

AFRICAN MINERALS DEVELOPMENT CENTRE

ASM SECTOR REPORT

**REPORT ON ARTISANAL & SMALL-SCALE MINING IN AFRICA
SELECTED COUNTRIES POLICY PROFILE REVIEW ON ASM**



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ABBREVIATIONS AND ACRONYMS

ACG	African Centre for Gender
AfDB	African Development Bank
AMDC	African Minerals Development Centre
AMP	African Mining Partnership
AMV	African Mining Vision
ARM	Alliance for Responsible Mining
ASGM	Artisanal and Small Scale Gold Mining
ASM	Artisanal and Small Scale Mining
ASMAN	Artisanal and Small Scale Mining (ASM) Africa-Network
AU	African Union
AUC	African Union Commission
Bn	Billion
CAR	Central African Republic
CASM	Communities and Small Scale Mining
CIRGL	International Conference on the Great Lake Regions
CMV	Country Mining Vision
COMESA	Common Market for Eastern and Southern Africa
CSD	UN Commission on Sustainable Development
CSO	Civil Society Organizations
CSR	Corporate Social Responsibility
CWIGWE	Continent-Wide Initiative on Gender Equality and Women's Empowerment
DDI	Diamond Development Initiative
DDS	Development Diamond Standards™
DRC	Democratic Republic of Congo
ECA	Economic Commission for Africa
ECOWAS	Economic Community of West African States
EI	Extractive Industries
EIA	Environmental Impact Assessment
EITI	Extractive Industries Transparency Initiative
EMDP	ECOWAS Mineral Development Policy
EMF	Environmental Management Framework
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
EPO	Exclusive Prospecting Orders
ESARO	Eastern and Southern Africa Regional Office
FEMATA	Federation of Miners Association of Tanzania
FLO	Fairtrade International
FLOCERT	Global certification and verification body, with the main role of independently certifying Fairtrade products.
FSSMAZ	Federation of Small-Scale Mining Association of Zambia
GEF	Global Environmental Facility
GEWE	Gender Equality and Women's Empowerment
GLR	Great Lakes Region
GMP	Global Mercury Partnership
Ha	Hectare
ICGLR	International Conference on the Great Lakes Region
ICMM	International Council on Mining and Metals
IDA	International Development Assistance
IFC	International Finance Corporations
IGF	Intergovernmental Forum on Mining, Minerals and Sustainable Development
IIED	International Institute for Environment and Development
ISG	International Study Group
ITRI	International Tin Research Institute
ITSCi	ITRI Tin Supply Chain Initiative
KP	Kimberley Process
KPC	Kimberly Process Certification
KPCS	Kimberly Process Certification Scheme
LSM	Large Scale Mining
MDGs	Millennium Development Goals
MEM	Ministry of Energy and Minerals
MIT	Ministry of Industry and Trade
MMCZ	Minerals Marketing Corporation of Zimbabwe
MMEWD	Ministry of Mines, Energy and Water Development
MMG	Ministry of Mines and Geology
MMMD	Ministry of Mines and Mining Development
MMRF	Ministry of Mines Revolving Fund
MMSD	Mining, Minerals and Sustainable Development
MoU	Memorandum of Understanding
NEPAD	New Partnership for Africa's Development
NGO	Non-Government Organizations
OECD	Organisation for Economic Co-operation and Development

PACT	People Acting in Community Together
PML	Primary Mining Licence
PMMC	Precious Minerals Marketing Company
PPP	Public Private Partnership
PRSPs	Poverty Reduction Strategy Programs
REC	Regional Economic Community
SADC	Southern African Development Community
SEAMIC	Southern and Eastern African Mineral Centre
SSM	Small-Scale Mining
TM	Trade Mark
TShs	Tanzanian Shillings
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNECA-SA	UNECA Southern Africa
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women,
US	United States
USAID	US Agency for International Development
USD	United States Dollars
USGS	United States Geological Survey
WGC	World Gold Council
WTO	World Trade Organisation
YVS	Yaoundé Vision Statement

FOREWORD

The ASM workstream reinforces the extent to which ASM frameworks in African countries align and support AMV implementation. This includes helping to optimise ASM contributions towards local entrepreneurship, livelihoods and integrated socio-economic development. Thought leadership is meant to be provided in collaborative efforts towards leveraging the potential of 'development minerals' for transforming the ASM sector.

In Africa, women make up around half the ASM workforce. As part of ongoing research in addition to this report, AMDC, in partnership with the African Centre for Gender at the United Nations Economic Commission for Africa, produced a study on women in artisanal and small-scale mining in five countries, highlighting key gender-related challenges. Findings from the study included: the critical inaccessibility of capital and financing for mining operations from mainstream finance facilities; the application of rudimentary - and at times very hazardous - safety, health and environmental standards; and prevailing patriarchal ideologies that mining is a man's job, thereby obstructing women miners' access to crucial information. These findings are now being used to influence government policy, planning and actions to address these challenges, and to enable women to realise their full potential in the ASM sector. An instance being the conceptual framework for the 2015 regional 'sharefair' on gender equality in the extractive industries.

The potential and impacts of ASM also highlight the regional and sub-regional dimensions of relevant issues ranging from socio-economic development to conflict resolution. While mineral endowments cut across borders, the policy and legal frameworks dealing with ASM in neighbouring countries are often not harmonised. This requires regional and multilateral initiatives on ASM which can be translated into practical efforts on the ground. For example, to support the joint International Conference on the Great Lakes Region (ICGLR) /Organisation for Economic Co-operation and Development (OECD) efforts towards developing a policy guide for harmonising ASM policies in the region, AMDC advised the ICGLR Secretariat and OECD on AMV-aligned options for developing a regionally harmonised framework for ASM policies. Meanwhile, collaboration with multilateral partners and stakeholders is envisaged, such as to foster the implementation of a regionally harmonised framework for ASM policy in the Southern Africa Development Community (SADC) region. Recognising the need for better understanding of the ASM sector in line with AMV implementation, AMDC has undertaken this profiling of select countries stretching across Africa and Regional Economic Communities (RECs), to assess the extent to which their ASM sectors can support implementation of the AMV. Using these profiles, the AMDC has mapped entry points for targeted initiatives to advance AMV implementation in the sector. These entry points cover areas relating to knowledge generation and dissemination; political economy; social and environmental factors; and sourcing, marketing and financing options. AMDC is also continuously convening key stakeholders and building cross-sector partnerships in order to carry out targeted initiatives in these areas.

Small-scale mining faces some complex communication challenges, such as knowledge-sharing, sector-wide collaboration, and advocacy. AMDC is thus building an ASM Knowledge Hub, as part of a planned over-arching African Regional Minerals Knowledge Hub to support the requirements of the AMV. The ASM hub's country profiles are an offshoot of the profiling research and efforts from this study. It is envisaged that communities of practice will develop in support of each of the results areas within the AMV goals and tenets that are to be achieved in line with the AMV Implementation Strategy. AMDC's participation in a meeting in Paris, France, organised by the Sustainable Artisanal Mining Project (SAM) and Swiss Resource Centre and Consultancies for Development (SKAT) to help formalise concepts for an ASM International Knowledge Hub – have proven to be invaluable in the actualisation of the ASM Knowledge Hub. At the meeting, AMDC was able to highlight the ways in which an ASM knowledge hub can support and advocate for an enhanced ASM sector.



ACKNOWLEDGEMENTS

The study report comes in the fulfilment of the African Minerals Development Centre's (AMDC) mandate on its research based advisory role to African Member States in the implementation of the Africa Mining Vision's pillar on Artisanal and Small Scale Mining in Africa.

It would have not been possible to review policies and regulations and collect data in the 16 countries covered in this study without the provision of data by Member States especially that from the Ministries in charge of Mineral Resources in Angola, Burkina Faso, Central African Republic, Chad, Cote d'Ivoire, Democratic Republic of Congo, Ethiopia, Ghana, Mali, Mozambique, Niger, Nigeria, Tanzania, Uganda, Zambia, and Zimbabwe.

Special appreciation is extended to the teams at AMDC and UNECA's African Centre for Gender for their valuable inputs to the study.

The Sub Regional Offices, the UNDP country offices and the assistant administrative staff at the AMDC, the Travel Unit, and the Protocol Unit are gratefully acknowledged for their precious support during the implementation of the study.

Further acknowledgements go to the three anonymous technical reviewers of the report.

Finally, Salvador Mondlane, the consultant who worked tirelessly to bring this study to completion is also acknowledged.



EXECUTIVE SUMMARY

The African Minerals Development Centre's work on Artisanal and Small scale Mining (ASM) seeks to support the sector's recognition as part of a transformation agenda whether at national or regional levels given the multi-faceted nature and complexity of ASM.

This study report is meant to be a primer on reviewing mineral policies and regulatory frameworks of several African mining countries to identify the extent to which they support a viable and gender sensitive ASM sector. To review institutional support mechanisms in place, including financing, technical support, and business related support to promote the commercial viability of ASM with subsequent recommendations on policy and institutional measures to improve the viability and gender sensitivity of ASM in African Member States. The report is further meant to contribute to the design and implementation of ASM work activities and programmes for the AMDC in identified areas of the AMV and its Action plan, increase the body of work on policy provision advisory services in ASM to African Governments and other stakeholders. as part of efforts to implement the AMV, and contribute to the design and implementation of capacity development materials and programmes.

The report alludes to how policy orientation within the sector should provide an integrated and holistic framework that speaks to ASM through the entire value/supply chain, socio-economic issues and legal frameworks of formalisation and professionalisation. AMDC thus aims to address sector challenges by supporting the development of policies, laws and regulations that promote a viable, sustainable, and gender-inclusive ASM sector and, where possible, embeds ASM into broader rural development strategies. The ASM workstream for which this report was done, is guided by the Africa Mining Vision to develop programmes to upgrade the knowledge, skills and technologies used in ASM and generally to develop institutional capacities that support a viable ASM sector. A methodological approach and definition of an acceptable number and geographical distribution of countries to focus on, was thus considered in the compilation of this profiling study. The profiling of ASM in the selected African Countries, reviewed their respective mineral policies and regulatory frameworks, the institutional support mechanisms in place, including financing, technical support, and business related support to promote the commercial viability of ASM. The profiling study is meant to contribute to the design and implementation of ASM work activities and programmes for the AMDC in identified areas of the AMV and its Action plan, so as to provide policy advisory services in ASM to African Governments and other stakeholders as part of efforts to implement the AMV. Ultimately, contributing to the design and implementation of capacity development materials and programmes including training modules, toolkits and templates for use in capacity development.

The ASM country profiling exercise includes information on : Minerals produced in the country; Where possible – disaggregation by number of miners per commodity and percentage who are women and children; Country involvement in global governance initiatives to address challenges of ASM; Value addition and market structure efforts; Predominant Mining and processing methods; Financing mechanisms; Licensing fees; Legal and regulatory frameworks in the context of Government assistance and mapping other players (CBO, NGO) and Country production versus ASM production.

Selected countries were picked on regional representation based on 7 of the 8 Regional Economic Communities (RECs) and CEMAC i.e. CENSAD, COMESA, EAC, ECCAS, ECOWAS, IGAD and SADC.



INTRODUCTION

The report constitutes the work done by Dr. Salvadore Mondlane as a consultant during a six-month period he was hosted at the African Minerals Development Centre (AMDC). The study is part of the implementation of the Africa Mining Vision's (AMV) and the Action Plan for the implementation of the AMV (2012), pillar on Artisanal and Small Scale Mining (ASM). The vision advocates for "transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development". The vision is essentially a strategy for integrating Africa's mining and mineral sector into its broader social and economic development processes, and in this manner, addresses the persistent poverty and lack of development. The present study aimed at reviewing the current policies in selected African Countries in order to determine the extent to which they support the viability of the Artisanal and Small Scale Mining sector, and the extent to which the sector is gender sensitive. The study also aims at guiding the AMDC assistance into the ASM sector by mapping legislative frameworks and identifying the needs and challenges of the governments in making the sector viable and a contributor to poverty alleviation in Africa. The focus on Governments and the miners as the main players was an attempt to simplify a complex equation of multiple variables that include among many, researchers, civil society, industry, market structures and other innate factors inherent within the political economy of Artisanal and Small-scale mining.

“ The study aimed at reviewing policies in selected African Countries to determine the extent to which they support the viability of the ASM sector, and the extent to which the sector is gender sensitive ”

METHODOLOGICAL APPROACH

The main methodological approach consisted of an extensive desk review combined with field visits to selected African Countries. Several organizations have already carried out projects on diversified issues of ASM and have produced relevant publications¹²³⁴⁵⁶⁷⁸⁹¹⁰. The ASM sector has been targeted by researchers and institutions that have published a significant number of reports, research papers, press briefs, and project reports which were also thoroughly reviewed. The literature review focused on the description of the mining sector in general and in particular the ASM sector; the existence of policies and Mining Codes or Mining Laws and to what extent they address issues of ASM; as well as how it is regulated and implemented in the specific country.

A sample of 17 countries (see annex A3) was defined in order to map at a very high level the present dynamics and situation of the ASM sector in Africa. The main criteria for the selection of the countries were mainly: (i) the existence of *significant* ASM (country with more than 100 000 miners in ASM); (ii) the availability of data; and (iii) network structures to support the study. The data collection was conducted on the basis of structured closed and open ended questionnaires (annex A4). These were initially sent by email and fax to the Ministries superintending the ASM activities. Unfortunately, the response level by the countries was very negligible, with only one country responding to the questionnaire and returning it to the AMDC. Given this unpredicted scenario, it was necessary to undertake country visits to collect the required information

- 1 CASM, 2009: Mining Together – Large-Scale Mining Meets Artisanal Mining: A Guide for Action
- 2 CFC, 2008: 2008 Regional Workshop: Small-scale Mining in Africa – A Case for Sustainable Livelihood
- 3 Lungu, 2007: Formalisation of artisanal and Small-Scale Mining in Sub-Saharan Africa: Challenges and ways forward
- 4 Siegel S. and Veiga M. M., 2009: Artisanal and small-scale mining as an extralegal economy: De Soto and the redefinition of “formalization”
- 5 Carstens, J. Et al., 2009: Implementing Transparency in the Artisanal and Small Scale Mining Sector
- 6 Villegas, C. et al., 2012: Artisanal and Small-Scale Mining in protected areas and Critical Ecosystems Programme (ASM-PACE): A Global Solutions Study
- 7 CDC Univ of Wales Swansea, 2004: Livelihoods and Policy in the Artisanal and Small-Scale Mining Sector – An Overview.
- 8 Eftimie A., et al.: Gender Dimensions of Artisanal and Small-Scale Mining: A Rapid Assessment Toolkit
- 9 UNECA, 2002: Compendium on Best Practices in Small Scale Mining
- 10 ISG, 2011: Minerals and Africa's Development: The ISG Report on Africa's Mineral Regimes

and data. Visits were made to 15 countries engaging mainly with Ministries in charge of the Mining Sector. In some of the countries it was also possible to interact with other players actively working on ASM. Even though Sudan had been included in the sample it was, however, not visited due to delays in obtaining the entry visa.

The Study is a general contextualisation of the ASM sector with emphasis to legislation and its impacts on the miners and, distinguish itself by being comprehensive geographically and covering most commodities produced by the sector.

Key assumptions

The study assumes that the number of ASM miners declared by the official sources means miners and direct service providers to the ASM sector. It also assumes that the selected countries provide a fair representation of the continent in terms of ASM activities, legislation and management by the relevant authorities.

The study is skewed towards metallic minerals and few non-metallic such as gemstones, and it does not discuss in details, the construction materials due to lack of data.

It is also assumed that by leveraging the ASM sector, in line with AMV aspirations, the continent can tap into broader socio-economic development efforts. The AMDC, as the implementer of the AMV, will thus have a start on factual and comprehensive research based information that could contribute to guiding Governments on how to address the ASM sector.

Study Limitations

The study was affected by the following limitations:

- **Availability of government data.** Key persons from governments were contacted via email and phone yet little data was yielded from these sources. This necessitated travel by the consultant to most of the sample countries. Some country data was still not available despite travel by the consultant to some of the countries and promises that the data would be sent. This problematic scenario in some cases was exacerbated by in-country bureaucracy including the need to have the Minister's authorization for release. Furthermore, most of the countries do not have updated information on their web sites some of which were not functional (websites).
- **Limitation on the quality of the data.** Most of the data available on the ASM sector is not consolidated and does not result from census or scientific estimations. The numbers on ASM are all rough estimations. In some cases an entire community is regarded as ASM and the whole number of community members as miners, regardless of they having other livelihoods such as being food vendors or traders.
- **Limited time frame for data collection.** The initial time allocation for the study did not factor in travel to member states. The travel to the selected Member States had significant challenges related to visa processing – including the fact that some countries do not have embassies in Addis Ababa. Other delays were occasioned by Travel Authorization requirements within the UN system.
- **Limited publications on legislation analysis for ASM sector in Africa.** There is no single study at continental level that assesses the extent to which Mining Legislation supports the development of ASM in Africa; thus, this is the first comprehensive study undertaken at continental level.



BACKGROUND AND CONTEXT

Mining is one of the key primary industries for the development of societies since time immemorial. The importance of Mining is still valid in our modern societies. The mining is carried in large scale, medium and artisanal and small scale mining. The large scale and medium scale mining is dominated by corporations from developed economies, although developed in the developing countries. ASM is typically undertaken by the developing countries' nationals. There are close to 30 million people involved in ASM in 80 countries worldwide, 30 – 40% of whom are in Africa. Those in ASM mine and process more than 35 different minerals and make a significant contribution to the world production of critical mineral products. For instance, in 2005, 15% of the gold production (400 – 600 t/a) valued at approximately 20 billion USD is undertaken by ASM. The ASM activity generates and supports secondary activities/economies of close to 100 million people with the sector supporting direct and indirect livelihoods of 120 – 150 million people. Several studies report that there are at least 9 million women and 2 million children involved in ASM activities worldwide.

The main commodities mined by ASM in terms of value are gold and diamonds which are produced by 15 million ASM (for gold only). ASM produces about 10 - 15% of the world's mined gold; between 15-20% of mined diamonds¹¹; approximately 20-25% of tin and tantalum; and around 80% of precious and semi-precious stones (coloured gemstones)^{12,13}.

In Africa it is estimated that around 12 million people are involved in ASM and produce a variety of mineral commodities with prominence in terms of value to gold, diamonds, coltan and coloured gemstones. Thus, ASM contributes significantly to the economic development of the countries where it is practiced. In some countries it constitutes the only mining activity and produce 100% of the metallic mineral commodities. However, it is also known that the sector faces numerous challenges related to the informality of its economic streams; illegality; environmental disruptions; poverty; vulnerability to trade in conflict minerals; slavery and forced labour; child labour and human rights abuses in the mining camps. There are also gender and cultural barriers to the involvement of women in ASM.

What is ASM in Africa

Africa hosts more than one third of the world's mineral resources, and has potential for exploitation of more resources as a great part of the continent has not been properly explored. This potential is not yet harnessed for the benefit of the Africans. Although the continent has natural/mineral resources, it lacks adequate human capital; financial resources; industrial linkages which would promote competitive markets for the mineral resources; infrastructure; and to some extent the political systems, fiscal and mining regimes that would address the key issues in this regard. This cocktail of challenges needs to be transformed into drivers that could intervene in the entire value chain of the mineral sector. Presently Africa only participates mainly in the production side of the value chain (exploration, mining and pre-processing or treatment) which yields the least from the value chain. Africa's production segment is dominated by ASM which produces at least 25 different minerals with more emphasis placed on high value and low volume minerals such as gold, diamond, coltan, gemstones (precious and semi-precious).

In Africa, mining has the potential to contribute significantly to economic growth and to help lift millions of people out of poverty. However, there have been concerns that the benefits of the resource boom are not widely shared and do not always translate into local development. Large scale mining investments have not always led to the generation of local employment opportunities, nor have they contributed significantly to poverty alleviation, which can leave communities feeling excluded from the benefits and the wealth made by extractive industries (IFC, 2014).

11 KPCS, 2008

12 Lucas, 2011

13 Villegas, C. et al., 2012: Artisanal and Small-Scale Mining in protected areas and Critical Ecosystems Programme (ASM-PACE): A Global Solutions Study

Thus, for Africa to be able to better harness the mineral sector, it needs “mainly” to intervene in the ASM sector by creating a conducive political and legislative environment for the development of sustainable ASM. The present study draws from existing experiences and primary data collected during the study to draft recommendations that could assist the countries in better addressing the ASM challenges. The report will form a research base for providing informed technical support from the AMDC to the member States to ensure that ASM contributes to sustainable development in Africa.

“ When one sees an ASM site, one will immediately recognise it ”

ASM definition

Although, the definition of ASM is rather controversial with minimum consensus on the parameters and criteria that can be used to characterize it, its appearance is unique and “*when one sees an ASM site, one will immediately recognize it*”.

It is not the intention in this report to fuel the academic discussion about the definition of ASM which nowadays transcends the geological and mining aspects into socio economic and anthropological aspects of the sector. It is our understanding that the ASM definition should encompass a cocktail of aspects of geological, mining, technological, production output (ROM), socio economic, environmental, and financial aspects.

Literally speaking, Artisanal and small scale Mining (ASM) encompasses two distinct mining segments, the artisanal mining and the small scale mining. The two subsectors may not have anything in common, because in many countries artisanal mining is regarded as illegal, informal, unregulated mining practised by individual or small group of miners or villagers; while the small scale mining is regulated, legal and formal and usually ordered by the same rules that apply to the large scale mining (LSM).

In this study, although there is no clear practical distinction, an attempt to distinguish the two segments and pay more attention to the artisanal dimension which is considered more complex and challenging to the governments, is made.

Artisanal Mining is that which is characterised by manual labour, or *zero* to minimal mechanization; *zero* to minimal geological knowledge; zero or very low start-up capital; is usually unfavourable due to lack of adequate specific policy and regulatory frameworks; is sometimes formal (with precarious mining passes/ cards) but mostly informal; predominantly not organized (although sometimes organised into associations and mining in designated areas); has a complex and disadvantageous market structure (generally getting less than half of the world market price due to interdependency with sponsors, land owners and buyers); highly mobile (they follow the rushes and booms); precarious, unsafe and unhealthy working conditions; marginalised and usually struggling with conflicting land owners and local communities.

Small Scale Mining is usually formal (with mining title); semi-mechanized; has limited geological knowledge; low to medium start-up capital; regulated by the Mining Code; required to produce an environmental impact assessment study; while in some countries it is hijacked by “investors” who then produce beyond the allowed output levels (e.g. Ghana – illegal miners).

The study countries define ASM based on the criteria described in Table 1.

Table 1. ASM definition criteria for study countries

Country	Leading Criteria/ Parameter	Distinction of Artisanal Mining
Angola	Mechanization; miners working relations (contracted or self employed); size of the concession; Nationality ¹	Yes
Burkina Faso	Mechanization; Run Of Mine (ROM); nationality; operation depth; concession size ²	Yes
Central African Republic	Nationality; operation's depth; mechanization; ROM ³	Yes
Cote d'Ivoire	Level of mechanization; nationality; concession size ⁴	Yes
Democratic Republic of Congo	Mechanization; concession size; depth; permanent or non permanent operation; Nationality ⁵	Yes
Ethiopia	Level of mechanization and output production (Run of Mine) ⁶	Yes
Ghana	Nationality; capital investment and number of workers ⁷	No
Mali	Nationality; capital investment; mechanization; operations' depth ⁸	Yes
Mozambique	Nationality; technical capacity; financial capacity; concession size ⁹	Yes
Nigeria	Size of the concession area; capital investment; mechanization ¹⁰	No
Niger	Mechanization; marginal area for LSM; depth and size of operations; financial and technical capacity ¹¹	Yes
South Sudan	Mechanization; operation depth; nationality; ROM ¹²	Yes
Tanzania	Capital investment; number of workers, technology requirements ¹³	No
Chad	Type of operation (e.g. alluvial/ elluvial or primary mining); number of miners; size of operation ¹⁴	Yes
Uganda	Capital investment; nationality; mechanization ¹⁵	No
Zambia	Nationality; concession size; technical and financial capacity ¹⁶	Yes
Zimbabwe	Not specified as such in the Mining Code ¹⁷	No

FRAMING ASM IN AFRICA: THE AMV DIMENSION

Africa has recognised its need to harness the mineral resources in an integrated and sustainable way which will allow for the African Countries and the Africans themselves to benefit more from their resources.

The **Yaoundé Declaration of 2002** envisages how policies and programs directed towards the ASM sub-sector will contribute to sustainably reducing poverty and improving livelihoods in ASM communities by 2015, in line with the MDGs. The Yaoundé Vision for ASM is deemed to offer best practice for enhancing performance of the sector at national, regional and continental levels. It is hoped that over time its adoption and implementation will achieve strong progress towards linking ASM to the overall economic development of the continent and enabling the sub-sector to play a critical role in poverty reduction/ eradication. ASM is also seen as contributing significantly to the structural transformation of economies through forward, backward and side-stream linkages created and enhanced by mineral beneficiation and value addition. The Yaoundé Declaration recognises the role of ASM as an economic stopgap, an incubator for entrepreneurship and a catalyst for the development of complementary and alternative productive activities necessary for sustainable poverty alleviation in rural areas. It further takes note of the critical role women could play in the development of mineral resources, especially in small-scale mining.

In 2004, the African Mining Partnership (AMP), aimed at championing and coordinating mining and mineral-related initiatives under the auspices of NEPAD - the New Partnership for Africa's Development, identified mining programmes and projects in six key areas: **Artisanal and small-scale mining**; harmonisation of mining policies; environment and sustainable development; beneficiation; human resource development; and promoting foreign investment and indigenous participation in mining ventures.

The Second Plenary Meeting of the African Mining Partnership was held in Cape Town in 2005. Among other things, the meeting highlighted the key aspects for ASM recognition in Africa which included:

- A review of existing strategies on financing and marketing which should be finalised so that best practices are developed and tested in selected countries;
- The need to address health, safety and environmental hazards in trial field projects in Ghana and Mali.
- The formation of an association for African geological surveys that will, among others, consider problems associated with establishment of a database on available geosciences information and regulatory framework.

In 2007, the ECA jointly with the African Development Bank (AfDB) organized the **Big Table** which aimed at advancing discussions on the challenges of effectively managing Africa's natural resources for growth and poverty reduction on the continent. The meeting also discussed the agenda for future action. The meeting mainly noted that natural resources exploitation can contribute to growth and development in Africa. However, for this to happen, sound governance systems, capacity to administer and monitor the sector, and better linkages between the natural resources sector and other sustainable sectors of the local economy are required.

In February 2009, the AU Heads of State and Government, at their Summit held in Addis Ababa, adopted the **Africa Mining Vision (AMV)**. The vision advocates for "transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development". The vision is essentially a strategy for integrating Africa's mining sector into its broader social and economic development processes, and in this manner, addresses the persistent poverty and lack of development.

The Africa Mining Vision

“Transparent, equitable and optimal exploitation of mineral resources to underpin broad based sustainable growth and socioeconomic development”

It calls for:

- A knowledge driven African mining sector that catalyses and contributes to the broad-based growth and development of, and is fully integrated into, a single African market through:
 - Downstream linkages into mineral beneficiation and manufacturing.
 - Upstream linkages into mining capital goods, consumables and services industries.
 - Side stream linkages into infrastructure (power, logistics, communications and water) and skills and technology development.
 - Mutually beneficial partnerships between the state, the private sector, civil society, local communities and other stakeholders.
 - A comprehensive knowledge of its mineral endowment.
- A sustainable and well governed mineral sector that effectively garners and deploys resource rents and that is safe, healthy, gender and ethnically inclusive, environmentally friendly, socially responsible and appreciated by surrounding communities.
- A mining sector that has become a key component of a diversified, vibrant and globally competitive industrializing African economy.
- A mining sector that has helped to establish a competitive African infrastructure platform, through the maximization of its propulsive local and regional economic linkages.
- A mining sector that optimizes and husbands Africa’s finite mineral resource endowments; and that is diversified, incorporating both high value metals and lower value industrial minerals at both commercial and small scale levels.
- **A mining sector that harnesses the potential of artisanal and small scale mining to stimulate local/national entrepreneurship, improve livelihoods and advance integrated rural social and economic development.**
- A mining sector that is a major player in vibrant and competitive national, continental and international capital and commodity markets.

Box1: The Africa Mining Vision

The present study is part of the implementation of the AMV and the Action Plan for the implementation of the AMV (2012) on the ASM Pillar and assesses the present status of the sector in Africa. The study highlights in the next section the landscape of ASM in Africa (Fig.1).

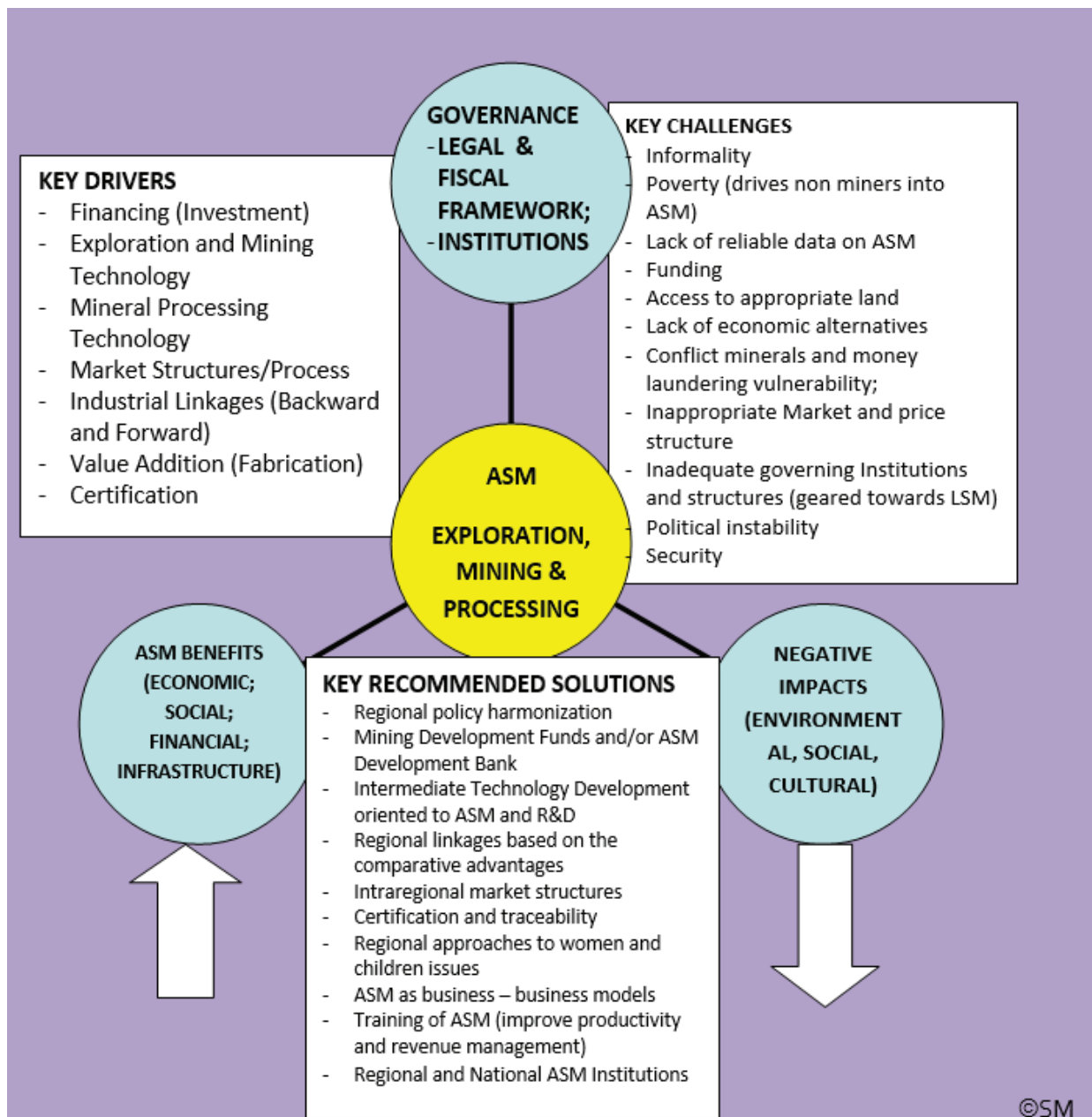
The AMV continues from the Yaounde Vision on how policies and programs directed towards the ASM sector will contribute to sustainably reducing poverty and improving livelihoods in ASM communities.

LANDSCAPE OF ASM IN AFRICA

Recognizing the need for better understanding of ASM in Africa in line with implementation of the African Mining Vision, the AMDC has conducted the present study and has profiled - at high level - ASM in Africa based on field evidence from 17 countries selected on the basis of the significance of ASM and its contributions to the local economy.

Figure 1 presents the mapped landscape of ASM in Africa and includes three fundamental elements ((i) Governance – legal and fiscal framework and institutions; (ii) ASM benefits (economic, social, financial, and infrastructures); (iii) negative impacts (environmental, physical, social and cultural)) that support the “ASM Exploration, Mining and Processing”. The landscape framework also describes the key drivers, key challenges and key recommended solutions based on field observations and interviews with key stakeholders. The recommended solutions aim mainly at enabling the operationalisation of the African Mining Vision, especially the “harnessing of the potential of **artisanal and small scale mining** to stimulate local/national entrepreneurship, improve livelihoods and advance integrated rural social and economic development” while minimizing the negative impacts on one hand, and maximizing the benefits on the other.

Figure 1. Landscape and Transformation Options for ASM in Africa



ASM profile

Context and background

Despite the consensus (in previous reports) about the proposed number of ASM being around 6.1 Million in Africa¹⁴, very few countries, if any, have conducted a general census on ASM. The CASM, 2009 ASM figures were based on reports from the focal points in different countries and from there, these numbers have been assumed as the country numbers and have been repeated in several studies. At that time, it was estimated that at least 5% of the African population depended on ASM. The present study has mapped over **10** million people in **16** countries are involved in ASM. Without dwelling on the precision of the estimates, it is important to realize that the sector is quite important, especially for sub Saharan countries.

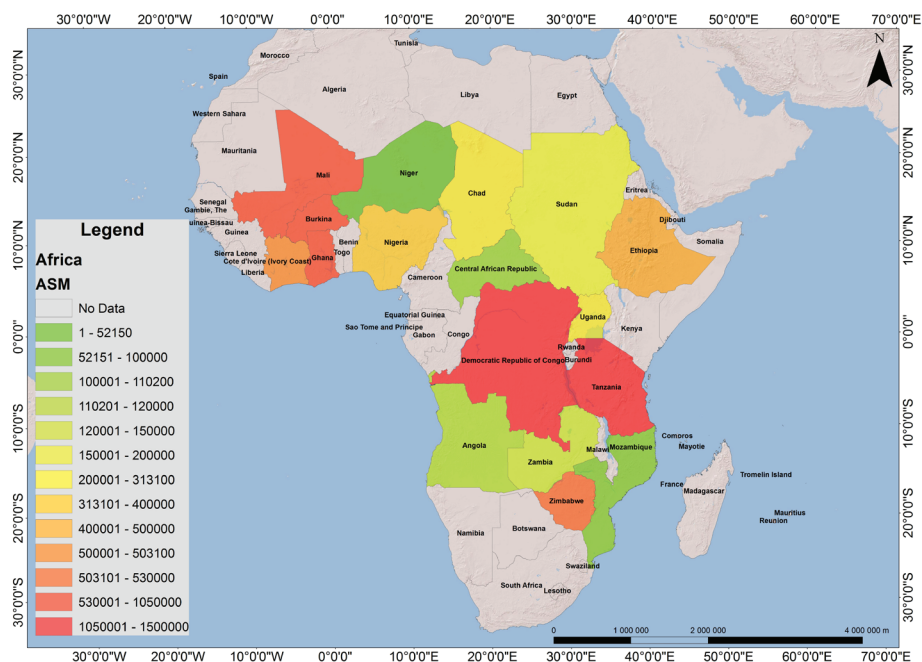


Figure 2. Map of Africa showing the selected countries and the prevalence of ASM

The number of ASM actors has almost doubled in 6 years, which shows that the sector is growing exponentially. The present exercise of profiling ASM serves to capture the present situation of the sector, mainly from the point of view of Governments and a few representatives of mining associations and civil society. The countries were selected on the basis of the significance of ASM in the country and the availability of data or contacts. There was also an attempt to cover a broad spectrum of minerals and all sub-regions to be representative from the perspective of the AUC and UNECA. The informants were asked to provide the numbers of ASM in their countries. This basically refers to the agreed numbers that the governments table in their reports and meetings, and the numbers that are used to plan interventions in the ASM sector. Some countries were reluctant to provide the numbers allegedly because the numbers of Artisanal miners (labelled illegal) were not known. The table 2 and fig. 2, presents ASM data in selected African countries and compares with data from the CASM 2009. The table 2 also ranks the mineral product in 1st, 2nd, and 3rd most important for the country's economy.

