



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

**TOWARDS THE LEGALISATION OF ARTISANAL SMALL-SCALE MINING IN
SOUTH AFRICA**

by

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(Student Number 13416091)

submitted in partial fulfilment of the requirements
for the degree of

Legis Legum Magister (LLM) in Extractive Industries in Africa

at the University of Pretoria

prepared under the supervision of

Adv Leonardus J Gerber
Department of Public Law
Faculty of Law
University of Pretoria

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ACKNOWLEDGMENTS

A turning point in my career was ushered in by the introduction of the programme on extractive industries. Having been a participant within the defence community, the scramble for resources has been a standing risk bedevilling intelligence estimates. This programme introduced me to the same concept through the resource curse paradigm. I am grateful to the Faculty of Law for introducing this programme . A special word of thanks goes to the coordinator who has shared his intellectual capital beyond the Extractive Industries Programme.

I want to register specific gratitude to my family, the home of lifelong learners, for accommodating the lifelong learner in me. I commend this piece to the academics as a stepping stone to ensuring that minerals are enjoyed by those who are rightful owners.

And the Lord answered me, and said, write the vision, and make it plain upon tables, that he may run that readeth it. For the vision is yet for an appointed time, but at the end it shall speak, and not lie: though it tarry, wait for it; because it will surely come, it will not tarry.

Habakkuk 2: 2- 3 (KJV)

God is not a man, that He should lie, nor a son of man, that He should repent. Has He said, and will He not do? Or has He spoken, and will He not make it good? 20 Behold, I have received a command to bless; He has blessed, and I cannot reverse it.

Numbers 23:19-20 (NKJV)

ABSTRACT

Artisanal and small-scale mining (ASM) includes 20 to 30 million people worldwide, with three to five times that number indirectly supported through their activities. The artisanal small-scale mining sector has emerged as a sector that is a net contributor to sustainable development and is a poverty alleviation intervention. ASM provides numerous opportunities for women though the extent varies from country to country. While this sector contributes to poverty alleviation, it is by no means associated with socio-economic misgivings.

Governments, industry players and non-governmental organisations (NGOs) have neglected this fast-growing sector, focusing on the negative impacts of ASM rather than on addressing its structural challenges to improve the sector's opportunities for sustainable development. This has been the case because ASM is very often associated with challenges, including a poor environment; health and safety practices; the spread of communicable diseases; heightened security risks to neighbouring communities and operations; forced child labour; inequitable distribution of benefits in communities; and illegal trade. South Africa is no exception with a recorded rise in ASMs, referred to as *zama-zamas*, an operation characterised by non-citizens, a situation that ushered in a security risk.

Artisanal small-scale mining as a fast-growing sector demanding recognition and profiling of the sector with its requisite enablers within legislation. The question the dissertation addresses is whether the social contract provided for in the Policy on Mineral Resources and codified through legislation has created a mining sector that contributes to the poverty alleviation agenda of South Africa. The dissertation aims to assess the extent to which South Africa's legislative framework provides for the development and incorporation of ASM as a fast-growing sector that requires support, regulation, monitoring and evaluation.

The approach adopted entails the contextualisation of ASM as well as a dissection of its attributes, and an analysis of South African policies and legislation. Further, Ghana and Tanzania are utilised as test cases to provide some evidence of the recognition of the ASM sector and improvements to legislation to promote local content. The two

test cases are utilised to propose areas that require consideration in the South African legislation to enable the ASM sector to receive the support to ensure compliance. South Africa has commenced with initiatives to recognise the existence of ASM by issuing licences and promoting cooperative arrangements within mining. The attribution of ASM as illegal mining and a security risk for South Africa is unfortunate. South Africa must embrace practices that prevail in the Communities of Artisanal and Small-Scale Mining (CASM) Charter, the Yaoundé Vision and the Africa Mining Vision, where the practice of informal artisanal mining (IAM) is not criminalised but is encouraged as a niche source for sustainable livelihoods.

