. The operation employs 263 workers, 13 of which are supervisors and produces on average 250 grams per day. Peace SSM is seeking to upgrade mechanization, which would thereby reduce labor requirements.

5.2 *Bonte Mining Area – September 12th*

Day two of the field trip was highlighted by visits to the King Midas mine and a galamsey operation in the Bonte Area. King Midas Mine, which is an excellent example of a mechanized small scale mine, is located on a 25 acre concession granted to King Midas Mining. Starting in 2000 with exploration, site preparation, infrastructure construction and plant installations, full operations commenced in 2001. Recovering 3000-4000 grams of gold from 8000 m³ of ore per month, King Midas is equipped with a dozer, excavators, trucks and front-end loader, which feeds the plant. The trommel washplant includes a derocker ahead of the feed section, scrubbing section and screening at 20mm. Two stages of sluicing – roughing with riffles and expanded mesh on mats – are followed by further processing of concentrates (hand screening, Knelson and tabling after magnetics removal). Following the visit to King Midas, a large number of visitors continued on to see a galamsey operation, the labour force of which was mainly comprised of women and children.



Photo Eight: Sluice at King Midas Mine



Photo Nine: The Group at King Midas Mine



Photo Ten: Transporting water at a galamsey operation

6.0 CONCLUSIONS

A number of key insights concerning the current state of ASM, the efficacy of past efforts in this subsector, and critical needs for the future were derived from the CASM AGM. Furthermore, participants put forth a number of recommendations for CASM, providing an important basis on which to chart a course for the future of CASM. The primary conclusions from the CASM AGM are described as follows, within the context of the four main conference objectives.

Objective One: Share knowledge and experience on the major environmental and socio-economic challenges associated with the artisanal and small scale mining (ASM) sector.

- Technical sessions effectively illustrated that a diversity of social, cultural, legal, economic, technical and environmental issues are significant to the ASM subsector. Topics addressed include: regularization of artisanal miners, biodiversity, conflict diamonds, fair trading and marketing of minerals, and the responsible use of mining technology.
- The small scale mining sector must work in conjunction with other sectors in order to make progress in terms of poverty alleviation and mitigating some of the impacts of these activities. This is widely recognized but little progress has been made in this respect.
- Presentations on experiences from throughout Africa as well as from Peru, Brazil, Bolivia, Guyana, and Indonesia provided models for tackling both higher level policy efforts and on-the-ground efforts. It was further demonstrated that integrated approaches to ASM communities are key, and a broad range of stakeholders should be considered, including those from other sectors (e.g. agriculture, forestry).
- The transformation process – from enclave communities to sustainable communities – has not been well documented and should be better exemplified. For instance, indicators for these communities should be shared.
- Participants indicated that the workshops, in particular, provided concrete tools that would help them to better respond to the particular issues or to difficult situations that they face in their own work and home countries. Workshops focused on: government and community level responses to HIV/AIDS; consensus building techniques; incorporating small-scale mining as a form of non-farm rural income generation into national poverty reduction strategies; guidelines for profiling small-scale mining; micro-economic impact analysis of small-scale mining; and responsible use of mining and mineral processing technologies.
- Based on the results of the participant evaluations, the conference was highly successful as a learning and sharing event.

Objective Two: Provide a forum for Ghanaian stakeholders to discuss the successes and shortcomings of 15 years of efforts to “regularize” ASM in Ghana and reflect of how to move forward.

The Ghanaian “regularization” experience, extending over the last 15 years, was the focus of the first technical session. Following five presentations - three by government representatives, one by a registered miner, and another by the Chamber of Mines - a question and answer session continued for several hours, which was deemed to be extremely valuable in terms of strengthening the relationship between miners and government representatives, and sharing the lessons of Ghana with regional and international participants.