Table 2. ASM data in the selected countries

Country	Total ASM CASM 2009	Total ASM	Main Product 1	Main Product 2	Main Product 3
Angola	150,000	120,000*	Diamond	Gold	Dimension stones
Burkina Faso	200,000	1,000,000	Gold	?	?
CAR	400,000	110,200	Diamond	Gold	Coltan
Cote d'Ivoire	100,000	503,100	Gold	Diamond	Coltan
DRC	200,000	1,500,000	Cooper	Coltan	Diamond
Ethiopia	500,000	1,000,000	Gold	Gemstones (Opal)	
Ghana	1,100,000	1,050,000	Gold	Diamond	Salt
Mali	400,000	1,000,000	Gold	Gemstones	?
Mozambique	100,000	100,000	Gold	Gemstones	Clay
Niger	450,000	52,150	Gold	Gypsum	Salt
Nigeria	500,000	400,000**	Gold	Limestone	Gemstones
Tanzania	1,500,000	1,500,000/ 2,000,000***	Gold	Gemstones	Tanzanite
Chad	100,000	313,100	Natron	Gold	Salt
Uganda	150,000	300,000	Gold	Wolfram	Kaolin
Zambia	?	35,000	Gemstones	Cooper	Manganese
Zimbabwe	500,000	530,000	Gold	Tantalite	Gemstones
Total	6,100,000	10,013,550			
Summary			70% gold	37.5% Gemstones and Diamonds	20% Salt

** Direct Miners

*** SSM assistant Mineral Commission

Comparing the ASM numbers in the countries between the current situation and the CASM 2009 data; there are a few countries for which the number has reduced (e.g. Angola, Niger, Nigeria and Ghana) while in the rest of the countries the numbers have increased substantially.

The table shows also that the most important commodity in African ASM mining is gold, followed by gemstones and diamonds. The third most important commodity is salt - suggesting that ASM is not only in high value minerals (table 2).

A country snap shot of the ASM sector is given in the annex A2.



OVERVIEW OF THE LEGAL AND FISCAL REGIMES IN AFRICA

Background

Many African countries in the early 1980s were involved in reforms of their mining industry led by World Bank. The key elements of African mineral policies that emerged in the late 1980s and in the 1990s, based on World Bank prescriptions, may be summarized as follows. African governments:

- Reduced or eliminated state participation in mining enterprises.
- Provided a wide range of incentives, causing foreign direct investment (FDI) into the industry to surge.
- Made tax regimes more competitive relative to those in other developing regions, particularly Latin America.
- Liberalized exchange controls and exchange rate policy.
- Introduced investment protection assurances, including those on the stability of the fiscal regime for a specified length of time (the "stabilization period"), dividend repatriation and non-expropriation.

Although the extensive reforms of regulatory and legal frameworks thus introduced helped to create a more favourable environment for foreign investment in African mining, they did not contribute much to the legalization of ASM. Most ASM activity occurs outside mainstream legal economies, occupying a hazy world of informal, yet essential, economic activity. There is an emerging consensus that formalization must be part of any strategy to develop the ASM sector. However, the mechanisms for legalization of more than 12 million ASM in Africa would drain a lot of governments' resources and yet it's not very clear whether the formalization would contribute to economic development. It's argued in this study that more than formalization, the sector needs to have government intervention; this could be through intervention in the market value chain of the ASM, independently of being legal or illegal. There is a direct link between market intervention and the economic development, and in parallel to such intervention, a progressive formalization of the sector might be happening.

The last wave of mining laws reviews in Africa took place in the decade 2000-2010, (Fig. 3), where most countries reviewed their mining laws. In these reviews, countries had recognised the need to integrate ASM into the main economy by creating instruments for their formalization. It is also argued that to make formalization work, miners must also be "capitalized" in ways that permit them to move from transient artisanal mining, to more sustainable small- and medium-scale mining.



Figure 3. Year of Mining Law approval in selected countries

Comparison of the ASM legal framework

Table 3 shows the review of the legal framework of the selected countries in Africa in the perspective of ASM licensing. Some countries have a distinct Artisanal Miners licence or permit (e.g. Angola, Burkina Faso, CAR, Cote d'Ivoire, DRC, Ethiopia, Mali, Mozambique, Niger, South Sudan, Tchad, Zambia), which aims at empowering the communities where mineral resources occur. Other countries recognise only small scale miners who are attributed a small-scale miner's licence (e.g. Zimbabwe, Uganda, Tanzania, Nigeria, Ghana). Some countries such as Tanzania the ASM licence (Primary Mining Licence) encompass the artisanal and the small-scale miners as one single sector. The Artisanal Miners permit is usually valid for 1 to 2 years while the small scale miner's licence is valid for 5 to 10 years.

“ **Most ASM activity occurs outside mainstream legal economies, occupying a hazy world of informal, YET ESSENTIAL, economic activity** ”



Table 3. Legal framework for ASM in selected countries

Country	Last revision of the mining Code	Section on ASM	ASM licence	Licence duration (Years)	Licence fee	Main Remarks
Angola	2011	Chapter XI Sections 1 and 2 – art. 167 to 187 For Diamonds Chapter XIII (art. 281 to 301)	Yes	3 (AM) 1 (AM for Diamonds)		AM shall not employ others (self-employed). The suitable areas for AM are those which LSM is proved unfeasible Art. 173.
Burkina Faso	2003	Chapter II section 2 – art. 45 to 53	Yes, but non exclusive. Art. 46 states that in the case of title being issued on Artisanal Mining license, such must not be renewed.	2 (AM) 5 (semi Industrial Mining)		AM license holder must enter in agreement with land owners. They have to compensate the land owner in the case of destroying cultivated fields.
CAR	2009	Chapter II section 3 and Chapter III section 2	Yes, also with designated artisanal mining zone	3 (Artisanal semi industrial) 1 (mining pass - AM)	<p>The minimum cost per year for obtaining official documentation necessary to be considered a legal artisanal miner is 58,650 CFA (US\$132).</p> <p>The gold export tax included 1% droit de sortie, 0,5% REIF, 3% IMF, 0,75% PDSM¹⁸.</p> <p>The diamond export tax includes:</p> <ul style="list-style-type: none"> • <i>Droit de sortie</i> (4%), • <i>Taxe de Promotion Minière</i> (1%) • <i>Redevance Equipement Informatique des Finances</i> (REIF) (0,5%) • <i>Impôt Minimum Forfaitaire</i> (IMF) (3%) • <i>Taxe Spéciale sur les achats de Diamants</i> (3%), • <i>Secrétariat Permanent du Processus de Kimberley</i> (0,5%)¹⁹ 	Artisanal exploitation is permitted solely on small scale mining deposits, where industrial mining is not viable. Only 2% ASM are registered.

Country	Last revision of the mining Code	Section on ASM	ASM licence	Licence duration (Years)	Licence fee	Main Remarks
Cote d'Ivoire	2014	Title IV Chapter 2 – Art. 64 - 75	Yes	4 (SSM) 2 (AM)		Conditions the attribution of the license to the consultation with local authorities. Exclusive rights (art. 66).
DRC	2002	Title IV Chapter 1 and 2. Art. 109 - 128	Yes, also with designated artisanal mining zone	Variable but <10 (SSM) 1 (AM permit/ card)	USD 25	The ASM licensed areas are exclusive.
Ethiopia	2010 (amended in 2013)	Art. 26 – 30; 32	Yes	Variable but <10 (SSM) Variable but <3 (AM)		The Licensing Authority may, after giving 90 days prior written notice, revoke an artisanal mining license where it is considered that the deposit requires more advanced mining method for the best development of its economic potential.
Ghana	2006	Sections 82 to 99 (a) is a citizen of Ghana, (b) has attained the age of eighteen years, and (c) is registered by the office of the Commission in an area designated under section 90(1).	Only Small Scale Mining	5 (SSM)	1. Royalty <6% > 3% of the total revenue of minerals. 2. Annual ground rent. 3. Annual mineral right fee	No separate artisanal miners licence Small Scale Mining Committee established by law (Art. 91 – March 2006 Minerals and Mining Law) with mandate to manage the Designated areas for ASM at District level. Designated areas (Art. 89). Where the Minister, after consultation with the Commission considers that it is in the public interest to encourage small scale mining in an area, the Minister may by notice in the Gazette, designate that area for small scale mining operations and specify the mineral to be mined SMALL-SCALE GOLD MINING LAW – 1989.
Mali	2012	Title II: Chapter III section 1 (Artisanal mining); section 2 (small scale Mining) Chapter V Sections 1 and 2; art. 45 - 52	Yes	3 (AM); 4 (SSM)		Licenses issued in consultation with local authorities
Mozambique	2014	Chapter V Sections 1 and 2; art. 45 - 52	Yes	5 (AM) 10 (SSM)		Mining Pass is issued in ASM designated areas.

Country	Last revision of the mining Code	Section on ASM	ASM licence	Licence duration (Years)	Licence fee	Main Remarks
Niger	2006	Title II: Chapter IV; art. 35; 43 – 49, 86	Yes	2 (AM) 5 (SSM)	Artisanal mining licenses CFA Franc/Plot <ul style="list-style-type: none"> • Issuance 20,000 • Renewal 20,000 • Individual cards • Issuance / renewal 2,000 Small scale mining permits CFA Francs <ul style="list-style-type: none"> • Issuance 700,000 • First renewal 700,000 • Second renewal 700,000 • Transfer or conversion 1,000,000 	There is artisanal mine tax of 3% of the value of the product or 2.5% of the value of the product for individual holder of Mining pass. Mining pass is only issued for areas that proved not profitable for LSM.
Nigeria	2007	Chapter II; art. 90, 91	Yes (SSM lease)	5 (SSM)		The SSM must apply for SSM lease. No distinction in terms of rights and obligations between SSM and LSM.
South Sudan	2012	SSM – Chapter VI – art. 55 – 61; AM – Chapter IX – art. 74 – 79	Yes	10 (SSM) 1 (AM)		Very specific on land for mining titles (Chapter III – art. 22- 28). AM must have EMP and Mining Closure Plan.
Tanzania	2010	SSM – Division C – art. 54 - 58	Yes (Primary Mining License)	7 (SSM)	The application fee of PML is 50,000 T\$. The holder of a PML in Tanzania is expected to pay annual surface area fees at 80,000/ha/ year, royalty at 4%, local government authority tax at 1 – 2% per annum. The PML holder is also expected to participate on CSR in vicinity communities. For processing licence the applicant pays also 50,000 T\$. The PML holders are also subject to income tax at 30%.	There are designated Primary License Areas (exclusively reserved for prospecting and mining operations under PML)

Country	Last revision of the mining Code	Section on ASM	ASM licence	Licence duration (Years)	Licence fee	Main Remarks
Tchad	1995	Chapter 4 – art. 31 - 34	Yes (art. Defines artisanal as alluvial and elluvial mining only) and artisanal for other deposits is considered small scale Mining	2 (ASM)	F CFA 100,000	Term artisanal and small scale mining used in combination. The same licence is valid for both. Artisanal is restricted to alluvial and elluvial mining.
Uganda	2003	Part IV – art. 54 - 63	Yes (location licence for SSM)	2 (location licence = SSM)		Art. 60 states "... exclusive right to prospect for and mine in that area..." Location Licence - Small-scale prospecting and mining operations.
Zambia	2008	SSM – Part IV- Division 1 – art. 47 – 53; Division 2 – art. 54 – 63; Division 3 – art. 64 – 73. AM – Part V – art. 74 - 81	Yes	10 (SSM) 2 (AM)		There is special gemstone SSM licence
Zimbabwe	1961	No provisions	No	No		There are no provisions for ASM in the Mining code. However the proposed Mines and Mineral Amendment Bill of 2007 in paragraph 54, which deals with the indigenisation of the Mining Industry, defines a 'small scale miner' as "a miner who, in any mining location or combination of mining locations held by him or her – <ul style="list-style-type: none"> a) Employs a total of less than one hundred persons; and b) Has an installed electrical or mechanical power capacity of less than 7.5 megawatts; and c) Produces or processes annually less than 30 000 tonnes of ore and mining waste as a result of his or her mining operations".

AM – Artisanal Mining; SSM – Small scale mining; art. – article;

ASM Licensing in Selected African Countries

Table 4 below presents the highlights of the key requirements for licensing ASM in selected countries, considering the provision for two types of licences (artisanal miner's permit or Small Scale Miner's Licence) and the tax regime that they are eligible for.

In most cases the Artisanal miners are exempt from surface tax. The Artisanal Miners permit areas can be subject to exploration programs from companies and if an economic deposit is discovered, the Artisanal Miners permit will not be renewed while governments also encourage a sort of understanding between the parties. In Mali for example if a company or individual acquires mineral rights to a property where artisanal miners were mining, they are required to cease work and move to a different location. Artisanal operations have limitations by law in terms of maximum depth and literally zero mechanization. Artisanal Miner's Permits are issued by the provincial authorities in most countries and are exclusive to nationals and national associations or cooperatives. The areas for artisanal mining are designated by the order of the Minister in charge of Mineral Resources, usually after consultation with local authorities. The holder of artisanal miner's permit must comply with environmental regulations (e.g. DRC), although they are not required to produce any Environmental Impact study. In some countries (e.g. Burkina Faso) the Artisanal Miner's permit holder must also acquire a land lease before starting mining.

Small scale mining is awarded a mining licence by the Minister in charge of Mineral Resources. The SSM Licence is usually valid for 5 years or 10 and it is a tradable licence. In DRC for example there is mandatory participation of government in any mine of 5% *free carried* and cannot be diluted. The small-scale miners have access to technical assistance from government and other entities (e.g. Ghana, Tanzania). In order to obtain a Small scale Miner's licence the proponent has to submit an Environmental Impact Statement or a Simplified Environmental Impact Study. The holder of a Small-Scale Miners licence must comply with Environmental Regulations of the country. The applicant must have proven technical and financial capacity and experience in Mining; and in most cases, must be nationals or nationally incorporated entities. The small-scale miners licence holders must pay all mining taxes depending on the fiscal framework.



Table 4. Highlights of the Key Licensing Requirements for ASM

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
ANGOLA	<p>Authorization by the Minister. Only for Angolans. For strategic minerals the applicant must be resident of the mining area for at least ten consecutive years.</p>		<p>It is not allowed to detain more than one Artisanal Mining area (art. 178). Artisanal licence holder is to comply with environmental legislation (art. 184). The Licence holder has all rights on all minerals occurring in his area (art. 186).</p>	<p>The Artisanal mining licensees are exempted from surface tax. Royalty: Strategic Minerals – 5%; Semi precious stones – 4% Metallic minerals and non precious stones – 3% Construction material – 2%. Artisanal Mining Tax – is established by a ministerial decree. The ASM mining precious metals and precious stones are subject to royalty tax at 5%. The ASM is subject to royalty tax for diamonds at 3% of the value of the diamonds. The royalty tax is withheld at the government buying entity of the ASM production.</p>
	<p>For Diamonds Authorization by the Minister on the basis of the application from the Concessionaire Company. A mining pass is issued for each miner and cover an area of up to 1 ha. The applicant of Mining pass must be Angolan resident in the vicinity of the mine for at least 5 years. Application is submitted at Provincial level (office of the Ministry of Geology and Mines)</p>		<p>Artisanal mining of Diamonds can only be carried in the alluvial deposits. Licence renewal is to be submitted 45 days before the termination of the licence, if no reply is received, the licence is considered renewed (art. 284). The concessionaire has the right to obtain the geological information from the competent authority. The mining pass is non transmissible.</p>	<p>Diamonds: The Artisanal mining licensees are exempted from surface tax. Royalty – 3% of the market value (art. 300). Artisanal tax – defined in term of number of minimum wage</p>

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
BURKINA FASO	<p>The mining code makes provisions for:</p> <ul style="list-style-type: none"> - Traditional Mining - Semi Mechanised Mining <p>The Traditional Mining license/ permit is granted by the Mining Administration on the basis of written approval of the Administrative authorities. The holder of traditional Mining permit must also acquire a land lease before starting mining.</p>		<p>Traditional mining permits are granted only to Nationals of Burkina Faso. The Traditional mining permit confers exclusive rights to the holder for practicing traditional mining. The permit does not confer the holder the preference in the application for other mining titles.</p> <p>Traditional small-scale mining authorizations cannot prevent reconnaissance activities on the surface covered by the authorization. In the event of granting of an operating title covering the same surface, authorization shall not be renewed, but recipients shall be entitled to indemnity from the new owner in compliance with regulation in force. The holders of traditional small scale operating authorization shall mine mineral products rationally while observing standards of public health and work safety, environment conservation and product marketing in compliance with regulations in force in Burkina Faso (Article 49 of the Mining Code).</p>	<p>Surface tax - Royalty – The current rates of the mining royalties are the following (The Decree No. 2010-075 PRES/PM/MEF of March 3, 2010 prescribing tax and mining royalties as amended by the Decree No. 2010-819 PRES/PM/MEF of December 31, 2010): 8 % for uranium; 7% for diamonds and gemstones, 3% to 5% for gold and precious metals (minimum rate is 3% which increases to 4% for prices between USD 1,000 and USD 1,300 per ounce, and to 5% for prices above USD 1,300 per ounce), 3% for based metals and other minerals.</p>
		<p>The Mining Code makes also provision for Small Scale Mining although there is no clear cut distinction between the SSM and the semi mechanised mining. Semi Mechanised Mining permits are granted by the Mining Administration on the basis of written opinion of the Administrative authorities.</p>	<p>Semi mechanised mining permit is only granted after public consultations. The Semi mechanised mining permit confers exclusive rights to the holder.</p> <p>The holders of semi-mechanized small – scale operating permits shall mine mineral products rationally while observing standards of public health and work safety, environment conservation and product marketing in compliance with regulations in force in Burkina Faso (Article 28 of the Mining Code).</p>	

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
	<p>1. Obtaining a miner's identity card (<i>carte d'exploitant artisan minier</i>) and operating within a <u>designated artisanal mining zone</u>. Card valid for one year renewable (Art. 64). This is the <i>patente</i>.</p> <p>2. Where miners wish to obtain a mining title over a specified area (outside of a designated AMZ), they must possess a <i>patente</i>, organized into a cooperative or association comprising at least <u>ten of them</u> - (<i>autorisation d'exploitation artisanale</i>), issued by the Minister of Mines (Art. 1, 66, 67). This license is valid for two years and can be renewed twice for the same period. Area < 62,500 square meters. Cooperatives must respect health and safety, preserve the environment, commercialize their products legally (Art. 69, 70, 71).</p>		<p><i>Comptoirs</i> have to pay 12% tax on export of Diamonds, the cooperatives pay only 9%. The main objective was to reduce the dependence of miners to the local traders' and pre-financiers.</p> <p>Artisanal exploitation is permitted solely of small scale mining deposits, where industrial exploitation is not viable due to technical or economic limitations.</p> <p>Designate an artisanal mining zone (AMZ)</p>	<p>I. A 7% royalty is levied on the diamonds at the point of production and must be paid by the holder of the exploitation license (Art. 18).</p> <p>II. Precious stones cut and sold on the domestic market are subject to Value Added Tax (VAT) and an Artisanal Development Tax (TDA).</p> <p>III. Any cut gems for export are subject to the same export taxes as when sold through the Import-Export Purchasing Office - <i>Bureau d'Achat Import-Export</i>. They are also subject to a TDA (Art.161).</p>
CAR				

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
COTE D'IVOIRE				Royalty: 2.5% – 3%

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
DRC	<p>Artisanal Mining Permits are issued by the order of the Minister for areas that are not suitable for LSM or SSM.</p> <p>The artisanal miners' cards are issued by the Head of the provincial division of Mines in the area, to eligible persons who apply for them and undertake to comply with the regulations on protection of the environment, health and safety in the artisanal exploitation area (art. 111).</p>		<p>In artisanal mining area no mining title can be granted over the area, except for an exploration licence applied for by a group of artisanal miners who are working in the area. The ASM card holder must compensate the farmers for any damage caused by his activity (art. 112).</p> <p>The artisanal miner's card does not authorize its holder to transform the products resulting from artisanal mining without prior authorization of the Minister.</p>	<p>SSM tax is 10%, at the sale point. The payment of the flat rate of 10% exempts the holder from the payment of the mining royalties, taxes on movables, taxes on profits, the exceptional tax on expatriates' remuneration and the domestic turnover tax.</p>
		<p>The application for mining licence should contain mainly the following Studies:</p> <ul style="list-style-type: none"> - Mining Plan - Feasibility study for the exploitation of the deposit - Prove of financial and technical capacity - Approved project's EIS and the EMMP and rehabilitation plan. <p>In such cases where the Government has conducted the initial exploration, the SSM licence is awarded by public tender.</p>	<p>SSM are a result of exploration programs that prove that a deposit is not feasible for LSM. The initial exploration program could have resulted from Government activity or from private entity.</p> <p>The Mining Regulations determine the conditions for SSM, in particular the volume of the reserves, the level of investment, the production capacity, the number of employees, the annual added value and the degree of mechanization.</p> <p>The SSM Licence is a real property, exclusive, conveyable and transferable right which can be leased (art. 100).</p> <p>Government mandatory participation in 5% of the shares in the registered capital of the company. These shares are free carried and cannot be diluted. For foreign entities, there is need to register a Congolese company in partnership with locals of which their participation should be at least 25%.</p>	<p>Surface tax – Annual surface area fees per quadrangle in the amount of Congolese Francs equivalent to 2.30 USD per hectare.</p> <p>Royalties: Iron and ferrous metals – 0.5% Nonferrous metals – 2% Precious metals – 2.5% Precious stones – 4% Industrial Minerals – 1% Standard construction material – 0%</p>

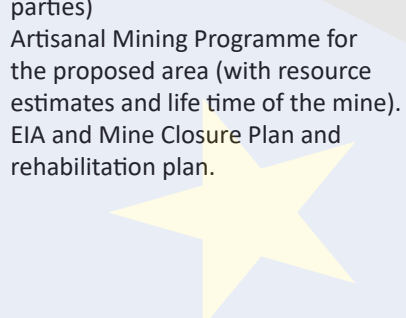
COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
ETHIOPIA	<p>Be citizen of Ethiopia. Or Cooperative made of Ethiopians. AM shall be able to undertake the mining operations in accordance with the environment, health and safety standards prescribed for artisanal mining in the relevant laws;</p> <p>Being individual or cooperative. Must not employ workers.</p>	<p>Access to financial and technical resources</p> <p>Work program that operate the mine optimally and safely. Approved EIA.</p> <p>Be able to start operations within one year.</p>	<p>An Artisanal mining licence is valid for up to 3 years. The licence is renewed twice for 3 years each. After such time the miner must upgrade into small scale miner.</p> <p>The Licensing Authority may, after giving 90 days prior written notice, revoke an artisanal mining license where it is considered that the deposit requires more advanced mining method for the best development of its economic potential.</p>	<p>Royalty payable by holders of LSM</p> <ol style="list-style-type: none"> 1. Precious minerals – 8% 2. Semi-precious minerals – 6% 3. Metallic minerals – 5% 4. Industrial minerals – 4% 5. Construction minerals – 3% 6. Salt – 4% 7. Geothermal – 2%
GHANA		<p>Application of SMM licence shall be made in a form to the Minister and may be submitted to the office of the Commission in the designated area and shall be submitted with a fee.</p> <p>The applicant must be:</p> <ol style="list-style-type: none"> (a) is a citizen of Ghana, (b) has attained the age of eighteen years, and (c) is registered by the office of the Commission in an area designated under art. 90 (1). <p>At public or State interest to encourage small scale mining in an area, the Minister may by notice in the Gazette designate a SSM area (art. 89).</p>	<p>The SSM licence grants exclusive right to the holder.</p> <p>There is established in every designated area a Small Scale Mining Committee (art. 92) to assist the District Office to effectively monitor, promote and develop mining operations in the designated area.</p> <p>The SSM licence holder shall observe good mining practices, health and safety rules and pay due regard to the protection of the environment during mining operations (art. 93).</p> <p>Small-scale miner shall not use explosives without the written permission of the Minister (art. 95).</p> <p>A small-scale miner may purchase from an authorised mercury dealer the quantities of mercury that may be reasonably necessary for the mining operations (art. 96)</p>	<p>Royalty – 3 – 6%</p>

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
MALI			<p><i>If a company or individual has legal mineral rights to a property, all artisanal miners are required to cease work and move to a different location.</i></p> <p>The artisanal mining license allows the holder to work up to 15 meters depth.</p> <p>The title holder of artisanal mining license is obliged to rehabilitate the mine site before abandoning the area (Article 49, Mining Code, 2012).</p> <p>An Environmental Impact Statement ("EIS") must also be submitted in order to obtain a license for operating a small-scale mine (Mining Code, 2012). This includes the identification, description and appraisal of the impacts of the project(s) disturbances upon the various factors listed above under the EIA.</p>	

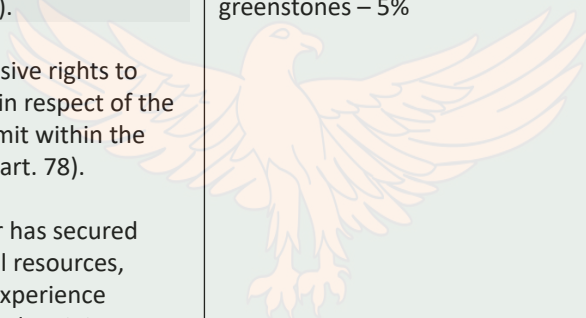
COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
MOZAMBIQUE	<p>For the direct benefit of local communities, there are designated Artisanal mining areas.</p> <p>The mining pass is assigned to a single or collective legal person with judicial, technical and financial capacity to carry out artisanal mining operations.</p> <p>The mining pass is issued by Provincial Governor on the basis of positive opinion of the Provincial Delegation of the Ministry of Mineral Resources.</p>	<p>The mining certificate is assigned to national single or collective legal person with judicial capacity that proves having technical and financial capacity to carry out small-scale mining operations.</p>	<p>The holder of a Mining Pass has to maintain the area and mining operations in accordance with the technical safety, and health applicable legislation as well as the environmental legislation (art. 52); Activities under Mining Pass are Classified as Category C – of the Environmental classification of mining activities. For this category the proponent is expected to produce an Environmental Management Programme (art. 69 – 70).</p>	<p>The holders of a mining permit or an authorisation for the realisation of geological investigation works are exempt from payment of the surface tax in respect of the area covered by the permit or authorisation.</p>
			<p>The holder of Mining Certificate has to comply with prevention, protection, management and environmental restoration requirements for small scale mining activities;</p> <p>The mining certificate can be converted into a mining concession if all legal requirements are met (art. 48).</p> <p>Activities under Mining Certificate are Classified as Category B – of the Environmental classification of mining activities. For this category the proponent is expected to produce a Simplified Environmental Impact Study (art. 69 – 70).</p>	<p>Royalty - 17.500 MZN/year (?)</p> <p>The Mining Certificate holder is liable to a Surface tax at 400 USD for 20 – 100 ha area; 800 USD for 100 – 200 ha; 1200 USD for 200 – 300 ha; 1600 USD for 300 – 400 ha and 2000 USD for 400 – 500 ha.</p>

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
NIGER	<p>An order issued by the Minister of Mines, after consultation with the relevant regional or municipal administrative authorities, determines the zones where the artisanal operations can be conducted (art. 39).</p> <p>The applicant (individual) must be Nigerien with financial capacity and knowledge of the activity. Application is submitted to the Ministry of Mines.</p> <p>Applicant (collective entity or cooperative) must be registered in Niger according to specific law. The ASM authorization entitles the holder to mine within the licensed area up to a maximum of 30 m depth in the case of bench mining and 10 m for shallow pits. The authorization does not entitle the holder to mine in galleries.</p>		<p>The order on the ASM Zones specifies the obligations of artisanal miners in terms of mining rehabilitation of the sites (art. 39). Any individual or legal entity authorized to conduct artisanal mining activities must, as mining operations progress, fill up the excavations and pledge to the restore of the mined sites (art. 44).</p> <p> Holders of artisanal mining licenses may, at any time, request the conversion of their titles into small scale mining licenses, provided they have the necessary financial and technical resources and prove the presence of deposits within their perimeters (art.45).</p> <p> Holders of small scale mining permits shall apply for the conversion of their permits into large scale ones when the rate of production exceeds standard set for small scale mines (art. 42).</p>	<p>Royalty is at 5.5%</p> <p>Artisanal mining license holders shall be liable to the payment of mining taxes at a rate of 2.5% of the product value.</p> <p>Individuals or legal entities authorized to trade mine substances extracted from artisanal mines shall pay an artisanal mining tax at rate of 3% of the product value (art. 85).</p> <p>Surface tax: Small scale mining permits CFA F/km2/year First validity period 5,000 First renewal 10,000 Second renewal 2,000 Third renewal 13,000 Extension 15,000</p>
		<p>Artisanal Mining defined in the act as Mining Operations limited to the utilization of non mechanised methods of reconnaissance, exploration, extraction and processing of Mineral Resources within a Small Scale Mining Lease Area (art. 164).</p>	<p>SSM means Artisanal, Alluvial and other forms of Mining Operations involving the use of low level technology or application of methods not requiring substantial expenditure.</p> <p>Applicant for SSM lease must: Be Nigerien; mining co-operative or a corporate body duly incorporated under the Companies and Allied Matters Act; or a holder of an Exploration Licence granted in respect of the area subject to the application, provided that the applicant has fulfilled all the conditions attached to the Exploration Licence.</p>	<p>In fact SSM means also AM. Lease Holders must carry out effective rehabilitation of the mined out area to the satisfaction of the Mines Environmental Compliance Department and also pay prescribed rehabilitation fee.</p> <p>Government provides Extension Services to duly registered and performing mining co-operatives or small scale and artisanal miners as described in art. 91.</p>

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
TANZANIA		<p>A PML for any minerals shall only be granted to an individual, partnership or body corporate:</p> <p>(a) Citizen of Tanzania;</p> <p>(b) Partnership composed exclusively of citizens of Tanzania;</p> <p>(c) Body corporate, it is a company and-</p> <p>(i) membership composed exclusively of citizens of Tanzania;</p> <p>(ii) directors must be all citizens of Tanzania;</p> <p>(iii) control over the company, both direct and indirect, is exercised, from within Tanzania by Tanzanians (art. 8)</p> <p>Any person not disqualified under art. 8, may apply to the Zonal Mines Officer for the grant of a primary mining licence (art. 54).</p> <p>The Zonal Mines Officer of the respective Zone shall grant an application for a primary mining licence (art. 55).</p>	<p>"Primary Mining Licence" (PML) means a licence for small scale mining operations, whose capital investment is less than US\$100,000 or its equivalent in Tanzanian shillings (art. 4).</p> <p>PML confers exclusive rights. PMLs holders, considering sections 49 as the case may be, apply to the Commissioner to convert the licence or licences to a mining licence (art. 58)</p> <p>A mining licence for mining gemstones shall only be granted to applicants who are Tanzanians (art. 8).</p> <p>No person shall export from Tanzania any mineral or minerals unless he is a mineral right holder, or a licensed dealer (art. 18)</p>	<p>Royalties:</p> <p>Gemstones and diamond – 5%</p> <p>Metallic minerals – 4%</p> <p>Other minerals including construction materials – 3%</p> <p>Value Addition incentives – Government provides that licence holder the add value locally pays only 1% instead of 5%.</p>

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
SOUTH SUDAN	<p>Maximum size of 1 km², maximum ROM 12,000 m³ per year. South Sudanese Citizen. Application to the State authority. Surface Rights Agreement (with all parties) Artisanal Mining Programme for the proposed area (with resource estimates and life time of the mine). EIA and Mine Closure Plan and rehabilitation plan.</p> 	<p>Individuals of companies duly incorporated under the Companies Act 2012 which stipulate that only citizens of South Sudan or all shareholders of the company must be South Sudanese.</p> <p>Technical and financial capacity to conduct SSM.</p> <p>Business plan of the company. EIA and Mine Closure Plan and rehabilitation plan. Maximum size of 1 km² The annual ROM should be less than 75,000 m³ for alluvial deposits and 100,000 m³ for primary deposit.</p> <p>Must be strictly open cast and never an underground operation. Should not use any toxic chemicals and no explosives.</p> <p>SSM operation should employ a maximum of 25 workers.</p>	<ul style="list-style-type: none"> • AM – renewable every year • SSM – valid for 10 years’ renewable • SSM licences for Minerals designated as State Natural Resources within a State area vested in the State Government and shall be subject to state law. • The SSM can be converted into LSM and with larger area. • The state will issue an AM licence within 6 month. 	

COUNTRY	Main Requirements		Remarks	Tax	
	Artisanal Mining Licence	Small Scale Mining Licence			
UGANDA		<p>"location licence" means a licence for prospecting and mining operations by methods which do not involve substantial expenditure (expenditure more than five hundred currency points (UGX 10,000,000/=) and the use of specialised technology (art. 54). Any person who wishes to carry out small-scale prospecting and mining operations shall apply for a location licence (art. 55). Application for the Location Licence is made to the Mines Commissioner.</p>	<p>Location licence can only be granted to Ugandans, and in the case of a corporate body, only where citizens of Uganda hold at least fifty one percent of the beneficial ownership of such a body (art. 55).</p>	<p>Annual mineral Rent</p> <p>Royalties Gold – 3% Base metals – 5%</p>	
		<p>(expenditure more than five hundred currency points (UGX 10,000,000/=) and the use of specialised technology (art. 54). Any person who wishes to carry out small-scale prospecting and mining operations shall apply for a location licence (art. 55). Application for the Location Licence is made to the Mines Commissioner.</p>	<p>Application to be filed together with data on the nature of the mining operations proposed to be carried out, the capital and experience to conduct prospecting and mining operations of the mineral efficiently and effectively (art. 56).</p>	<p>Royalties are shared as follows:</p> <ul style="list-style-type: none"> ▪ Government - 80% ▪ Local Governments 17% ▪ Owners or lawful occupiers of land subject to mineral rights - 3% 	
		<p>Application for the Location Licence is made to the Mines Commissioner.</p>	<p>Location licence gives exclusive right to prospect for and mine in the specific area (art. 60).</p>	<p>License holder to carry out rehabilitation and reclamation of mined out areas (art.60).</p>	
		<p>There are different "classes" of location licenses depending on the mineral commodity, each having a different maximum size of the license.</p>	<p>Mine licence holders have to produce written consents from owner or lawful occupier or the duly authorised agent of the owner or lawful occupier of that land (art. 78).</p>		
		<p>The commissioner also grants the goldsmith license which is valid for one year (art. 73).</p>	<p>The owner or lawful occupier of any land subject to a mineral right is entitled to compensation under either art. 82 or to a share of royalties under art. 98 of the Mines Act (art.83).</p>		

COUNTRY	Main Requirements		Remarks	Tax
	Artisanal Mining Licence	Small Scale Mining Licence		
ZAMBIA	Artisanal Mining Licence is exclusive for Zambians. Applications for an artisan's mining right are made in the prescribed manner and form upon payment of the prescribed fee (art. 74).		<p>The Director may grant an artisan's mining rights to the chief of an area provided that in the area mining operations are being carried on a community basis in accordance with customary practices (art. 75).</p> <p>Artisanal Licence gives exclusive rights to mine according to its terms in respect of the mineral specified in the permit within the area for which it is granted (art. 78).</p> <p>The applicant of SSM has, or has secured access to, adequate financial resources, technical competence and experience to carry on effective small-scale mining operations (art. 55).</p> <p>The proposed programme of small-scale mining operations has to make proper provision for environmental protection (art. 55).</p> <p>The area for small-scale mining licence shall not exceed one hundred and twenty cadastre units (art. 56).</p> <p>A small-scale mining license confers on the holder exclusive rights to carry on mining operations in the mining area for minerals other than gemstones (art. 58). The holder of a small-scale mining licence can apply for a large-scale mining licence provided all legal provisions a met (art. 62).</p>	<p>Royalty All minerals – 3% Precious metals and minerals and greenstones – 5%</p> 
		<p>An application for a prospecting permit shall be made to the Director of Geological Survey in the prescribed manner and form upon payment of the prescribed fee.</p> <p>A holder of a prospecting permit may, at any time during the currency of the permit, apply to the Director for a small-scale mining licence over any part of the prospecting area, in the prescribed manner and form upon payment of the prescribed fee (art. 54).</p> <p>The application should have a description of the proposed program of mining operations, which shall include a forecast of investment, the estimated recovery rate of ore and the applicant's proposal for its treatment and disposal (art. 54).</p>	<p>The small-scale Gemstones Licence is guided by art. 64 – 73.</p>	<p>Royalty All minerals – 3% Gemstones and Precious metals and minerals – 5%</p>

ANALYSIS OF POLICY AND REGULATORY FRAMEWORK FOR ASM

INTRODUCTION

The section discusses the policy and regulatory framework in two main perspectives; the ASM sector and the woman participation in ASM Sector in the standpoint of turning the sector into a sustainable one with participation of all stakeholders.