Keywords: artisanal small-scale mining; poverty alleviation; sustainable development; Africa Mining Vision; socio-economic impact, illegal mining

LIST OF ACRONYMS

AMV	Africa Mining Vision
ASM	Artisanal Small-Scale Mining
CASM	Communities of Artisanal and Small-Scale Mining
CSO	Civil society organisation
DMC	Diamond Marketing Corporation
DMR	Department of Mineral Resources
EPA	Environmental Protection Agency
GDP	Gross domestic product
GTZ	<i>Gesellschaft Technische Zusammenarbeit</i>
HDSA	Historically disadvantaged South African
IAM	Informal artisanal mining
ICESCR	International Covenant on Economic, Social and Cultural and Rights
ILO	International Labour Organisation
LSM	Large-scale mining
MMSD	Mining, Minerals and Sustainable Development
MPRDA	Mineral and Petroleum Regulation and Development Act
NGO	Non-governmental organisation
NSONR	National Sovereignty Over Natural Resources
PMMC	Precious Minerals Marketing Corporation
POSTEDFIT	Personnel, Organisation, Sustainment, Training, Equipment, Doctrine, Facilities, Information and Technology
SADC	Southern African Development Community
SANDF	South African National Defence Force
SAPS	South African Police Service
SD	Sustainable development
SDG	Sustainable Development Goal
SME	Small and medium enterprise
TAWOMA	Tanzanian Women Miners Association

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CHAPTER 1: INTRODUCTION (1500 WORDS)

Background

Artisanal and small-scale mining (ASM) contributes to national income and is a recognised pillar for poverty reduction in the mineral economies of developing countries.¹ ASM as an economic activity presents the potential to contribute to sustainable development while successfully aiding the development of rural communities. However, despite this recognised potential characterising ASM operations, its activities remain largely informal. States' attempts to formalise these operations through regulatory frameworks remain non-existent or sub-optimal with customisation to respond to the pressing realities of the ASM sector.

ASM provides a substantial contribution to the Sustainable Development Goals (SDGs) in Africa, which relates to eradication of poverty that underpins sustainable growth and development across Africa. An estimated 13 to 20 million men, women and children from over 50 developing countries are directly engaged in the artisanal mining sector.²

ASM remains a source of livelihood, especially in rural communities. ASM activities are largely manual and, as such, prone to extensive collateral environmental degradation and deplorable socio-economic conditions. This situation prevails both during operations as well as after the termination of mining activities. ASM activities have profiled gold as a main mineral, due to its ease of sale as well as its resilience towards the instability of local governments.³

Small and medium enterprises (SMEs) represent over 90 per cent of private business and contribute to more than 50 per cent of employment and of gross domestic product

¹ AA Debrah, DPO Quansah & I Watson 'Comparison between artisanal and small-scale mining in Ghana and South Africa: Lessons learnt and ways forward' (2014) 114 *Journal of the Southern African Institute of Mining and Metallurgy* 913-921.

² <http://en.wikipedia.org/wiki/Artisanal> (accessed 31 October 2018).

³ JJ Hinton, MM Veiga & ATC Veiga 'Clean artisanal gold mining: A Utopian approach?' (2003) 11 *Journal of Cleaner Production* 99.

(GDP) in most African countries.⁴ In South Africa, it is estimated that 91 per cent of the formal business entities are SMEs, while in Ghana they contribute about 70 per cent to Ghana's GDP and account for about 92 per cent of businesses. This further translates to a contribution of 52 to 57 per cent to GDP as well as a contribution to economic activity of about 61 per cent.⁵ Notwithstanding the recognition of the important roles SMEs play in these countries, their development is largely constrained by a number of factors, such as a lack of access to appropriate technology; limited access to international markets; the existence of laws, regulations and rules that impede the development of the sector; weak institutional capacity; a lack of management skills and training; and, most importantly, finance.