- It was recommended that a permanent forum be created for ongoing discussions between the various parties.
- Despite 15 years of effort, the majority of “galamsey” miners remain unregistered. This is related to a number of factors, including what the miners claim is an arduous registration process (up to 6 months to issue a license), and the reservation of lands for small-scale mining whose prospective value has not been checked or confirmed.
- Government technical assistance programs have had mixed success: credit schemes have had only a 26% repayment rate and it was observed that the delivery vehicle for assistance, the district offices (centers), are understaffed and under-resourced.
- The title cadastre is not sufficiently maintained or detailed to contain up-to-date information regarding title assignments of lands to small-scale miners. Consequently, as one of the miners put it, “A small scale miner who is legal today, may become illegal tomorrow.”
- A principal objective of the original legal reform was to create legal opportunities for peasant artisanal miners to work in safety and security. Many of the “miners” currently registered under the law are in fact semi-mechanized operations which function along commercial lines. As these mines continue to climb the technology ladder, they will begin to shed large amounts of labor, i.e. former “galamsey” miners, who for lack of alternative options be forced to continue to work in mining, but “illegally.”
- Traditional chiefs may play either a constructive or disruptive role.
- Larger mining companies have at times engaged in constructive ways with remaining “galamsey” miners, for example on a tributing basis, but there is no formal policy or guidelines on how large companies should interact with local miners. In fact some of the small-scale licensees have come to accept “galamsey” mining on their leases, because the alternative would be unworkable, i.e. conflict and potential violence.
- Conflict between licensed and unlicensed miners is still a problem.
- There is a critical need to pre-qualify lands as being reasonably prospective in advance of their assignment to small-scale miners.

Clearly, formalization is not an easy or necessarily straightforward process. Legalization is only the first step, and it may itself demand a level of bureaucratic efficiency that is often difficult to achieve. This in turn becomes its own disincentive and obstacle to the legal registration of miners. In Ghana as elsewhere, the integration of “informal” miners into the formal economy and civil society may take much longer than originally anticipated. Although many positive steps have been taken in Ghana, much still remains to be done to complete the formalization process. Creating a forum for discussion between stakeholders may be one mechanism for advancing formalization efforts.

Objective Three: Build on recent initiatives within the region and support new ones, such as the implementation of the Yaoundé conference vision and the launching of the African Women in Mining Network, respectively.

The conference program was also designed to accommodate and give encouragement to recent regional initiatives – from the Kimberley process, to conservation and biodiversity protection initiatives where ASM is practiced, to identification of actions at the government and regional levels which will strengthen efforts to realize the poverty reducing potential of ASM and its capacity to support the development of rural economies (as per Yaounde).

- A workshop on profiling ASM was conducted, with the primary objectives of generating and testing ideas for improving future baseline work and supporting improved policies and programs required to achieve the Yaoundé goals.
- CASM also provided support for the launch of the African Women in Mining Network (AFWIMN). Women from more than 12 African countries convened in Elmina to launch AFWIMN and this network, which will be chaired by Namakau Kaingu, represents an important opportunity for African women to create a unified force by which the challenges facing women can be transformed into opportunities.
- A number of organizations represented at the conference, including the African Development Bank, UN Economic Commission for Africa, CANMET, IDRC, and BRGS, expressed a willingness to work more strategically and concretely with CASM in the future.

Objective Four: Review the role and work of CASM and provide recommendations for its future direction.

- CASM is beginning to “think out of the mining box” by involving non-traditional participants, such as anthropologists and economists, however, much more progress is needed in this regard. CASM and others working in small-scale mining require a more eclectic integration of sectors. For instance, agriculture and forestry representatives, as well as those with expertise in rural development, should be involved.
- Commodities other than gold and diamonds, such as industrial minerals and gemstones, require much greater attention from CASM, as well as others conducting initiatives, projects and learning events on ASM.
- CASM should explore avenues for the creation of fair markets and value-added processes for artisanal and small-scale mineral production.
- Although a few of the major current initiatives were highlighted at the event, (e.g. UNIDO, UNECA, and DFID projects), a means of sharing lessons derived from these efforts, as well as specific project details, must be established.
- The AGM has generally been effective in strengthening ASM networks, and sharing and building knowledge. Furthermore, CASM seems to have had a positive impact in countries where the conference has been held.
- Although a few of the major current initiatives were highlighted at the event, (e.g. UNIDO, UNECA, and DFID projects), a means of collecting and sharing lessons derived from these efforts, as well as specific project details, must be established. It was recommended that CASM undertake a mapping project, with the primary purpose of identifying what is and has been undertaken by governments, NGOs, international agencies and donor organizations in the sub-sector.
- CASM should take a more active role in advancing the inclusion of artisanal and small-scale mining into PRSPs.