ASM SECTOR PERPECTIVE

Although African countries have benefited from multiple law reviews it was in the nineties that countries started to incorporate ASM issues in their legislation. Initially the countries had considered ASM as a single sector that encompassed artisanal (mainly illegal and informal) and small scale mining (the legal part of sector). Then slowly the government started to understand better the sector, especially with work carried out by international organizations such as CASM, the MMSD, the ICMM on the Extractive Review. The countries thereafter made political attempts to integrate ASM in their Poverty Reduction Strategy Papers, with some countries distinguishing the Artisanal Mining from Small Scale Mining sub-sectors. Lately, the tendency is such that artisanal mining is considered only for the local community and is regarded as a process of empowerment of the locals. The artisanal mining is an income alternative for rural communities mainly dependent on rain fed agriculture. This fact brings other problems related to land use conflict between Agriculture and Mining. For example, in Cote d'Ivoire there is reduction in coco plantations due to mining. In Uganda there are intergeneration conflicts between the parents and children who enter into contracts with miners and do not leave land for agriculture. Similar situations are witnessed in other countries (e.g. Mozambique) where ASM activities pollute rivers that become useless for agriculture or cattle drinking or fishing for the communities. These situations are difficult to control. However, countries like DRC require that an Artisanal Miner's Permit holder acquires a land lease before starting mining. In Ghana, they have established a legal body that manages the designated areas (Box. 2). This helps to control the conflicts in the ASM communities.

Ghana: MANAGMENT STRUCTURE FOR DESIGNATED AREAS

The Mining Act also establishes the management structures for the designated areas for ASM.

The Section 92 of the Mining Act establishes the Small-Scale Mining Committees:

- i. There is established in every designated area a Small-Scale Mining Committee.
- ii. The Committee consists of the following members:
 - (a) the District Chief Executive or the representative of the District Chief Executive who shall be the chairperson of the Committee;
 - (b) the District Officer;
 - (c) one person nominated by the relevant District Assembly;
 - (d) one person nominated by the relevant Traditional Council;
 - (e) an officer from the Inspectorate Division of the Commission; and
 - (a) an officer from the Environmental Protection Agency.
- iii. The Committee shall assist the District Office to effectively monitor, promote and develop mining operations in the designated area.
- iv. The members of the Committee shall be appointed by the Minister and shall hold office for a period and on terms and conditions determined by the Minister.

Box 2. MANAGMENT STRUCTURE FOR DESIGNATED AREAS

2. In our review, with some differences, the mining codes have laid down processes and procedures for licensing ASM (table 4). However, the rate of formalization of ASM is still very low due to lack of mechanisms to reach the miners in their remote mining sites and in some cases due to complex bureaucracy and centralised mechanisms. It was also clear that the licence for Artisanal Miners is still very precarious, valid for one or two years while the Small-Scale Miners the licence is much better in terms of benefits and validity, up to ten years. The formalization processes need to be flexible and can accommodate the extra-legal systems prevailing in the countries. For example, in CAR the licence holders, if located in the territories controlled by the rebels, need to pay half of the fee paid to the central government in Bangui; in Ghana, the land owners share part of the royalty collected by government; in Uganda miners pay directly to the land owners a daily

or weekly fee.

3. Government Assistance to ASM: Some countries have been conditioning the assistance to ASM to formalization, such that SAESSCAM (Box. 3) only assist formal ASM. The result has been limited considering that despite official formalization policies and incentives such as SAESSCAM, the majority of the 1.5 to 2 million ASM continues to operate outside the formal economy in DRC.

Example of services provided by governments (DRC)

The Small-Scale Mining Technical Assistance and Training Service (Service d'assistance et d'encadrement du small-scale mining: SAESSCAM), is a mechanism specifically dedicated to the consolidation of ASM. The main activities of SAESSCAM, include:

- (i) Promote the emergence of a Congolese middle class in the artisanal and small-scale mining sector by providing training as well as technical and financial assistance to small-scale mining cooperatives and operators to reinforce their management capacities;
- (ii) Monitor the flow of materials produced by artisanal and small-scale mining from the mine to the point of sale, to ensure all production passes through official channels and to prevent fraud;
- (iii) Ensure the recovery, after sale, of all taxes due to the state in accordance with established terms and mechanisms;
- (iv) Encourage artisanal miners to organize into cooperatives;
- (v) Encourage artisanal and small-scale miners to conduct mining activities in accordance with the Mining Code and Regulations;
- (vi) Contribute to the wellbeing to artisanal and small-scale mining communities at the local level through integrated development, in accordance with the Mining Regulations;
- (vii) Collaborate with the relevant public administration, as well as other technical services of the Ministry of Mines and organizations, in the design, production and acquisition of equipment adapted to the geological conditions of deposits mined by ASM operators, to improve production capacity and quality;
- (viii) Disseminate safety standards at mining sites and ensure they are observed;
- (ix) Ensure women are integrated into the ASM production chain;
- (x) Encourage ASM to invest in other sectors of the national economy, notably to prepare for post mining phase; and
- (xi) Encourage and participate in the creation of an assistance fund for ASM to promote small and medium scale mining companies.

Box 3. Example of services provided by governments (DRC)

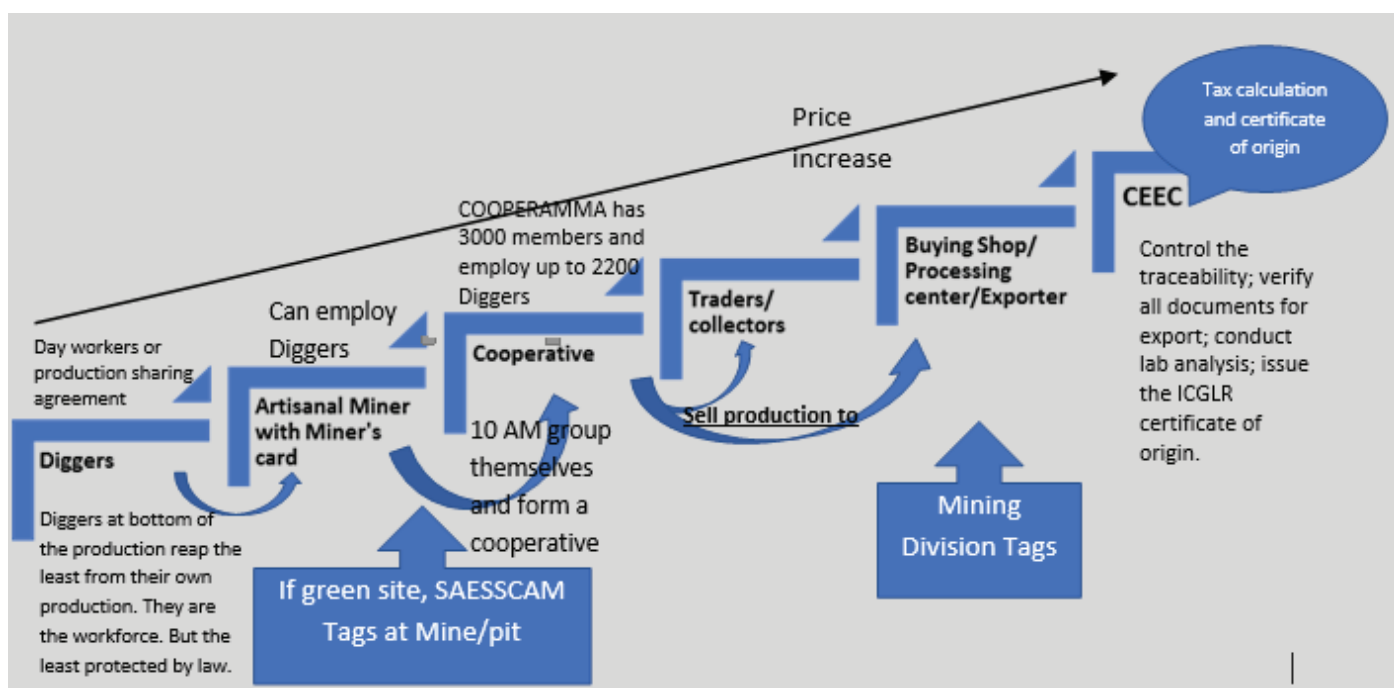


Figure 4. Illustration of the production chain and market structure in cooperatives in DRC (Author's concept)

The government assistance to ASM is fundamental for the sustainability of the sector and to be able to bring the sector to implement environmental standards and to adhere to best mining practices, however,

this should not be used as conditionality for formalization because if two sites operating side by side, one formal and one informal, all effort being put into the formal site will be meaningless if next to it an informal site continues operating and polluting the environment, for example. The Government would benefit more by assisting the two sites simultaneously while raising awareness about the need for formalization. Formalization is a process and should not be regarded as a means for benefiting from government assistance, because the government assistance may not be sustainable for several reasons. Formalization needs to live beyond government assistance to turn the sector in a sustainable one.

Table 5. Current and Expected Government Assistance to ASM in selected countries

COUNTRY	GOVERNMENT ASSISTANCE TO ASM
ANGOLA	<p>The Government of Angola has been providing the following assistance to small scale miners (not necessarily to artisanal miners):</p> <ol style="list-style-type: none"> i. For the Diamond ASM, the government has been providing them with production tools ii. Encouraging the formation of associations and cooperatives iii. Market access and establishment of specialised shops for buyers. iv. The Government has established the Gold Authority to regulate and guide the gold production and its commercialization. <p>Our contacts indicated that additional assistance from Government is expected in the following areas:</p> <ol style="list-style-type: none"> i. Financing facilitation and funding of ASM at initial stages of the activity ii. The Government is working on the establishment of a Mining Development Fund which would contribute for the development of the mining sector, especially the ASM sub sector.
BURKINA FASO	<p>The Government of Burkina Faso has been providing the following assistance to small scale miners (not necessarily to artisanal miners):</p> <ol style="list-style-type: none"> i. Extension service that supports and trains the miners on good mining and processing practices ii. Advisory services on commodity price and provision of market price trends iii. Advisory services on prevention of child labour and use of chemical products in the processing of gold iv. Supervision and control of the progress of the mining activities according to the mining plan and environmental management plans. <p>Our contacts indicated that additional assistance from Government is expected in the following areas:</p> <ol style="list-style-type: none"> i. Financing facilitation ii. Establishment of regional buying centres with mineral testing facilities and training facilities iii. The mining sites require permanent presence of the government to regulate the ASM communities and provide security and prevent drug consumption and other social problems.
CAR	<p>Under the CAR Mining Act of 2009 artisanal miners are encouraged to form cooperatives. The artisanal and small-scale operators see organization as a means of creating better trading conditions and maturity; this encompasses certification and access to international markets. Working in groups can confer significant advantages to ASM in terms of collective action and political leverage, improved productivity and market access. Organized ASM is also easier to regulate.</p>
COTE D'IVOIRE	<p>Presently, the Government has not been providing any direct assistance to ASM. However, in light of the Action plan for Re organization of the ASM sector there is provision for training the miners and for dissemination of the new mining legislation. The Government will also train the mine owners and expect that these will train their employees. The training program will be organized in collaboration with other relevant ministries such as health, defence, interior, environment, etc. The Government will also implement Integrated Social assistance (e.g. promotion of alternative income generation activities) with direct engagement of the ECOWAS member states, as it is believed that more than 80% of the ASM come from these countries. According to our contact a regional workshop to address the ASM in Côte d'Ivoire is in the pipeline. In this workshop the Government will seek participation of all countries in order to find better way to manage ASM in Côte d'Ivoire and in the ECOWAS.</p>

COUNTRY	GOVERNMENT ASSISTANCE TO ASM
DRC	<p>The <i>Service d'Assistance et d'Encadrement du Small Scale Mining</i> (SAESSCAM), formalized in 2003, is the government department responsible for supervising and organizing ASM in DRC (PACT 2010, p.37). The SAESSCAM supports the ASM that is practiced in <i>official</i> ASM sites. The Small-Scale Mining Technical Assistance and Training Service (<i>Service d'assistance et d'encadrement du small-scale mining: SAESSCAM</i>), is a mechanism specifically dedicated to the consolidation of ASM. The main activities of SAESSCAM, include:</p> <ul style="list-style-type: none"> (xii) Promote the emergence of a Congolese middle class in the artisanal and small-scale mining sector by providing training as well as technical and financial assistance to small-scale mining cooperatives and operators to reinforce their management capacities; (xiii) Monitor the flow of materials produced by artisanal and small-scale mining from the mine to the point of sale, to ensure all production passes through official channels and to prevent fraud; (xiv) Ensure the recovery, after sale, of all taxes due to the state in accordance with established terms and mechanisms; (xv) Encourage artisanal miners to organize into cooperatives; (xvi) Encourage artisanal and small-scale miners to conduct mining activities in accordance with the Mining Code and Regulations; (xvii) Contribute to the wellbeing to artisanal and small-scale mining communities at the local level through integrated development, in accordance with the Mining Regulations; (xviii) Collaborate with the relevant public administration, as well as other technical services of the Ministry of Mines and organizations, in the design, production and acquisition of equipment adapted to the geological conditions of deposits mined by ASM operators, to improve production capacity and quality; (xix) Disseminate safety standards at mining sites and ensure they are observed; (xx) Ensure women are integrated into the ASM production chain; (xxi) Encourage ASM to invest in other sectors of the national economy, notably to prepare for post mining phase; and (xxii) Encourage and participate in the creation of an assistance fund for ASM to promote small and medium scale mining companies.
GHANA	<p>The Government assistance to SSM is regulated by the mining Code as obligations of the District Office functions which should include the following:</p> <ul style="list-style-type: none"> (a) compile a register of the small-scale miners and prospective small scale miners specifying particulars that may be determined by the Minister; (b) supervise and monitor the operation and activities of the small-scale miners and prospective small scale miners; (c) advise and provide training facilities and assistance necessary for effective and efficient small scale mining operations, (d) facilitate the formation of Small Scale Miners Associations. <p>Our contact indicated the following additional support as required for the ASM:</p> <ul style="list-style-type: none"> i. Conduct EIAs over designated areas after geological investigation to shorten the process of licensing ii. Decentralize licensing process further, if not completely. iii. Provide Plant Pools to support ASM iv. Geological exploration of some designated areas for licensing to ASMs v. A number of pilot financial support to the organized cooperatives and groups to purchase equipment for mining vi. Lower licensing fees vii. Continuous education, sensitization, and technical assistance programmes to improve upon ASM mining and processing methods

COUNTRY	GOVERNMENT ASSISTANCE TO ASM
MALI	<p>Article 52 of the Mining Code, 2012, indicates that entity in charge of the Mining Sector is responsible for assisting the local authorities in organization and supporting of the artisanal miners.</p> <p>The Government of Mali has been providing the following assistance to small scale miners (not necessarily to artisanal miners):</p> <ul style="list-style-type: none"> (i) Reorganization of ASM according to the ASM Forum, 2014 directives; (ii) Government used to provide technical assistance to ASM (not functional any more due to lack finance). <p>The government has made an assessment and concluded that ASM is not contributing to the Government revenue, hence funding to this sub sector has been limited.</p> <p>Our contacts indicated that additional assistance from Government is expected in the following areas:</p> <ul style="list-style-type: none"> a. Creation of a governing structure for ASM (ideally an agency like Geological survey), this would focus the agency more to ASM activities and would provide better funding and administrative independence of the sector (the idea has been supported by Ministries of Mines, Environment, Health, Territorial Administration and Decentralization, and Culture, Artisan and Tourism), the idea is also well accepted by the presidency of the country. b. Access to finance; c. Designation of more ASM areas; d. <u>Equipment for rental or credit schemes.</u>
MOZAMBIQUE	<ul style="list-style-type: none"> I. Geological exploration, evaluation of the potential for the exploitation of gold in an area belonging to the association. II. Training of ASM miners in good practice III. Establishment of marketing good practices
NIGER	<p>Water Supply to the ASM communities Health assistance to the ASM by the Ministry of health Schools for children in the ASM communities in coordination with Ministry of Education Equipments for the ASM through equipment loans and grants schemes Assistance in organization of the ASM in associations and cooperatives</p> <p>Additionally it is expected that Government provides the following assistance:</p> <ul style="list-style-type: none"> I. Sensitization campaigns on health, safety and environment and the need to form associations of ASM. II. Dissemination and promotion of the mining law and regulations III. Training programs on business management and management of cooperatives. IV. Technical training in mining methods that can improve the quality of working conditions of ASM and increase the productivity.
NIGERIA	<p>Under the Nigerian Minerals and Mining Act of 2007 and its Regulations of 2011 artisanal miners are encouraged to form cooperatives. The grouping of ASM into cooperatives is seen as a way of establishing and defending ASM rights. It is a way of accessing supplies through collective purchase, and to access materials or resources which may be restricted for individuals. The cooperatives are registered in each state of the federation.</p> <p>The cooperatives also must be registered at the ASM Department (ASMD) in MMSD in order to receive Extension Services from the MMSD as well as the Small Grant Scheme.</p> <p>The Government through the Department of Artisanal and Small Scale Mining offer the following assistance to ASM:</p> <ul style="list-style-type: none"> • Formalization of artisanal and small scale miners (ASM) and training of ASM Officers to teach the ASM sustainable mining practices • Facilitate the development of a Mining Equipment Leasing Programme for the Artisanal and Small Scale Mining Cooperatives • Ensure adequate linkages between the existing Artisanal and Small Scale Miners and the expected medium and large scale mining investors


COUNTRY	GOVERNMENT ASSISTANCE TO ASM
CHAD	<p>The Government of Chad does not provide any assistance to ASM presently. Our contacts added that there is lack of political will in developing ASM in Chad apparently due to excessive interest in oil. Our contacts also added that there is need to train ASM on mining and processing techniques, conduct awareness campaigns on environmental, health and safety, proper handling of chemicals while processing minerals. There is also need to formalise ASM in order to bring it to formal economic stream of the country and finally there is need to establish mechanisms to fund the ASM activity in order to turn it into a business.</p> <p>The additional required assistance to ASM include:</p> <ol style="list-style-type: none"> I. Sensitization campaigns on health, safety and environment and the need to form associations of ASM. II. Dissemination and promotion of the mining law and regulations III. Training programs on business management and management of cooperatives. IV. Technical training in mining methods that can improve the quality of working conditions of ASM and increase the productivity.
UGANDA	<ol style="list-style-type: none"> i. Extension service that support and train the miners in good mining and processing practices <ol style="list-style-type: none"> ii. Advisory on commodity price and provision of market price trends iii. Conflict arbitration and resolutions iv. Assistance in Environmental Impact Management <p>Additional assistance from Government is expected in the following areas:</p> <ol style="list-style-type: none"> i. Establishment of regional buying centres with mineral testing facilities and training facilities <ol style="list-style-type: none"> ii. Financing facilitation iii. Formalization & Advancement of ASM: demonstrate best practice, organizational strengthening, mineral certification, address the multi-faceted challenges (e.g. health).
ZAMBIA	<p>Provision of technical extension service (by the regional and central level) on mining methods geological assessment and support on how to comply with law. Usually under the inspection services the Ministry guide miners on how to comply with law. Assist the ASM on conflict resolutions, etc.</p> <p>Additional assistance from Government is expected in the following areas:</p> <ol style="list-style-type: none"> (i) Financial assistance to ASM in Zambia; (ii) Alternative mechanisms for sponsoring ASM activities (at one stage government had created a revolving fund for the mining sector, but due to weak control mechanisms the scheme failed). This scheme can be improved to give assistance in equipment hire for example); (iii) provision of business management training aligned to mining activity.
TANZANIA	<ol style="list-style-type: none"> (i) Credit facilities and grants; (ii) equipment hire/purchase centres; (iii) training and skills enhancement; (iv) making available geological data to ASM <p>Additional assistance from Government is needed in the following areas:</p> <ol style="list-style-type: none"> a. Technology transfer; b. Access to finance; c. Designation of more ASM areas; d. Equipment for rental or credit schemes.

4. ASM Products Market: Although the Governments recognise the negative impacts of illicit trade on minerals, very few governments have adopted the framework of the international instruments aiming at control and traceability of the mineral resources. Most of the Mining Codes reviewed mention very softly that licensees should not engage in illicit trade of their products (Table 6). Few countries, like Angola have decided to certify the products from ASM, especially bringing the ASM produced diamonds into the main stream of Kimberley Process¹⁵.

Table 6. Market structure in selected African countries

COUNTRY	REGULATED MARKET STRUCTURES
ANGOLA	<p>SODIAM is the only company that is authorized to buy and sell diamonds from the producers, including the ASM producers.</p> <p>FERANGOL is a government body that licence the god shops.</p> <p>In Angola, it is forbidden to trade on minerals sourced from unlicensed producers .</p>
BURKINA FASO	

¹⁵ The Kimberley Process was developed over the past twelve years, has created a legally binding global certification system for rough diamonds, it involves more than 75 countries and controls the movement of all rough diamonds from mine to market, throughout the world. It is considered a unique system that goes beyond governments, involving the private sector and civil society organizations in a system that has continued to improve since its inception in 2003.

COUNTRY	REGULATED MARKET STRUCTURES
CAR	<p>Licensed Import-Export Purchasing Office - <i>Bureau d'Achat Import-Export (Box5)</i> Mineral buying offices, or <i>bureaux d'achat import-export</i>, constitute the final link in the country's mineral supply chain. They are authorised to buy gold and diamonds from artisanal miners, cooperatives, collectors and mining companies in order to export them. Under the Mining Code it is stipulated that a buying office can purchase minerals in their local branches through the employment of agents, or <i>agents acheteur</i>²⁰. Quite often, however, buying offices also pre-finance collectors, to buy minerals for them. The Mining Code and accompanying regulations impose several obligations on buying offices, including:²¹</p> <ul style="list-style-type: none"> • The establishment of at least five local branches, or <i>centres secondaires d'achat</i> or <i>succursales</i>, in trading towns in the country, within one year; • The payment of a CFA 50 million deposit to the national treasury; • The investment, within three years, of CFA 350 million in real estate in favour of the Central African State or a local community; • The construction of a head office, worth at least CFA 150 million, within five years; • The export of gold and/or diamonds at least once a month. <p>The <i>Comptoir des Minéraux et Gemmes</i> (COMIGEM) is a state-owned mineral buying office which was legalised under the 2009 Mining Code. It has experienced considerable difficulties operating however, as it has no means by which to pre-finance collectors' activities and consequently cannot compete with private buying offices²².</p>
COTE D'IVOIRE	<p>For Diamond marketing</p>  <pre> graph LR A[Producers or diggers] --> B[Collectors (who buy from the producers)] B --> C[Traders (who buy from the collectors or employ the collectors)] C --> D[Purchasing Centers] D --> E[International Traders and Exporters] </pre>
ETHIOPIA	Regional Gold Buying Centres (Commercial Bank of Ethiopia)
GHANA	Precious Minerals Marketing Corporation (PMMC), which purchases gold and diamonds produced by small-scale miners under the Precious Minerals Marketing Corporation Law (Aryee et al. 2003). The PMMC purchases gold mined both legally and illegally – buying agents employed by the PMMC do not discriminate on the basis of a miner's legal status when purchasing gold (Ghana Chamber of Mines 2012)
MALI	Licensing of Regional Buying Centres
MOZAMBIQUE	EMEM which took over the obligations of Mining Development Fund in terms of Gold Buying. Licensed gold shops and gemstone buyers
NIGERIA	Mineral Buying Centres
ZAMBIA	Base metal ASMs producers sell their raw production to LSM, especially to the Chinese Companies due to lack of processing facilities.
ZIMBABWE	The ASM production especially that of high value and low volume minerals is exclusively sold to the Fidelity Printers of Zimbabwe , a subsidiary of the Reserve Bank of Zimbabwe . While the other minerals, are sold to traders and brokers or even exported directly. The government offers a platform that links the producers and the market, the Minerals Market Corporate of Zimbabwe (MMCZ). The MMCZ charges a commission of 0.875% for each successful transaction. However, most of the ASM sell their production to brokers who sell to the dealers and these to the final consumer.

The typical market structure of minerals commodities produced by ASM is presented below.



The producers are at the tail of the value chain and as a result they get always the least in the value of their commodity, even in the case when subsidies are introduced in the market structure such as the case of Ethiopia where the buying centres receive a 5% premium price on the gold sold to the Commercial Bank of Ethiopia.

In Chad, gold and diamonds are sold mainly to buyers and brokers. The buyers clean the gold (smelting) before they buy from the miners. The buyers sell the gold to the exporters. The export of gold in Chad requires an export licence and there is a fee for gold (75 CFA/g) and other minerals exports.

Example of Market Intervention at regional level

The market structure of CAR is strictly linked to the one of Cameroon. An example of government intervention in the market structure comes from Cameroon, where CAPAM gives motorized pumps to artisanal miners free of charge, which they might otherwise rent at 5000 CFA per day. The CAPAM marketing facility in 2006 served as a structure to channel 50 kg of gold and 300 carats of diamonds to buyers. One part of the sales proceeds goes into a revolving fund; a second part goes for amortization of materials; and a third part (about 3% for gold and 8% for diamonds) pays value-added tax (VAT). Of the VAT, 50% goes into the public treasury, 15% to the local council (Mairie), 10% to local residents and 25% to a monitoring and control organization.

Generally, the market for ASM products is not organized. Most miners (66.67% in Cameroon and 93.75% in CAR) sell to individual collectors. Sponsors also serve as collectors of minerals from their miners, but their function is primarily to offer arbitrary take-it or leave-it prices. The miners have no bargaining power, due to their wide distribution and lack of networking.

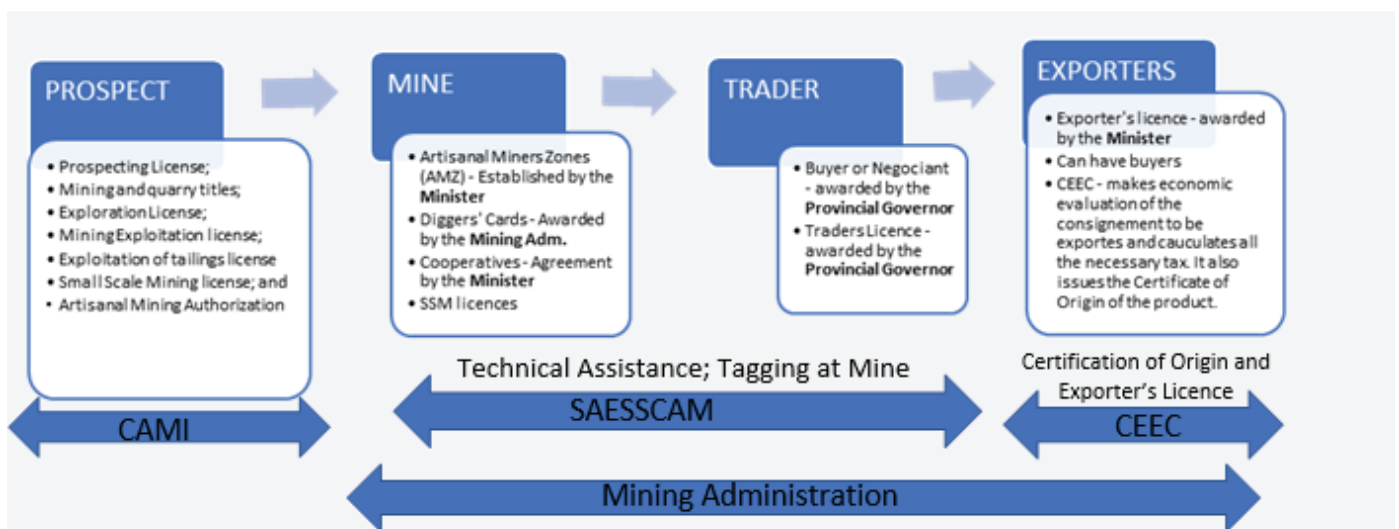
The government suspension of diamond purchase offices led to a fall in prices and constituted the major reason behind the drop-in government income reported by 81% of the artisanal miners in CAR.

Box 4. Example of Market Intervention at regional level

Another intervention in the market of ASM products comes from CAR, where the Government has passed a law that allows mining companies to buy the production from the ASM and allow them to work on their claims.

In Niger, gold is mainly sold to buyers and brokers and occasionally the producers sell directly to the consumers in Niamey. The buyers clean the gold (smelting) before they buy from the miners. The smelting helps to clean other metals and remains of mercury in the sponge gold. The export of gold in Niger requires an export licence and there is a fee for gold and other minerals exports. However, gypsum is mined and sold to the local market and this includes the cement factories through brokers.

In DRC, the ASM production, especially gold and Diamond is sold to the traders, who sell to the purchasing centres which then sell to the buying houses that export the products. The structures for copper and tint include the business centres/or traders who sell to the processing plants and these export the processed product (not necessarily refined).



CAMI – Mining Cadastre; SAESSCAM – Service d'Assistance et Encadrement du Small-Scale Mining; CEEC – Centre d'Expertise, d'Evaluation et de Certification des Substances Minérales précieuses et semi-précieuses.

Figure 5. Mine cycle, entities involved for licencing and main requirements in DRC. (Author's concept)

Mineral Certification processes/frameworks

In Angola, the certification of Diamonds is done according to the Kimberley Process (decree no. 55/56 of the National Assembly) that includes the Ministry of Geology and Mines and Ministry of Commerce. The Kimberley Process group estimated that the country's 2012 diamond production was worth \$1.16-billion. The gold mined by ASM is presently commercialised through the licensed Gold shops. The gold shops have been licensed by FERANGOL. The research realised that the Gold Authority Agency has the mandate to

regulate the gold production and its commercialisation in Angola. In Angola, it is forbidden to trade on minerals sourced from unlicensed production sources. This means that informal or unlicensed ASM production cannot be traded in official channels. This has implications in the smuggling of ASM products from Angola into neighbouring countries.

In Mali, ASM gold is mainly sold to traders and brokers and occasionally the producers sell directly to the consumer and can even export, as long they have an export permit. However, most of the ASM sell their production everyday to brokers who sell to the dealers and these to the final consumers. The exporters of gold are charged an export tax of **6%**. This export tax is considered high and it seems to contribute to the smuggling of gold to neighbouring countries. In Mali, there are only three Gold Purchasing Centres which have licenses for gold export.

The market structure of Burkina Faso is similar to the one in Mali where gold is mainly sold to traders and brokers. Occasionally the producers sell directly to the final consumer or even export, as long they have an export permit. However, most of the ASM sell their production to brokers who sell to the dealers and these to the final consumer. The exporters of gold are charged an export tax of **5%**. This export tax, although relatively low when compared to Mali, is still considered high and seems to contribute to gold smuggling to neighbouring countries. This statement is supported by the fact that the amount of gold declared from the buyers, and coming from the ASM has been declining steeply; for example, in 2012 the ASM exported 972.9 kg, in 2013, 431.6 kg and in 2014 only 208 kg. This decline cannot be explained by local/domestic consumption of gold which is estimated to be only around 24 kg per year. In Burkina Faso, there are at least 90 licensed buyers in the entire country.

In Ghana, Precious Minerals Marketing Corporation (PMMC), purchases gold and diamonds produced by small-scale miners under the Precious Minerals Marketing Corporation Law (Aryee et al. 2003). The PMMC purchases gold mined both legally and illegally – buying agents employed by the PMMC do not discriminate on the basis of a miner's legal status when purchasing gold (Ghana Chamber of Mines 2012). While for Salt, Miners sell to local consumers as well as middle men and companies for local industries as well as export. The Granites (Aggregates) products are sold to local building contractors and individuals.

In Ghana, the export segment of the market of mineral products is dominated by foreigners, probably due to the facility in securing external market.

The Kimberley Process as a Market Regulator and Certification

The Kimberley Process diamond certification scheme, was initially implemented to combat the sale of “blood” or “conflict” diamonds which funded armed conflict, rebel activities, government coups and the arms trade, especially in Sierra Leone, Angola and the DRC.

The Kimberley Process was initiated by African diamond-producing countries in May 2000 to develop an international certification scheme for rough diamonds to prevent “conflict diamonds” from entering legitimate markets (Kimberly Process 2004).

This process was supported by the World Diamond Council and the United Nations, and implemented by a UN General Assembly vote in 2003. The certification process follows each diamond from mine through every transfer of ownership to retail sale. The process is supported by a broad range of international stakeholders in the diamond trade, including government officials, industry representatives and non-governmental organisations. Participants officially launched the Kimberley Process Certification Scheme (KPCS) on January 1, 2003. Participants are required to export rough diamonds in tamper resistant containers and provide certificates validating that the contents are conflict-free. Participants are also prohibited from importing/exporting rough diamonds from/to countries that are not implementing the KPCS. At present, Cote d'Ivoire is the only country under embargo by the United Nations for the export of conflict diamonds (since December 2005). During this study, a review mission was in Cote d'Ivoire to assess the conditions on the ground that would lead to lifting of the embargo.

Box 5. The Kimberley Process as a Market Regulator and Certification

Considering all the above initiatives, there are clear opportunities for certification and traceability of ASM products. Some other certification initiatives that constitute an opportunity for Africa include the Fairtrade Gold, Fairmined Standards for gold and precious metals.

In 2010, Fairtrade International (FLO) and the Alliance for Responsible Mining (ARM) developed an independent ethical certification system for gold, and in 2013 new Standards and Premiums for gold, silver and precious metals were published. Achieving the certification means that the miners:

- Receive a guaranteed Fairtrade Minimum Price (\$2,000 USD per kilo on top of the guaranteed

- minimum price for their gold);
- Receive a Fairtrade premium payment, which is democratically reinvested in community projects and improving miners' operations. This is calculated as 10% of the applicable London Bullion Market Association's (LBMA) fixing;
- For Ecological Gold (gold extracted without the use of chemicals) this is calculated as 15% of the applicable LBMA fixing;
- Develop long term business relations with their commercial partners.