The artisanal small-scale mining sector has emerged as a sector that is a net contributor to sustainable development and is a poverty alleviation intervention. A survey by the International Labour Organisation (ILO) and Mining, Minerals and Sustainable Development (MMSD) presents a profile depicting that at least 13 million people are directly working in small mines throughout the world, with more such activities being prevalent in developing countries, the latter being the highest contributors.⁶ As a result, ASM has emerged as a strategic issue that characterises the developmental agenda of many national governments as well as bilateral and multilateral donor organisations with different assistance programmes developed.⁷ Various approaches have been adopted whereby some countries have programmes in place for small-scale mining, although these have not been incorporated into the mining laws, whilst some countries have adopted special laws applicable to the small mining sector.⁸ Countries such as Ghana, Botswana, Mali and Zambia have developed legislation for the ASM sector while other countries have paid lip service to

⁴ G Ceglie & M Dini *SME cluster and network development in developing countries: The experience of UNIDO* (1999).

⁵ J Abor & P Quartey 'Issues in SME development in Ghana and South Africa' (2010) 39 *International Research Journal of Finance and Economics* 215.

⁶ T Hentschel, F Hruschka & M Priester 'Global report on artisanal and small-scale mining' Report commissioned by the Mining, Minerals and Sustainable Development of the International Institute for Environment and Development (2002), http://www.iied.org/mmsd/mmsd_pdfs/asm_global_report_draft_jan02.pdf

⁷ As above.

⁸ As above.

the plight of miners. A lack of legislation which manifests in non-registration by governments deprives participants in ASM of access to social services.⁹

The implementation of legislation has been fairly straightforward for large and medium-scale mining enterprises. However, many countries have been unsuccessful in incorporating the ASM sector into the formal legal environmental system. The absence of customised legislation for the ASM sector forces environmental authorities to apply existing legislation, forcing ASM further into illegal situations because of non-compliance.¹⁰

Imprecise environmental regulations and legislation in many developing countries, along with ineffective monitoring and enforcement programmes in place for small mines, require urgent attention. Further, governments and international agencies are expected to provide miners with the much-needed training and equipment required to avoid environmental problems and accidents.¹¹

The recognition of ASM as a fast-growing sector demands the profiling of the sector and the requisite enablers within the legislation. The focus on ASM has increased as a sector that requires legislative protection. This increased momentum is informed by the statistical contribution of the sector to poverty alleviation in developing countries.

Aims and objectives

The aim of this study is to assess the extent to which South African policies and legislation provide for the incorporation of ASM.

1.2.1 Objectives

The following objectives have been selected as a means to realise the aforementioned goal:

⁹ SJ Mallo 'Mitigating the activities of artisanal and small-scale miners in Africa: Challenges for engineering and technological institutions' (2012) 2 *International Journal of Modern Engineering Research* 4714.

¹⁰ T Hentschel *Artisanal and small-scale mining: Challenges and opportunities* (2003).

¹¹ G Hilson 'Small-scale mining and its socio-economic impact in developing countries' (2002) 26 *Natural Resources Forum* 3.

- dissecting a definition and attributes of ASM as well as its application in the South African context;
- An analysis of the South African legislation in terms of provisions that relate to ASM;
- testing the defined attributes of ASM against the pro-ASM interventionist approaches adopted by Tanzania and Ghana;
- identifying specific recommendations for South African legislative provisioning.

Research questions

To analyse the South African legislative landscape, specific questions have been developed which form the framework of the chapters.

1.3.1 Primary

Does South Africa's legislative framework provide for the development and incorporation of ASM as a fast-growing sector that requires support, regulation and monitoring and evaluation?

1.3.2 Secondary

To respond to the primary question, the following secondary questions have been developed to fully appreciate the scope and scale of the sector in South Africa:

- (a) What constitutes ASM, in general, and in South Africa, in particular?
- (b) What is the policy and legislative position of South Africa with regard to ASM?
- (c) How has the ASM sector evolved in Tanzania and Ghana?
- (d) Are there recommendations regarding essential elements that should be considered within South African legislation to comprehensively embrace ASM as a fast-growing sector?

Research methodology and parameters

1.4.1 Methodology

The study will be a desktop research on what characterises a successful ASM sector which involves a comparison of the policy and legislative provisions of Ghana and Tanzania. These two countries have been selected because of their growth in the ASM sector as well as regulatory provisions.