- CASM should become more of a catalyst/mobilizer/facilitator of projects, possibly partnering with countries in starting this type of work.
- CASM should facilitate a greater number of forums, learning events and training courses, and also participate at more conferences and meetings in order to make its presence known.
- CASM is the proper vehicle for identifying and disseminating best practices in small-scale mining.
- CASM should strengthen partnerships with organizations, governments and individuals working in this sector.

Finally, catalyzed by recommendations received during the AGM, CASM is currently in the process of forming a Strategic Advisory Group (SAG). The SAG will play a critical role in charting a course for CASM and ensuring CASM achieves its stated objectives. “How to move (small scale mining) forward to a more integrated, sustainable activity?” continues to be an overriding question, yet with the ongoing efforts of CASM network members, and the direction provided by the SAG, CASM is slowly making progress towards its primary mission - *to support poverty alleviation by advancing sustainable development in communities affected by artisanal or small scale mining.*

APPENDIX ONE: PARTICIPANTS LIST

Note: CASM apologizes for any errors of omissions in the list of participants. As well, approximately 20 participants are absent from the list as information was not available at print time.

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APPENDIX TWO: PAPERS AND PRESENTATIONS

- visit www.casmsite.org/events_elmina.html to download ALL PRESENTATIONS or individual presentations or papers -

Opening Session

- Peter van der Veen - CASM: A Force Towards Sustainable Communities
- Honourable Minister of Mines Mrs. Cecilia Bannerman - Address

The Ghana Experience

- Ben Aryee - Overview of Artisanal Mining and its Regularization in Ghana
- B.R. Yakubu - Regularization - Technical Approach and its Shortcomings
- George Asante- The Importance of Marketing in the Regularization Process
- Emanuel Azameti - Regularization - A View from the Bottom
- Joyce Aryee - The Role of Majors in Promoting Good Practices among Small Scale Miners

Biodiversity and Artisanal Mining in Africa

- Serge Rajaobelina - Biodiversity and Small Scale Gold Mining in Madagascar
Diamonds, Conflict and Artisanal Mining in Africa
- Ralph Hazelton - The Kimberley Process and its Meaning for Artisanal Mining in Africa

Interventions and Action in Africa

- Joachim Bayah - Capacity Building for Artisanal Mining in Burkina Faso
- Seth Barnes - The Sanimuso Artisanal Miners Cooperative (English)
- Marcello Veiga - The Global Mercury Project
- Kevin D'Souza - Testing an Integrated Policy and Practice Model at the Country Level
- Antonio Pedro - The Yaounde Conference - Conclusions and Actions to Date
- Richard Noetstaller - Reprofitting Artisanal Mining in Africa - Preliminary Results - A Post-Yaoundé World Bank Project

Workshops

- (1) Incorporating Artisanal Mining into a Country Poverty Reduction Strategy (PRS)
- (2) HIV/AIDS Basics and Planning Effective Interventions for Artisanal Mining Communities
- (3) Learning How to Talk Together: Tools for Miners, Companies Communities, NGOs and Government
- (4) Technologies for Small Scale Mining
- (5) Building a Toolkit for Profiling Artisanal Mining

Sharing Regional and International Experience

- Kathia Romero - Update on Santa Filomena
- Nellie Mutemeri - Minerals Beneficiation for the Alleviation of Poverty - Sustainability for Rural Development
- Geoff Crispin - Small Scale Mining at Kelian Mine, Indonesia Artisanal and Small Scale Mining Technology
- Richard Couture - Reducing Mercury Use in Guyana
- Ludovic Bernaudat - Assistance in Assessing and Reducing Mercury Pollution Emanating from Artisanal Gold Mining in Ghana
- Kevin Woods - Small Scale Gold Plants
- Lars Hylander - 500 years of Mercury Production: A Global Inventory

Reporting Back:

- Marieke Heemskerk - Microeconomics of ASM Workshop
- Namakau Kaingu - African Women in Mining Network

APPENDIX THREE: MERCURY PETITION

This petition was signed by 43 participants at the Communities and Small-Scale Mining (CASM) Third Annual General Meeting and Learning Event in Elmina, Ghana, September 7-14, 2003, and September 16 sent by Lars Hylander to:

