

Communities & Small Scale Mining

Annual General Meeting and Learning Event

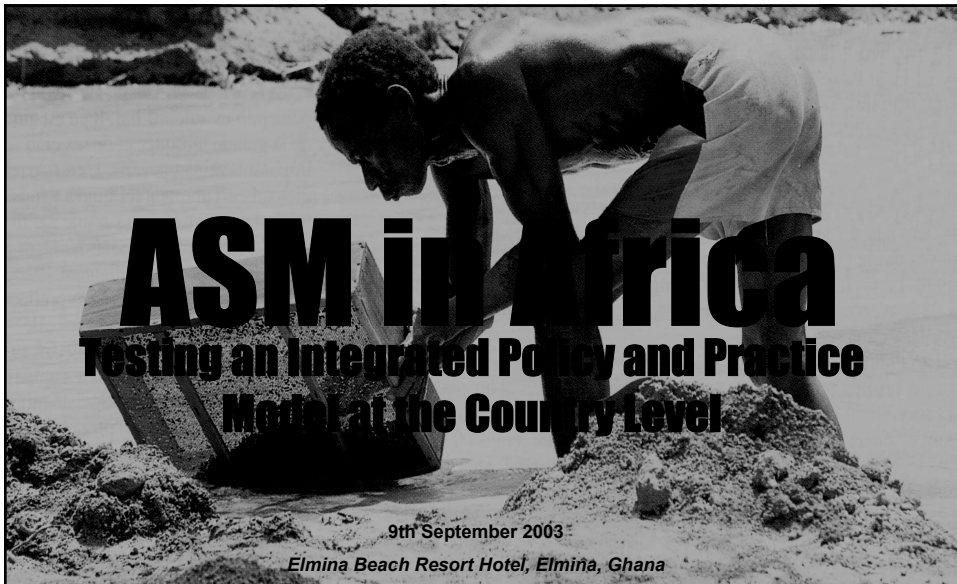
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7th - 10th September 2003

Elmina Beach Resort Hotel, Elmina, Ghana



**Wardell Armstrong
Consulting Group**



ASM in Africa

Testing an Integrated Policy and Practice Model at the Country Level

9th September 2003

Elmina Beach Resort Hotel, Elmina, Ghana



Kevin P C J D'Souza MEng ARSM CEng FIMMM MIEpE MIQ
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Galamsey mining diamonds in Ghana

Agenda



ASM in Africa

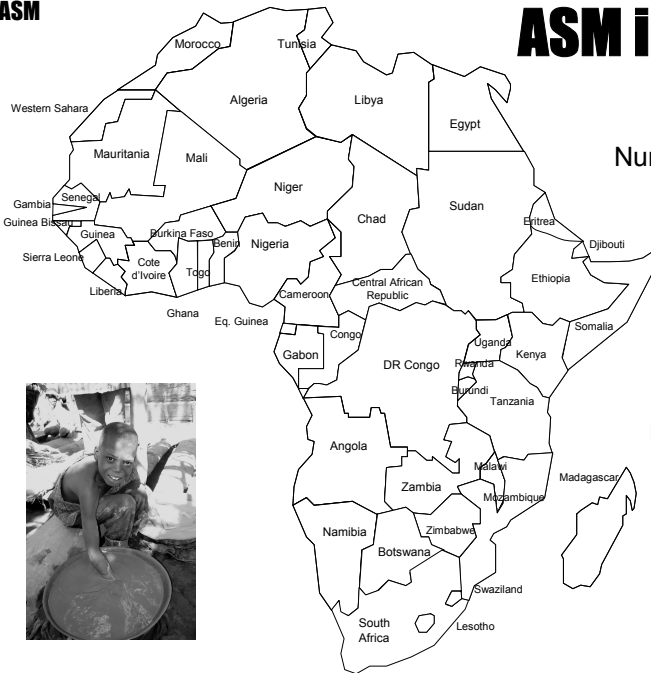
Testing an Integrated Policy and Practice Model at the Country Level

- ASM in Africa
- Poverty
- Economic Impact
- The Way Forward
- Issues & Challenges
- Future Objectives
- Policy Framework
- The DFID Projects