A desktop analysis that provides a qualitative research approach will be employed.

1.4.2 Parameters

The research will focus on an evaluation of the existing regulatory frameworks with the aim of distilling critical elements that embrace the transformational agenda. As regards the case examples used in chapter 4, these are not in accordance with a comparative analysis, but are rather utilised to illustrate the contextual mitigation of *lacunae* identified in chapter 3.

Relevance of the study

Mining is an important part of the South African economy and has been the driver of much of the economic development of the country. However, the small-scale mining subsector requires extensive support for it to realise its full potential. Small-scale mining is regulated by the same legislation (that is, in regard to the environment, labour, mineral rights, exploration and mining permits, and skills development) as large-scale mining, although compliance is low, particularly as far as artisanal mining is concerned.¹²

This study will assist in refining interventions initiated by South Africa to promote artisanal small-scale miners. Various initiatives have been piloted in South Africa. However, policy certainty is required in the ASM sector. This is critical as ASM activities impact on the licence provisions as well as licence operating requirements.

¹² N Mutemeri & FW Petersen *Small-scale mining in South Africa: Past, present and future* (2002).

Despite experiencing its share of environmental and health-related problems that adversely impact human quality of life, small-scale mining plays a pivotal role in alleviating poverty in the developing world, and contributes significantly to national revenues and foreign exchange earnings. Notwithstanding the important socio-economic contributions making small-scale mining an indispensable economic activity, there is an obvious need for improved sustainability in the industry, more specifically for operations to resolve pressing problems, many of which have wide-ranging impacts.¹³

Mining is an important part of the South African economy and has been the driver of much of the economic development of the country. However, the small-scale mining subsector still has to realise its full potential. Small-scale mining has been defined as a mining activity that employs fewer than 50 people and has an annual turnover of less than ZAR 7,5 million and includes artisanal mines. Small-scale miners are involved in many commodities, but there appears to be a bias towards gold, diamonds and quarrying for construction materials, including brick clays.¹⁴

Chapter overview

In conducting this study, five chapters have been compiled providing the following trajectory: First, an overview of the purpose and the approach to be adopted is articulated in chapter 1. The second chapter provides the definition of ASM as well as attributes of the ASM sector.

This overview is followed by the dissection in chapter 3 of the South African legislative provisions as provided for in the Mineral and Petroleum Regulation and Development Act (MPRDA), the published policies as well as the promulgated charters. This chapter unveils the extent to which South Africa's policy pronouncements and legislative frameworks embrace ASM as a measure of the commitment of the South African government in embracing ASM.

¹³ Hilson (n 11) 3.

¹⁴ Mutemeri (n 12)

Chapter 4 provides a test analysis on how ASM is managed as a sector in South Africa. The attributes of successful ASM legislative provisions will be utilised and the implications of these for the South African ASM outlook are unveiled. In this chapter, illustrative case studies are employed to profile the attributes that characterise a fully-embraced ASM sector. A presentation of the Ghanaian strategic and legislative posture toward ASM as well as that of Tanzania will be employed. The two comparative analyses will provide a test case basis for legislative benchmarking for the South African ASM promotion trajectory as well as legislative provisions.

Chapter 5 provides a definitive response to the extent to which the South African legislation embraces ASM. Further specific recommendations will be presented as to how the regulatory frameworks could be strengthened to cater for the ASM sector.

CHAPTER 2: CONTEXTUALISATION OF ARTISANAL SMALL-SCALE MINING

2.1 Introduction

This chapter provides an exposition of what constitutes artisanal small-scale mining, the commodity profile, its contribution to the economic participation and sustainable development goals as well as its attributes.