Environmental commissioner
Margot Wallström
European commission
DG Environment
200 Rue de la Loi
B-1049 Brussels
Belgium

Petition to:
Environmental Commissioner
Margot Wallstroem
Bruxelles, Belgium

Accra, Ghana, September 14, 2003

European policy on mercury, especially mercury from decommissioned chlor-alkali plants and its disposal

Dear Margot Wallström,

We want to point out that the amount of mercury presently available on the global market is larger than what can be justified from an environmental point of view. Consequently, we ask you not to worsen the situation regarding mercury usage in gold mining and in some soap by unrestricted sales of excess mercury from European stocks.

Communities and Small-Scale Mining (CASM) held its Third Annual General Meeting and Learning Event in Elmina, Ghana, September 7-14, 2003, hosted by the Minerals Commission of Ghana. Small-scale miners and representatives from governments, international organizations, non-governmental organizations, universities, and communities have had fruitful discussions regarding beneficial interactions between society and small-scale mining activities.

The large use of mercury by small-scale gold miners using the amalgamation technique causes damages to both human and environmental health. An estimated 500 – 700 tonnes of mercury are annually emitted by small-scale miners, of which at least 10 % is emitted in Africa, a region poorly recognized regarding mercury usage in small-scale mining (see attachment for details). Globally, 10 – 15 millions of small-scale miners are using mercury for extraction of gold. This extensive use of mercury with connected emissions should cease in the future. There are an increasing number of alternative, mercury free methods on the market and environmental education and the use of retorts can immediately reduce the quantity of mercury emitted by small-scale miners.

Efforts to reduce the use of mercury by small-scale miners need support from EU. Participants in the CASM-meeting were concerned regarding the enormous quantities of mercury, which may be available on the market in the near future. European chloral-alkali industry has an agreement with MAYASA (the company with mercury mines in Almade'n, Spain) to transfer excess mercury there for reselling on the world market. MAYASA is buying this mercury for 70 % below the world market price. This arrangement may take away any incentives for mercury economizing by small-scale miners.

Therefor we are looking forward to get the following questions answered:

1. Do you regard it as justifiable that excess mercury from European chloral-alkali industry is sold for use in small-scale gold mining?
2. In case of no, which measures have been taken by MAYASA, Euro-chloral and any organ of the EU to efficiently hinder this mercury to be used in small-scale gold mining?

This petition was written at the CASM meeting in Ghana and signed by the named participants. We are looking forward to continued communication.

Yours sincerely,

Answers to the above questions are expected to the following address:
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Estimated ¹⁾ quantities of mercury emitted by small-scale gold miners year 2000 (metric tonnes)

Region and country	Mercury (t)	Region and country	Mercury (t)
Africa	> 36 - 57	Americas	> 106 – 144
Burkina Faso	*	Bolivia	10
Central African Republ.	?	Brazil	15 – 20
Two Congos	> 0	Chile	1
Ethiopia	?	Colombia	30 – 40
Gambia	*	Canada and USA	> 0
Ghana	4 – 6	Ecuador	2
Guinee Conakry	*	French Guyana	3
Mali	5	Guyana	5
Malawi	> 0	Peru	20 – 35
Mozambique	3 – 5	Suriname	8
Senegal	*, ^	Venezuela	10 – 15
South African Republ.	0.5	Central America	2 – 5
Sudan	3 – 5		
Tanzania	10 – 15	Other areas	
Zimbabwe	10 - 20	Former Soviet Union	
		countries	20
Asia	> 325 – 475		
China ²⁾	200 – 300		
India	?		
Indonesia	100 – 150		
Laos	5		
Philippines	20		
Myanmar	> 0		
Vietnam	> 0		
		Total	> 487 - 696

¹⁾ Estimates from different persons participating in the CASM meeting in Ghana, September 2003. Small-scale gold mining was not known to be significant in countries not mentioned.

²⁾ Figure for 1997 from Gunson, A.J. 2003. Assessment of mercury use in small-scale mining in China. PhTheses in preparation. Canada.

* Mercury not used by tradition and conservatism.

^ Law banning the use of mercury for gold mining.