DFID Department for
International
Development

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ASM in Africa



Numbers of ASM workers

- >100,000
- 50 -100,000
- 10 - 50,000
- <10,000

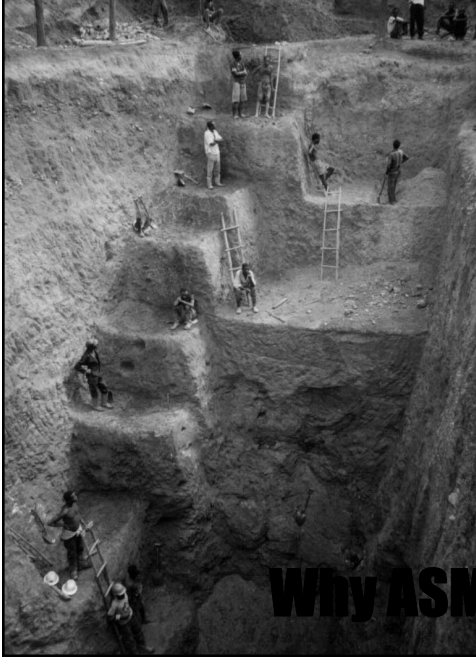
Total: 3.2 - 4.0 million

Predicted to triple by 2012



GASM

Emerald mining in Zambia



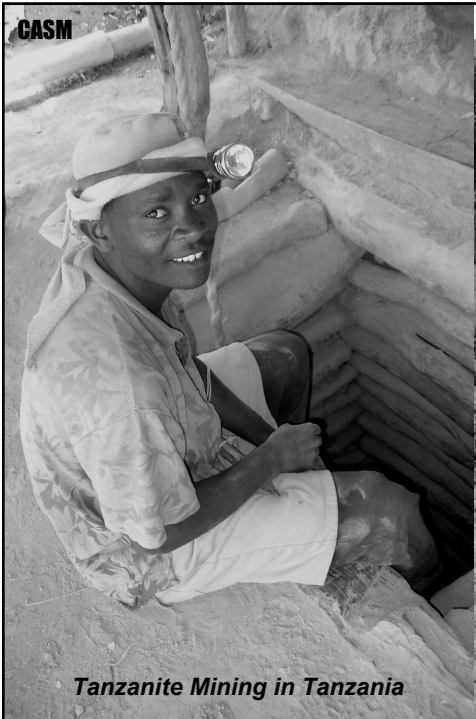
Quartzite mining in Zambia



Why ASM in Africa ... ?

GASM

Gold mining in République Centrafricaine



Tanzanite Mining in Tanzania

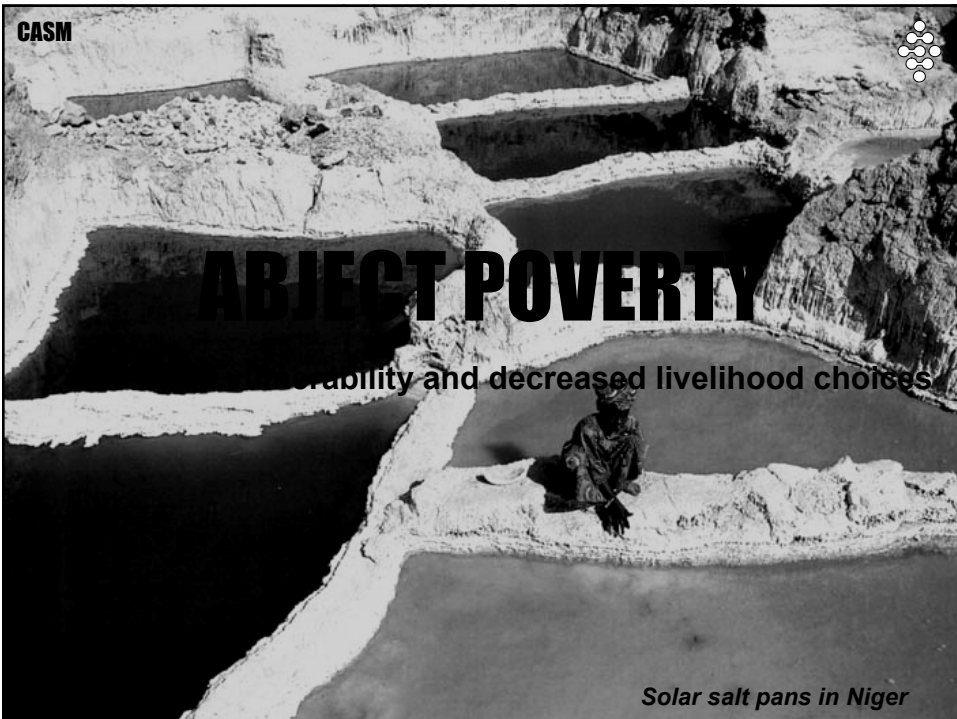


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Traditional lime burning in Zambia