ASM entails mining activities conducted by individuals, groups, families or cooperatives with minimal or no mechanisation. ASM activities often find expression in the informal sector of the market.¹⁵ ASM occurs in 80 countries, across which countries, collectively, the total number of people engaged in the activity has grown from 10 million in 1999 to potentially more than 20 to 30 million.¹⁶ Recent ILO research estimates that 13 million people are directly engaged in small-scale mining activities throughout the world, principally in developing countries, with the livelihoods of 80 to 100 million people as beneficiaries. The informal character that the ASM sector has assumed has led to less reliable and valid official statistics. This has been largely caused by a lack of accurate data regarding the extent of economic participation as well as the seasonal character of operations.¹⁷

The range of commodities exploited by artisanal and small-scale miners is diverse, including gemstones; gold; copper; cobalt; coltan; coal; construction materials; and other industrial minerals.¹⁸ Artisanal and small-scale miners account for 80 per cent of global sapphire, 20 per cent of global gold and up to 20 per cent of the world's diamond production.¹⁹ These miners are found scattered across sub-Saharan Africa, Asia, Oceania, and Central and South America. Although their largely informal and, overall, relatively unmechanized nature generally results in low productivity, the sector is an important livelihood and source of income for many impoverished individuals.²⁰

¹⁵ Mallo (n 9) 4714.

¹⁶ A Buxton *Responding to the challenge of artisanal and small-scale mining: How can knowledge networks help?* (2013).

¹⁷ Hentschel (n 10).

¹⁸ Mallo (n 9).

¹⁹ Buxton (n 15).

²⁰ FA Armah et al 'Working conditions of male and female artisanal and small-scale goldminers

Notwithstanding several attempts, a common definition of ASM has not emerged and is yet to be established. The definitions that have been developed entail utilisation of limited investment; the volume of the operations; the low number of workforce; or reduced mineral production. Definitions vary from country to country and are linked to the macroeconomic situation, the geological framework, the mining history and the legal conditions.²¹

The definition of ASM varies from country to country, but it generally involves the exploitation of deposits which are not profitable to mine through large-scale mining (LSM). ASM is conducted by small groups of 20 to 50 people and rudimentary tools are used.²²

Artisanal and small-scale mining takes place throughout the world, but is particularly widespread in developing countries in Africa, Asia, Oceania, and Central and South America. Small-scale or artisanal mining is a poverty-driven activity found mainly in remote areas of developing nations. It routinely generates land use conflicts with other stakeholders, primarily large mining companies. The scale of these disputes, some occasionally involving armed conflict, is usually sufficient to have significant adverse impacts on the natural environment and the local population at large.²³

2.2 Attributes of artisanal and small-scale mining

This section aims to present the distinctive features of the ASM sector. The ASM sector is characterised by mining operations that assume a semi-industrial or fully industrial character with a degree of mechanisation, internal organisation and compliance with international industrial standards is advanced. Because these operations are financed and managed by partners from industrialised countries, the operations produce niche products with small to high grade mineral deposits. This

in Ghana: Examining existing disparities' (2016) 3 *The Extractive Industries and Society* 464.

²² T Zvarivadza 'Artisanal and small-scale mining as a challenge and possible contributor to sustainable development' (2018) 56 *Resources Policy* 49.

²³ JS Andrew 'Potential application of mediation to land use conflicts in small-scale mining' (2003) 11 *Journal of Cleaner Production* 117.

category presents positive examples of ASM as the operations are less challenged by non-compliance.²⁴

In some West African countries (Mali, Niger and Burkina Faso), small-scale mining is differentiated from artisanal mining by the presence of permanent, fixed installations established. These attributes will be compared to the South African policy and legislative landscape.²⁵

Mkhize locates ASM within the informal artisanal mining (IAM) discourse, which assumes various features across the globe. He asserts that in Ghana, IAM is referred to as *galamsey*, while it is referred to as *ninja* mining in Mongolia. In South Africa, participants in informal artisanal mining are referred to as *zama-zamas*, the indigenous meaning of which translates into 'trying again'.²⁶

Zvarivadza defines ASM as 'the exploitation of marginal ore deposits, which are not profitable to mine on a large scale, through both informal and formal channels using rudimentary tools'. He further asserts that the informal ASM (I/ASM) is carried out illegally, and is characterised by a high degree of irresponsibility as the miners are not registered and, therefore, are not accountable. This is the form of ASM that poses great challenges to sustainable development (SD) as it has little or no regard of mine planning issues such as mine access, rock breaking, material handling, support, ventilation or general safety considerations.²⁷

ASM is characterised by several conditions, which are enunciated as follows:²⁸

- (a) a lack or very reduced degree of mechanisation, and substantial physically-demanding work;

²⁴ Mutemeri & Petersen (n 12) 286-292.