Organisations are audited by the independent, international certification body FLOCERT to ensure they are complying with the standards.

Fairtrade is presently working with nine pilot groups in Uganda, Kenya and Tanzania (900 miners) to achieve Fairtrade certification. It's hoped that the first Fairtrade African gold will reach the UK this summer¹⁶¹⁷.

The *Fairmined Standard for Gold and Associated Precious Metals* was developed by ARM and aims to support sustainable development of ASM communities. The standard includes requirements for ASM organisations to operate in a responsible way; formal and legal mining operations; environmental protection; labour conditions; traceability of Fairmined minerals; and socio-economic development through the Fairmined Premium.

It also outlines market models and requirements for market actors (Fairmined Operators)¹⁸. ARM is currently implementing the Fairmined standard mechanisms in the francophone

West African artisanal gold sector – in Burkina Faso, Mali and Senegal – in partnership with the Artisanal Gold Council, a non-profit organisation based in Canada dedicated to the sustainable development of artisanal and small-scale gold mining (ASGM) communities in the developing world.

5. ASM Value Addition: The policies and mining codes reviewed elaborate in a more significant way the need for local value addition and fabrication. They all understand that the "Value added" mineral products like jewellery, pottery and stone carvings, can give a much higher return than the unprocessed mineral alone; but finding a market for these goods can be a major challenge. In all cases, developing skills in marketing and selling is critical to the success of an ASM business!

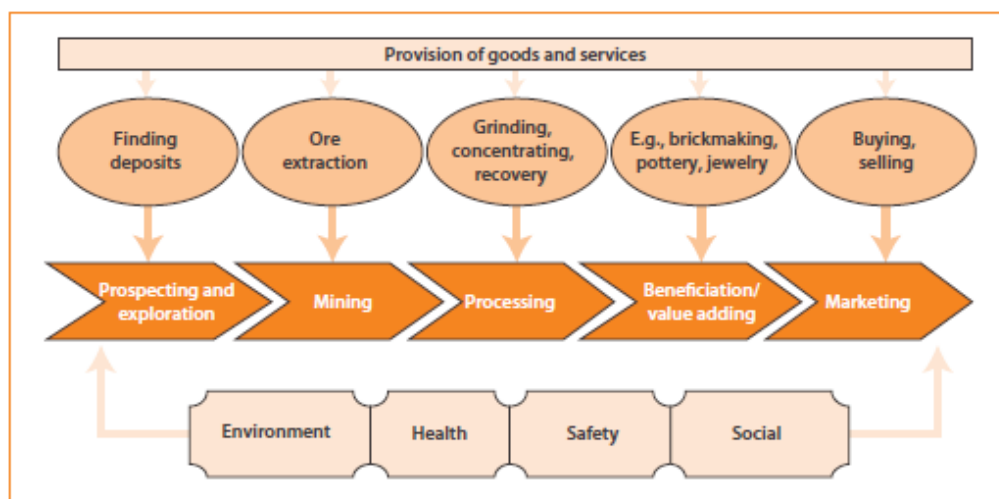
One cannot consider value addition dissociated from the linkages that are required to establish functional economic value addition. The linkages that contribute to the value addition include the availability or induction of local and regional market of the final products that are produced by ASM. The marketing of ASM products require proper branding and certification that will make them unique and able to enter international markets (e.g. Fairtrade Products). For that to happen, countries and regions need to embark on capacity building process that will equip the miners with business skills that will allow them to run their mines as businesses. The linkage dimension includes the specialisation of the sector in its entire value chain (Fig. 6) where there should be miners (e.g. cooperatives), processors (e.g. integrated regional processing centres), traders (buyers and sellers of raw products), fabricators (e.g. blacksmiths) and buyers and sellers of final products.

“ One cannot consider value addition dissociated from the linkages that are required to establish functional economic value addition. If you see an ASM site, one will immediately recognise it ”

16 <http://www.theguardian.com/sustainable-business/fairtrade-partner-zone/2015/jan/16/on-its-way-fairtrade-gold-fromafrica>, accessed 30 April 2015

17 Gender study;

18 http://www.communitymining.org/images/sampleddata/EstandarFairmined/Fairmined%20Stnd%20%200_2014_.pdf, accessed 30 April 2015



Source: Adapted from Mutemeri and Samba 2010.

Note: Ovals show livelihood activities associated with each phase of the value chain; boxes identify cross-cutting issues along the value chain.

Figure 6. Value Chain of Artisanal and Small Scale Mining Sector

Source: World Bank, 2012, *Gender Dimensions of Artisanal and Small-Scale Mining: A Rapid Assessment Toolkit* p. 5

The specialization of the ASM mineral value chain can only be possible with proper strategies on Research and Development that will properly identify the gaps and find the solutions for each segment of the value chain¹⁹ for different categories of minerals (precious metals, Industrial mineral, base metals, etc.)

Some countries have passed bills that are confusing (table 7) indicating that no raw or ore minerals can be exported without some sort of value addition. The value addition of mineral resources is key for country industrialisation and development. However, this needs to be thought-out in an integrated way. For instance, if the value addition of base metals requires some sort of smelting, the country needs to make sure that it has or will have - within a short period of time - access to electricity. Lack of this will risk the departure of mining companies due to lack of inputs for value addition. Governments need to assess their comparative advantage in adding value to some of the special minerals such as tantalite or radioactive minerals which require high and sophisticated technology; which in most cases cannot be afforded in the country. Some countries like Tanzania offer tax incentive for value addition by reducing the royalty of value added products (see table 8).

Table 7. Conceptual value addition model for minerals and their major inputs

	Mining	Processing/ Beneficiation		Smelting	Refining	Market
		Pre concentration	Concentration			
ASM	Mining/ resource extraction (open pit and shallow underground mines)	Pre concentration (eg. Gold panning; sluicing)	Concentration (e.g Amalgamation)	Smelting	Rudimentary fabrication/ blacksmith	Local
Power	Off the grid and operating small equipments	No power	No power	Gas torches	Using domestic power (welding)	
Water						
Opportunity for improving	SMS cooperatives	Integrated ASM services (would have the role of registering miners as they come to the centre) (e.g. shaking tables)	Integrated ASM services (would have environmentally friendly techniques) (e.g. Amalgamation drums)	Integrated ASM services (would integrate a fair market for producers)	Branding and certification of ASM products	Regional and international Market

The reviewed mining codes and legislation lay down processes for licensing the Processing Plants, however,

in general they overlook the licensing and formalization of the artisan that add value to ASM products, such as blacksmiths and others. It is only in Uganda where the mining code stipulates that the commissioner grants the **goldsmith license** which is valid for one year (art. 73 of the Mining Code).



Figure 7. Illustration of value addition in Mali

Source: Internet picture from Oumar presentation at Francophone West Africa Workshop, 2009

Table 8. Summary description of the value addition initiatives in selected African Countries

COUNTRY	DESCRIPTION OF THE VALUE ADDITION INITIATIVES
ANGOLA	The Angolan government wants to see the country's diamond production increase by up to 5% a year, as well as local polishing of the stones increasing and the creation of a local jewellery industry. Article 12 of the Mining code stipulates that for the state's interest in terms of local processing and treatment, beneficiation or value addition of the mineral products, the State can make a requisition to buy the production or part of it for deployment in local industry. The government of Angola also encourages downstream investments in facilities such as refineries and diamond-processing plants.
BURKINA FASO	Burkina Faso has a long tradition of artisanal jewellery making from gold. It is perceived that the processing of gold consumes on average 24 kg per year (Fig. 6).
COTE D'IVOIRE	It is believed that the iron ore discoveries could also provide an opportunity, over time, to develop domestic steel production, which sits well with the government's long-term aim of boosting value-added production On the minerals being produced in Côte d'Ivoire, very few are used for jewellery production, especially from gold produced by ASM.
DRC	In DRC there very limited initiatives of value addition in minerals, except for the diamond cutting plant in Katanga and the artisanal jewellery production on the basis of malachite.
ETHIOPIA	There is no specific Government strategy on the value addition in DRC.
GHANA	In Ghana, there are some initiatives on value addition of mineral products, especially the production of jewellery. These products are sold domestically and exported to neighbouring countries such as Nigeria, Benin. There are no specific government initiatives for promotion of Value addition of ASM produced minerals.
MALI	Mali has a long tradition of artisanal jewellery production on the basis of gold which is used to decorate the emperors, royal and traditional leaders. The Government of Mali has literally no influence in the course of the value-addition on the ASM products (Fig. 5).

COUNTRY	DESCRIPTION OF THE VALUE ADDITION INITIATIVES
MOZAMBIQUE	<p>In Mozambique, value addition occurs at the very early stages, mainly in gemstone cutting. The Government has established a Gemmological Institute aimed at promotion of value addition and proper valuation of the Gemstones from ASM. The level of success of this Institute is still very low due to challenges related to, reduced delivery capacity associated to lack of resources. The government has been promoting the value addition of mineral products in the country as one of the main objectives of the mining sector. This is indicated in the Policy document as Strategic Objective: "Encourage the value addition of mineral resources in the local market" Strategy:</p> <ul style="list-style-type: none"> • Monetize the mineral resources existent in the country, maximize its economic value through development of value addition chains and stimulate diversification of the national industry in order to support sustainable economic development and increase the benefits to the country; and • Promote the industrialization of the country through the consolidation of the processing and manufacturing industry on the basis of mineral resources; in this way create attractive and competitive alternatives for the national and international economic market. <p>A tax reduction of 50% of the Mining Production Tax is allowed when the production of minerals is to be used by the local industry²³.</p>
TCHAD	<p>In Chad, value-addition is at very early stages, mainly in jewellery using gold. With iron produced artisanally there is fabrication of knives and agriculture tools; and with Nitron there is home production of soap. There is an NGO that works with artisans in the use of local material for fabrication of agricultural tools.</p> <p>In the mining code there is provision for local value addition of mineral production, however, <u>there are limited enforcement mechanisms.</u></p>
NIGERIA	<p>The Government of Nigeria has been promoting value addition of mineral products as indicated in the road Map "The availability of the Mineral resources alone cannot drive the solid minerals sector of Nigeria. The ability of stakeholders to exploit and market the products to the overall economic benefit of the country is very essential. Universal best practices involve value addition through processing and testing to produce a commercially desired product in an environmentally friendly manner".</p> <p>The Road Map also indicates that value addition should accelerate growth via government incentive packages for the export of value -added metals and related products through increased <u>beneficiation and processing of minerals and metals products.</u></p>
TANZANIA	<p>The Government of Tanzania has been promoting value addition of mineral products and this is done by reducing the tax. If a miner adds value to its products, the royalty is only 1%, otherwise it is 5%.</p>
UGANDA	<p>In Uganda, the value addition is still at the rudimentary stage with jewellery production from gold and gem cutting. The government has been promoting the value addition of mineral products in <u>the country.</u></p>
ZIMBABWE	<p>In Zimbabwe, there are some initiatives on value addition of mineral products, especially the production of jewellery, pottery and stone carving. These products are sold domestically and exported to neighbouring countries such as South Africa, Mozambique, Botswana and Zambia. The government banned the export of raw minerals in 2013. The Countries Agenda for Sustainable and Social Economic Transformation – Policy on Empowerment has resulted in the pulling out of most of the brokers who were geared towards the export of raw minerals. On the other hand, the country has been witnessing an increase in the number of small scale smelters for chromite, tantalite and manganese.</p>



Figure 8. Art sculptures made of bronze in local market of Ouagadougou

6. ASM Technical and Financial Issues: It is recognized that sustainable ASM can only be achieved through some sort of financial and technical assistance.

The technical assistance from governments is very limited due to lack of financial and human resources. However, an initiative that is worth mentioning is the PRECAGEME project in Burkina Faso, which trained miners on fabricating mining equipment (Box. 6)

Government intervention in the Intermediate Technology Development in Burkina Faso

In Burkina Faso, the PRECAGEME project, which ran from 1998 to 2004, supported local companies to design and manufacture user-friendly processing equipment for humid areas without need for the application of chemical products like mercury. This equipment, which was installed in eight pilot small-scale mining sites, extracts between 75 and 85 percent of gold found in rocks and between 90 and 95 percent of free gold. It has a daily mineral processing capacity of at least 3 tons as opposed to three days for one manually-processed ton.

Box 6. Government intervention in the Intermediate Technology Development in Burkina Faso

In Zimbabwe, for several years in the nineties, a partnership between the National Miners' Association of Zimbabwe (NMAZ) and the ITDG as the implementing agent, ran a multifunction service provider (the Shamva Mining Centre (SMC)) (Box. 7).

The Shamva Mining Centre (SMC) was conceived as a multi-functional service provider to respond to the stated needs of the small-scale gold miners in the Shamva area of Zimbabwe. The design and implementation of the Centre was based on providing a service for about 40 mine sites. The Centre's core function was to provide access, for small-scale gold miners, to efficient minerals processing. The centre also provides other services including tool hire (compressors) and advice on a range of subjects including geology, finance, mining, explosives, the environment, etc²⁰.

Box 7. The Shamva Mining Centre

The merit of this pioneer initiative was that after a few years, business people have identified the mineral processing service provision as a viable economic stream to indulge in, resulting in the vibrant Mining Centres (Service providers for ASM minerals processing) that Zimbabwe boasts of currently.

Other organizations that play a significant role in the technical training of miners is the Artisanal Gold Council. The AGC²¹ work with and train miners in free mercury processing techniques and have achieved positive results in their countries of intervention including Burkina Faso and Senegal. These techniques besides protecting the environment, also protect the miners themselves from mercury poisoning.

However, all the technical initiatives discussed above, can only be effective if there is a structured and sustainable financial assistance to ASM Sector.

ASM Financing: The financing of ASM, has long been recognized as one of the main constraints to its development. Despite this realisation, most country initiatives have failed to promote the sector from Artisanal into small scale and possibly into middle scale mining.

Some Government loan facilities aimed at the ASM sector have been implemented in several countries, including Namibia and Mozambique. In Namibia, the government used a *Minerals Development Fund* to provide US\$92 million in loans for projects emphasizing the sinking of shafts, exploration, and mine expansion. Using low interest rates, long repayment periods, and minimal bureaucratic overheads, 92 percent of loans have been repaid. A similar fund in Mozambique offered financing, provided that miners could show a license, proof of collateral (20 percent of loan amount), a feasibility study, and plan for loan repayment.

Box 8. Some Government loan facilities

Most of these schemes have proved unsustainable. The reasons for failure vary from country to country, although they were all unable to manage the financing schemes, to the extent that some countries placed the funds in commercial banks or created dedicated institutions that managed the fund. The reasons for the

20 http://practicalaction.org/t4sl_casestudy_mining

21 The Artisanal Gold Council (AGC) is a not-for-profit organization based out of Victoria, BC, Canada dedicated to the sustainable development of artisanal and small-scale gold mining (ASGM) communities in the developing world

unsuccessful financing of ASM have emanated from both the demand side and supply side. The demand side reasons include: the inability of miners to produce valid ID, bank account, license or mineral rights, a resource valuation document, or production records that could help to prove that the mine has production capacity.

These factors led to the relaxation of the loan requirements by some countries with funding apportioned to ASM using minimum criteria. The result was that in most cases the miners neither complied with the loan repayment plan nor paid back the loans.

Some countries such as Zimbabwe and Ghana decided to create equipment loans schemes where the miners received only the equipment or equipment hire mechanisms (table 7).

The Mining Development Fund (Fundo Fomento Mineiro) was created with the principal objective of promoting amongst artisanal miners the use of improved mining technologies that minimise the environmental impact and improve the miners' safety. The Mining Development Fund, as a government agency, was also actively buying artisanally produced gold at a price close to the world market price. The aim was to minimise "leakages" of gold into the informal market. This has only been partly successful, because informal buyers also provide artisanal miners with mercury to amalgamate their gold. In recent times, the Mining Development Fund has been transformed into two new entities: a private company "Empresa Moçambicana de Exploração Mineira" which has the mandate of buying gold on behalf of the Government, and the Mining and Geological Institute (Instituto Geológico Mineiro), tasked with, among other things, providing technical assistance to artisanal miners.

Box 9. The Mining Development Fund (Fundo Fomento Mineiro)

In Tanzania, the government developed microfinance services tailored to the artisanal and small scale mining sector. Since 2011, efforts to promote linkages between the banks and financial institutions and the ASM have been encouraged by the government; and associated to the government's financial empowerment strategies to support marginalized groups.

Table 9. Summary of ASM Financing Mechanism in selected African countries

Country	Financing Mechanisms to ASM
Ghana	<ul style="list-style-type: none"> i. Since 2008, the Minerals Commission - out of its own funds - has provided over GH¢700,000 (about \$700,000 then) as assistance to several mining cooperatives. The beneficiaries are the Talensi-Nabdam Cooperative in Bolgatanga, Ekomyeya Cooperative in Bibiani, the Konongo Cooperative and Smith Cooperative in Winneba. The Talensi-Nabdam Cooperative for example, used their fund to set up a processing plant for its members. ii. Loans were provided by the Minerals Commission to needy small-scale miners to purchase handheld and mechanized equipment. (Most of the miners were unable to pay back the loans (Hilson, 2001). iii. The Ministry of Finance runs the Mineral Development Fund
Mozambique	Mining Development Fund was actively financing ASM and purchasing gold from ASM (see Box 10).
Nigeria	<p>Mining Development Fund in Nigeria (art. 34) – The fund is to be used for:</p> <ul style="list-style-type: none"> • Development of human and physical capacity in the sectors • Funding for geo scientific data gathering, storage and retrieval to meet the needs of private sector led mining industry. • Equipping the mining institutions to enable them perform their statutory functions. • Funding for extension services to small scale and artisanal mining operators; • Provision of infrastructure in mined land.
Zimbabwe	The Government of Zimbabwe has been funding the purchase or hire of processing plant equipment (Mine Mechanization Fund); The government also provides extension services for technical assistance; and has mechanisms in place for market access of the mineral products produced in Zimbabwe. For example, the Reserve Bank of Zimbabwe through the Fidelity Printers have the monopoly in purchasing of gold and silver produced in the country, and through the MMCZ the government has been providing market channels for the mineral products.

Country	Financing Mechanisms to ASM
Tanzania	<p>The Government developed microfinance services tailored to the artisanal and small scale mining sector. Since 2011, efforts to promote linkages between the banks and financial institutions and the ASM have been encouraged by the government; and associated to the government financial empowerment strategies to support marginalized groups. Example of "Call for Funding for ASM" by the TIB Development Bank of Tanzania, financed by IDA and matched funds by the Government</p>  <p>Background Small-scale and artisanal mining which spreads all over Tanzania has been a key rural economic activity in Tanzania for many years. In coastal areas, ASM engage in the production of industrial minerals, namely solar salt and limestone; whereas, the interior part of the country mining operations are centred on gold, diamonds, gemstones, sand, gravels, tin ore, dimension stone and gypsum. Current statistics indicate that small scale mining activities are largely concentrated in gold and gemstone mining areas, and the largest Small Scale Mining (SSM) centres are</p> <p>However, the grants facility will not cover for the following activities;</p> <ul style="list-style-type: none"> • Normal operating costs of projects, except for a specified period of time under certain circumstances (e.g. fuel for an agreed-upon period of one month if mechanized equipment is introduced). If equipment and technology purchases are made under the project grant, responsibility for maintenance and operation is conferred to the successful applicant. Labor costs of beneficiaries (e.g. "salaries") will not be included in the grants and should be provided as a form of cost sharing;

Other ways of financing ASM have been the joint ventures between finance institutions or mining houses. A successful example is reported from Mozambique, where the Joint Venture between the ASM association of Munhene and a Venture Capital fund from South Africa has resulted in a 75:25 sharing of the production. This is after deducting the operation cost and investment on the equipment.

7. Environmental issues for ASM: All mining codes have clear provisions on the need for preserving the environment. The environmental regulations are rather relaxed for Artisanal Miners (most cases need to produce an Environmental Management Plan), while quite strict for small scale miners who are expected to produce in many cases an Environmental Impact Assessment Study (e.g. in Zimbabwe, Zambia, Uganda and Ghana). In other cases, they have to produce a simplified environmental assessment study (e.g. in Mozambique, Tanzania) or an Environmental Impact Statement (EIS) and Environmental Management Plan together with rehabilitation plan (e.g. in Mali and DRC). The environmental authorities in many countries require that SSM pay a mandatory environmental bond, which is a percentage of the budget for the first year (e.g. Mozambique) or contribute the Environmental Protection and Rehabilitation Fund (e.g. Nigeria). The environmental regulations are seen by the ASM sector as one of the biggest impediment for their acquisition of licenses, especially because is very expensive, has complex requirements and very lengthy (e.g. Zimbabwe). A testimonial from a Zimbabwean Miner indicated that one can spend all that money and carry out all the public consultation process but the study can still be rejected by the Environmental Authority, which would mean going back to the drawing board. If the EIA study is rejected, the consultancy fee paid to the environmental consultant is lost.

After reviewing the mining codes and its relation to Environmental regulations there is a sense that there is room for regional harmonization of the Environmental Procedures. This would benefit from the experiences of other countries and would better protect the environment, especially in the case of transboundary resources and catchment basins.

8. ASM Governance and Transparency: According to the CMV Guidebook, *"To ensure effective mineral sector governance, it is essential to have a sound regulatory framework that is grounded in enforceable legal systems, providing for accountability, transparency, human rights and informed administration of the sector which fully acknowledges the rights and needs of mining communities."*²²

African countries have clearly identified the potential underpinning the ASM and the transformative capacity of the sector in rural economies. They also recognize the impacts of the sector on the environment, citizens and social fabric. The African Governments, under the guidance of the World Bank, reviewed their mining and environmental laws in the nineties to make them responsive to the dynamics of the mining sector including the under regulated ASM sector. The mining sector policies, acts and regulations have paved the

way for licensing procedures (sometimes supported by Cadastre Systems); have also decentralised (in most countries) the mining support institutions to the Provinces or even to the Districts.

Furthermore, the Ministries in charge of Mineral Resources have established Departments or Directorates that are responsible for ASM. Ministries responsible of environmental issues and the Ministries of Mines have streamlined the environmental impacts from mining activity including ASM and have in some cases created specific environmental regulations for mining activities (e.g. in Tanzania, Mozambique). The ministries of mines have in most case a *unit* responsible for environmental issues in the mining sector.

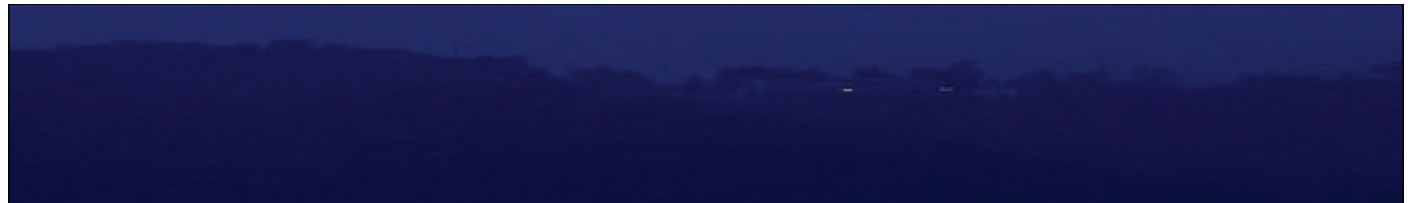
In general, most countries have legal instruments and structures for managing ASM. However, the enforcement of such instruments and the implementation of appropriate structures, especially at community level still lag behind, mainly due to lack of resources (human, financial and infrastructures) and occasionally lack of political will.

It was also observed that some countries have gone to the extent of establishing “**Small Scale Mining Committees**” which are multistakeholder forums for the management of ASM designated areas in support of the District Office. Such Committee members are appointed by the Minister. There is no doubt that this is a transparent and accountable structure that manages the designated areas in Ghana.

In general, African countries have embraced the need for more accountability in the mining sector. An example is the increasing number of countries that are EITI²³ compliant. This fact shows the government commitment to govern the mining sector according to best international practices and in transparent and accountable way. However, the integration of ASM sector’s economic and fiscal data in the EITI is still a big challenge, as is the certification and traceability of ASM products. In the transparency and accountability arena, countries have also adopted the “*first come first serve*” principle and public tenders as standard way of attributing mineral rights. Table 10 describes the governance structures that assist the management of ASM in selected countries.

Table 10. ASM Governance and Transparency

COUNTRY	GOVERNANCE STRUCTURES THAT ASSIST THE MANAGEMENT OF ASM
BURKINA FASO	<p>Mining Policy establishes “<i>La Corporation nationale des artisans et exploitants de petites mines du Burkina (CO.N.A.PE.M)</i>”. The CONAPEM was created in 2003 with the aim of organizing ASM in Burkina Faso and the associated activities in order to formalize the sector so that it can operate legally.</p> <p>According to our contact, Burkina Faso has been EITI compliant, since 2013. This shows the government commitment to govern the mining sector according to best international practices; in a transparent and accountable way.</p>



23 The Extractive Industries Transparency Initiative (EITI) is a voluntary multi-stakeholder initiative which brings together business, governments and NGOs. In order to be compliant, member-countries need to publish their revenues from the extractive industries on a regular basis. Companies, on the other hand, should publish all the payments that they have made to governments.

COUNTRY	GOVERNANCE STRUCTURES THAT ASSIST THE MANAGEMENT OF ASM
CAR	<p>The CAR is a member of the Kimberley Process diamond certification scheme. Initially, the process was implemented to combat the sale of “blood” or “conflict” diamonds which funded armed conflict, rebel activities, government overthrows and the arms trade, especially in Sierra Leone, Angola and the DRC.</p> <p>CAR has been EITI member since 2011. In CAR, mining is presently only done by artisanal and small scale miners and the licensing of ASM is decentralized to the regional offices, while the licensing of large scale mining company is recorded at regional offices with licensing being done in the capital Bangui.</p> <p>Although there is no specific Department of ASM in CAR, the General Directorate of Mines and Geology is responsible for assisting the sector.</p> <p>The mining service, or <i>Direction Générale des Mines</i>, is responsible for the administration of the country’s mining sector. The service is headed by the general director who is supported by three central directors and four regional directors, based in Berberati, Bouar, Bria and Bangassou.</p> <p>The three central directors are based in Bangui and are each in charge of a service, responsible for the following responsibilities:</p> <ul style="list-style-type: none"> • <i>Direction de la Commercialisation, de l’Industrie et du Fichier Minier</i> (DCIFM): Among other things it is responsible for the issuance of licences of all the actors in the artisanal mineral supply chain and the valuation of mineral exports. One of the services under its authority is BECDOR²⁴ • <i>Direction d’Appui à la Production Minière</i> (DAPM): is responsible for the promotion of the formalization of the artisanal mining sector, and the provision of training and technical assistance to artisanal miners. • <i>Direction de la Programmation des Etudes et de la Recherche</i> (DPER): Focuses mainly on the industrial mining sector, executes geological research, makes maps and attributes mining licenses. <p>For the areas where there is no regional directorate, the mining brigade, or <i>brigade minier</i>, supervises some of these responsibilities. Their main task is to monitor both the mining sector and the integrity of its internal controls.</p>
DRC	<p>DRC has been EITI member since 2008 which shows the government commitment to run the sector in more transparent way.</p> <p>In 2002, in the light of the Mining Code of 2002, the DRC government established three institutions around artisanal mining: SAESSCAM (Service for the Assistance & Supervision of Artisanal & Small-Scale Mining); another to certify the value of minerals for tax before export; and a third to register titles to mineral properties - the Mining Cadastre (CAMI).</p>
ANGOLA	<p>Angola has created at least three institutions that manage the ASM, namely, the Gold Authority Agency, FERANGOL and INDIAMA. These agencies are responsible of awarding licences and managing the production and marketing structures for ASM.</p> <p>Angola as chair of the KP has prioritised the implementation of the Washington Declaration to develop artisanal and small scale diamond mining. The goals of the Washington declaration on artisanal and small scale diamond mining include: improving formalisation of artisanal mining; lowering fees and increasing accessibility of mining licences; enhancing data collection and analysis; strengthening property rights as well as improving financial transparency.</p> <p>The Working Group on Artisanal and Alluvial Production (WGAAP) had been focused on these issues and concluded that there was much the KP can do to support these efforts. Artisanal and small-scale mining of diamonds represents approximately 25 percent of the world’s rough diamond trade.</p> <p>It is already recognised that the sector presents challenges to initiatives such as the KP because it often operates outside the formal economy and often escapes the internal controls that form one of the pillars of the Kimberley Process.</p>

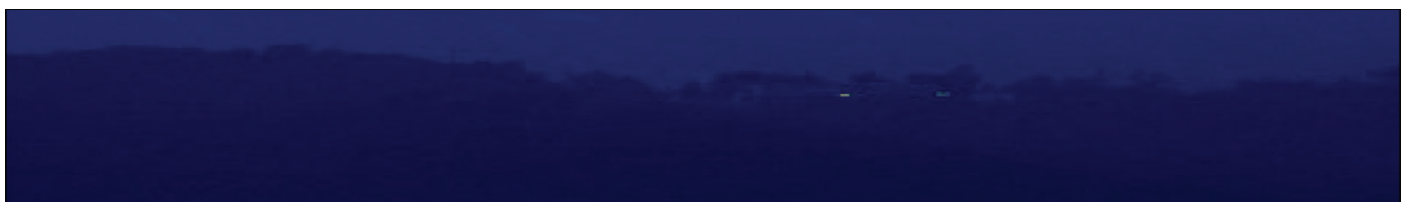
COUNTRY	GOVERNANCE STRUCTURES THAT ASSIST THE MANAGEMENT OF ASM
CHAD	<p>According to our contact, Chad has been EITI compliant since 2014.</p> <p>The mining sector is under the responsibility of the Ministry of Mines, Energy and Petroleum, which has several divisions, and a number of mixed companies under the control of the State. The part of the ministry which oversees activities related to minerals and energy is the <i>Direction Générale</i>, which itself has three Directorates, the petroleum (<i>Direction du Pétrole</i>), energy (<i>Direction des Energies</i>), and mining and geology (<i>Direction des Mines et de la Géologie</i>).</p> <p>The Directorate of Mines and Geology (DMG) has a multifunctional role: it manages and implements Chad's mineral resources policy; manages the mining sector; oversees exploration and mining activities; and develops strategies for the development of the mining sector. The DMG has three departments (Services), for Geology (<i>Service Géologique</i>), for mines (<i>Service des Mines</i>) and for geochemical analyses (<i>Laboratoire d'Analyses Géochimiques</i>).</p> <p>The ASM is governed by the Division of Geology and Mines, under the Directorate of Mines and Quarries where it is placed as Department of ASM. This Department is responsible of <u>organizing and providing assistance to the ASM.</u></p>
NIGER	<p>According to our contact, Niger has been EITI compliant since 2011.</p> <p>The ASM is governed by the Ministry of Mines and Industrial Development, under the General Division of Geology and Mines where it is placed as National Directorate of ASM, at same level as Geological Survey and Mines Directorates. This Directorate is responsible of organizing and providing assistance to the ASM.</p> <p>It also makes visible the prominence of the ASM sector in the country, where ASM is managed through its own Directorate at the level of Geological or Mining Directorates under the <u>General Directorate of Geology and Mines.</u></p>
GHANA	<p>The governance of the ASM sector in Ghana is decentralized to the District Offices of the Minerals Commission. The District offices of the Commission are established by law, section 90 of the Mining Act.</p> <ol style="list-style-type: none"> i. The Commission may establish in an area designated for mining operations, an Office to be known as the District Office of the Commission. ii. There shall be appointed by the Commission a District Officer who shall be the head of the District Office of the Commission. iii. A District Office shall among other functions <ol style="list-style-type: none"> (a) compile a register of the small scale miners and prospective small scale miners specifying particulars that may be determined by the Minister; (b) supervise and monitor the operation and activities of the small scale miners and prospective small scale miners; (c) advise and provide training facilities and assistance necessary for effective and efficient small scale mining operations, (d) submit to the Commission in a form and at intervals directed by the Commission, reports or other documents and information on small scale mining activities within the District; and (e) facilitate the formation of Small Scale Miners Associations. <p>The Mining Act also establishes the management structures for the designated areas for ASM. The Section 92 of the Mining Act establishes the Small Scale Mining Committees:</p> <ol style="list-style-type: none"> i. There is established in every designated area a Small Scale Mining Committee. ii. The Committee consists of the following members: <ol style="list-style-type: none"> (a) the District Chief Executive or the representative of the District Chief Executive who shall be the chairperson of the Committee; (b) the District Officer; (c) one person nominated by the relevant District Assembly; (d) one person nominated by the relevant Traditional Council; (e) an officer from the Inspectorate Division of the Commission; and (f) an officer from the Environmental Protection Agency. iii. The Committee shall assist the District Office to effectively monitor, promote and develop mining operations in the designated area. iv. The members of the Committee shall be appointed by the Minister and shall hold office for a period and on terms and conditions determined by the Minister.

COUNTRY	GOVERNANCE STRUCTURES THAT ASSIST THE MANAGEMENT OF ASM
COTE D'IVOIRE	<p>According to our contact, Côte d'Ivoire has been an EITI compliant country since 2013. Côte d'Ivoire has established the Kimberley Process Bureau and is pursuing the process in order to be signatory for its diamonds.</p> <p>The governance of the ASM sector in Côte d'Ivoire is led by the Deputy Director for Artisanal and Small Scale Mining and falls under the Director General of the Geology and Mines. At the local level, the Mines Department has representation which is also tasked with receiving the license applications and monitoring the mining activity in the field.</p> <p>The government of Côte d'Ivoire has suspended the licensing of ASM and has created an office for organizing the ASM sector. The office that will implement the National Program for Rationalization of Gold Producers (PNRO) has already prepared its Action Plan which encourages the engagement of neighboring countries as 80 – 85% of ASM involved in mining in Côte d'Ivoire are foreigners from ECOWAS. According to our contact, if the neighboring countries do not cooperate in finding integrated regional sustainable solutions to ASM, Côte d'Ivoire will be obliged to force out all foreigners from the mining sites in the country.</p>
TANZANIA	<p>Tanzania has been EITI compliant since 2010 which show the government commitment to run the sector in more transparent way. The licensing is based on <i>first come first served</i> principle under flexi Cadastre.</p> <p>The Government has made efforts to decentralize the processing for Primary Mining Licences in order to reduce the distances between the miners and the mining authorities and simplify the previous lengthy bureaucratic process. The Primary Mining Licence can be obtained from Zonal Mines Offices located across the country. This in principle should improve the relationship between the small scale miners and the mining authorities and should allow more formalization of the Artisanal and small scale miners.</p>
MOZAMBIQUE	<p>Mozambique has been EITI compliant since 2010. In line with good governance, the government has implemented transparent tools for licensing since 2006, the flex Cadastre for direct applications and public tenders for special deposits. The new Law established the High Authority for Mining Sector which will oversees the performance of the sector and will report directly to the Parliament.</p> <p>Recognizing that the ASM sector constitutes an opportunity for poverty alleviation and rural development, the Mozambican government has undertaken measures to bring dynamism and formalise the sector while mitigating its negative impacts. Measures taken have included: a legislative review in 2002, and the establishment of the Mining Development Fund (<i>Fundo de Fomento Mineiro – FFM</i>) tasked with promoting and assisting the ASM sector both technically and financially. It was estimated that in 2008 the FFM reached around 30% of the ASM operators in the central part of the country. Although the FFM was eliminated in 2012, the government through the Department of Artisanal and Small Scale Mining, recently created Empresa Moçambicana de Exploração Mineira and the Instituto Geologico Mineiro which have continued with most of the FFM's activities. As a result there are 95 designated ASM areas and 53 registered and active associations.</p>
ZIMBABWE	<p>The Government of Zimbabwe does not participate in managing the projects of local or foreign firms in the private sector. Presently Government participation in mining is through Zimbabwe Mining Development Corporation (ZMDC) and through the Minerals Marketing Corporation of Zimbabwe (MMCZ). The ZMDC was formed in 1982 to facilitate Government participation in the mining sector and to save companies that were being threatened with closure. It is active in exploration, mining and providing assistance to cooperatives and small-scale miners.</p> <p>The MMCZ was formed in 1992, and is responsible for marketing all the country's minerals and metal products except gold and silver which are sold through the Reserve Bank of Zimbabwe. It finances its operations by a commission charge of 0.875% on sales conducted for its clients. The Government of Zimbabwe has been funding the purchase or hire of processing plant equipment (Mine Mechanization Fund). The government also provides extension services for technical assistance; and has mechanisms in place for market access of the mineral products produced in Zimbabwe. For example, the Reserve Bank of Zimbabwe through the Fidelity Printers have the monopoly in purchasing of gold and silver produced in the country, and through the MMCZ the government has been providing market channels for the other mineral products.</p>

In conclusion, it is important to encourage countries to have structures/institutions dedicated to the management of ASM. It could either be a directorate or a national department. The most critical element is that such an institution must have enough power, authority and autonomy to implement adequate assistance programmes for ASM. Such institutions need to be decentralised enough to be able to reach and actively involve the affected communities. Given the transformative capacity of ASM within rural economies, it is important that governments allocate adequate resources (human, infrastructure and financial) to promote environmentally safe and sustainable ASM.