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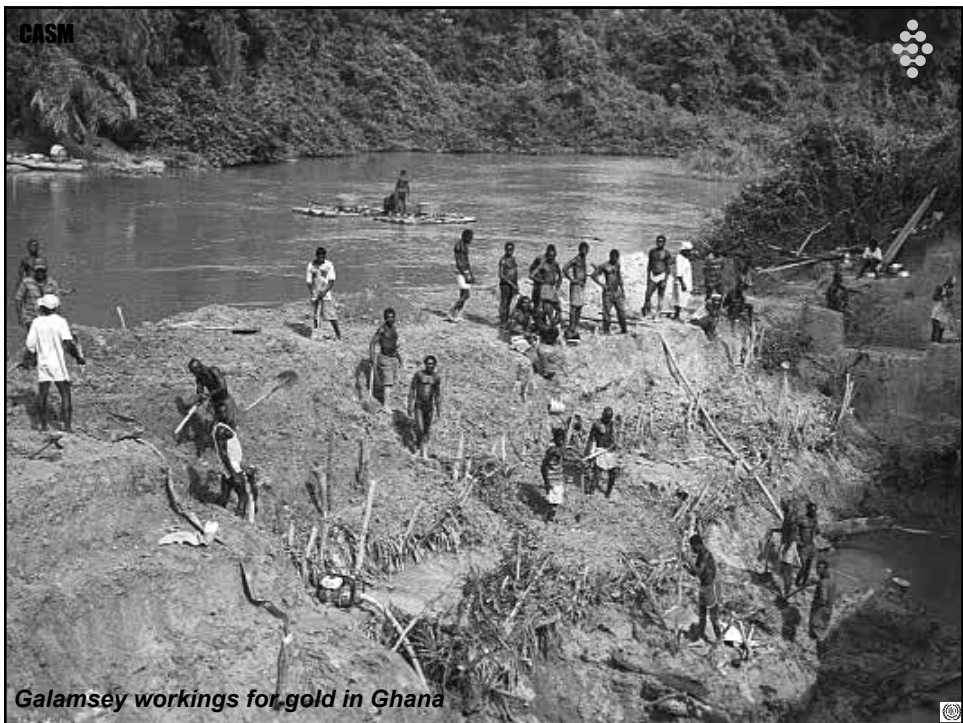