²⁵ Mutemeri & Petersen (n 12) 286-292.

²⁶ MC Mkhize 'New interventions and sustainable solutions: Reappraising illegal artisanal mining in South Africa' (2017) 61 *South African Crime Quarterly* 67.

²⁷ Zvarivadza (n 21) 50.

²⁸ Hentschel, Hruschka & Priester (n 6).

- (b) a low level of occupational safety and health care;
 - (c) deficient qualification of personnel on all levels of operations;
 - (d) inefficiency in the exploitation and processing of the mineral production (low recovery of values) exploitation of marginal and/or very small deposits, which are not economically exploitable by mechanised mining;
 - (e) a low level of productivity;
 - (f) a low level of salaries and income;
 - (g) periodical operation by local peasants or according to the market price development;
 - (h) a lack of social security;
 - (i) insufficient consideration of environmental issues;
 - (j) a chronic lack of working and investment capital;
 - (k) working mostly without legal mining titles;
 - (l) these parameters characterising ASM as an artisanal activity; and
- mostly the development of the sector is in strong relation to the general economic indicators of the country, ASM is poverty related.

2.3 Legislative framework regimes embracing ASM

In some jurisdictions, as evidenced by programmes in Ghana, Colombia and Zimbabwe even though the mining laws fail to recognise ASM activities, programmes that support small mining are in existence. In other countries there are special laws that serve to provide a differentiated treatment of small mining, such as evidenced by the Garimpo Law in Brazil as well as in Ghana. The criteria that define the ASM sector usher in advantages and disadvantages depending on the country, the prevailing political situation; the number and distribution of mines in each country; the type of mining; the minerals produced; production volume; the number of people per productive unit; the intensity of capital employed; labour productivity; the size of mine claims; the quantity of reserves; the sales volume; operational continuity; operational reliability; and the duration of the mining cycle.

In some jurisdictions, such as in South Africa, notwithstanding the reality that ASM forms part of the informal sector, mine operators are expected to comply with the legal conditions as stipulated below, regardless of size:²⁹

- (i) possession of a mining title or valid contract with a concession holder;
- (ii) compliance with environmental legislation;
- (iii) possession of an environmental operation licence;
- (iv) registration of the company at the mining authority;
- (v) payment of taxes (royalties, company taxes);
- (vi) enrolment of staff in the national social security system;
- (vii) legal exportation of the products through valid export licences and taxation.

2.3.1 Factors that influence the willingness of small- scale miners to perform legal operations

Various factors influence the sector's appreciation of legal operations. These relate to legal and administrative considerations; moral considerations; economic considerations; as well as enterprise-related considerations.³⁰

The legal and administrative factors that influence the willingness of small-scale miners to operate legally entail the existence of coherent legal certainty as reflected through legislation and the attendant mining codes; the existence of human, financial and material resources to ensure the enforcement of these laws as well as to ensure decentralised execution; the existence of the political will to drive the execution of the laws; as well as monitoring of the effectiveness to realise internal, external efficiency; embracing corporate governance through transparent and efficient mining administration as depicted through the management of mining titles.³¹

The moral determinations that influence the appetite of small-scale miners to perform legal operations being influenced by expression of public interest and other stakeholders in favour of legal operations. Further the level of awareness of clients

²⁹ Hentschel (n 10).

³⁰ Hentschel, Hruschka & Priester (n 6).