Governments are encouraged to continue with formalization, traceability and certification efforts of ASM products, especially the high value and low volume minerals as a way to reduce the illicit trade and fuelling of political instability in Africa; as well as possible money laundering from illegal economic and financial operations.

“ Given the transformative capacity of ASM within rural economies, it is important that governments allocate adequate resources (human, infrastructure and financial) to promote environmentally safe and sustainable ASM ”



WOMEN PARTICIPATION IN THE ASM SECTOR



This section reviews the key roles of women in the ASM sector and assesses how the existing legislation on ASM contributes to or impedes the development and success of women in ASM. For this analysis, there is no distinction of women's participation by commodity, which would positively add value to the understanding of the impact of the legislation on this participation. This was not possible because the mining codes and policies do not yet discriminate the ASM by commodity. However, it is critical to understand that the structure of gender inequality varies from one sector to other, and in the case of ASM it is more complex due to its nature. The illegality, remoteness of the sites, high mobility, poverty-driven nature, culturally bound, highly physical character are some of the factors that make the ASM sector different in relation to gender inequality. With that in mind, women empowerment ideologies and related gender inequalities are pertinent also to the ASM sector. It is also true that the complex and multifaceted nature of ASM requires more flexible and targeted mainstreaming of gender.

Some researchers argue that the "feminization of poverty combined with other factors such as evolving cultural norms with respect to gender roles, lack of employment in other sectors etc have led to the escalation of women's direct and indirect involvement in small-scale mining"²⁴.

Other researchers argue that the key policy implication for this is the need for government to institute gender-sensitive workplace regulatory policies and programmes to be adhered to in the small-scale mining sector in the country. It should be the responsibility of the municipal and all the relevant regulatory authorities to ensure that the designated policies as well as the attendant rules and regulations are enforced²⁵.

For example, in Ghana the analysis of collected data suggests that policy should not only address gender mainstreaming in the ASM sector, but should also support women to pursue stable job opportunities that benefit their long-term livelihoods²⁶.

Women in the ASM play multiple roles, as shown in the Fig. 5; and in some of the roles they are dominant and perform better than their male counterparts. These multiple roles played by women are a big opportunity for specialisation and the formation of associations or service providers in the ASM value chain (Fig. 8).

Bhagyalakshmi (2007) noted that there are two types of work where women are engaged in small scale mining in Africa. One is mineral processing such as digging and crushing, and the other involves transporting or wagon loading. In a study among women working in artisanal and small scale mining in Africa, women were engaged in almost all activities of small scale mining from digging, crushing and pounding rocks, transporting, washing and sorting materials, processing (i.e., amalgamation of gold), to trading activities (Hayes, 2008).

24 Dinye, R. D. And Erdiaw-kwasie, M. O., 2012: Gender and labour force inequality in small-scale gold mining in Ghana; *Int. Jor. Of Sociology and Anthropology* V. 4 (10) pp. 285 - 295

25 Dinye, R. D. And Erdiaw-kwasie, M. O., 2012: Gender and labour force inequality in small-scale gold mining in Ghana; *Int. Jor. Of Sociology and Anthropology* V. 4 (10) pp. 285 - 295

26 Yakovleva, N. 2006: Perspectives on Female Participation in Artisanal and Small-Scale Mining: a Case study of Birim North District of Ghana; The ESRC Centre for Business Relationships, Accountability, Sustainability and Society (BRASS), Cardiff University.

The women are primarily involved in ore processing while the men perform ore extraction, milling, sluicing, and panning to separate the gold from the ore. The ores are processed using small improvised crushers. After crushing, the ores are loaded in rod mills or ball mills for grinding (Lu, Jinky Leilanie (2012)).



Figure 9. Schematic illustration of multiple roles of women in a typical primary gold mine site.

The multiple roles of women in ASM are important factor when we discuss the statistics of women participation in ASM. For example the table 11 shows the ASM and proportion of women in a mine site in DRC.²⁷

27 UNECA – ACGSD – Gender Study: REGIONAL SYNTHESIS OF NATIONAL REPORTS ON WOMEN IN ARTISANAL AND SMALL SCALE MINING (ASM); Unpublished Draft

Table 11. NUMBER OF ARTISANAL MINERS AND PROPORTION OF WOMEN IN MINING SITES IN DRC²⁸

No.	Provinces	Artisanal Miners	Women	Absolute proportion (%)	Relative proportion (%)
1	Bandundu	5,869	235	4%	2%
2	Lower-Congo	369	15	4%	0%
3	Equateur	2,438	98	4%	1%
4	Western Kasai	9,245	370	4%	3%
5	Eastern Kasai	43,026	1,721	4%	13%
6	Katanga	250,000	10,000	4%	75%
7	North-Kivu	298	12	4%	0%
8	South-Kivu	1,840	74	4%	1%
9	Eastern Province	12,000	480	4%	4%
10	Maniema	9,012	360	4%	3%
Total		334,097	13,365	4%	100%

Source: Kasanda, 2014²⁸ (not existent in the source document (ECA gender study) pg. 107.

The table above illustrate that in a universe of 334,097 only 4% are female in those provinces. The translation of such numbers into national level would require averaging the number in at least three main commodities as done on the table 12.

Table 12. ASM number and the calculated average % of women and average % of children in selected countries²⁹

Country	ASM Number	Ave. % Woman*	Ave. % Children*
Angola	120,000	?	?
Burkina Faso	1,000,000	45 ²⁵	?
CAR	110,200	5	10
Cote d'Ivoire	503,100	20	10
DRC	1,500,000	4	7
Ethiopia	1,000,000	30 - 40 ²⁶	?
Ghana	1,050,000	30	10
Mali	1,000,000	15 - 20	3
Mozambique	100,000	20	10
Niger	52,150	56	5
Nigeria	400,000	?	?
Tanzania	2,000,000**	30**	10**
Tchad	313,100	15	7
Uganda	300,000	50	5
Zambia	35,000	50	30
Zimbabwe	530,000	25	10
Total	10,013,550		

*Ave. % women/Ave. % Children is a result of average of the three main commodities

** SSM Assistant Mineral's Commission

? means no data was provided.

The percentage of women is an average estimation resulting from data collected mainly from the government authorities responsible for the mining sector. The primary data was segregated by importance (first, second and third) of the commodity (mined by ASM) in the country. These numbers were averaged to produce the national estimate. Therefore, it is important to understand that participation of women in a gemstone dominated country, like Zambia, will be different from a gold dominated country like Ghana.

Without disputing the results from other studies, for example Etfimie et al., 2012 (table 13) which conclude that their numbers are underestimated, suggesting that the real number might be even higher. One can conclude that the sector is highly dynamic and changes happen very quickly e.g Tanzania's numbers tripled while Mali's increased five-fold. This naturally constitutes a big challenge for the policy makers due to the time required to incubate and produce laws for the sector.

28 This Table refers to the statement by the Secretary General of Mines at the Project Launch Workshop "Gender in artisanal mining in the DRC."

29 Data estimated from the responses to the questionnaires; present study, 2015

Table 13. Estimated number of miners and percentage by gender in selected countries

Country	Number of miners	% of women
Burkina Faso	100,000 – 200,000	45
Ghana	180,000 – 200,000	50
Malawi	40,000	50
Mali	200,000	30
Tanzania	550,000	25
Uganda	196,000	45
Zambia	30,000	30
Zimbabwe	350,000 – 500,000	44
Average		39.9

Source: Eftimie *et al.*, 2012

It is evident that women participation in ASM is quite significant. The women participate directly in the mining cycle from financier to panners; but also participate indirectly as food, beverage or accommodation provider. Thus, while attempting to propose policies that will encourage the participation of women in the ASM it is important to evaluate the existing legislation and see how sensitive it is to the gender issues (see next section).

ASM Legislation and women participation in Africa

The participation of women in ASM as integrated in the legislation in the selected African countries is presented in table 14 .

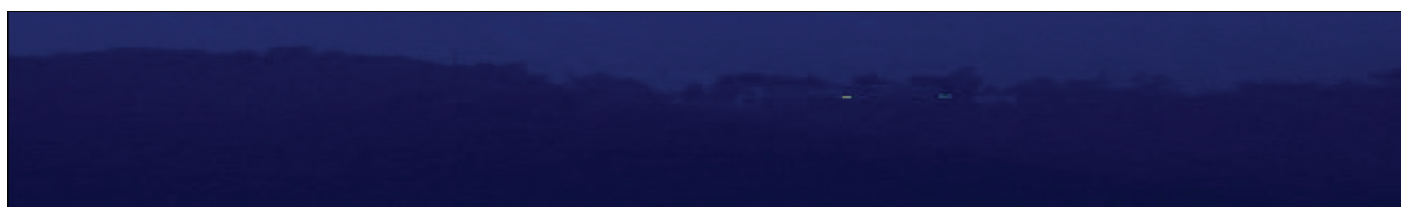


Table 14. Summary of gender mainstream in the mining regimes in selected countries in Africa

COUNTRY	WOMEN PARTICIPATION RELEVANT SECTIONS IN THE MINING CODES OR POLICY
ANGOLA	Art. 8 g) Constitutes one of the strategic objectives of the Mining Sector "to guarantee the integration of gender and combat the discrimination of woman in the mining industry".
BURKINA FASO	<p>Mining Vision²⁷:</p> <p>The main strategic drivers of the sector include "... la prise en compte des thématiques transversales (gender, environment, human rights and health).</p> <ul style="list-style-type: none"> ▪ Pour une meilleure mise en oeuvre de sa politique sectorielle, le MME se doit de prendre en compte les questions de genre, d'environnement, de droits humains et de santé. Des mécanismes seront mis en place pour s'assurer de la prise en compte effective de ces thématiques dans la mise en oeuvre de la politique sectorielle des mines. <p>Under the Mining Policy²⁸ – Government created the <i>L'Association des femmes du secteur minier du Burkina (A.FE.MI.B)</i></p> <p>L'AFEMIB a été créée en 2003 et se donne pour mission principale d'amener les femmes du secteur minier à se regrouper dans un cadre formel afin d'être plus actives dans le secteur.</p>
CAR	No indication (both Geological and Mining Policy and the Mining Code)
COTE D'IVOIRE	No indication in the mining code
DRC	No indication in the Mining code
ETHIOPIA	<p>Definitions²⁹</p> <p>15/ any expression in the masculine gender includes the feminine</p> <p>Art. 13³⁰ - 3/ A woman applicant, if any, shall have priority provided that the results of the evaluation conducted pursuant to sub-article (1) or (2) of this Article are equal.</p>
GHANA	<p>Guiding principles underpinning the Mining Sector policy³¹:</p> <p>/13. Respect for employee, gender and human rights in mining, and the removal of obstacles to participation in the mining sector on the basis of gender, marital status or disability.</p>
MALI	No indication in the mining code
MOZAMBIQUE	<p>Policy and Strategy of Mineral Resources in Mozambique³²</p> <ul style="list-style-type: none"> ▪ Encourage the access and participation of women in mining and supply of mineral resources. <p>Strategy include the following:</p> <ul style="list-style-type: none"> ➤ Ensure that Mozambican women have access to employment and to other economic opportunities resulting from the development of mineral resources in the Country ▪ Promote the participation of women in mining activities, including the excise of management positions and the development of capacity building programs for women in order to do business. <p>Strategy include the following:</p> <ul style="list-style-type: none"> ➤ To promote the gender equity in the extractive industry. <p><i>Examples of concrete actions: On the skills and competencies development</i></p> <ul style="list-style-type: none"> • Promote the education, training and higher participation of women in mining and gas activities; • Promote scholarships for girls with high academic performance in order to attend relevant courses of the mineral sector; • Encourage the establishment of companies or organizations of women in the extractive industry. <p>However, there is no single indication of gender in the Mining Code.</p>
NIGER	<p>No indications in the Mining Code and other mining decrees. The only article regarding women is the Art. 131. – INQUIRIES, SEIZURES, SEARCH AND BODY SEARCH: Judiciary police officers, duly authorized agents of the Directorate of Mines and any other agents commissioned for such a purpose shall have powers to investigate, seize and search, wherever necessary. While investigating offences, they shall also have the right to make body searches.</p> <p>Body searches involving women shall only be conducted by physicians or other women³³.</p>
NIGERIA	<p>(16) The mine manager shall provide suitably designed change houses commensurate with the number and gender of employees at any mine under his or her supervision and control where underground workings are undertaken and, if considered necessary by the Mines Inspectorate Department, at other workings for persons employed in or at such mine to wash themselves and change their clothes before leaving the mine³⁴.</p> <p>In the Draft Mineral Policy for ASM there the following "The Government shall encourage equal participation in the ASM sector³⁵"</p>
SOUTH SUDAN	

COUNTRY	WOMEN PARTICIPATION RELEVANT SECTIONS IN THE MINING CODES OR POLICY
TANZANIA	<p>6.2/ Promoting Women Participation and Prohibiting Child Labour in Mining³⁶ <u>"The Government has been conducting awareness campaigns for women to participate in mining activities and facilitated establishment of women mining associations.</u> However, women face economic and socio-cultural barriers which restrict their effective involvement in mining activities, as a result they receive minimal benefits".</p> <p>Objective: To encourage and promote women participation in mining activities and strengthen enforcement of laws and regulations against child labour in mining activities.</p> <p>Policy Statement:</p> <ul style="list-style-type: none"> (i) The Government will continue to promote participation of women in mining activities; (ii) The Government will ensure that all programmes related to mining, including education and training opportunities, are based on gender equality and equity; and (iii) The Government will collaborate with stakeholders to strengthen monitoring and enforcement of laws and regulations on child labour in mining activities. <p>Art. 23/ Mining Advisory Board - (5) The Minister shall, in appointing members under this section ensure that:</p> <p>(b) <u>at least one third of members of the Board is constituted by women members³⁷.</u></p>
CHAD	<p>No indications in the Mining Code</p>
UGANDA	<p>Underground work for women, etc³⁸.</p> <p>Art. 114. Notwithstanding the provisions of any other law to the contrary, a woman may be employed in any underground work in any mine or in any operation or activity relating to or associated with mining.</p> <p>Women Participation and Child Labour³⁹</p> <p>Objective 5: To remove restrictive practices on women participation in the mineral sector and protect children against mining hazards</p> <p>Principle: Government shall repeal the restrictive practices, which prohibit women from working underground and prohibit children from entering mining facilities and participating in mining activities.</p> <p>Strategies: Government shall:</p> <ul style="list-style-type: none"> (a) encourage employment and involvement of women in mining; (b) encourage the formation of women mining associations or groups; and (c) <u>put in place and enforce regulations against child exposure to mining activities</u>
ZAMBIA	<p>Chapter 7.14 Gender⁴⁰</p> <p>Government will mainstream gender in the mining sector by:</p> <ul style="list-style-type: none"> i. Supporting gender equality in the mining sector through mining legislation; ii. Promoting the participation of women in mineral sciences educational programmes; and iii. Providing support to ensure equal opportunities for both men and women participation in mining. <p>Section 150/Mining Advisory Committee⁴¹</p> <p>(3) The Minister shall in appointing the members of the Committee ensure that—</p> <ul style="list-style-type: none"> (a) thirty percent of the members are women; and (b) <u>where the Chairperson is a man, the Vice-Chairperson shall be a woman.</u>
ZIMBABWE	<p>The shared vision will aim to achieve⁴²:</p> <ul style="list-style-type: none"> ▪ A sustainable and well-governed mining sector that effectively garners and deploys resource rents and that is safe, healthy, gender and ethnically inclusive, environmentally friendly, socially responsible and appreciated by surrounding communities; <p>Mineral Governance</p> <p>A new minerals regime will be configured to:</p> <p>/ 5) Enhance the participation of indigenous Zimbabweans in mining and related linkage industries and facilitate equitable access to the sector by all Zimbabweans with the requisite capabilities, irrespective of gender or ethnicity.</p> <p>Artisanal and Small-Scale Mining</p> <p>/Given the historical role of women in ASM, support systems to facilitate the entry of <u>female entrepreneurs</u> into this sector will be configured, such as a special window in the ASM VCF and customised short training courses under the Bulawayo School of Mines</p>

The Mineral Policies and Development frameworks in Africa tend to be aligned with the Sustainable Development Goals and moreso with the AMV which among others prioritize "... poverty reduction, gender empowerment and environmental sustainability...". In the study, it is observed that in the selected countries there are few that have mineral policies making swift mention of gender, and in some cases gender is only featured in the definitions and no further elaboration is found. But the main finding is that most of the countries list intentions of gender mainstreaming in the extractives policy documents, but very few have translated the "wish lists" into articles in the Mining Acts or any regulation that would show a level of implementation. Exceptions are Zambia, Tanzania and Ethiopia where there is at least one article regulating the involvement of women, especially in their participation in Mining Advisory Committees; authorizing women to be employed in underground mines (Uganda); or provision of suitable changing facilities for both women and men in mines (Nigeria). The Ethiopian Mining Code has a more conducive affirmative action clause where women applicants are given priority if the results of the application evaluation are equal.

AMDC's Artisanal and Small-scale mining (ASM) workstream and the Sustainable Development Goals (SDGs)



- Integrate ASM policy into Poverty Reduction / Alleviation Strategy processes and National Development plans
- Ensure Linkages to other national rural sectors, and develop strategic frameworks for PRSPs, in line with the Yaounde Vision on ASM.
- Ensure significant involvement and contribution of women to the artisanal and small-scale mining (ASM) sector.
- Deliberate and strategic engagement of women in ASM in communities cannot be ignored.
- ASM associations to involve themselves in other sustainable economic sectors by establishing economic ventures which could include institutions / laboratories aimed at value addition and input provision.
- Embed ASM communities into wider rural & national development strategies and programmes' alternative economic options by involving all stakeholder institutions (e.g. ministries responsible for land, agriculture, local government and revenue)
- Ensure ASM stakeholders know of safe mining and processing practices which reduce air and water pollution from related dust and other raw effluents, for both the operators and surrounding communities.
- Support ASM operators, associations, cooperations, communities materially and technically, to adopt SHE standards and practices that mitigate the negative impacts of the absence or poor use of such standards.

CHALLENGES FOR DELIVERING ASM ASSISTANCE

In previous chapters, it was clear that most Governments recognize the importance and significance of ASM in the rural economy and the fact that in most ASM communities, mining is the only viable income generation activity. ASM also induces other ancillary economic activities, such as agriculture for food production to supply to the miners; trade (especially food and beverages); as well as local transport between the mine site and the neighbouring villages. The governments also recognise that the activity has several problems that range from social, cultural, criminal, health, safety, illegality, to environmental.

Governments also see the need to assist the ASM sector to maximise its gains and turn the activity into an economic, social and environmental viable one. However, governments face numerous challenges that prevent them from intervening in a more effective way. The most common challenges include:

- Government institutions which are not fully decentralised in order to reach the remote rural mining sites;
- Government institutions that are not properly resourced (human, financial and infrastructures) to conduct permanent supervision of ASM activities;
- Some Governments do not have adequately skilled staff to assist ASM (the low salaries prevent governments from retaining skilled staff);
- Governments also recognise that legislation for ASM need to be strengthened in order to promote sustainable ASM (the majority of mining legislation is geared towards attracting LSM investments);
- As a consequence of legislation that is not oriented towards ASM promotion, countries have run out of potential areas earmarked for designation of ASM activities;
- The Governments also recognise that the competing interests and legislations over land (land law, forestry law, environmental law and mining law) need some sort of integrated approach to define priorities and management modalities.
- It has been difficult to make ASM to comply with environmental legislation, usually seen as expensive and lengthy;
- The role of local authorities is key to the management of ASM, however they need adequate skills and resources to supervise ASM;
- Governments also understand that legislation (Mining Laws) need to be improved to include gender and child labour issues;
- Governments also are powerless to address the formalization of ASM, especially due to high influx of foreigners (in some countries national ASM are only 15% of the total);
- Poor geological knowledge of the countries, which would lead to more informed area designation for ASM;
- Governments face huge difficulties in taxing ASM due to its informal nature;
- Governments recognise the need to structure properly the market for ASM products (a structured market would allow taxing ASM products);
- Governments also face challenges of illicit trade of minerals and cross border trade taking advantage of low export taxes in some countries. Thus, governments see also the need to harmonize the tax regimes at least at sub-regional level;
- Governments understand that there is need to channel ASM diamonds through the Kimberley Process, nevertheless its complex configurations.

The table 15 presents the challenges of Governments as reported by different Government officials in selected countries on one hand and on other the challenges as identified by the ASM practitioners in selected countries. It looks like both supply and demand sides know exactly what are their problems, however there has been little advance in terms of making the ASM activity sustainable in order to better benefit the African Countries.

Table 15. Challenges as identified by Governments and ASMs in selected African Countries

COUNTRY	GOV'ENT CHALLENGES IN ASSISTING ASM	IDENTIFIED ASM CHALLENGES
ANGOLA	<ul style="list-style-type: none"> i. Difficulties in the establishment of ASM associations and cooperatives. ii. Difficulties in having ASM being carried out according to the Mining code. iii. Lack of financial and human resources to assist the ASM iv. Lack of mechanism to fund efficiently ASM 	<ul style="list-style-type: none"> a) Lack of mechanisms to fund effectively ASM; b) Intricate formalization process; c) Difficulties in the formation of associations or cooperatives. This is related also to the cultural barrier in grouping and working together; d) Difficulties in promoting ASM in order to upgrade into small scale mining.
BURKINA FASO	<ul style="list-style-type: none"> i. Lack of financial and human resources to assist the ASM ii. Remoteness of the ASM sites makes it difficult for the Government to conduct extension services. iii. Lack of resources to provide equipment support to the ASM. iv. Need to improve the legislation such that it can adequately capture the environmental issues and aspects of gender and child labour. v. Find mechanisms to establish healthy relationship between ASM and LSM. vi. Lack of land to be designated for ASM operations. vii. Find ways to integrate the ASM communities in the community development programs viii. Capacity to recruit and retain technical staff, due to big difference in wages between the Government and the private sector which can be as much as 10 times. ix. Need to decentralize some of the roles of the Ministry of Mines to the regions. 	<ul style="list-style-type: none"> a) Lack capital (no bankable doc, and no collateral funds to access finance from the bank, hire proper geologist, etc.); b) Lack of technical and business skills; c) lack of geological information and capacity to understand the geological data; d) use of inappropriate equipments; e) lack of high prospectivity areas for their activities (allegedly all good deposits have been licensed to LSM), f) licensing process seen as complex and centralized at the Mines Directorate in Ouagadougou.
CAR	<ul style="list-style-type: none"> a) There is no political will for the development of ASM, because the government does not get any profit from the ASM; b) The mining Act is geared towards mechanization of the sector and industrial production; c) Lack of funding for the support of ASM; d) Political and security instability; e) Accessing production data from ASM 	<ul style="list-style-type: none"> b) seasonality; c) low level of production; d) low level of income; e) minimal level of mechanization; f) low level of consideration to Health and Safety issues; g) inefficient mining and processing techniques; h) Lack capital, and i) Unskilled personnel at all levels of operation, j) lack of education due to easy money in the mining communities; k) High cost of the license; l) political instability and lack of security; m) difficulty in working in association
DRC	<ul style="list-style-type: none"> a) lack of sufficient funds to implement activities; b) deficient monitoring capacity of the Government; c) difficulties in formalization of ASM due to its complexity (illegality of the sector); d) difficulties related to designation of more areas for ASM; e) difficulties in controlling the market of ASM production; and f) reduced human resources 	<ul style="list-style-type: none"> a) Exploitation of Miners (slavery); b) Lack capital (no bankable doc, and no collateral funds to access finance from the bank, hire proper geologist, etc.); c) Lack of technical and business skills; d) lack of geological information and capacity to understand the geological data; e) lack of security in the mining sites; f) lack of equipment.

COUNTRY	GOV'ENT CHALLENGES IN ASSISTING ASM	IDENTIFIED ASM CHALLENGES
COTE D'IVOIRE	<ul style="list-style-type: none"> I. Reduction of agricultural land due to ASM activities II. Deforestation due to cut off of trees for clearing mining areas III. A problem with health assistance, the health system is over stretched due to influx of many miners in a region that was not planned for by the government. IV. Increased school dropout due to opportunities for easy income in the mining activity V. Lack of Government capacity to provide security VI. Uncontrolled drug consumption VII. Influx of foreigners in ASM VIII. Inadequate governance structures for ASM sector IX. Poor safety conditions of the ASM operations 	<ul style="list-style-type: none"> I. Lack of education infrastructures for the miners' children II. Poor health conditions in the ASM sites (proliferation of endemic diseases) III. Poor safety condition in the ASM sites IV. Large number of foreigners which fuels conflicts between the locals and the miners V. <u>Conflicts in the communities between the old generation and the new generation, as the old generation (land owners) sell or lease land to miners and do not share this income with young generation. The young generation also claims that after mining there will be an absence of land for them to sustain their lives.</u> VI. Conflict between the Ivoirians and the foreigners (Miners). The conflict is generated due to the fact that a certain number of miners form an agreement with land owners, and after sometime the number of miners increases by several folds; and subsequently refuse to honour the agreement with land owner. For example, the miners usually agree to pay a once off or production fee. Normally they are expected to pay 100 to 250 CFA/gr of gold produced for the communities and another charge of 1000 CFA per week per miner.
GHANA	<ul style="list-style-type: none"> i. Inadequate funding to support ASMs with loans etc. ii. Influx of foreigners in ASM iii. Poor supervision and monitoring of the ASM activity iv. Lack of personnel and complex logistics v. Lack of commitment to improve the ASM sector vi. Most of Ghana's artisanal and small-scale miners operate illegally – the Minerals Commission has suggested that 80% of ASM operators engage in illegal activities⁴³. Even legally registered small-scale miners sometimes move into areas where they do not have a license. vii. limited availability of viable land for ASM; viii. difficulties in securing land tenure ix. complex regulations and policies and lengthy bureaucratic procedures and waiting periods required to secure a license; 	<ul style="list-style-type: none"> i. Inadequate designated lands for ASMs ii. Inadequate financing mechanisms (lack capital (no bankable doc, and no collateral funds to access finance from the bank, hire proper geologist, etc.)); iii. Lack of funds to conduct exploration iv. Weak association spirit v. Ignorance of the provisions in the Mining Law vi. Poor processing techniques and methods vii. Improper mining methods and its associated environmental impacts. viii. Limitation of size of concession to 25 acres in the face of current use of heavy duty equipment for mining ix. Influx of foreigners in the ASM sub sector
MALI	<p>a) lack of sufficient funds to implement activities; b) deficient monitoring capacity of the Government; c) difficulties in formalization of ASM due to its complexity (illegality of the sector); d) difficulties related to designation of more areas for ASM; e) difficulties in controlling the market of ASM production, there is need to create more gold purchasing centres throughout the country; and f) reduced human resources</p>	<p>a) Lack of capital (no bankable doc, and no collateral funds to access finance from the bank, hire proper geologist, etc.); b) Lack of technical and business skills; c) lack of geological information and capacity to understand the geological data; d) use of inappropriate equipments; e) lack of high prospectivity areas for their activities and e) lack of security in the mining sites; f) lack of equipment.</p>

COUNTRY	GOV'ENT CHALLENGES IN ASSISTING ASM	IDENTIFIED ASM CHALLENGES
MOZAMBIQUE	<ul style="list-style-type: none"> i. Lack of financial and human resources to assist the ASM ii. Remoteness of the ASM sites makes it difficult for the Government to conduct extension services. iii. Lack of regular inspection due to lack of financial resources iv. Migratory nature of the ASM v. Seasonality of the ASM operations in some regions vi. Poor knowledge of detailed geology which would allow proper designation of areas for artisanal miners (mining passes areas) 	<p>a) Lack capital (no bankable doc, and no collateral funds to access finance from the bank, hire proper geologist, etc.); b) Lack of technical and business skills; c) lack of geological information and capacity to understand the geological data; d) use of inappropriate equipments; e) illegal miners; f) licensing process seen as complex and only accessible from the Provincial Capital, at least for the Mining Pass application.</p>
NIGER	<ul style="list-style-type: none"> i. There is need to design a better administrative framework for the activity ii. Ways to create an ASM sector that is safe, and lawful to the environment, sensitive to child labour iii. Regulate the market of explosives and chemical products used by ASM. iv. Lack of financial and human resources to assist the ASM v. Improve the government monitoring of the child labour and security of the ASM communities vi. Lack of regular inspection due to lack of financial resources 	<p>a) Lack capital; b) Lack of technical and business skills; c) lack of geological information and capacity to understand the geological data; d) use of inappropriate methods and tools; e) illegal miners; f) fiscal and licensing process seen as complex; g) low productivity which perpetuate the poverty cycle of the miners.</p>
NIGERIA	<p>a) Taxing the artisanal miners specially the illegal miners; b) Accessing production data from ASM; c) Illegal mining which interferes with operation of this sector; and d) Lack of sustainability in the ASM which prevents proper planning of the outputs.</p>	<p>a) poverty driven; b) seasonality; c) low level of production; d) low level of income; e) minimal level of mechanization; f) low level of consideration to Health and Safety issues; g) inefficient mining and processing techniques; h) Lack capital, and i) Unskilled personnel at all levels of operation.</p>
TANZANIA	<p>a) lack of sufficient funds to implement activities; b) deficient monitoring capacity of the Government; c) reduced capacity to provide geological assistance to ASM; d) reduced human resources; e) difficulties in formalization of the ASM due to its complexity.</p>	<p>a) Lack of capital (no bankable doc, and no collateral funds to access finance from the bank, hire proper geologist, etc.); b) Lack of technical and business skills; c) lack of geological information and capacity to understand the geological data; d) use of inappropriate equipments; e) lack of high prospectivity areas for their activities (allegedly all good deposits have been licensed to LSM) and e) Illegal miners.</p>
CHAD	<ul style="list-style-type: none"> i. There is limited technical skill in the Government Departments that could adequately assist ASM ii. Lack of financial resources to assist the ASM iii. The fact that ASM is carried out in remote areas and the very nomadic nature of ASM in Chad makes it very difficult for Government to assist them. iv. There is need to review the law in order to adequately address and regulate the use of chemical by ASM. 	<p>a) Lack of capital; b) Lack of technical and business skills; c) lack of geological information and capacity to understand the geological data; d) use of inappropriate methods and tools; e) illegal miners; f) fiscal and licensing process seen as complex; g) low productivity which perpetuate the poverty cycle of the miners. And more importantly, the lack of water which poses an additional challenge to the mines which need to master the processing techniques that do not require water or require minimum water.</p>

COUNTRY	GOV'ENT CHALLENGES IN ASSISTING ASM	IDENTIFIED ASM CHALLENGES
UGANDA	<ul style="list-style-type: none"> i. Lack of financial and human resources to assist the ASM ii. Remoteness of the ASM sites makes it difficult for the Government to conduct extension services. iii. Lack of regular inspection due to lack of financial resources iv. Migratory nature of the ASM v. Seasonality of the ASM operations in some regions vi. Lack of land to be designated for ASM operations. 	<ul style="list-style-type: none"> a) Lack of capital (no bankable doc, and no collateral funds to access finance from the bank, hire proper geologist, etc.); b) Lack of technical and business skills; c) lack of geological information and capacity to understand the geological data; d) use of inappropriate equipments; e) lack of high prospectivity areas for their activities (allegedly all good deposits have been licensed to LSM) and e) illegal miners; f) the <u>appropriation of land, often accompanied by either the threat or the actual use of force, and forced resettlement of residents, often with inadequate consultation or compensation.</u> g) licensing process seen as <u>complex and centralized at the Commissioner's Office.</u>
ZAMBIA	<ul style="list-style-type: none"> a) Taxing the artisanal miners specially the illegal miners; b) Accessing production data from ASM; c) Illegal mining which interfere with operation of this sector; and d) Lack of sustainability in the ASM which prevent proper <u>planning of the outputs.</u> 	<ul style="list-style-type: none"> a) Lack of capital (no bankable document to access finance from the bank, hire proper geologist, etc.); b) Lack of technical and business skills; c) unfair and inappropriate market arrangement; c) Lack of processing plants; and e) <u>Illegal miners.</u>
ZIMBABWE	<ul style="list-style-type: none"> i. Lack of financial and human resources to assist the ASM ii. Inadequate market structures iii. Lack of adequate skills in the Government officers 	<ul style="list-style-type: none"> a) Lack of capital (no bankable doc, and no collateral funds to access finance from the bank, hire proper geologist, etc.); b) lack of equipment for mining and processing c) lack of technical and business skills; d) lack of geological information and capacity to understand the geological data e) lack of adequate supply of electricity (specially for gold and chrome mines) f) non compliant to legislation in the country g) dangerous working conditions h) blasting without appropriate skills. i) assumption that there is gold anywhere lead to low productivity by working in barren areas.

In summary, the ASM in selected countries have highlighted the following main challenges for their activity:

- Lack of start-up or working capital leads to unfair contracts (in some case slavery) with financiers;
- Lack of geological information at an appropriate scale that would guide ASM activity – assumptions that there is gold everywhere leads to low productivity;
- The complex, lengthy and expensive environmental requirements;
- Licensing process seen as complex and centralized at the Provincial Capital or even at Country's Capital (Commissioner's Office);
- Lack of technical and business skills;
- Low productivity which perpetuates the poverty cycle of the miners;
- Lack of high prospectivity areas for ASM activities (allegedly all good deposits have been licensed to LSM);
- Lack of processing centres that would allow for high productivity;
- Poor security conditions in the ASM sites which makes the miners vulnerable to gang raids;
- Excessive number of illegal miners and foreigners.

ADDRESSING THE CHALLENGES

Despite knowing the challenges that face the ASM sector the governments recognizing the key transformation factors, ASM has grown to astronomic numbers with very little changes in terms of operational practices. This chapter does not provide a *silver bullet* for the management of ASM but an attempt to highlight the key issues that can be recommended to address by the different ASM stakeholders, including governments, regional institutions and local donor agencies.

The approach is based on the ASM value chain, and the required ingredients for the sustainable management of the sector. The main elements include: (i) the strengthening of policy and legislation; (ii) the need for devising innovative financing mechanisms for ASM; (iii) the need for improvement of technology grounded in local intermediated technology and research & development; (iv) optimization of mining and processing operations (to improve productivity and efficiency); (v) regulated and structured access to the market at mine pit; (vi) beneficiation and access to market at mid and downstream; (vii) and tax payment by the miners, which could be at selling point (fig. 8). This means that the price has to factor-in tax component that must be collected at buying centres or agencies which would increase governments' income.