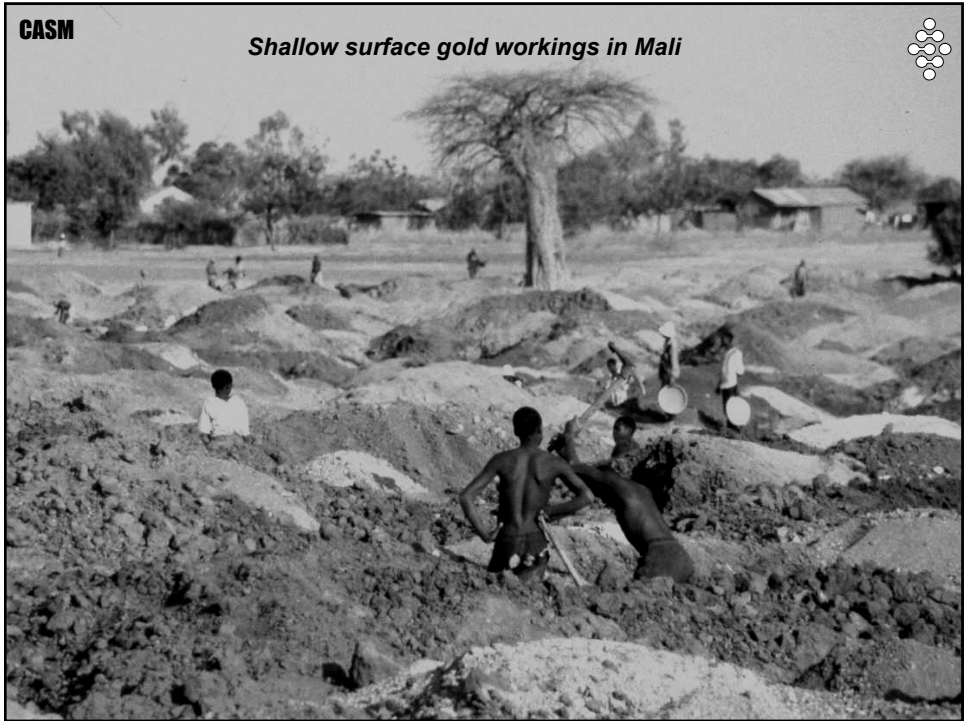
ABJECT POVERTY

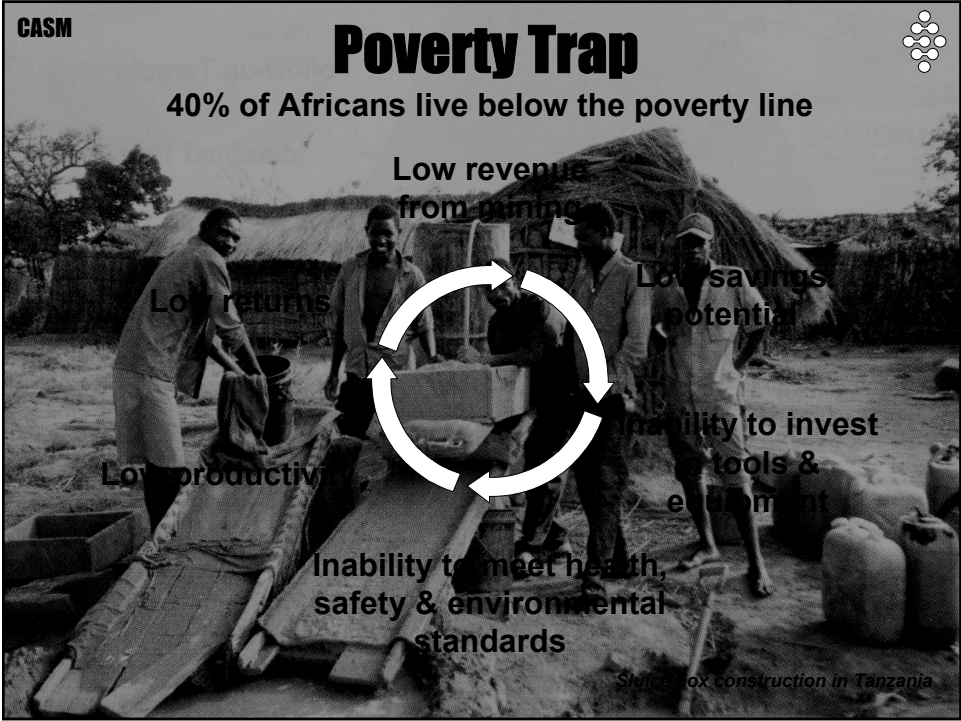
Instability and decreased livelihood choices

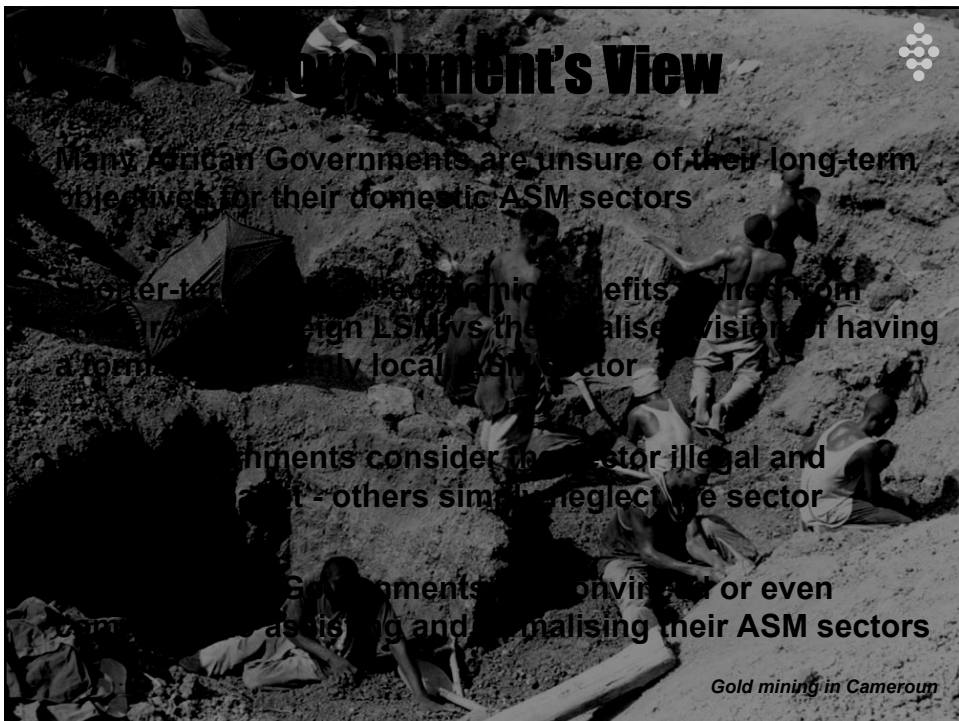
Solar salt pans in Niger











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Which Way Forward..?

stark choices for the African ASM sector

- Try to stop ASM and thus eliminate the associated problems
- Manage the sector and attempt to use to take the occasional socio assistance projects
- Undertake a radical reform of the sector by tackling all of the relevant issues

Gemstone Mining in Madagascar

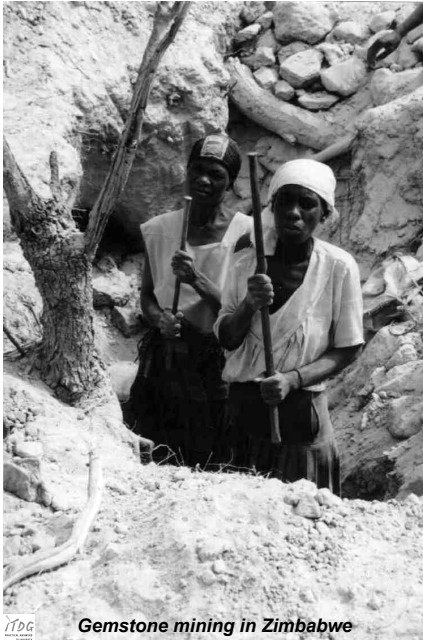
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Legislation