³¹ Hentschel, Hruschka & Priester (n 6).

about the origin and manner of production of mineral commodities where large-scale mining serves as a positive example thus influencing public opinion against informality and corruption.³²

The economic considerations relate to the existence of direct and indirect incentives to enable the legal production. The possibility of utilising the legality of production as a marketing strategy as well as the existence of a win-win option for normalisation of productions with widened economic opportunities created through access to formal markets to accelerate local transformation.³³

In relation to the enterprise, the level of investment security as provided for through awareness programmes on the importance of legal production and risks that are related to illegality, preparedness to realise changes in the legal, technical and organisational outline of the enterprise as well as access to mining technologies and specialised mining services.³⁴

2.4 Participation of women

ASM is a complex industry that is highly important economically in at least 23 countries in sub-Saharan Africa. There is growing recognition that ASM is the most significant economic activity in many of the region's rural settings. In most artisanal and small-scale gold mining communities in sub-Saharan Africa, men undertake jobs related to actual ore extraction, such as digging, blasting, crushing stones and loading and transporting ore. They are less present in the processing stage and play a relatively minimal role in the delivery of auxiliary services. Women, on the other hand, tend to dominate processing (panning, preparing the processing plant) and the provision of auxiliary services (cooking, cleaning, buying gold). The former features high levels of manual activity to extract mineral remnants from tailings; women form 'human chains', each carrying large buckets of tailings on their heads, and panning and sluicing mud and sand to recover particles of gold.³⁵

³² As above.

³³ As above.

³⁴ As above.

³⁵ Armah et al (n 19).

Across the region, large numbers of women participate in the – largely informal – small-scale gold mining economy, which also supports multiple dependents through allied livelihoods. Yet, little is known about the working conditions of both its male and female operators, and how these vary systematically with educational level, age, and years of experience on the job. It is no secret that artisanal and small-scale miners often operate in hazardous working conditions. Major health risks associated with artisanal mining include exposure to dust (silicosis, mesothelioma); exposure to mercury, zinc vapour, cyanide, acids, and other chemicals and over-exertion, problems arising from working in an inadequate workspace and complications associated with using inappropriate equipment.³⁶

Profiling women’s participation in the ASM sector has occupied centre stage across the continent and several initiatives have been reported. Several women’s mining associations have been developed which attempt to overcome the barriers to women’s advancement in the industry.

The SADC Women in Mining Trust has a special focus on women miners. Its membership encompasses Angola, Botswana, Namibia, the Democratic Republic of the Congo (DRC), Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. The main objects of the trust include lobbying for support of women in mining both regionally and internationally; identifying the training and technical needs of women miners and conducting training programmes to meet those needs; training women in environmentally sound mining methods; establishing revolving loan funds to increase women miners’ access to capital; and networking and facilitating the marketing of members’ products.³⁷

The Tanzanian Women Miners Association (TAWOMA) mission is outlined as ‘to facilitate women miners to organise and access required financial, technical and marketing services so that they can carry out mining activities that are both economically and commercially viable and environmentally sustainable and thereby raise the standard of living for women miners and their families’. In terms of long-term

³⁶ Armah et al (n 19).

³⁷ Hentschel, Hruschka & Priester (n 6).

goals, TAWOMA is working towards establishing a centre for the rental of mining equipment and tools; a lapidary and jewellery production unit; and a skills training centre focusing on environmentally sustainable mining and processing methods, health and safety issues and the rehabilitation of ecologically sensitive mining areas.³⁸

2.5 Role of states

The ASM sector has traditionally received a low proportion of aid relative to its contribution to livelihoods. However, the recognition of the sector's close connection to poverty has increased with more focus enunciated through the sustainable development goals. The global shift in concern towards poverty alleviation has resulted in ASM gaining more attention.³⁹

National governments are increasingly becoming aware of the importance of the ASM sector as a strategic intervention to address poverty alleviation as well as contributing to national income. Governments have formally recognised the sector as well as provided facilitating environments. Notwithstanding these developments, the implementation of legislation remains problematic at a local level. As such, the confidence and trust level towards governments to provide the much-needed assistance has declined.

The recognition of the ASM sector will force governments to develop a consistent and holistic sector policy. In most countries in the Southern African Development Community (SADC), where artisanal and small-scale mining takes place, there is an absence of any form of policy addressing the needs of the sector. There are some exceptions to this, for example in Peru, Colombia, Tanzania and South Africa, where recent reforms in national policy have led to recognition of the sector and to attempts at providing an enabling framework.⁴⁰

³⁸ Mutemeri & Petersen (n 12); PF Ledwaba & N Mutemeri 'Institutional gaps and challenges in artisanal and small-scale mining in South Africa' (2018) 56 *Resources Policy* 141-148.