Even though gold mining is an enclave economy with weak linkages to the rest of the economy, forward linkages increase foreign reserves, tax revenues (income tax, royalties, land tax etc.), and employment; while backward linkages create demand for locally produced intermediate inputs and capital goods as well as domestic demand for finished goods. Backward linkages are naturally few because most of the intermediate inputs required for gold production are imported. Moreover, although there are some real sector impacts in the form of job creation, they are limited because mineral extraction is capital intensive and requires specialized skills that are scarce in the local labour force. The real employment generation in the sector is by virtue of ASM.



Figure 10. Key elements of the ASM Value addition guiding solutions

Policy Implication and Recommendations

Given the scenario of the mining legislation in Africa; to improve the livelihood conditions of ASM communities, there is a general need to review public policy in order to frame ASM specific issues.

- I. Although some countries have policy statements on gender, these are not implemented. Thus, there is need to cascade down the policy intentions into the Mining Act, and or into specific regulations, procedures, or decrees that will facilitate implementation. This is very important as it would minimize the economic dependency, social exclusion, cultural barriers that impede women's active involvement and benefit from the ASM sub-sector (for example in Uganda the Mining Act specifically indicates that "*women can be employed in any underground mine*" – this reduces the taboos that prevent women from working and supervising activities underground). For this, the AMDC, in line with implementation of the CMV and its advisory role to the member States could assist countries in mainstreaming gender issues in the legislation.
- II. There is urgent need to understand the specificities of the women's participation in ASM. This requires segregation by commodity, as the significant differences between mining aggregates, mining alluvial diamond or mining chromium are known.
- III. In order to improve women's livelihood and their participation in ASM, there is need to increase the income generation options for women, by developing mechanisms that will capacitate/train women in a range of economic activities that will reduce their vulnerability. This training and support facilitation could either be on ancillary economic activities linked to ASM; or if in ASM, this should be targeted towards those activities where women have competitive advantage over their male counterparts. Under such training and education programmes there should be a clear target of improving the technical knowledge and business skills of women in ASM.
- IV. There is need to devise programmes that will increase the participation of women/female in the earth science subjects at technical Colleges and Universities. Such an increase in women geosciences graduates will motivate other women including those in ASM on one hand. On the other hand, it will allow the delivery of training programmes to women ASM by women (*women talking to women*). This should yield better results than man training women.
- V. It is understood that women ASM tend to be more resident when compared to the males who are more mobile following the booms and rushes. Taking this into consideration, it should be possible to devise targeted assistance programmes for such women, which could combine livelihood training, small business skills training, planning, accounting and book keeping, banking and savings management, value addition, etc. For this segment of women ASM, targeted and coached (advisory) financial assistance with affordable interest rates and simplified procedures and requirements would be required. The coaching accompanying financial assistance would allow step by step financing where the beneficiary would have to show compliance to the finance program in order to receive the second instalment, and so on. Usually women ASM (especially the traders) rely on informal sources of credit from relatives and relations, and on *susu or xitiki* (rotative credit scheme) – credit schemes and a popular source of loans (Newman and Canagarajah, 2000).
- VI. **Value Addition** - It is general consensus in African countries that there is need for value addition of the ASM produced minerals. Subject to further specialised studies, the value addition is one of those activities that women can aggregate comparative advantage, especially because it is usually done in towns and in permanent infrastructures which can be presented to the financial institutions as business enterprises. With adequate coaching, value addition units owned by women would prosper to the level of industry, especially the gemstone cutting and jewellery manufacturing which require an amount of style and taste.
- VII. Environmental considerations are an integral part of mining operations. There is a need to create

synergies between mineral rights law and policy and those laws and policies that govern environmental management requirements, making specific provisions for the ASM sector (and possibly, specifically for women). Women ASM requested that the implementation of Environmental Impact Assessment (EIA) processes should be staged, to accommodate the long period of time it can take to establish a mine³⁰.

- VIII. ASM Market** - The access to fair market and adequate technology for ASM has been always been problematic, thus it is recommended that governments create **Regional Integrated Mining Centres - ASM** (RIMC – ASM). These centres would be a one-stop shop service provider for ASM – particularly women ASM. The RIMCs would run gender-responsive extension services for direct field assistance, training programmes as indicated on point (V), buying facility (which would help to benchmark the price to the producers), community processing facilities, geological services, environmental services, equipment hiring (bulldozers, drilling rigs, jack hammers, etc.). The challenge is to establish a management structure that allows sustainability of the centres without overexploiting the miners. Thus the centres should not be profit oriented and should charge fair cost recovery price to the beneficiaries. The government would manage it for a number of years and after proving that the model works, it would privatise to the local entrepreneur who would manage under government supervision in a *tri party agreement* between the operator Government and the Miners' association.
- IX. At regional and national level, there will be need to promote and encourage exchange programmes between women miners where would share experiences and lessons – peer to peer leaning. These activities could be framed in the form of workshops and field visits. These forums could integrate the participants from governments, researchers, practitioners, development organizations with interest on ASM and civil society.
- X. In line with previous recommendation, Africa as a region needs to establish reliable mechanisms for South-South information sharing by establishing e-discussions, sub regional, regional and national conferences, symposiums, workshops, colloquiums on ASM. These platforms would bring into one room all segments of ASM related activities including the governments, LSM, donors, development agencies, international organizations, academicians, consultants, civil society, and CBOs. It is recommended that AMDC in the implementation of the CMV and its role of advising AU member countries could lead the implementation of this recommendation and bring other players in the continent such as UNDP, AfDB, World Bank, UN Women, USAID, DANIDA, PACT, DDI, AGC, OECD, NRC.
- XI. Financing ASM** - One of the key constraints for the development of a sustainable ASM sub-sector is the lack of financing capital for ASM. It is recommended that innovative and creative financing mechanisms are established at continental and/or at national levels. These would take various forms. For example, the creation of an **ASM Development Bank** (ASMDB) at continental level which would work with national financial institutions. The ASMDB would fund the national Mining Development Funds (MDFs) at concessional lending interest rates and would also act as guarantor for other financial institutions. ~~All the while,~~ the MDFs would act as the lending institution on the ground. The financing of ASM would be a step by step approach, with initial steps being the funding of bankable project preparation, feasibility and geological studies or market studies, this first step could funded by grants. The MDFs would also coach the miners allowing them to be trained in technical and business aspects of mining. The next step would be the equipment funding at commercial loan level to be provided in part by the MDF and the commercial banks. The MDF would provide the commercial banks the security they require to fund ASM.
- XII. ASM as Business** – The ASM sub-sector needs to be understood as a business by all stakeholders; and that as a business, it only runs when it makes profit. It is recommended that governments establish “Mining Extension Services” (MES) that will assist/train ASM in mining and processing

techniques, environmental safeguards, records keeping and business skills, marketing and where valid - development of value addition initiatives. The MES would be based at RIMC-ASM (see VIII).

- XIII. Additional to the training of ASM by the MES, they would also need formal training that would lead to improved productivity and revenue management. These could be organised by the ASM government institutions at central or provincial level. At this level they would also be responsible for the design and production of ASM training material (manuals and pamphlets). The training material would have to be adapted to the local conditions and to the specific commodity, and most importantly should be more graphic than wordy.
- XIV. **Intermediate Technology Development** - At continental and probably at sub regional levels in Africa, there is need to develop a strategy for Intermediate Technology Development (ITD) oriented to ASM and Research and Development geared towards mining and utilization of local mineral resources. This strategy would need to be aligned with the industrialization strategy of the continent in order to secure the industrial inputs require for the ITDs. The strategy would also roll out the mechanisms for the establishment of the regional ITD centres on the basis of mineral potential of each region and comparative advantages of the countries.
- XV. **Linkages** – In line with Value Addition it is important that a regional strategy is drafted. The strategy would pronounce - at macro level - what comparative advantages are available for the different countries, in line with other initiatives, such as the **Integrated Resource Corridors** or any other spatial initiatives. For example some countries have resources, others have gate-ways to the world market, yet others have affordable electricity. Thus it would be important to anchor value addition to regional projects rather than national projects and national strategies. This is where the advisory role of the AMDC and the AUC should overlay an umbrella strategy that would advise governments.
- XVI. **Integrated market structures** – Market structures have been identified as one of the weakest link in the development of a sustainable ASM sub-sector, because it contributes to the low income of the miners and perpetuates the poverty cycle that most miners are trapped in. Some governments have intervened substantially on the market structure, e.g. Ethiopia, and managed to regulate the price of gold for ASM miners. The government intervention in the ASM market chain could contribute to formalization, as the buying centres could register the name of the product vendor and ask whether he is a miner or a trader and where the product comes from. In this way, one would at least have the list of miners or ASM players in a specific region. This information would help in the definition of government assistance to ASM.

The other dimension to market structure is the regional market which needs to be better explored; for example the gemstones in Zambia have a long tradition and mature market. Zambia could probably organize **regional gemstones fairs** where other producers from Mozambique, DRC, Angola, Tanzania and Zimbabwe would participate with their products. This type of fair could be organized by SADC and could rotate from one producing country to other. This would create a gemstone **worldwide hub** in the region, similar to what happens in Thailand or Singapore. For the operationalisation of such initiative, the countries would need to *harmonize* their tax systems; the mineral products transport mechanisms and export processes including certification and traceability instruments.

- XVII. **Governance structures and institutions** – In previous sections and references, there was discussion on the need to establish national governance structures that would be adequately active at local level and would have enough capacity to reach out the ASM at their sites. The present situation in Africa is such that the Ministry in charge of Mineral Resources have a National Directorate of Mines or Mines and Geology under which a Department of ASM is incorporated. Some countries have National Directorate of Mines under the General Directorate of Mines and Geology (e.g. Tchad, Niger, Cote D'Ivoire, etc.). These structures usually are under resourced in all terms and have no

capacity to supervise ASM activities in the field. These national structures would need to be properly resourced in order to roll out the RIMC – ASM and the field activities of the ME and MDF.

At regional level it would be recommended to establish under the Regional Mining Units an ASM subunit which would be responsible for implementing regional programs on ASM. These programs would include the regional knowledge centre, the ASM exchange program, the regional knowledge sharing initiatives and organization of regional ASM conferences and or workshops. This unit would be answerable to the AMDC ASM pillar, which would have the overarching role and coordination of the continental program and implementation through the regional ASM units.

XVIII. Regional training Centres for ASM – Poor technical and business skills of miners has been singled out as one of the key constraints to the development of ASM in Africa and elsewhere. There is need to promote vocational training in ASM and the integration of ASM topics in the current geosciences courses at polytechnic and universities. Miners need to be trained in the field, but also at certificate level that could lead to national or regional certificate programs. Presently there very few institutions that deliver ASM courses, namely, Ghana, South Africa (Mintek), Zambia and Zimbabwe. The Regional Centres such as SEAMIC need to deliver ASM courses at their headquarters or even to mobilize and train ASM from country to country. This could be synergized with and by other initiatives such as the “Stones for Development programme” by UNDP, ACP and the EU. Other initiatives on field training of ASM include the Artisanal Gold Council Project in West Africa. Here again AMDC through its capacity building pillar could coordinate the continental initiatives and make sure that they contribute to the vision of the continent.

XIX. Regional policy harmonization and formalization – Although ASM is highlighted in many Mining Acts in one form or another, it would be important to harmonise the legislation in line with the AMV and CMV. It makes sense to subcategorize ASM into Artisanal and Small Scale miners in order to distinguish between the two, as they have different characteristics in the Mining Acts. The key strategies should probably concentrate on upgrading the SSM into middle-scale mining. This segment of ASM has all requirements for mobilizing financial support as they have licenses valid for at least 10 years; they have a resource/asset (deposit) and environmental study. While the bottom segment of ASM which is the Artisanal Miners, in most legislations are seen as informal or when formal they are granted a precarious *permit*/card which is valid only for up to 2 years. This *permit*/card has no exclusive rights or guarantee that the *permit* will be renewed. It is our view-point that this is the real problem plaguing the sector, hence the need for an **integrated approach**. Some countries view the granting of Artisanal Miners Permits as a process of empowering the communities by giving them the rights to exploit the resources occurring in their community. The reality is far more complex than that. The Artisanal Miners are the majority in the “so called” ASM. This implies that they could be more than 90% which means only 10% are SSM. This sub sector requires a proper strategy for “formalisation” or granting them mining rights that could allow them to grow. This, however, poses another problem. How can the governments grant deposits to over 12 million miners? The present mechanism is such that *Artisanal Miners permits* allow these miners to work in designated areas. In most countries, the designated areas are not singled out their geological potential, thus perpetuating the low productivity and the vicious poverty cycle among these miners. This is also one of the chief reasons for miners abandoning the designated ASM areas and encroaching on the LSM areas. This problem is exacerbated by the fact that LSM have vast areas under “reserve” licence which are lying idle.

The problem of formalization of Artisanal Miners goes beyond the granting of permits, to the need to grant tangible benefits to the miners. This is where the formalization process derails. This is demonstrated by the fact that some miners will apply for the permit once, but when they do not see any change in their lives or differences between those with and those without, these miners do not renew the permits.

There is no *silver bullet* for formalization, what is recommended is that formalization may not mean legalization, thus the voluntary registration of miners, mainly at selling point would constitute an initial stage of the long process of formalization. The grouping of miners into Associations or Cooperatives

needs to be a product of the miners' initiative themselves and not from government imposition - usually as an exchange for assistance. The result is that these groupings are not sustainable and once the support stops, the association also dismantles itself. Finally, there is also the need to simplify the requirements for licensing and increased direct institutional support to miners.

XX. LSM – ASM synergies – In the last two decades, researchers and stakeholders have identified the positive role LSM can play in the development of ASM. Engagement instruments have been devised by several international organizations, including CASM 2009³¹. Although in general the LSM do not compete with ASM in terms of deposits (as the latter works in very shallow deposits due to lack of technical capacity and the type of tools used), the ASM still contest the discovery of the deposits or the fact that the deposits occur on their ancestral land, hence their superior rights. The LSM – ASM relationship can take different shapes and forms that range from conflict (most common) to harmonious subcontracting; integration of ASM in the mining operations; segregation of part of the area of the LSM licence for ASM while legal status of the claim remain under the LSM; LSM promotion of CSR initiatives that would benefit the communities around the mine but also the native ASM; LSM relinquishment to the governments areas that are not profitable for the large scale mining, therefore, those areas could be designated for ASM activities. There are several positive examples in the collaboration between ASM and LSM (table 16)

Table 16. LSM – ASM collaborative mechanisms in selected countries

COUNTRY	LSM – ASM COLLABORATIVE MECHANISMS
Tanzania ⁴	Tanzanite One has been working with ASM and provides them with geological information and working tools. Tanzania has also established a multistakeholder partnership that includes LSM to support ASM formalisation.
Uganda	Tin Mining Company has spared part of the license to ASM and agreed to buy their production from ASM
Zimbabwe	the chamber of mines works with Government to identify best ways to support ASM
Mali	AGG – gold mining company has been allowing ASM to work on their licenses provided that they sell the production to the Mine
DRC	the government mediates the MOUs between the LSM and ASM for production and selling to the LSM
CAR	the government has enacted a decree that allows the LSM to purchase the ASM production (especially Diamond) on the condition that LSM do not expel the ASM working in their licensed areas

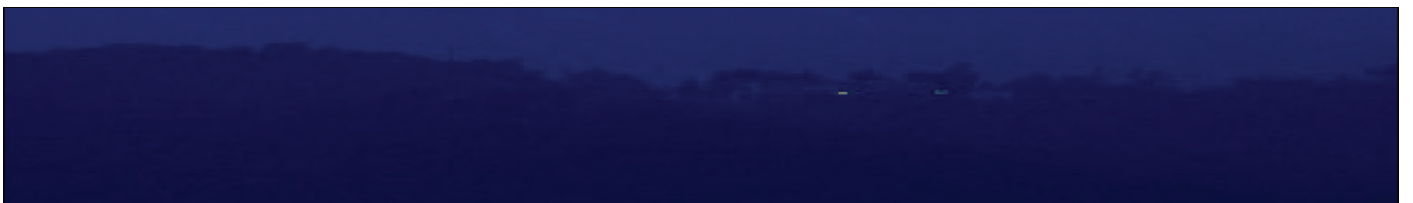
These few examples (table 16) show that there is a window of opportunity for the development of ASM by exploring the possible synergies with LSM. Given the above background it is recommended that a “Governments - LSM – ASM forum” is established at continental level which would discuss the modalities and rules of engagement between the LSM and ASM. This forum could be facilitated by AMDC and its implementing partners.

XXI. Synergies with other continental Players – It is known that there are multiple players in the ASM sector in Africa. A quick scan has identified the following key players: CSOs, DDI, ARM, AGC, PACT, ICGLR³² (International Conference on the Great Lakes Region), IGF (Intergovernmental Forum on Mining, Minerals and Sustainable Development), NRC (Natural Resources Charter), OECD (Organisation for Economic Co-operation and Development), UNIDO, UNDP, UN Woman, IIED (International Institute for Environment and Development) and others. The agenda of these players might be aligned with national agendas but most likely not aligned with regional and continental agenda (e.g. AMV). The sustainable development of the ASM sector in Africa requires an **integrated multistakeholder approach**. In other words, there is need for coordinated intervention which will reduce duplication of efforts and consequent waste of scarce resources. Thus, there is the recommended establishment of a “Mining

31 CASM 2009 – Mining Together: large –Scale Mining meets Artisanal Mining

32 The International Conference on the Great Lakes Region (ICGLR) is an intergovernmental organization that was established in 2004. It is based on the recognition that political instability and conflicts involving its eleven member states have a considerable regional dimension and thus require addressing through concerted efforts

Engagement Platform in Africa” – multistakeholder partnership, which would coordinate the mining interventions in Africa. This “**partnership**” could be established under AMDC / AUC and could actively engage with other players and make sure that **all** interventions in Africa are aligned with AMV.



RECOMMENDED ACTION PLAN FOR AMDC – ASM PILLAR

This action plan (table 17) has 11 focus areas that AMDC, partners and MS need to concentrate on for the next three to four years if the continent aspires to fully harness the transformative potential of the ASM for the benefit of Africa and Africans, especially those living in the rural areas where minerals occur. These focus areas are: Policies and Regulations; Gender; Value addition and linkages; ASM Market at national and regional level; Financing ASM; Governance structures and institutions; Intermediate technology Development; LSM – ASM Synergies; Synergies with other continental Players; and Information sharing. Each focus area is divided into key activity components and each activity has proposed implicated actors or an implementation vehicle.

Table 17. Recommended Action Plan for AMDC – ASM Pillar

Focus Area	Key Components	Implicated Actors Or vehicle	2017				2018				2019				2020				Summary Schedule	Cost Estimate (USD)
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
<i>Policies and Regulations</i>	Gender mainstreaming: Advise countries to cascade down the policy statements on gender	AMDC + CMV + Countries																	Short term	
	Understand the specificities of women participation in the ASM (value chain approach) per commodity	AMDC + Consultant																	Short term	
	Policy harmonization and formalization (in line with AMV and CMV) – Harmonize formalization approaches	AMDC + Countries																		

Focus Area	Key Components	Implicated Actors Or vehicle	2017				2018				2019				2020				Summary Schedule	Cost Estimate (USD)
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Gender	Draft strategy that will increase the participation of women in ASM (introduce incentives for women to take geosciences courses at technical colleges and Universities)	AMDC + Consultant																	Short to medium term	
	Increase the income generation options of women (train women in activities that they have competitive advantage – which should reduce the vulnerability of women) (recom. III and V)	AMDC and other actors																	Short term	
	Create synergies between mineral rights law and policy and those laws and policies that govern environmental management requirements, making specific provisions for the ASM sector and women	AMDC (CMV) + countries																	Short – medium term	
Value addition and Linkages	Invest in women for value addition - especially the gemstone cutting and jewellery manufacturing	AMDC + other actors																	Continuous	
	Draft a regional strategy on linkages anchored on comparative advantages of regions and countries	AMDC + other players																	Short term	

Focus Area	Key Components	Implicated Actors Or vehicle	2017				2018				2019				2020				Summary Schedule	Cost Estimate (USD)
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
ASM Market at national and regional level	Government to create Regional Integrated Mining Centres - ASM (RIMC – ASM). - Mining Extension services - Buying facility - Ore Processing facilities - Geological services - Environmental services - Equipment hire	Governments with advise from AMDC and other players																	Short – medium term	
	Study on the establishment of regional mineral markets (recom. XVI)	AMDC																	Short-medium term	
Financing ASM	Advocate for the creation of ASM Development Bank (ASMDB) at continental level which would work with national financial institutions. Specificities of women's borrowing to be kept in mind	AMDC																	Short term	
	Encourage the establishment of Mining Development Funds (recom. XI)	AMDC + other players																	Short medium term	

Focus Area	Key Components	Implicated Actors Or vehicle	2017				2018				2019				2020				Summary Schedule	Cost Estimate (USD)
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Governance structures and institutions	Advise governments on the need to properly resource the ASM Departments so that they can roll out the RIMC – ASM and the field activities of the ME and MDF.																		Continuous	
	At Regional level establish under the Regional Mining Units an ASM subunit which would be responsible for implementing regional programs on ASM. (recom. XVII)																			Continuous
<i>Intermediate technology Development</i>	Develop a strategy for Intermediate Technology Development (ITD) oriented to ASM and Research and Development geared towards mining and utilization of local mineral resources.	AMDC + consultant																	Short term	
<i>Regional training</i>	Conduct a study for assessment of establishment of regional training centres for ASM	AMDC + Consultant																	Short term	
<i>LSM – ASM Synergies</i>	Establish a “Governments - LSM – ASM forum” that will define rules of engagement between ASM – LSM (to meet twice a year or as required)	AMDC + Governments and other players																	Continuous	

Focus Area	Key Components	Implicated Actors Or vehicle	2017				2018				2019				2020				Summary Schedule	Cost Estimate (USD)
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
Synergies with other continental Players	Create a "Mining Engagement Platform in Africa" a <u>multistakeholder partnership</u> of all players in Africa – a planning and coordination body	AMDC + other players																Continuous		
Information sharing	Nominate country focal points for ASM in Africa. This will ensure quick and reliable sharing of information	AMDC + Member Countries																Short term		
	Establish reliable mechanisms for information sharing by establishing e-discussions, sub regional, regional and national conferences, symposiums, workshops, colloquiums on ASM.	AMDC + other players																Continuous		
	Promote and encourage exchange programmes between women miners where they can share experiences and lessons – peer to peer leaning	AMDC + other players																Continuous		

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APPENDICES

- A1. Terms of Reference of the Study
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A1. Terms of Reference of the Study



UNITED NATIONS
ECONOMIC COMMISSION FOR AFRICA
Special Initiatives Division

Implementing the Africa Mining Vision Request for a Consultant on Mineral Policy and Regulatory Frameworks Terms of Reference

Background and Context

In February 2009, the AU Heads of State and Government, at their Summit held in Addis Ababa, adopted the *Africa Mining Vision, the AMV*. The vision advocates for “transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development”. The vision is essentially a strategy for integrating Africa’s mining sector into its broader social and economic development processes, and in this manner, addresses its persistent poverty and lack of development.

To implement the Vision, the AU Heads of State in 2012, approved the establishment of the African Minerals Development Centre (AMDC) to provide strategic operational and coordination support to the AU member States. The AMDC was formally launched on the margins of the Third AU Conference of Ministers Responsible for Mineral Resources Development held in Maputo, Mozambique from 13 to 17 December 2013. The Conference, whose theme was “**Leveraging the Africa Mining Vision for Africa’s Renaissance towards broader ownership**”, had the broad aim of deepening participation and the implementation of the Africa Mining Vision.

The Centre began implementing its initial programme of activities towards the end of 2013. However, progress in programme implementation has been slow on account that the AMDC is not adequately staffed yet. This has slowed down the push towards establishing a fully-fledged operational centre. Recruitment of key staff is, however, underway but the full complement of staff is not expected until towards the end of 2014. In the near term, it is necessary to recruit several consultants to provide the critical mass of programme staff, in the short term, which is required to maintain momentum in rolling out key operational activities.

One key area of work is in **artisanal and small scale mining** in which a number of **activities are planned** but as yet there is no staff on board. Among the planned activities include, for example, the need to **work with Member States to encourage a viable and sustainable artisanal and small-scale mining sector**, as espoused by the AMV. There is need to **review current policies to determine the extent to which they support the viability of the small scale mining sector, as well as the extent to which the sector is gender sensitive**. Additionally, there is immediate need to **provide advisory services to member States** in this vital but often neglected area of the mining sector.

Responsibilities of the Consultant

The incumbent is expected to:

1. Review the mineral policies and regulatory frameworks of several African mining countries to identify the extent to which they support a viable and gender sensitive small scale mining sector.
2. Review institutional support mechanisms in place, including financing, technical support, and business related support to promote the commercial viability of ASM
3. Make recommendations on policy and institutional measures to improve the viability and gender sensitivity of ASM in African member states
4. Contribute to the design and implementation of ASM work activities and programmes for the AMDC in identified areas of the AMV and its Action plan
5. Provide policy advisory services in ASM to African Governments and other stakeholders. as part of efforts to implement the AMV
6. Contribute to the design and implementation of capacity development materials and programmes including training modules, toolkits and templates for use in capacity development.

Envisaged Outputs

The following are the main outputs of the Consultant:

1. Analytical reports , policy guidelines, toolkits and templates to support the development of viable and gender sensitive ASM sector in member states
2. Contributions to work streams, projects and programmes of the AMDC in the small scale and artisanal mining sector
3. Policy and regulatory advisory services provided to Governments and other stakeholders upon request

Duration of the assignment and Remuneration

The assignment will be for a period of six months and the Consultant will be based in the AMDC of the Special Initiatives Division at ECA in Addis Ababa.

Qualifications

Advanced degree (minimum masters degree level) in a minerals engineering or management field, or other equivalent qualifications.

Experience

Progressive experience (a minimum of seven years) acquired in the mineral sector, especially in relation to small scale mining

Language

An excellent knowledge of English or French is required.

A2. Country Snap shot on the Importance of ASM

This sub chapter presents an overview of the mining sector with emphasis placed on the contribution of ASM in selected countries (Fig. 2), namely, Angola, Burkina Faso, Central African Republic, Cote D'Ivoire, Democratic Republic of Congo, Ethiopia, Ghana, Mali, Mozambique, Niger, Nigeria, Tanzania, Chad, Uganda, Zambia and Zimbabwe.

ANGOLA

Mining Sector

Angola is the third largest producer of diamonds in Africa. Its mining industry contributes 12 percent to GDP (excluding the oil sector), of which diamonds are responsible for over 41 percent³³ (USGS). Reports indicate that only 40 percent of the diamond-rich territory within the country has been geologically explored. The Angolan economy has been completely dominated by the country's hydrocarbons sector. The OPEC reports that oil accounts for 50% of Angola's GDP and 90% of its exports. The Government of Angola is aware of such skewed economic dependence on oil and is working towards more diversification of the economy, especially the extractive sector, as a way to reduce the dependence on hydrocarbons. This in part should reduce the vulnerability of the country's economy to high volatility of the oil price. The country's strategic objectives include the need to diversify mineral production, increase State revenues, reduce poverty and improve the living conditions of the people through the creation of jobs as well as through social investments in the mining districts.

Besides hydrocarbons, Angola also produces diamond, dimension stones (black granite and marble), construction material (aggregates, sand), industrial minerals (silica sand, clay, limestone, gypsum), salt, gold (produced artisanally and non-official).

Diamonds account for 5% of Angola's gross domestic product (GDP), and the country is Africa's number two diamond producer in quantity, after Botswana³⁴. It is, in value terms, the world's number five producer. The US Geological Survey (USGS) reports that some 90% of Angolan diamonds are of gem quality and only about 10% are of industrial quality. In 2009, Angolan diamond production amounted to 11% of global production by volume and 13% by value. Currently, the country's biggest diamond producer is Catoca Mining, which accounts for 87% of Angola's diamond output.

Table 3. Annual mineral production per commodity and per year

Commodity	2011	2012	2013	USD Equivalent
Diamonds	8.3-million carats	8.3-million carats	8.75-million carats	\$1.3 billion
Granite	50 000 m ³			
Marble	100 m ³			
Salt	40 000 t			
Gypsum	200 000 t			

Sources: Several, mainly USGS.

The USGS estimates that Angola's undeveloped mineral resources include beryllium, clay, copper, gold, platinum, iron ore, barite, lead, lignite, manganese, magnesium, molybdenum, apatite, fluorite, mica, sodalite, nickel, peat, phosphates, quartz, silver, tungsten, uranium, vanadium, wolfram and zinc. Some of these resources are at different levels of development and economic evaluation.

33 www.diamondfacts.org

34 www.diamondfacts.org

O mapa da mina

É muito variada a gama de minérios conhecidos, ao longo do território nacional, embora grande parte ainda não tenha expressão do ponto de vista de reservas recuperáveis. Só com um contínuo e dispendioso esforço técnico e financeiro, tal como está a ser feito a luz do PLANAGEO, é possível descobrir e valorizar novas ocorrências mineiras, que venham a constituir jazigos economicamente exploráveis.

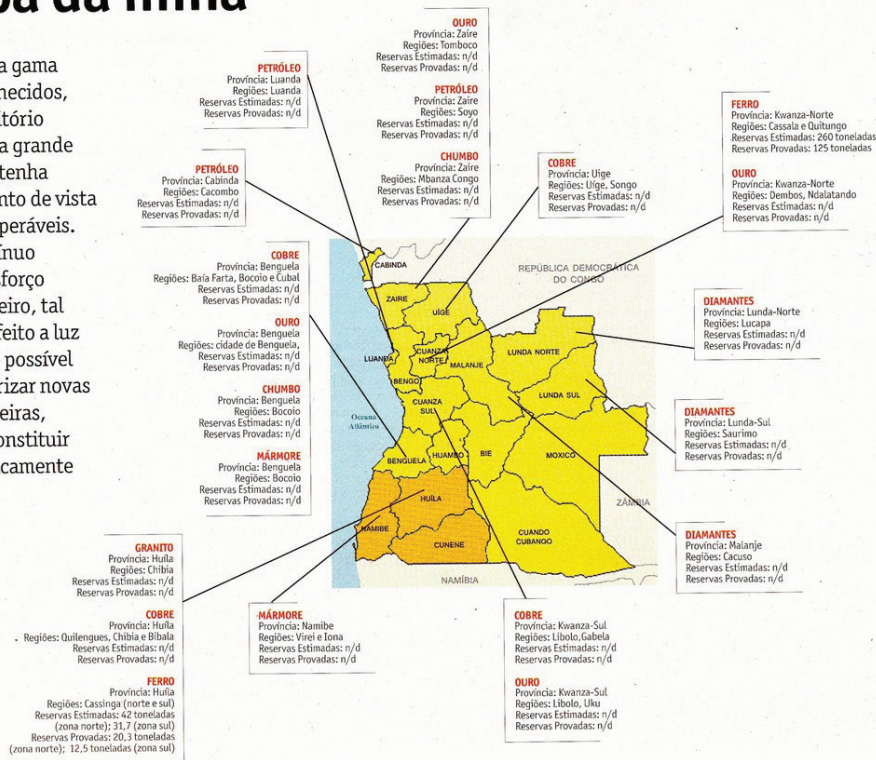


Figure 3. Map of Angola illustrating the distribution of mineral resources by Province

ASM Profile

In Angola, although mining is also carried out by large and medium scale companies, Artisanal and Small Scale Mining (ASM) is more significant. The ASM produce diamond, gold and dimension stones. ASM can only be sanctioned for areas in which industrial-scale mining had been maxed out and was no longer economically viable. The Angolan government has approved rights for artisanal diamond mining in a total area of nearly 500 square kilometres in the northern inlands of the country.

Angola is currently the largest artisanal Diamond producer by value in the world, although second to the Democratic Republic of Congo (DRC) in the number of carats produced³⁵. The Government had granted mining passes or permits to 594 artisanal miners by end of 2013. The country's registered/licensed artisanal miners produced about 935 000 carats in 2013. The artisanal output raked in \$332 million and attracted an average price of \$355 per carat³⁶.

Angola Preliminary Conclusions and Recommendations

The Government of Angola needs to understand the nature of its ASM, especially in Gold mining and from there, be able to build knowledge and a shared understanding of the sector with all stakeholders, including the LSM.

It was revealed that Gold ASM is not yet properly structured. Nevertheless, the government has put in effort by creating the Gold Authority Agency which is responsible in regulating gold production and commercialization in Angola. This entity has the potential to organize the entire value chain of gold production from mining to market and value addition initiatives in the country.

It is recommended that other commodities that are produced by ASM also deserve government attention, e.g. aggregates, industrial minerals, sand and others.

There is also need to map and separate the mandates between the government institutions such as FERANGOL, Gold Authority Agency, INDIAMA and others.

The attempt by government to integrate Diamond production from ASM into the Kimberley Process is a

35 <http://rough-polished.com/en/expertise/95870.html>

36 <http://rough-polished.com/en/expertise/95870.html>

very good initiative and deserves replication in other diamond producers in Africa and elsewhere.

CENTRAL AFRICAN REPUBLIC

Mining Sector Context

The Central African Republic (CAR) has a small economy dominated by agriculture and forestry. Over 70% of the population of 3.7 million live in rural areas and engage in subsistence farming. The agricultural sector accounts for over 50% of the GDP of 1.5 billion US\$ (estimated for 2005). The GDP real growth rate was estimated at 2.5% for 2005. Export earnings are dominated by diamond sales (40%) and forestry revenue (16%), and were estimated at 0.13 billion US\$ for 2004. The CAR has commenced restructuring and upgrading its infrastructure. The country receives economic aid from France and the European Union (CIA, 2000).

The CAR's mineral industry is relatively small, due to a historical lack of exploration and mining investment. The country attracted little interest until recently, due to its remote locality and competition with larger countries that have well-known mineral resources, such as Angola and the Democratic Republic of Congo (DRC). A number of international companies have recently taken up concessions to explore the CAR for diamonds, gold and petroleum products. These companies include De Beers Group, Axmin Inc, UraMin Inc, Pan Africa Resources PLC, GEM Mining Ltd and Energem Resources Inc. Lack of infrastructure coupled with the fact that the country is landlocked has hindered development of the mineral industry.