- The informal ASM sector is larger than the formal ASM sector in many countries > 70% are illegal in some countries
- Legalisation of ASM is a key to formalising the sector into a sustainable sector
- Poverty reduction objectives need to be incorporated into a formalised ASM sector. Unannounced National Mineral Development Policies
- ASM issues need to be included in national development strategies, PRSPs, and donor grants/funds

Tantalite mining in Nigeria

Legislation

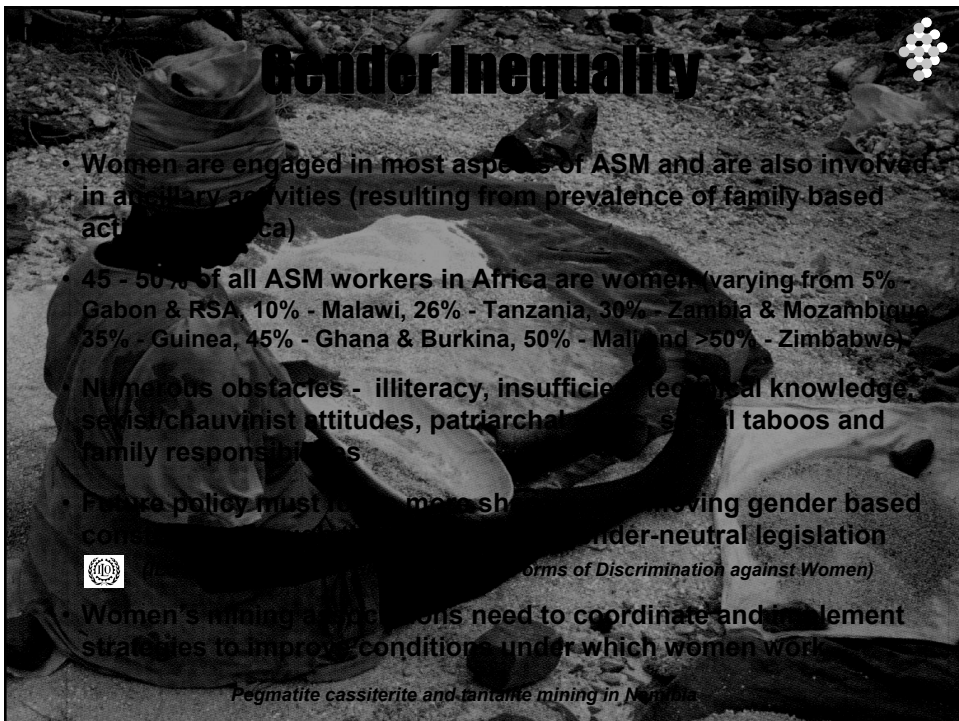


ITDG

Gemstone mining in Zimbabwe

- Provide for the right to exploit a particular deposit by ASM
- Establish an independent licensing registry office (transparent, non-discretionary & non-discriminatory)
- Adopt the 'first come-first served' principle
- Provide full and transferable mining title and security of tenure to enhance liquidity
- Codify the necessary elements for a modern mining cadastre
- Curb the illegal trade in precious minerals
- Encourage the formation of ASM association and co-operatives
- Generate stable employment opportunities in rural areas (in accordance with MDGs)
- Mitigate severe environmental & health & safety effects of uncontrolled ASM
- Encourage the entry of nationals into ASM and eliminate alien worker
- Protect the rights of indigenous peoples

Gender Inequality



- Women are engaged in most aspects of ASM and are also involved in ancillary activities (resulting from prevalence of family based activities in Africa)
- 45 - 50 % of all ASM workers in Africa are women (varying from 5% - Gabon & RSA, 10% - Malawi, 26% - Tanzania, 30% - Zambia & Mozambique, 35% - Guinea, 45% - Ghana & Burkina, 50% - Mali and >50% - Zimbabwe)
- Numerous obstacles - illiteracy, insufficient technical knowledge, sexist/chauvinist attitudes, patriarchal norms, social taboos and family responsibilities
- Future policy must take into account the following gender based considerations: gender-neutral legislation (see Annex 1 - *Forms of Discrimination against Women*)
- Women's mining associations need to coordinate and implement strategies to improve conditions under which women work




Pegmatite cassiterite and tantalite mining in Namibia

Child Labour

Child labour is a major problem in ASM and is rooted in poverty. Children work to support families - no alternatives - they need the money to survive and stay together

Child labour is perpetuated due to:

- A lack of opportunities for children to go to school
- No prospects of regular employment
- No coordinated effort to reduce child labour
- A lack of laws or regulations
- A lack of appropriate government services

Increasing awareness, strengthening legislation, enforcement and monitoring  (*International Convention on the Rights of the Child*)

Reducing poverty and increasing income generating opportunities, support services and training, and providing accessible educational opportunities

Child working in a mine

CSM

Health & Safety

ASM has a poor reputation and record for occupational health & safety - appalling working conditions

- The health & safety risks and hazards to which ASM workers are exposed to are significantly greater than for Large-scale Mining
- Exposure to mercury, lead and other chemicals
- Effects of noise and vibration
- Effects of poor ventilation
- Effects of over-exertion, inadequate work-rest and inappropriate equipment
- Need to raise awareness of the risks and demonstrate less dangerous alternatives that are appropriate to local circumstances through practical training

Child working in Ethiopia



Community Health

Infant Mortality highest & Life expectancy lowest in the world

- Diarrhoea (Giardiasis & Amoebic Dysentery)
- Hepatitis
- Meningococcal Meningitis
- Bilharzia (Schistosomiasis)
- Cholera
- Typhoid
- Tetanus
- Typhus
- Malaria
- Dengue Fever, Flariasis, Lishmaniasis & Sleeping Sickness
- Yellow Fever
- Tuberculosis
- Malnutrition
- Substance abuse
- STDs



UNAIDS - In Sub-Saharan Africa **29.4 million** infected with HIV/AIDS, **3.5 million** new infections in 2002 (**2.4 million** died since 1992) and the prevalence is highest in southern Africa **+30%**

AIDS awareness sign in a rural area



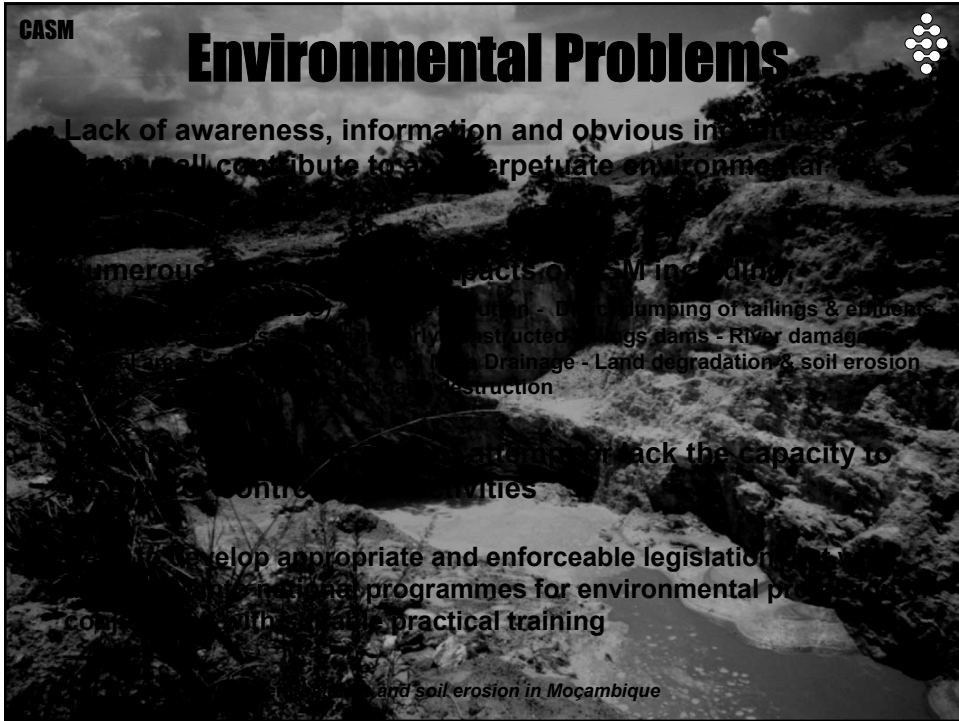
Environmental Problems

Lack of awareness, information and obvious incentives will contribute to activities that perpetuate environmental degradation

Numerous environmental impacts of ASM including:
 • Pollution - Due to dumping of tailings & effluents
 • Unplanned construction - Unplanned dams - River damage
 • Drainage - Land degradation & soil erosion
 • Deforestation

Communities often do not have the capacity to control their activities

Develop appropriate and enforceable legislation
 International programmes for environmental protection
 Community based practical training



Soil erosion and soil erosion in Mozambique

Large Scale Mining

Small Scale Mining and Large Scale Mining often have different interests and occasionally conflict