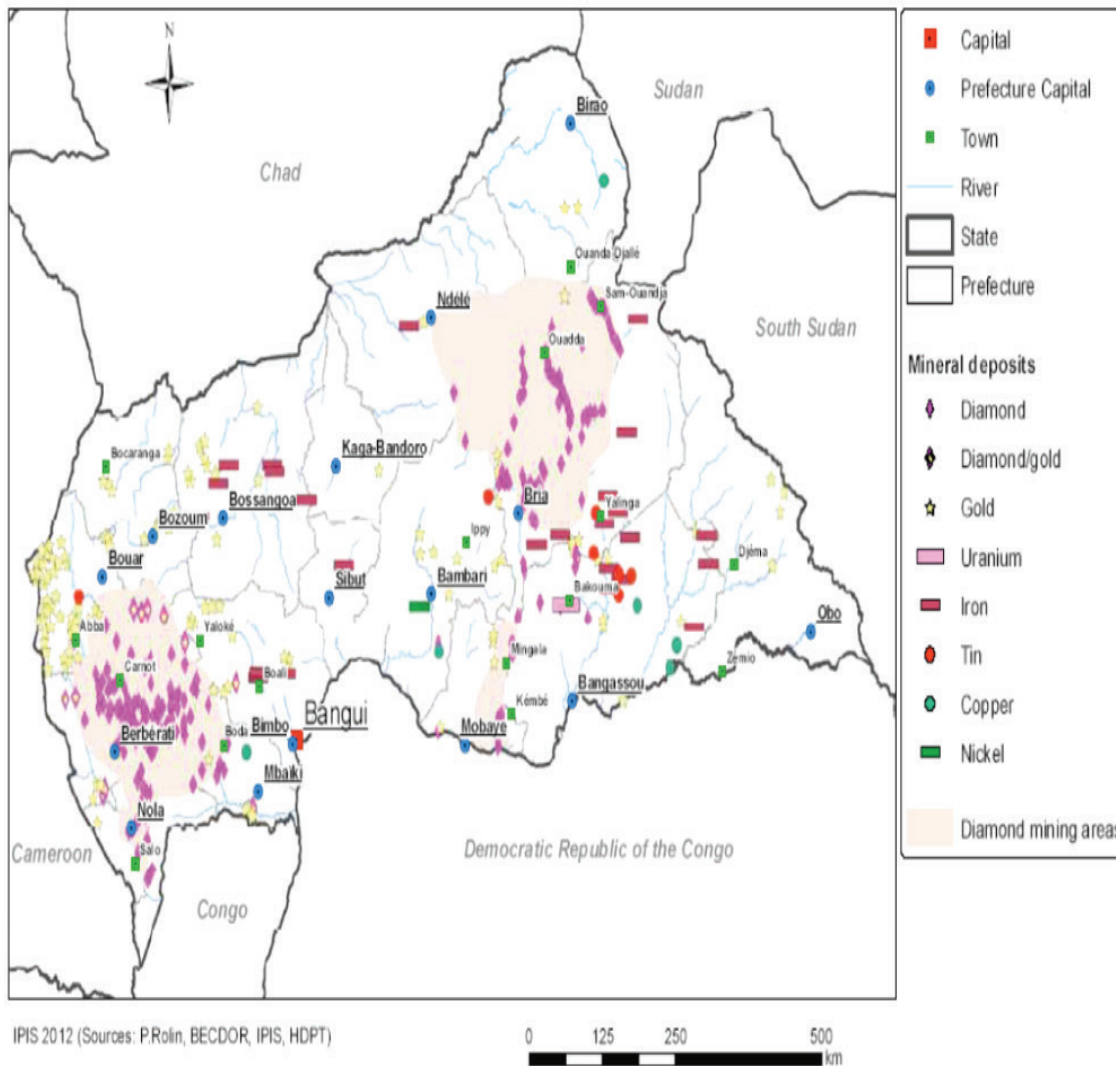
Artisanal mining of diamonds and gold in the CAR occurs mostly in the regions of Berberati, Upper Kotto, and Sangha (Fig. 4). Since 1962, 98% of diamonds and 100% of gold production came from ASM in these regions. Diamonds were discovered in alluvial deposits in 1935 and 1947³⁷. Production reached 609 360 carats in 1968, and was estimated at 530 000 carats in 2000, with 75% being of gem quality. While the DRC mainly produces industrial diamonds, 80% of the CAR's diamonds are gem quality^{38,39}. About 60% of the CAR's diamonds came from the upper Sangha region. Diamond production reached an estimated 350 000 ct in 2004, primarily sourced from alluvial deposits in the north. In terms of revenue, the CAR is the tenth largest producer of diamonds in the world and the gem accounts for some 54% of export earnings (Forster and Bill, 1992). The CAR is well known for the quality of its diamonds, ranking fifth in the world (Mbendi 2008, Chupezi, Ingram and Schure; 2009).

Gold production began in 1930 and peaked at 521 kg in 1980, falling to 26 kg in 1982 and climbing back to 100 kg in 2000. The country produced 7 kg of gold in 2004.

37 www.diamondfacts.org

38 Matthysen K. and Clarkson I., 2013

39 Olson D. W., 2010 Minerals Yearbook: Diamond, Industrial, USGS, June 2012, p. 21.10



Diamonds and gold are mined in alluvial deposits by about 40 000 artisanal miners, primarily in the Bandas and Bogoin-Boali greenstone belts (Encyclopedia of the Nations 2008, Chupezi, Ingram and Schure; 2009). Additionally, the CAR mining sector also includes small tonnages of industrial minerals (including Quartz).

The government keeps statistics concerning diamond production and trading through the Bureau d’Evaluation et de Contrôle de Diamant et d’Or (BECDOR). BECDOR was established in 1982 to oversee the internal diamond market and to value official exports. It also maintains a database concerning all diamond production in the country. BECDOR estimates that there are approximately 50 000 licensed diamond diggers or ‘creuseurs’, in the CAR. These artisanal miners sell their production to about **160 certified collecting agents** who, in turn, sell to the only 4 purchasing offices located in Bangui out of 22 licensed (Chupezi, Ingram and Schure; 2009; Personal communication, 2015).

The CAR’s gold production has a significant contribution from artisanal mining. Official production is estimated to be about 100 kg per year, but actual production is estimated to exceed 2 tonnes a year. Gold production is almost entirely from alluvial operations. The CAR has two exposed greenstone belts (Bandas and Bogoin-Boali) which have attracted most of the artisanal activity, producing around 1 tonne of gold per year (Mbendi 2008; Chupezi, Ingram and Schure; 2009).

Table 4: CAR’s official gold and diamond exports, 2010 - 2012⁴⁰

Commodity	2010	2011	2012 (Jan – June)
Diamonds (Carats)	301,557.62	323,575.30	210,684.78
Gold (grams)	56,475.70	72,834.51	30,670.40

Source: DECDOR

Official statistics indicate that the mining sector contributes less than 5% to the national GDP. Diamonds were the country’s leading industry and top export commodity in 2002. At that time mining accounted only

for about 4% of GDP and 40–50% of export earnings. The country also mines in small quantities quartz, coltan (columbite-Tantalite) and industrial minerals (construction sand, aggregates and clay). However, the CAR has potential for other mineral resources such as Iron Ore, Cassiterite, Uranium and Limestone (National Mining Policy, 2012)

Impact of ASM and Production in CAR

The CAR is the world's tenth largest diamond producer based on value, and fourth biggest artisanal diamond producer, with annual diamond exports averaging 400,000 carats from 2000 to 2009, worth roughly 50 billion CFA (KPCS, 2009). In 2007 diamonds contributed 4–7% of CAR's GDP and approximately 40% of export earnings. CAR's diamonds are alluvial and 100% of the sector is artisanal, with about 40–90,000 autonomous artisanal miners forming the base for the mining activity in the country. These miners, who manage and run the operations and earn about US\$280 a month, employ up to 350,000 labourers (diggers and washers), who may earn up to \$50 per month.

Diamond Facts estimates that 65% of the world's diamonds, worth approximately 8.4 billion US\$ a year, are sourced in African countries, inevitably contributing to economic growth.

In most countries in central Africa, gold and diamond mining remain artisanal, albeit significant revenue contributors to local and national economies. This informal system can still yield significant quantities. For instance, in CAR, ASM annually produces 400 000 to 800 000 carats of diamond, worth roughly 50 billion CFA (Matip 2003). According to our contact, there is about 100 000 artisanal miners in CAR. The Mineral sector of CAR is presently entirely made up of artisanal and small scale operations for Diamond and Gold.

DEMOCRATIC REPUBLIC OF CONGO

Mining Sector context

The Democratic Republic of Congo is one of the most mineral-rich nations in the world. It is known to have major reserves of a wide range of minerals from precious minerals to industrial minerals. The DRC has some of the world's richest mineral deposits, including copper (10% of world supply), cobalt (34%) and niobium (80%). DRC hosts also major deposits of copper, cobalt, uranium, zinc, lead, cadmium, germanium, chromium, nickel, and diamond; the tin group (tin, wolfram, Colombo - tantalite, beryl, monazite); precious metals (gold, silver and platinum); iron and manganese; as well as fossil fuels (coal, oil shale, oil and gas).

The population of the DRC is 72 million, of which an estimated 14 – 15%, (approximately 10 million people), derive their livelihoods directly from artisanal and small-scale mining (ASM). There is between 1,500,000 to 2,000,000 ASM in DRC mining mostly diamonds, gold, coltan (columbo tantalite), tin, copper, cobalt, cassiterite, wolframite. ASM in DRC are responsible for producing 90% of the minerals exported from the country.

Among the main mineral sectors, artisanal miners are divided among diamonds (65 per cent), copper and cobalt (20 per cent), gold (7.5 per cent) and cassiterite and coltan (7.5 per cent).

DRC's mineral wealth is estimated at an astounding \$24 trillion. Historically, the mining industry accounted for about 25 per cent of the DRC's gross domestic product (GDP) and tax revenues and about 75 per cent of its total export revenues⁴¹. Mining accounts for up to 90% of FDI. Although national statistics do not provide estimates of FDI by sector, it is likely that the vast majority of this FDI relates to mining (ICMM 2012).

The World Bank estimates that mining directly generates 50,000 jobs, equivalent to one-sixth of the country's formal workforce, although this figure could be twice as high if induced employment from miners' expenditure is factored in. Industrial mining has historically formed a centre piece of formal employment and economic strength for DRC. However, the nation's economic decline in the early 1970s, coupled with changes in the mining code and regulatory structures, led to a decline in industrial mining⁴². Currently it is estimated that 60-90% of mineral production is through artisanal and small-scale mining (ASM). The table below illustrates the contribution of ASM in the mineral production of DRC in 2005 and 2006.

41 Rights and Accountability in Development (RAID), 'Key mining contracts in Katanga: the economic argument for renegotiation', Apr. 2007, <http://www.raid-uk.org/news/Economic_Rationale_Contracts_12APR07.htm>, p. 3.

42 SIPRI Background Paper, 2009: Artisanal Mining and post-conflict reconstruction in the DRC.

Table 5 : Mineral production of DRC in 2005 and 2006

Mineral	Year	Volume of recorded Exports	Estimated volume of actual exports	Value of recorded exports	Estimated value of actual exports (\$millions)	ASM Production (%)
Cassiterite	2006	5,878 t	16,870 t	12	49	100
Cobalt	2005	25,100 t	34,100 t	390	743	80
Copper	2005	117,000 t	223,000 t			
Diamond	2006	28,540,000 carats	51,040,000 carats	642	1092	95
Gold	2005	609 kg	9,000 kg	11	151	100

Sources: Recorded volume cassiterite, copper, cobalt, diamond, actual volume gold: Yager, T. R., 'The mineral industry of Congo (Kinshasa)', *US Geological Survey Minerals Yearbook: 2006* (United States Geological Survey: Reston, VA, Nov. 2008); Recorded volume gold, actual volume cassiterite, copper: Sunman, H. and Bates, N., *Trading for Peace: Achieving Security and Poverty Reduction through Trade in Natural Resources in the Great Lakes Area* (Department for International Development: London, Oct. 2007); Actual volume cobalt, diamond, artisanal production: Berke, C. et al., *Les ressources naturelles en République Démocratique du Congo: Un potentiel de développement?* [Natural resources in the Democratic Republic of Congo: a potential for Development?] (KfW Entwicklungsbank and Bundesanstalt für Geowissenschaften und Rohstoffe: Frankfurt am Main, Apr. 2007); Recorded value cobalt/copper: Global Witness, *Digging in Corruption: Fraud, Abuse and Exploitation in Katanga's Copper and Cobalt Mines* (London: Global Witness, 2006)

As defined in the Mining Code, Artisanal mining (AM) consists of digging, washing, and sorting minerals by hand. ASM is considered an increasingly important livelihood source — both direct and indirect — for about 14% of the national population.

Country Specific Recommendations

In DRC we have learned that there are several organizations working in the ASM sector. It was reported that PACT will be formulating a development strategy for ASM in DRC (Personal communication, 2015). In this regard, considering that DRC is interested in engaging in the development of a Country Mining Vision with the support and assistance of AMDC and its partners (UNDP and the AfDB), it is recommended that the development of the ASM strategy be aligned with principles of the AMV and probably be integrated in the joint development of the Country Mining Vision.

It is also recommended that the AMDC mobilize itself to engage with DRC in order to maintain the momentum and be able to capitalize on the other initiatives on the ground. DRC as a country has been attracting several initiatives in the extractive industry, thus, there is need to develop an umbrella policy and strategy for the sector's development. In this regard AMDC has the privileged position of developing an integrated and transformative approach to the sector through the domestication of the AMV into the CMV in DRC.

CHAD



Mineral Sector Context

The Chadian economy is highly dependent on the oil sector since production began in 2003. The USD 2 billion of government revenues from the oil, gas and mining sector accounted for 70% of the government budget, according to the 2012 EITI Report. In 2013, the hydrocarbon sector accounted for 90% of exports - more than 70% of Government revenues - and about 30% of the nominal gross domestic product, according to the US Geological Survey. The mining sector is still modestly formalised, consists essentially of quarry activities, and is marginal in terms of tax revenues.

Chad has had very little development of its mining and mining sector. However, studies conducted by the UNDP and the Chad "*Direction de Recherches Géologiques et Minières*" (DRGM) have outlined several areas which are highly prospective for gold, bauxite, uranium, silver, alluvial diamonds, lime, limestone, soda ash, natron, cement, clay, salt, sand and aggregates. The limited exploration activities for solid minerals include clay, gold, and uranium according to the USGS, 2013 Country Report.

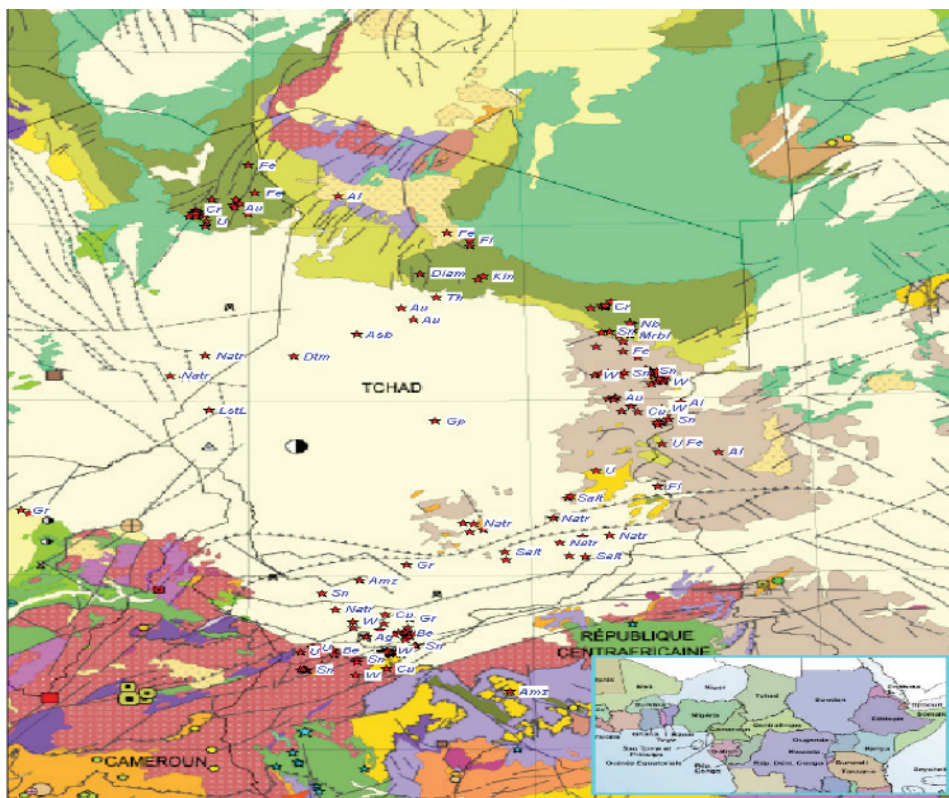


Figure 5. Geological and Ore Deposit Map of Chad

Identified greenstone belts (Fig. 4) are located in the southwest of the country and include the Mayo Kebbi belts (containing the Lere, Mourbame and Pala areas). Gold has also been found in the Quaddai region (including the Am Ouchar, Ade, Ardelik and Goz Beida areas). These regions have been linked to the gold bearing Birimian rocks of West Africa. Alluvial gold is mined (producing about 4000 oz gold in 1999) along the Mayo N'Dala river, where a substantial alluvial deposit exists estimated to hosting several tons of gold. Afko, a South Korean company has opened Chad's first gold mine that is located at Pala, approximately 300km south of the capital, N'Djamena. It is also proximal to the major Doba oilfield development, currently being undertaken by Exxon, Petronas and Chevron. Due to the extremely arid nature of the Sahara region, conventional stream sediment sampling is made very difficult.

Alluvial diamonds have also been reported from the Quaddai, Biltine, Guera and Baibokoum areas. Bauxite reserves have been identified at Koro, located northeast of Moundou in the south of Chad. Ore reserves are estimated at 7Mt with grade of 57% Al₂O₃. Other commodities include silver (at Ofoni), wolframite (at the Yedri Massif in Tibesti), uranium (at Mayo Kebbi and Tibesti) and titanium at the Guera Massif.

Ministry of Mines, Energy and Petroleum

Until 2007, the oil sector was governed by order No.07/PC-TP-MH of 3 February 1962 regarded as the Oil and Gas Code. Several oil and gas exploration, exploitation and transport agreements were signed in this framework, some of which are still in force. The adoption of law No.006/PR/2007 of 2 May 2007 on oil and gas and of order No.10-001/PR of 30 September 2010 on the approval of the framework for production sharing agreement enriched the institutional context of this sector and opened ways to new forms of partnership between the State and private operators.

As for the mining sector, it is governed by law No.11/PR/95 of 20 June 1995 on the Mining Code. The Chad mining sector comprises of only three licenses for uranium and gold, about a dozen authorisations for gold mining. There also licences for exploitation of various materials (gravel, laterite, soil, sand, etc.). The sector has produced over 100 kg of gold produced in 2011. According to EITI report 2013, only 2 quarry companies had an industrial or semi-industrial scale business in 2011, namely:

- The "Société Tchadienne d'Exploitation des Carrières" (SOTEC), which until 2008 had a monopoly over the exploitation and crushing of gravel used for roads and infrastructure works; and
- Ciment du Tchad, subsidiary of the State-owned company SONACIM. The cement plant of Baore,

opened in 2011, and supposedly produced 10 tons of cement that year.

BURKINA FASO

Economic Context

Burkina Faso has significant deposits of gold, zinc, manganese, Pb, Silver and phosphates.

Gold has now become Burkina Faso's number one export commodity, with at least 600 artisanal and small-scale mining sites found throughout the country.

Burkina Faso accounts for 21% of West Africa's total greenstone belt exposure. However the country is largely underexplored. It is the country with the greatest untested potential in West Africa despite the fact that mining is not new in Burkina Faso. There has been over 50 years of interest in mining in Burkina Faso, with Poura mine (in the country's southwest), being the first industrial gold mine that has produced over 25t of gold. Similarly, artisanal gold mining has been practiced in the region for centuries, going back to the time when this part of Africa was known as the "Gold Coast". Traditional mining essentially involved gold production.

From 1986-1997, Burkina Faso produced over 26 tons of pure gold including 13.93 tons from Large Scale Mining (the Poura and Essakane sites) and 12.26 tons from artisanal mining. However, these figures might be underestimated since part of the production may have been purchased outside the official system. It is noteworthy that gold production in Burkina has fallen considerably from its peak in 1990's (see table 6). This is mainly due to the fact that smuggling resulted in the actual price paid to artisanal miners being lower than the international price. There has also been an overall fall in the international price of gold during this time.

Table 6. Gold production in Burkina Faso, 1986-2004 (in grams)

YEAR	ARTISANAL	INDUSTRIAL	TOTALS
1986	272,496.668	2,456,044	2,728,540.668
1987	616,323.824	2,677,271	3,293,594.824
1988	805,550.735	2,558,008.86	3,363,559.593
1989	1,255,292.345	965,244.38	2,220,536.72
1990	2,302,274.127	1,199,501.73	3,501,775.856
1991	1,499,143.676	956,061	2,455,204.672
1992	1,338,311.239	890,535.79	2,228,847.029
1993	928,937.2	689,274.36	1,618,211.56
1994	698,909.244	731,143.06	1,430,052.304
1995	804,788.098	556,446.3	1,361,234.401
1996	788,206.906	109,164.64	897,371.544
1997	944,370.147	144,327.52	1,088,697.667
1998	950,995.193	140,311.86	1,091,307.053
1999	755,353.433	130,481.65	885,835.083
2000	551,087.557	37,680.63	588,768.187
2001	208,667.077	0	208,667.077
2002	189,439.374	0	189,439.374
2003	24,6011	0	246,011
2004	23,0430	0	230,430
Total	15,386,587.84	14,241,496.78	29,628,084.61

Source: Burkinabe Precious Metals Counter (CBMP).

As a result of global gold prices climbing to an all-time high as a result of successive global economic and financial crises, after 2006, in Burkina Faso it led to progressive increase of the country gold production as presented in the following table 7.

Table 7. The country gold production

Year	Gold production (g)
2005	190,000
2006	225,000
2007	753,000
2008	5,500,000
2009	12,177,000

Source: DGMGC

The Integrated Regional Information Networks (IRIN) reports that, "in 2011, [gold] earned Burkina Faso 127 billion CFA (US\$247 million). Between 2007 and 2011, it brought in 440 billion CFA, accounting for 64.7 percent of all exports and 8 percent of GDP⁴³.

In 2013 and 2014 the country produced a total 32.959 and 36.503 tons of gold of which only 972.9, 431.6, 208 kilograms, respectively, were reported to be from ASM. In 2013 and 2014, the country produced 57,254 and 143944 tons of zinc concentrate, respectively, and aiming at one million tons of zinc concentrate per annum. Burkina Faso also started the production of manganese concentrate in 2013, with production pegged at

43 IRIN. Online available at: <http://www.irinnews.org/about>

2,027.14 tons for that year. In 2014, the country started the production of lead concentrate estimated at 3,803.74 tons.

Table 8. Mineral Production in Burkina Faso 2009 - 2012

Mine	Company	Substance	Resources	Province	2009	2010	2011	2012
ESSAKANE	IAMGOLD	Gold	4.8 Moz	SENO			337,000	
INATA	AVOCET	Gold	4.7 Moz	SOUM			167,000	
MANA	MINING SEMAFO	Gold	4.9 Moz	MOUHOUN	153,500	179,700		
TAPARKO	HIGH RIVER	Gold	1.56 Moz	SANMATENGA				
YOUGA	GOLD MINE ENDEAVOUR MINING	Gold	1.3 Moz	BOULGOU	64,879	82,400	87.264	88,000
KALSAKA	CLUFF MINING	Gold	0.8 Moz	YATENGA			71,000	
BISSA	HIGH RIVER	Gold	5.066 Moz	BAM				
POURA	GOLD MINE NEWMONT	Gold	24t Au produced	BALE				
PERKOA	BLACKTHORN RESOURCES	Zink	6.72Mt @ 16.4% Zn	SANGUIE				
KIERE	ACM Corporation	Manganese	0.6 Mt @ 45% Mn	TUY				

Mining in Burkina Faso is carried out mainly by 9 large scale mining companies, one small- medium scale company and a large number of artisanal and small scale miners.

Official estimates indicate that there are at least **1,000,000** Artisanal and small scale miners (ASM) in Burkina Faso who, provide a source of livelihood for almost 4 to 5 million women and men, over two thirds of whom are engaged in production of gold.

The production of gold for the whole of Burkina Faso in 2010 was 23.1 tons. In 2011, this increased to 32.6 tons (about 1 million 40 thousand ounces) including 459 kg of craft production; while manganese was 49 715 tons. In 2012 the extraction of gold for the whole country increased significantly and reached 42 tons. Burkina Faso is now the 3rd largest site for gold exploration in Africa and 4th largest gold producer in Africa (2012)⁴⁴

Gender and Child Labour issues

Our contacts in Burkina Faso were not able to provide statistics about the involvement of children and women in the ASM sector; however other sources indicate that women and children are reported to be significantly involved in ASM. Data published in 2012 by the United States Department of Labour estimate that almost half of all children in Burkina Faso younger than 18 years of age work are involved in the agriculture and mining sectors (Fig. 6).



Figure 6. Children in a Gold Mine in Burkina Faso.

Source: Larry C. Price (2013) - The Cost of Gold: Child Labor in Burkina Faso (Blog).

UNICEF estimated in 2012 that 20,000 children were working in mines in five of Burkina Faso's 13 regions. Due to the illegitimate nature of small scale mining, child labour is expected to be far more widespread in Burkina Faso society than estimated.

Children are engaged in almost all aspects of gold mining, both open pit and underground operations, including: crushing, sifting dust and earth, transporting water, carrying heavy loads and searching for gold in tunnels and shafts. Because of their size and agility, children are useful in the narrow tunnels and underground shafts. On the contrary, Guye (2001) reported that women involved in small scale mining in Burkina Faso performed 90% of mine ore processing activities.

REPUBLIC OF CÔTE D'IVOIRE



Mining Sector Context

The Ivorian economy grew at a rate of 7.4% in 2014 and is expected to average a growth of 6.4% annually between 2015 and 2018.

The Ivory Coast's economy is rooted in agriculture (30% of the GDP) and mineral resources. The country holds untapped potential for mining of resources such as manganese, iron ore, nickel, bauxite, cobalt, tantalite and, crucially gold and diamonds.

The country lies along the Birimian Greenstone Belt - a 2.0 Ga rock formation structure that stretches from Senegal to Ghana, and is known to host some of the richest gold deposits in the world. While one third (37%) of the West African Birimian Greenstone Belt is in Ivory Coast, Ghana hosts only 19% of it, yet is the second largest gold producer in Africa after South Africa. This implies that there might be more gold in Ivory Coast than in Ghana.

Mining accounts for around 1% of Côte d'Ivoire's GDP, with significant room for growth. As part of the national drive to develop the industry, the government aims to increase its contribution to GDP to 8% over the next decade. Several key private sector players have given Côte d'Ivoire's mining industry a vote of confidence, including South Africa's Randgold Resources, which operates the country's largest gold mine, Tongon. The 4.3m-ounce Tongon mine has produced more than 600,000 ounces of gold since 2010 and is one of four multi-million-ounce mines in Randgold's portfolio. Côte d'Ivoire's industrial gold production accounted for a total of seven tonnes in 2012, with a projection of 20 tonnes by 2020.

Mineral Production in Côte d'Ivoire

The table 9 illustrates the industrial mineral production in Côte d'Ivoire during 2013 and 2014 in tonnes.

Table 9. Industrial mineral production in Côte d'Ivoire during 2013 and 2014 in tonnes.

Name of the Mine	Commodity	Annual Production in Tonnes	
		2013	2014
SMI	Gold	3,338	3,195
NewCrest	Gold	3,301	3,010
Endeavour	Gold	-	4,712
Tongon SA	Gold	8,877	8,420
SODEMI	Manganese	97,328	188,031.61
Bondonkon Manganese	Manganese	91,080.15	107,713.945
Tawnian ODienn	Manganese	5,935	65,983.605

Source: DGM

The total production of gold in 2013 was 15 tonnes with this figure rising to 19 tonnes in 2014.

Worthy of note is that Côte d'Ivoire's mineral resources are not only limited to gold, with recent significant discoveries of Iron ore deposits at Klahoyo-Tia whose reserves are estimated at 1.2bn tonnes. Likewise, Sipilou is believed to hold around 205m tonnes of nickel. Other discoveries of nickel, copper and palladium across the western regions of Biankouma and Sipilou are reported by exploration companies.

The country also enjoys a privileged position in terms of alluvial diamonds which are found in northern Côte d'Ivoire. Most of the diamonds are small and of industrial rather than precious gem quality. The main mining area is situated around the town of Seguela in west-central Côte d'Ivoire. There is also a smaller and less productive diamond field at Tortiya in the north. Commercial diamond mining began in the 1930s. Presently

in Côte d'Ivoire, diamonds are being actively mined in the north-west of the country and researchers indicate that "judging" from the number of active pits and workers, it appears that production is at a level of 300,000 carats per year, which is equal to production before the conflict.

Significance of the ASM in Côte D'Ivoire

Industrial mining of Diamonds ended in 1976 and since then all production has been generated by artisanal miners. According to officials from the Ministry of Industry and Mines, the number of people engaged in artisanal mining has fallen steadily over the past 20 years. However, officially recorded production has remained remarkably stable.

Ministry officials recognize that today, between 20,000 and 30,000 miners are active in the Seguela region and between 5,000 and 10,000 in Tortiya. Traditionally, about 80 percent of the diamond miners in Cote d'Ivoire have been foreigners from all over West Africa.

Artisanal diamond mining was officially banned between the gaining of independence in 1960 and 1984, but mining continued clandestinely, giving rise to widespread lawlessness in the diamond producing areas. In 1984, the government decided to legalize artisanal mining in order to restore law and order. It passed a new law to regulate the sector, which handed over much of the responsibility for controlling diamond production to the local communities where mining took place. Diamond mining was viewed by the state primarily as a security and local development issue and not as a major potential source of government revenue. To bring this in perspective, Cocoa (the country's principal export commodity), brings in nearly 100 times more foreign exchange than diamonds. The annual cocoa crop of around 1.3 million tonnes is worth over US\$2 billion.

In 1986, the government created 24 village councils in the Seguela area, known as Groupements Vocationels Cooperatifs (GVCs) to license and administer the artisanal diamond mines there. The Société pour le Developpement Minier en Cote d'Ivoire (SODEMI), a parastatal offshoot of the Ministry of Industry and Mines, demarcated the land earmarked for artisanal mining in each GVC into plots. SODEMI retained control of the remaining land with an eye to the possible resumption of industrial mining. The GVCs licensed out the plots allocated to them for a fee of US\$5 per hectare per year.

Since then, all diamonds found in artisanal mines within the jurisdiction of a GVC have had to be sold by the mine owner to a dealer in the presence of GVC officials. A 20 percent tax was levied on the sale price at this point. Of this, 12 percent was retained by the GVC for spending on community development projects, while 8 percent went to the central government.

However, GVCs were not formed in Tortiya, where SODEMI licensed miners to exploit small plots and sell their stones direct to dealers without the local community levying a tax on the transaction.

The practice before the civil war for the rough diamonds was that the diamonds were valued by central government in Abidjan before shipment overseas. A further 18 percent export tax was levied on the stones at the point of export by Customs.

Although the industrial extraction of diamonds ended 40 years ago, the government remains hopeful of attracting new investors. However despite the legalization of diamond sales being significant, the current small-scale nature of the sector means it will take time to develop the diamond industry.

According to our key respondent, presently there is an estimated figure of over 500,000 ASM active in gold mining, 3,000 miners in Diamond and about 100 in columbo-tantalite.

Gender and Child Labor issues

ILO's ***International Programme on the Elimination of Child Labour*** (IPEC) sponsored a 2006 study on small scale gold mining in Côte d'Ivoire and describes some truly distressing practices at illegal mine sites in the country. In the worst cases, children were being held in slavery-like conditions. The researchers found children trafficked from neighbouring Burkina Faso, Guinea and Mali who worked ten hours a day, seven days a week, were paid very little and were badly nourished. Abusing amphetamines to get through the day was common. Most of the children considered sickness a normal occurrence; with over half of the children indicating that they were often sick. All complained of muscle and joint pain as well as fatigue.

Children hired locally with or without other family members fared only marginally better. Girls as young as 5 years old were being sent down into narrow pits with buckets to empty out water that seeped in during the

night. Additionally, they undertook a great deal of the hauling of mud to washing sites, requiring that they carry on their heads loads far too heavy for their body sizes. Older girls faced the extra burden of household chores after work or on off-days (IPEC, 2006).

According to our contacts, there are at least 50,000 children involved in artisanal gold mining in Côte d'Ivoire; while the estimated figure for women is 150 000 in artisanal gold mining and 150 in artisanal diamond mining.

GHANA

Economic Context

The Ghanaian economy is the third largest economy in West Africa and one of the fastest growing economies in the world in recent times, with 15.0% growth in 2011 which was largely aided by their first commercial oil production.

Ghana is classed tenth among the world's gold producers and has for a long time been a large source of gold production for the world. It is as a result of this that its former name, the Gold Coast, was derived by European explorers. Gold remains the main ore currently extracted in the country, contributing more than 95% of the value of the total revenues of the mining sector (Minerals Commission Report, 2014). In Africa, Ghana remains the second largest gold producing country after South Africa. Other mineral resources exploited are: diamonds, manganese, bauxite and aluminium.

Mines and quarries represent 1% of total employment with around 20 000 Ghanaians working directly in the large mining operations while 500 000 work in the artisanal extraction of gold, diamonds and small quarries (CEA & UA, 2013). The mining industry in Ghana accounts for c. 5% of the country's Gross Domestic Product and over 37% of total exports. Gold contributes to over 90% of the total mineral exports⁴⁵.

The importance of the sector can be illustrated by its contribution to the fiscal revenues of Ghana which amounted to approximately 5.04 billion USD in export revenues in 2011, or around 40% of the total export revenues of the country.

The mining sector is dominated by large, small and medium scale mines. The table 10 shows the main mines in Ghana.

Table 10. The main Ghanaian mining companies and their production in 2012 and 2013

#	COMPANY	Activity	2013	2012
1	AngloGold Ashanti Obuasi	Gold	239,032	280,084
2	AngloGold Ashanti Iduapriem	Gold	212,465	180,238
3	GoldFields Tarkwa	Gold	632,240	718,876
4	GoldFields Damang	Gold	153,117	166,448
5	Golden Star Resource(Bogoso/ Prestea)	Gold	144,994	172,057
6	Golden Star Resources(Wassa)	Gold	185,033	160,971
7	Newmont Ghana Gold Ltd (Ahafo)	Gold	570,202	561,356
8	Newmont Ghana Gold Ltd (Akyem)	Gold	129,211	
9	Chirano Gold Mines Ltd	Gold	277,679	292,534
10	Adamus Resources Ltd	Gold	103,231	103,688
11	Perseus Mining Gh Ltd	Gold	202,398	193,852
12	Med Mining Ltd	Gold	841	1,539
13	Owere Mines Ltd	Gold	1,569	10,943
14	Prestea Sankofa	Gold	-	-
15	Noble Gold Bibiani Ltd	Gold	16,751	
	Small Scale	Gold	1,528,224	1,481,670
	Total		4,396,987	4,324,255
16	Ghana Bauxite Company	Bauxite	908,586	662,925
17	Ghana Manganese Company	Manganese	1,724,417	1,501,033
	Small Scale Miners	Diamonds	160,821	908,586

At the beginning of 2014, there were 15 gold mines, 1 manganese mine, 1 bauxite mine and 600 registered small-scale mines (Minerals Commission, 2014).

Significance of the ASM in Ghana

In Ghana, as is the case in the majority of developing countries, the rapid growth in artisanal and small-scale

gold mining sector can be attributed to the acute lack of jobs and accompanying poverty nationwide. It is estimated that while ASM provides direct employment for about 500,000 people; it also contributes substantially to the country's Gross Domestic Product (GDP) and foreign exchange earnings. In 2012, the sector produced 1.4 million ounces of gold representing 34% of total gold production in the year compared with only 2% in 1989. A total of about 600,000 carats of diamond representing 100% of total mining extraction in 2008 was extracted by ASM (Baah-Boateng, W. 2013).

Mineral extraction is fundamentally driven by large scale mining operations. However, production of gold by small-scale miners has seen a considerable increase since a law to legalise small-scale mining was enacted in 1989.

The figure 7 shows the comparison of ASM versus LSM production of gold in Ghana.

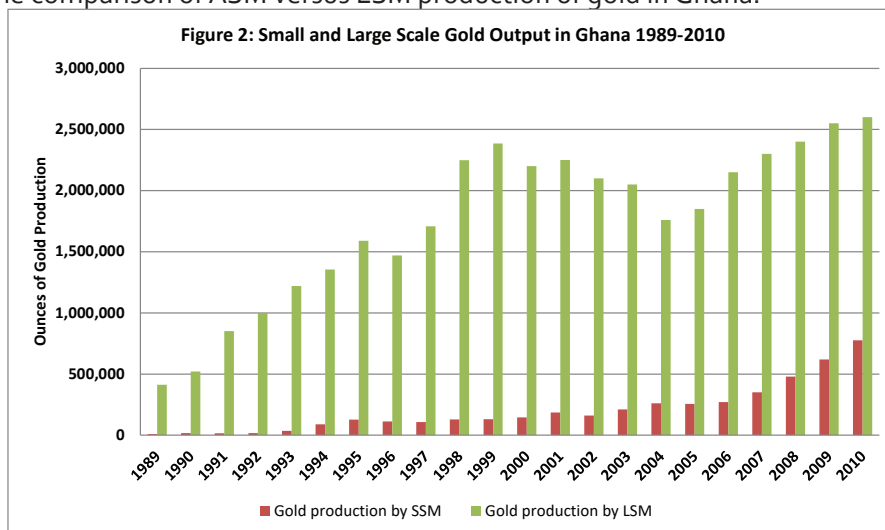


Figure 7. Small and Large Scale Gold Output In Ghana 1989 -2010

Source: Ghana Minerals Commission

Gender and Child Labour issues

Ghana's historical data indicates that in 2006 (Garvin, 2009) some 15% of the legalised segment of the ASM sector was female, as well as 50% of the *galamsey* population (Hilson, 2001).