- Diplomacy works better than physical security measures
- Numerous companies have attempted to form partnerships in the ASM sector - e.g. Tanzania (*TANSCAN & Anglo American Corporation*), Mali (*EMOS*), Zambia (*Zimasco & Zimco*), DRC (*AMICO*), Zimbabwe (*Zimasco & Zimco*), DRC (*AMICO*) & Congo (*Anglo Field*)
- There should be increased encouragement to ensure ASM associations/co-operatives formed cooperative partnerships with the Large Scale Mining sector for mutual benefit
- Government should encourage the development of these partnerships

Anglo Field gold mine in Mali

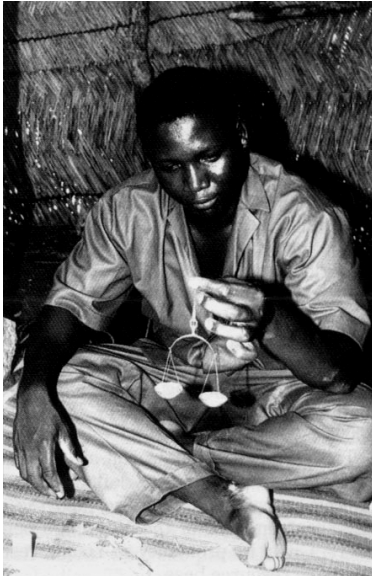
Fair Mining

The anonymity and illegality of the ASM sector poses a risk to the miners who will be exposed to international markets

- ASM miners usually sell their products as quickly as they can to ensure a quick cash flow and usually get low prices
- Those who do not sell directly to buyers, intermediaries, and manufacturers tend to get higher prices
- There are a number of ways in which the retail price to mining communities could be increased including:
 - Establish official buying centres where miners receive a fair price
 - A system of licensed buyers who visit mining areas
 - The use of large mining companies who would act as assured buyers (tributor arrangement)
 - Links with the existing 'fair and commodity trade' movement
 - Adding value to mineral commodities by establishing appropriate processing industries

Diamond mining Liberia

Finance & Credit



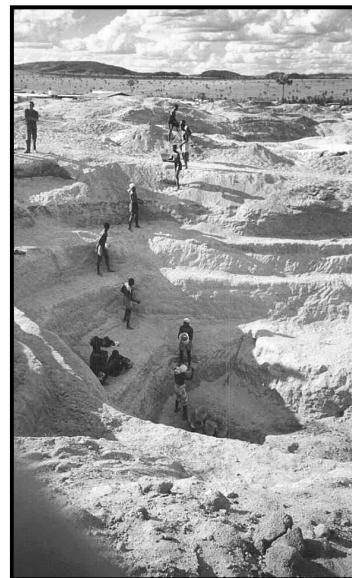
Gold buyer in Burkina Faso

- Few miners are able to gain the necessary capital to increase levels of productivity
- ASM miners lack acceptable forms of collateral - which can be as much as 20% of the requested equity
- Loan guarantees & credit schemes, funds & grants, hire/leasing equipment, selling shares & establishing joint ventures
- Future schemes need to be easy (low cost) to administer and monitor and take into account the special needs of the ASM sector (e.g. interest rates)
- Problems with exchange rate fluctuations and local currency devaluation also need to be considered
- Select the right partners to ensure a high probability of debt servicing for future redistribution - sustainability

Integrated Policy Framework



- Delineate and define the mineral potential suitable for ASM exploitation
- Establish and resource a Government institution or unit to handle and/or manage the ASM sector
- Formulate an enabling, appropriate and transparent legislative framework and licensing scheme
- Encourage the formation of ASM associations or co-operatives
- Provide outreach services - regional self sustaining technical assistance and training schemes (appropriate technology)
- Provide a viable and sustainable financing scheme for the ASM sector
- Provide a fair and effective marketing system for ASM products
- Define relevant and consistent health & safety standards and practices
- Establish appropriate and realistic environmental protection practices and principles



Surface gold workings in Sénégal



Gold panning in Uganda

The Projects

DFID Department for International Development



UK Government Projects:

- Livelihoods Study
- Policy Framework
- Vulnerability (commodity prices)

Duration: March 2003 - 2006/07

Target Countries: Ghana, Tanzania & Zambia

Partners: Government, NGOs, Mining Companies, ASM associations, Universities, etc

Consultancy Team:

- Wardell Armstrong
- University of Swansea (Centre for Development Studies)
- British Geological Survey
- University of Dundee (CEPMLP)
- Local Consultants



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Livelihoods Study



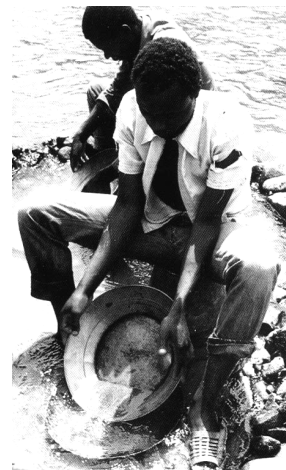
To understand the challenges faced by the ASM communities and then help to devise policy initiatives to increase the security and well being of these people

Questions

- What is the importance/significance of the ASM sector in the wider economy?
- What have been the underlying factors and trends affecting livelihoods in the ASM Sector?
- What are the institutional and regulatory frameworks, relationships and processes governing the ASM sector?
- What are the differential assets, capabilities and livelihood activities of ASM miners? (Impact on individuals/households/communities)
- What are the differential capacities to exercise voice and claim rights and entitlements in the ASM sector?
- What are the potential medium and long-term impacts on livelihood security related to ASM?
- What interventions would increase the security (economic, political, social) of ASM miners?

Expected Outcomes

- Lessons and guidance to improving the livelihoods of ASM Miners and the potential of the sector
- Suggested policies and strategies to reduce the vulnerability of ASM Miners
- Methods for the incorporation and integration of livelihoods information in short, medium and long term government policy processes



Alluvial panning in Burundi

Policy Project



Develop an effective and practical model policy framework into a fully implemented and tested scheme of assistance to the ASM sector



Gold processing in Tanzania

Scope of Work

- Complete a baseline survey to establish the socio-economic, environmental and health & safety standards in the ASM sector
- Evaluate current mining legislation and institutional structures and how they affect the operation of the ASM sector
- Consult with the host government and other stakeholders on the services required and the provision of funds, facilities, and manpower to establish the Regional Training Centres and the Technical Services Unit. Agree a region that will operate a pilot scheme
- Review and identify techniques and processes that will improve the technical, economic and environmental performance of the ASM sector through the use of appropriate technology
- Facilitate the use of workshops and other means to ensure the inclusion of all stakeholders in discussions on the development of a sustainable ASM sector
- Facilitate the provision of suitable credit and marketing facilities for the ASM sector

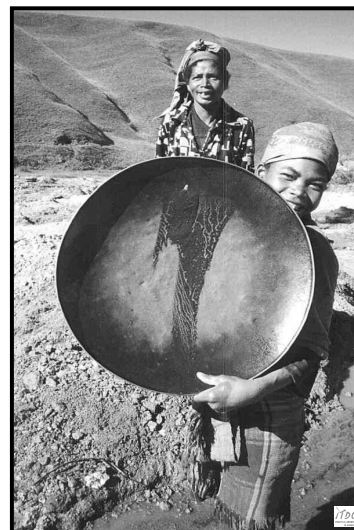
Expected Outcomes

- Complete a baseline survey of all ASM activities
- Carry out a full review of the ASM sector with proposals for changes to institutional structures and legislation
- Create a Technical Services Unit in support of the ASM sector
- Create Regional Training Centres
- Demonstrate appropriate improved technology, environmental protection and mining techniques
- Develop marketing and credit facilities for AS miners

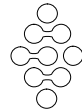
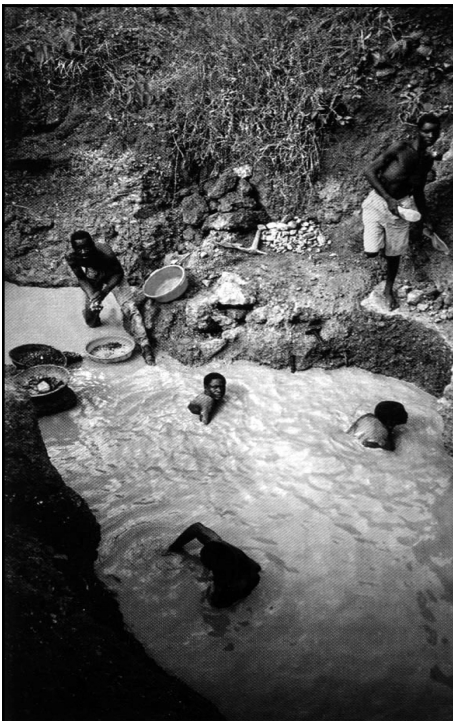
Summary



- Encourage a contribution to poverty alleviation and MDGs by inclusion of ASM into national PRSP's
- Encourage local economic development by ensuring that revenues are invested in ways that bring sustained benefits and lead to alternative and more sustainable livelihoods
- Adopt a gender-sensitive approach that gives particular emphasis to the role of women
- Reduce child labour in mining areas through the provision of viable alternatives
- Avoid or mitigate negative environmental and social impacts as well as impacts on human health
- Encourage equitable markets for mining products
- Increase the ability of individual enterprises and ASM in general to make a better contribution to sustainable development
- Develop the collective capacity of miners to contribute to sustainable development and an upscaling of mining activity (best practice)
- Ensure good relationships between miners and other stakeholders



Gold panning in Madagascar



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