Heemskerck (2003) provides a more detailed description of the roles that women play in the sector: "Women are panners, cooks, mining operators, nightclub entertainers, sex workers, and merchants, among other professions. While some women work on marginal jobs, occasionally in conditions resembling debt servitude, others are powerful managers of multiple mining teams"

In Ghana, the position of women in the sector was then considered marginal (Hilson, 2001); they accounted for 6% of licensed buyers, 10% of concession holders and 15-20% of sponsors of work groups and mining cooperatives (ILO, 1999). In 2006, it is estimated that 40% of people involved at the Noyem and Ntronang *galamsey* sites were women (Yakovleva, 2006).

Amankwah and Anim-Sackey (2003) argue that the barriers to effective female participation in ASM are linked to cultural and social taboos.

During this study, our contacts in Ghana had different data regarding the involvement of woman and children in the ASM sector as illustrated by the two tables bellow. Nevertheless, the numbers indicate that woman and children play a significant role in the ASM sector in Ghana.

Table 11. Proportion of the participation of women and children in Ghana

Mineral/product	Number of ASM	% of Woman	% Children
Gold	?	35	10
Diamond	?	20	5
Quarry	?	40	20
Sand	?	40	20

Source: ASM African Network (ASMAN), 2014

Table 12. Proportion of the participation of women and children in Ghana

Mineral/product	Number of ASM	% of Women	% Children
Gold	800,000	20	
Diamond	200,000	20	
Clay Minerals	10,000	40	

Salt	20,000	40	
Granites/Quarzites	20,000	30	

Source: Minerals Commission, 2014

REPUBLIC OF MALI

Economic Context

The gold mining industry is Mali's second largest income earner after cotton. Following the opening of several new gold mines, Mali is now Africa's third largest gold producer after South Africa and Ghana. Gold production forms the cornerstone of Mali's mining sector, representing 95% of the country's mineral production. Other commodities have not been developed due to poor access and little local demand. However, diamonds are recovered from artisanal miners in the Kéniéba area. Several kimberlite pipes have been located, some diamondiferous, but no commercial production has occurred to date.

Apart from gold, Mali has mineral production potential from bauxite, chalk, limestone, building materials, gemstones, iron ore, base metals and phosphate deposits. The Adrar des Iforas area in eastern Mali hosts the Tessalit volcanogenic Zn-Cu-Pb-Ba-(Ag-Au) deposit, entrusted in felsic Upper Proterozoic volcanics. The resources are estimated at 1 Mt at 13 % Zn, 2 % Cu, 30 g/t Ag, < 1 g/t Au.

Small scale phosphate mining occurs in the Tilemsi Valley in the southeast. The Tilemsi valley resources are estimated at some 10 Mt grading at 31.4 % P₂O₅. An estimated 1.1 billion tons of bauxite is located in three areas between Kenieba and Bamako. Mali has limited iron ore resources, the best being at Balé, containing 146 Mt grading at 50 % Fe. A limited manganese resource exists at Asongo, containing 10 Mt.

Mining in Mali is carried out mainly by large scale miners while ASM accounts for an approximated gold production of 10% and 100% of Gemstones production. Mali estimates having at least 1.0 million people associated economically to ASM. The ASM mine all mineral commodities, though most of the artisanal and small-scale mining is currently informal.

Mali produced 47 tons of gold in 2013 of which an estimated 4 tons were from ASM production. The IMF working paper 10/126, reports that when gold mining started in 1984, the mining sector accounted for only 1.5 percent of Mali's GDP. After a commercial mining code was introduced in 1991 (that reflected internationally accepted standards) commercial gold production increased from 4 metric tons in 1991 to 48 metric tons in 2008. In 2008, gold mining as a share of GDP was 8 percent, the gold exports value was more than 75 percent of total exports of goods and services, and gold tax receipts provided 17 percent of total government revenue.

Gender and Child Labour issues

According to a 2011 Human Rights Watch report, mining is one of the most hazardous work sectors in the world, yet child labour is common in artisanal mining. This report looks at the use of child labour in Mali's artisanal gold mines, located in the large gold belt of West Africa. It is estimated that between 20,000 and 40,000 children work in Mali's artisanal gold mining sector. Many of them start working aged as young as six years. These children are subjected to some of the worst forms of child labour, leading to injury, exposure to toxic chemicals, and even death. They dig shafts and work underground, pull up, carry and crush the ore, and pan it for gold (Human Right Watch Report: A Poisonous Mix Child Labour, Mercury, and Artisanal Gold Mining in Mali; 2011). The large majority of child labourers live with and work alongside their ASM parents who send them into mining work to increase the family income.

According to our contact, in gold and gemstone mining sites the involvement of children is less than 3%.

Although the Malian government adopted a National Action Plan for the Elimination of Child Labour in June 2011, its practical implementation is still negligible. Human Right Watch (2011) posit that while the Malian government has allegedly failed to provide education for the children working in mines, those who do attend school struggle academically.

Women play a significant role in ASM activities, especially in gold mining, where as many as 20% of total ASM population are reportedly involved. There is significantly less involvement in gemstones activities where the women constitute less than 3% of the ASM population. These figures seem to have significantly reduced from the number of early 2000's when involvement was reported to be around 50% and in some areas such as Kéniéba or Kangaba, women participation was

as high as 90% (Keita S., 2001). The main reason for this high level of participation at this time was attributed to the impact of drought in the region.

REPUBLIC OF MOZAMBIQUE

Mineral Sector Context

Mozambique is a former Portuguese colony in Southern Africa. The mineral resources in the country include, coal, heavy mineral sands (illminite, monazite, rutile and zirconium), gemstones, gold, dimension stones, marble, graphite, phosphates, iron ore, limestone, gypsum, diatomite and bentonite, sand, clay, aggregates.

With the exception of coal, gemstones, graphite which are exploited industrially, the rest of the resources are produced by ASM.

The country has also potential in natural gas, c. 210 TCF of reserves and 8 TCF under production.

The Mozambican economy has been growing at an average of 7% per year in the last decade, the mining sector contributed 5% to the GDP in 2013.

ASM Profile in Mozambique

ASM is a poverty driven activity-generating income to unskilled rural and remote labour. The activity constitutes the only income generation alternative regardless of the levels of income, which can be well below the poverty line. Higher levels of activity have been linked to periods of lower agricultural production, such as droughts or idle-season. As it is, Mozambican ASM operators are mobile, often seasonal and use rudimentary technology to extract various minerals: metallic, non-metallic and construction material. It is worthwhile to highlight that there is no Large Scale Mining extraction of gold in the country, with only ASM being present (Fig.8). For gemstones there is only one LSM for Rubies in Mozambique.



Figure 8. Mimoso ASM – quartz vein in Mozambique

It is estimated that there are at least 100,000 ASM miners with 500,000 additional people depending on this activity. One third of the mining labour is constituted by women and children aged as young as six to ten years. They are predominantly found in mining support activities rather than the mining itself. This is partially explained by the fact that there are a number of cultural barriers and beliefs that preclude the full involvement of women in mining activities.

The ASM communities can be categorized into two types: 'village like' and 'camps'; with camps representing worse livelihood conditions and attracting most of the illegal migrants.

Recognising that the sector constitutes an opportunity for poverty alleviation, the Mozambican government has undertaken measures to bring dynamism and to formalise the sector while mitigating its negative impacts. Measures taken have included: a legislative review in 2002, and the establishment of the Mining Development Fund (*Fundo de Fomento Mineiro* – FFM) tasked with promoting and assisting the ASM sector both technically and financially. It was estimated that in 2008, the FFM supported around 30 per cent of the ASM operators in the central part of the country. Although the Mining Development Fund was eliminated

in 2012, the government - through the Department of Artisanal and Small Scale Mining - recently created Empresa Moçambicana de Exploração Mineira and the Instituto Geologico Mineiro which continued with most of the Fund's activities. As a result there are 95 designated ASM areas and 53 registered and active associations.

Mozambique's gold buying echelon is composed of licensed traders (approx. 250 licenced, unlicensed traders and the *Empresa Moçambicana de Exploração Mineira* (EMEM) in substitution of the Mining Development Fund). The state-owned EMEM and the licensed miners are the only two legal gold buying outfits for ASM miners, but due to the informality/illegality of the sector, unlicensed gold buyers thrive. They are mostly composed of foreigners' (Tanzanians, Zimbabwean, Congolese and others). Informal exclusivity contracts between the buyers and the miners are common, where the financier provides the funds for the operation, working tools or mercury in exchange of production selling to the financier, leading to lower gold prices for ASM miners.

NIGER

Economic Context

Niger is the world's fourth biggest producer of uranium and accounts for at least 70% of the country's exports and contributes to around 5% of the GDP⁴⁶.

Other substances mined in the country are: gold (most detrimental industry), tin, gypsum, coal, and phosphates.

The mining industry, concentrated in the North of the country, is dominated by the exploitation of uranium. In the Republic of Niger, the mining industry represented 5% of GDP in 2011. In 2010, it employed 5,209 people of whom 10% were women, contributing to 5.3% of GDP.

Uranium, coal and gold are mined industrially. Small-scale gold mining is practiced in the Liptako region and mined by only one company, the S.M.L. with 2 licenses in the Liptako region. Uranium is mined by 2 companies, the SOMAIR with 3 leases in the mining concession of Arlit and the COMINAK with 2 leases in the concession area of Arlit as well as one mining permit.

Niger mines between 160,000 and 200,000 metric tons of coal per year. It produced up to 3,000 metric tons of uranium until 2005, then saw an increase in 2007 to 3,153 metric tons, followed by a dip to 2,993 metric tons in 2008 and a subsequent rise in 2009 to 3,245 metric tons. In 2010, uranium production was at 4,199 metric tons. The upward trend in production is expected to continue in the years to come with the beginning of production of the uranium deposits of Imouraren and the SOMINA.

The production of gold has undergone fluctuations since 2004. This is due to two complementary factors: the beginning of industrial production of gold by the S.M.L. during the last quarter of 2004 and the declaration of small-scale gold mining production as of 2004. The total production of gold was in the order of 3.427 metric tons in 2007, with 2.467 by the S.M.L. and 0.960 by small-scale gold mining. In 2008, this gold production was 2,314 metric tons, of which 2,168 metric tons by the S.M.L. and 0.146 metric tons by small-scale gold mining. The production of gold in 2009 was 1.985 metric tons, of which 1,770 metric tons was by the S.M.L. and 0.215 metric tons by small-scale gold mining. The SML produced 1,596 metric tons of gold compared with 0.354 metric tons by small-scale gold mining, or a cumulative total of 1,950 metric tons in 2010.

ASM Profile in Niger

The share of artisanal and small-scale mining operations is poorly understood because most of the production escapes the control of the national accounts. It was estimated at 0.41% of GDP in 2011 and only 7.11% of the total production of the extractive industries. However, the economic and social weight of artisanal and small-scale mining operations is significant since **450,000** people work in these operations and more than **20%** of the population depends on them as a single or complementary source of their livelihoods. The ASM in Niger mine mainly gold, salt, gypsum, and cassiterite. Coloured gemstone potential is reported in the Air Massif region in the north, Liptako region in the west and the Damagaram-Mounio, Zinder and Maradi areas in the south.

Presently, there are 69 artisanal gold mines across the country with 24 artisanal sites where gold is mined and processed using cyanide. Only three of these sites could be considered as having some form of "government control or supervision" whether by the presence of technical support, security guards or tax agents.

It is estimated that **two** tonnes of gold are produced every year by Niger's artisanal gold mines.

FEDERAL REPUBLIC OF NIGERIA

Mining Sector Context

A variety of mining activity occurs across virtually all the states of Nigeria, including the Federal Capital Territory of Abuja. A large variety of minerals are mined across the nation, and a correspondingly diverse group of mining operations can be found in the country.

The mineral sector in Nigeria is currently dominated by artisanal and small-scale mining operations, mainly informal, working with rudimentary methods and limited technical training, social provision or environmental consideration. The main mineral commodities mined in Nigeria are: gold, coal, iron ore, limestone, lead zinc, tantalite, barite, gypsum, bentonite and colour gemstones.

ASM Profile in Nigeria

According to our contact, the mining of solid minerals in Nigeria is performed in over 90% by ASM while the remaining 10% represent the cement factory related mining of limestone, aggregates, shale and laterite.

Other operators include the Small Scale Miners and the Large Scale Miners. The Small Scale Miners are registered enterprises/limited liability companies that carry out mining operations using Artisanal, Alluvial and other forms of mining operations involving the use of low level technology or application of methods not requiring substantial expenditure and operating within Small-Scale mining Lease Areas.

The country reports having 179 ASM sites where at least 400,000 miners exploit a variety of minerals. Nigeria has also 1.5 million people indirectly involved in mining, of whom 300,000 are service providers to the ASM mining sector.

UNITED REPUBLIC OF TANZANIA

Mining sector Context

Tanzania is the Africa's fourth largest producer of gold (after South Africa, Ghana, and Mali), and is experiencing a boom in its mining industry. ASGM activities, taking place in many regions of the country, play a significant role both as a direct source of employment in mining communities and in generating additional jobs and revenues in the rural economy (UNEP, 2012).

Tanzania also holds economic deposits and mines of gemstones (tanzanite, emeralds, rubies, garnets, tourmalines, aquamarines, etc.), diamonds, Cooper, industrial minerals (zircon, lime, gypsum, bauxite, salt), building materials (aggregates, sand).

Mineral production in Tanzania (2013)

Mining in Tanzania is carried out mainly by large scale miners while the ASM account only for approximately 10% of Tanzanian gold production, as seen in table 13. Tanzania estimates having at least 1.5 million people associated economically to ASM. These include the service providers, financiers and miners themselves. The ASM mine all mineral commodities, though most of the artisanal and small-scale mining are currently informal.

Table 13. Total mineral production by LSM and ASM in Tanzania, 2013

Type of minerals	TOTAL PRODUCTION 2013	
	Weight Produced	Value
Gold(Kg)	39,697.05	\$2,161,907,844.40
Gemstones(Kg)	2,138,135.32	\$83,487,413.61
Building material Tons)	10,600,906.59	TZS.26,236,601,591.19
Industrial Mineral (Tons)	53,032,195.21	TZS.27,364,774,022.2044
SSM 2013		
Type of minerals	Weight Produced	Value
Gold(Kg)	449.36	\$17,253,597.96
Gemstones(Kg)	2,312,470.75	\$47,296,398.96
Building material Tons)	10,600,906.59	TZS.26,236,601,591.19
Industrial Mineral (Tons)	3,074,230.15	TZS.19,946,872,205.3844

Source: MEM Tanzania 2014.

REPUBLIC OF UGANDA

Mining Sector Context

Uganda has significant deposits of gold, cassiterite, wolfram, columbite, tantalite, lead, gemstones, limestone, marble, salt/halite, gypsum, kaolin, pozzolanic Ash, construction sand and clay, and aggregates.

In 2013, the sector generated UGX 5.2 billion as Non-Tax Revenue (NTR) from royalties, mineral license fees, and sale of publication and geophysical data. Sales of geophysical data amounted to UGX 22.85 million while revenue from sales of maps and publications amounted to UGX 4.8 million.

In the same year, the mineral production from aggregates cobalt, gold, iron ore, kaolin limestone, manganese, pozzolana, tin, vermiculite, and wolfram amounted to UGX. 158,502,287 million (table 14).

While revenue worth UGX 83.6 billion was realized from mineral exports of cobalt, columbite-tantalite, copper, gold Lead, nickel, quartz, rubies, silver, tin, tungsten and vermiculite., a total of UGX 21.2 billion was realized as import fees for gold.

Mining in Uganda is carried out mainly by large, medium as well as artisanal and small scale miners. There are 22 medium to large scale mining companies that hold 32 valid Mining Licences in Uganda. Artisanal and small scale miners in Uganda produce more than 90% of metallic minerals, industrial minerals (like gypsum, limestone) and other 'building minerals' (like clay, aggregate, sand)⁴⁷⁴⁸.

Table 14. Total Mineral production in Uganda, 2012 and 2013

Mineral	Av. Price per Tonne in 10 ³ UGX, 2012	Production in Tonnes 2013				Quantity in Tonnes CY2013	Average Value in 10 ³ UGX	
		Jan -Mar	April-June	July-Sept	Oct- Dec		CY 2012	CY 2013
		Q1	Q2	Q3	Q4			
Limestone	120	255429.56	213027.76	223963.99	229951	922371.8200	76,160,817.60	110,684,618
Pozollana	21	153,736.51	133,097.96	150,222.79	186,413.32	623470.5800	9,372,633.90	13,092,882
Gold (kg)	117,291	1.1493	0.5316	1.6788	1.9279	5.2876	507,895.08	620,190
Vermiculite	579	2032.8	0	263.8	0	2296.6000	649,331.13	1,329,731
Cobalt**	80,429	129.21	77.36	84.74	0.00	291.3140	33,968,655.43	23,430,080
Crude cobalt carbonate	1,408	0.00	0.00	0.00	566.70	566.7000		797,914
Wolfram	34,575	25.20	7.55	27.95	11.70	72.4000	1,907,329.88	2,503,230
Syenitic Aggregate	1.5	4,097.13	15,096.96	36,020.64	54,690.95	109905.6800	21,506.33	164,859

47 UNEP 2012

48 DGSM 2013, Annual Report

Kaolin	100	8,099.21	21,159.91	14,616.15	0.00	43875.2700	2,723,675.00	4,387,527
Iron Ore	271.29264	798.10	790.67	693.70	0.00	2282.4700	265,631.80	619,217
Coltan (30% Purity)	28,413	0	0	0	0	0.0000	255.72	0
Tin (75% Purity)	34,034	1.81	7.36	7.81	8.644	25.6240	1,089,088.00	872,087
Beryl (1% Beryllium)	8,715					0.0000	0.00	0
Manganese (Above 46% Mn)	3,037					0.0000	30,370.00	0
Grand Total							126,189,618.9	158,502,336

Source: DGSM 2013 Annual Report.

Artisanal and small scale mining (ASM) in Uganda provides a source of livelihood for almost 200,000 women and men, over half of whom are engaged in production of industrial minerals to supply the construction industry in the country. At least 20,000 of these miners are involved in gold mining in regions of Busia and Karamoja in the East and Northeast as well as in Kigeri and Buhweju goldfield across the West and Southwest of the country (UNEP, 2012).

The gender dimension of ASM is variable from region to region, probably dependent on the cultural space and availability of alternative livelihoods. In the West and Southwest only 10 – 25% of miners are women, while in the Northeast women’s participation is as high as 50 -60%.

In 2013, Uganda had a total of 873 operational licenses. Out of these were: 159 Prospecting Licenses (PL), 164 Exploration License (EL), 21 Location Licenses (LL), 3 Retention Licenses (RL), 5 Mining Leases and 95 Mineral Dealers’ License (MDL). 170 Exploration Licenses and 20 location licenses expired.

ZAMBIA

Zambia is well endowed in mineral resources which include: Cooper, Cobalt, Gemstones, Coal, Nickel, Manganese, Industrial minerals (dimension stones, limestone, aggregates, dolomites, sand, and silica sand), Tin and Gold.

The mining is done by at least 12 large scale mines (medium scale), more than 400 small scale miners and non specified number of illegal miners and artisanal miners who are estimated to be over 500 thousand.

ZIMBABWE

Mining Sector Context

Zimbabwe’s mining industry is focused on a diverse range of small to medium mining operations. The most important minerals produced by Zimbabwe include gold, asbestos, chromite, coal and base metals. The mining industry contributes approximately 8% towards the country’s GDP.

Due to the general small scale nature of mining activities in Zimbabwe, there are an estimated 500 000 artisanal and small scale miners active throughout Zimbabwe. Of this number at least 153 000 (30%) are women and children

About 35 different metals and minerals are produced in Zimbabwe, with the formal mining industry employing some 57 000 people. The main minerals produced in Zimbabwe by order of contribution to exports are, platinum group elements, gold, diamonds, chrome (ferrochrome), coal and coal products, iron ore (steel), nickel, cooper, granite and graphite.

Significance of ASM in Zimbabwe

ASM in Zimbabwe has been producing significant amounts of gold which sometimes surpasses the large scale mining. In 2004, ASM produced 60% of the total gold produced in Zimbabwe (c. 29 tons); in 2005 the ASM sector produced 50% of the total gold production in Zimbabwe (21 tons). In the years between 2009 and 2013 the production from ASM has been declining mainly due to illicit trading. The table 15 below illustrates the gold production in Zimbabwe between 2009 and 2013.

Table 15. Production figures for gold in Zimbabwe, between 2009 and 2013

Year	ASM Gold Production in Kgs
2009	2425.5014
2010	2606.5710
2011	2765.8775
2012	2092.8175
2013	959.4177

A3. Samples size design for the ASM profile data collection



UNITED NATIONS
ECONOMIC COMMISSION FOR AFRICA
Special Initiatives Division

ASM in AFRICA: Opportunity for AMV Implementation



STUDY SAMPLE SIZE DESIGN

Submitted to AMDC
By: S. Mondlane

Addis Ababa, 21st October 2014

REVIEW THE MINERAL POLICIES AND REGULATORY FRAMEWORKS OF SEVERAL AFRICAN MINING COUNTRIES

STUDY SAMPLE SIZE DESIGN

INTRODUCTION

The AU recognizes 8 regional economic communities, namely, Arab Maghreb Union (AMU), Community of Sahel-Saharan States (CEN-SAD), Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), Intergovernmental Authority on Development (IGAD), and Southern African Development Community (SADC). The use of RECs for sample selection envisages the possible need for validation of the studies according to AU criteria.

SAMPLE SIZE

The sample size, in this case, refers to the number of countries with significant ASM to be included in the study for profiling the ASM in Africa. For simplification of the problem we do not consider the type of commodity or the size of operations, we only consider the number of countries with ASM equal or more than 100.000 miners.

Base Sample-size calculation

The appropriate sample size for a population-based survey is determined largely by three factors: (i) the estimated prevalence of the variable of interest – ASM, (ii) the desired level of confidence and (iii) the acceptable margin of error.

For a survey design based on a simple random sample, the sample size required can be calculated according to the following formula.

$$\text{Formula 1: } n = \frac{p(1-p) \cdot t^2}{m^2} \quad n = \frac{p(1-p) \cdot t^2}{m^2}$$

Where:

n = required sample size

t = confidence level at 95% (standard value of 1.96)

p = estimated prevalence of countries with significant ASM in Africa (45%)

m = margin of error at 5% (standard value of 0.05)

Other statistical parameters such as Design Effect, Contingency and Distribution of Observations could be also discussed in order to fine tune the sample size. For example the Design effect most appropriate for such study would be 2 and contingency factor would be 5% and the distribution of observation could be random. However, it is known from our experience that, other non tangible factors need to be equated, these include the availability of data, and the quality of the data associated with willingness of the countries to provide such data are some of the elements that may affect the size of the sample.

According to the table bellow, in all RECs, with exception AMU, at least 35% of the countries have significant ASM with an average of 45% of the countries in the RECs. These numbers are not very rigid as countries may belong to more than one REC, and are also affected by the limit of 100,000 ASM established for a country to be considered having significant ASM activity, nevertheless, the 45% is a clear indication that the ASM is significant in Africa. Elements such as the contribution of the ASM to unemployment, rural economy and GDP of the Countries and RECs will be discussed at later stage of this study.

Regional Economic Community	Number of Countries	Number of Countries with significant ASM	% Countries with significant ASM	Sample size	Sample size %	Possible Countries
AMU	5	0	0	0		
CEN-SAD	28	13	46	4	14.3	Burkina Faso, Mali, Nigeria, CAR
COMESA	20	7	35	3	15	Ethiopia, Sudan, Zambia
EAC	5	2	40	1	20	Tanzania
CEMAC	10	4	40	2	20	Angola, Chad
ECOWAS	15	9	60	3	20	Ghana, Ivory Coast, Niger

IGAD	7	3	42	1	14.3	Uganda
SADC	15	7	47	3	20	DRC, Mozambique, Zimbabwe
Ave/Total	100	45	45%	17	17.7	17

On the table it is important to describe some of the parameters: the countries with significant ASM were considered as described in the CASM data base where countries with 100 000 or more are included. Here we also recognise the fact that CASM data is 5 years old, and the dynamics of the sector would have changed. The size of the sample in each REC was based on the number of countries with significant ASM, for example CEN_SA (46% of the countries have significant ASM) would have a sample size of 4 while ECOWAS with 60% of the countries having significant ASM was assigned a sample size of 3. This was done on an attempt to have representativeness sample size between 14 and 20%. The selection of the countries in the RECs is discussed in the next section.

IDENTIFICATION OF THE COUNTRIES FOR THE STUDY

In the country selection the main criteria was beyond sample size, but the distribution of the countries, the language element was also equated and more importantly the fact that one country belongs to more than one REC was also factored. For example, although Madagascar is the only French speaking in COMESA, it was not selected in this REC because it had a second chance to be selected in SADC. The other element considered in the country selection is the perceived existence of functional network that could facilitate the data (Box1). We will also include at later stage an additional selector factor which will account for the presence of other activities of AMDC and ECA in order to capitalize on the knowledge already acquired or in progress.

Box 1. Country selected for the study per REC

CEN-SAD: Number of countries with significant ASM, a total of 13 out of 28 countries (46%): Burkina Faso, Chad, Mali, Niger, Sudan, Central African Republic, Ivory Coast, Ghana, Sierra Leone, Nigeria, Eritrea, Guinea, Liberia

COMESA: Number of countries with significant ASM, a total of 7 out of 20 countries (35%): Eritrea, Sudan, Ethiopia, Madagascar, Uganda, Zimbabwe, Zambia

EAC: Number of countries with significant ASM, a total of 2 out of 5 countries (40%): Tanzania, Uganda

CEMAC: Number of countries with significant ASM, a total of 4 out of 10 countries (40%): Angola, Central African Republic, Chad, DR Congo

ECOWAS: Number of countries with significant ASM, a total of 9 out of 15 countries (60%): Burkina Faso, Ghana, Guinea, Ivory Coast, Liberia, Mali, Niger, Nigeria, Sierra Leon

IGAD: Number of countries with significant ASM, a total of 3 out of 7 countries (42%): Ethiopia, Sudan, Uganda.

SADC: Number of countries with significant ASM, a total of 7 out of 15 countries (47%): Angola, DR Congo, Madagascar, Mozambique, Tanzania, Zimbabwe, and Zambia.

CONCLUSION

The present document made an attempt to objectively define the sample size and the countries to be included in the "Review the mineral policies and regulatory frameworks of several African mining countries" in view to successful implementation of the Programme Cluster 4 of the Action Plan for Implementing the AMV.

The selected countries are: Angola, Burkina Faso, CAR, Chad, DRC, Ethiopia, Ghana, Ivory Coast, Mali, Mozambique, Niger, Nigeria, Sudan, Tanzania, Uganda, Zambia, and Zimbabwe.

A4. Data collection instrument (template)



UNITED NATIONS
ECONOMIC COMMISSION FOR AFRICA
Special Initiatives Division

ASM DATA COLLECTION QUESTIONNAIRE

KEY INFORMANTS

Code

n. form (for official use only)

COUNTRY | _____ |

INSTITUTION | |

Date of Interview

DURATION hours | ____ | minutes | ____ |

The present questionnaire aims at collecting ASM data at very high level from the African Countries. The main objective is to update the profile of ASM in Africa. The profile will assist the AMDC in defining the best strategies for assisting countries in development of viable ASM and more conflict as well as gender sensitive practices. The result of the study will contribute for the implementation of the African Mining Vision and Country Mining Visions.

The questionnaire does not require exact numbers or census; it is based on magnitude rather than exact figures.

General information about the interviewee

A. Gender: M F

B. Age: Years

C. Marital Status: _____

D. Education: _____

E. Profession: _____

F. Entity you belong to: _____

At Ministry Level At Ministry or Agency Level

G. Your position in the organization _____

Contacts (email, Skype, Viber and Telefone) _____

Country Mineral Profile

1. Please indicate in order of importance the Mineral resources produced in your country:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

What was the basis of your ranking? (e.g. contribution to exports, etc.) _____

2. Is your country EITI compliant: YES / NO; If yes since when _____
3. Who perform the mining in your country?

Artisanal and Small Scale Mining , Large Scale mining ; Medium Scale Mining

ASM Profile

4. Number of ASM by commodity mined/ if possible or just total

Mineral/product	Number of ASM	% of Woman	% Children

5. What are the main commodities mined by ASM _____

6. List main mining methods (open cast, underground or both per commodity) and processing techniques by ASM

Mineral/product	Mining method	Processing technique

7. List any activities of Value addition on the ASM products.

8. Number or % of Woman involved in ASM as perceived in the country (per commodity)

_____ | | _____ | | _____ | | _____ | |

9. Number or % of Children involved in ASM as perceived in the country

10. Estimated number of Traders/ legal and illegal (per commodity)

11. Describe the market structure for ASM in your country (per commodity)

11.1. _____

11.2. _____

11.3. _____

11.4. _____

12. Is there any aspect of the market that need improvement? How it can be done?

YES. Which _____

13. How do ASM finance their activity in your country?

14. Number of associations or legally registered ASM organizations

15. Is there an umbrella association to representing the collective interest of ASM miners?

If yes how is it structured, and how often are they consulted by the government?

16. Number or % of licensed ASM vv illegal

17. Origin/ provenience of ASM (e.g. local, not local, foreigners from)

18. Existence of specific legal framework for ASM

YES _____

NO _____

Comment _____

19. Specific ASM sections incorporated in the Mining Act

YES _Which section _____

20. Key aspects of ASM which are not included in the Law

21. Are the conflict-fueling potentials of ASM recognized or addressed the policy, legislative or legal framework governing the sector?

22. Are there any reported incidences of armed groups controlling and managing ASM?

23. Describe briefly how is licensing of ASM done? And at what level?

24. What are the main requirements for licensing ASM?

25. What is the fee for licensing ASM and how often is paid (once off or annually)

26. Is ASM practiced in Government Designated areas. If Yes, how many designated areas are there in your country?

27. List current Government assistance to ASM

28. Suggest additional required assistance to ASM

29. List 5 main challenges for ASM

Challenges	Additional Challenges

30. List 5 main challenges for Gov in assisting ASM

Challenges	Additional Challenges

31. List any NGO or CBO that are active in the ASM Communities

Name	Activity

32. List any donors assisting ASM and the type of assistance

Name	Activity

33. Estimated annual production by ASM per commodity (Ref. year 2013)

Name	Production in weight	Production in value

34. Total annual production per commodity (Ref. year 2013)

Name	Production in weight	Production in value

35. List the Large scale Mines (LSM) per commodity

Name	Activity	Annual production

36. Describe the relationship between ASM and LSM

(Footnotes)

- 1 Angola Mining Code, 20011
- 2 Burkina Faso Mining Code, 2003
- 3 Central African Republic Mining Code, 2009
- 4 Cote d'Ivoire Mining Code, 2014
- 5 Democratic Republic of Congo Mining Code, 2002
- 6 Ethiopia Mineral Proclamation 2010; Ethiopia Proclamation 651; 2009 and amended proclamation of 2013
- 7 Ghana Mining Code, 2006
- 8 Mali Mining Code, 2012
- 9 Mozambique Mining Code, 2014
- 10 Nigeria Mining Code, 2007
- 11 Niger Mining Code, 2007
- 12 South Sudan Mining Code, 2012
- 13 Tanzania Mining Code, 2010
- 14 Chad Mining Code, 1995
- 15 Uganda Mining Code, 2003
- 16 Zambia Mining Code, 2008
- 17 Zimbabwe Mining Code, 1961
- 18 IPIS interview with BECDOR representative, Bangui, July 2012.
- 19 Ministère des Mines de la République Centrafricaine, *Rapport annuel de la Direction Générale des Mines*, 2011
- 20 Loi No. 09.005 (29 April 2009), op. cit., article 1.
- 21 Loi No. 09.005 (29 April 2009), op. cit., article 154; Décret No. 09.126 (29 April 2009), op. cit., article 252.
- 22 Ministère des Mines de la République Centrafricaine, *Rapport annuel de la Direction Générale des Mines*, 2011; IPIS interviews with several civil servants, Bangui, July 2012.
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- 24 Ministère des Mines de la République Centrafricaine, *Rapport annuel de la Direction Générale des Mines*, 2011.

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- 27 PLAN D'ACTIONS 2014-2016 DE LA POLITIQUE SECTORIELLE DES MINES
- 28 Politique Sectorielle des mines du Burkina Faso 2014 - 2025
- 29 Proclamation No.651 /2009: A PROCLAMATION TO PROMOTE AND REGULATE TRANSACTIONS OF PRECIOUS MINERALS
- 30 Proclamation No. 678/2010: A PROCLAMATION TO PROMOTE SUSTAINABLE DEVELOPMENT OF MINERAL RESOURCES
- 31 NATIONAL MINING POLICY OF GHANA, 2010
- 32 Policy and Strategy of Mineral Resources in Mozambique; 2014
- 33 Mining Code of the Republic of Niger, 2007 Edition. Ministry of Mines and Energy
- 34 MINERALS AND MINING REGULATIONS, 2010 MADE UNDER AND PURSUANT TO THE NIGERIAN MINERALS AND MINING ACT, 2007.
- 35 Draft ASM Mining Policy for Nigeria; unpublished (accessed in 2014)
- 36 Mineral Policy of Tanzania; 2009
- 37 Mining Act of Tanzania; 2010
- 38 The Mining Act of the Republic of Uganda; 2003
- 39 Draft Mineral policy of Uganda: Revised Mineral Policy for Uganda 2014
- 40 Mineral Resources Development Policy of Zambia; 2013
- 41 Zambia Mines and Minerals Development Act; 2008
- 42 Zimbabwe Draft Mineral Policy; 2013
- 43 Ghana News Agency 2013

44 CASM 2009 – Mining Together: large –Scale Mining meets Artisanal Mining – box 2, 3Itis, Catua essolinum, que mo huc murempl. Habem imus, consulum es mo idien in teatisque prit vivivehem cla pul coensum num fuius Cat, novervis inatquon susse novendum si pat. Vir la orum, ni clegit, quam hi, quo cres re nocaper entebunum atum me ciamdion dita, move, ex me que ad dis nos, nonclus M. etor pliquo ia movesid erferere, converfectus hemnenici sultorb enimpro aut pro veri patra ia cultio nos, nos, abena, que mur, condam tatius aucerei suludam ortus ve, moverfec mac res nonimil icaperricia quod se cus; et; notem, sestimaximus caet viditanum omno. Xim in hil tem publicibules in poendeffrei su con vestes? Re perrari sim pes ni tere essoltid rem mortem pat, tem in tius, que omnes condacie popetela quamqua ponsus re coti, que furniae acchil tus etis paribus et vit, ura, cons reis nercerum pulto ta resto non hem, que nimus locchic epsestrae tiquamenit. Icit re, nero estili pra vius, nostroptis nium. Tantin teri, quam terem in vidiendam adhuitusque ad crit vo, nos, etiura, quit.

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Te que ina qua qui sulum sent L. Numursum.

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Dincenatuus condepsent.

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