³⁹ Thomas Hentschel, Felix Hruschka and Michael Priester, 'Global report on artisanal and small-scale mining' (2002) 20(08) *Report commissioned by the Mining, Minerals and Sustainable Development of the International Institute for Environment and Development*. Download from http://www.iied.org/mmsd/mmsd_pdfs/asm_global_report_draft_jan02.pdf on 2008

⁴⁰ Mutemeri&Peteren (n12)

Government's main tasks in the ASM sector encompass:

- (a) management of the exploitation of the national mineral resources in a socially acceptable, environmentally sound and sustainable manner;
- (b) promotion of investment in the sector;
- (c) licensing the mining titles; and
- (d) promoting the legalisation and normalisation of the ASM operations.

The main tools for governments to exercise these tasks are the mining laws, the concession system with the mining cadastre as well as the supervision of compliance with the laws and national or international technical standards and procedures.

2.6 Background to ASM in South Africa

Prior to 1994, people of colour, women, junior and small-scale mining enterprises were excluded from participating in the mineral and mining economy.⁴¹ Artisanal and small-scale mining was identified by the state as a transformative intervention to realise social and economic development, particularly for disadvantaged communities that were excluded from participating in the national mining economy. ASM was profiled as an essential national imperative to fast-track the redress of past injustices, specifically as these relate to widening access to ownership within the mining industry. To this end, ASM was profiled as a means and platform to empower historically disadvantaged South Africans (HDSAs);, and to provide empowerment through skills development and skills transfer to local communities where transnational mining operations exist. It was believed that such initiatives would culminate in the activation and stimulation of a sustainable entrepreneurship development agenda in the country.

The recognition of the ASM sector dates back to the affirmation of the democratic order in 1994 wherein a series of frameworks were developed that were principally aimed at supporting the development of the sector.⁴² ASM was identified as an important

⁴¹ Ledwaba & Mutemeri (n 35).

⁴² P Ledwaba & K Nhlengetwa 'When policy is not enough: Prospects and challenges of artisanal and small-scale mining in South Africa' (2016) 7 *Journal of Sustainable Development Law and Policy*

platform where the disadvantaged South African community can enjoy some economic participation and beneficiation from the mining industry. Several programmes were introduced to profile the subsector. Unfortunately, these programmes and initiatives that were introduced could not facilitate the development of the sub-sector and contribute positively to the development of local communities where these mining operations are located. As such, the outlook of the local economies remained underdeveloped.

In recognition of this *lacuna* in implementation, the country profiled the widening of economic participation in the mining industry through the pronouncements made in the National Development Plan where a target has been determined that drives the changed agenda of government within the mining sector. Vision 2030 has profiled the realisation of a job creation drive to culminate in 11 million jobs by 2030.⁴³

The ASM agenda has been strategically positioned within the Government Outcome Based Planning trajectory as central to the realisation of Outcome 6 on social and economic infrastructure development.⁴⁴ ASM is not only recognised as a sub-sector of formal mining, but is also considered a poverty alleviation strategy acceptable in terms of the MPRDA.⁴⁵

The outlook of ASM in the South African context situates mining opportunities in two categories. These categories are high-value minerals which include, but are not limited to, gold, diamonds and platinum and low-value minerals which include mostly industrial minerals and construction materials.⁴⁶

Notwithstanding the categories cited, it has been recorded that the biggest percentage of ASM operators in South Africa exploit industrial minerals and construction materials such as sand, stone and aggregate dimension stones most preferred by locals as well

25.

⁴³ National Development Plan 2030: Our future – Make it work, Pretoria, South Africa: NPC. <http://www.npconline.co.za/pebble.Asp>

⁴⁴ Department of Planning, Monitoring and Evaluation 'The medium-term strategic framework (MTSF) of 2014-2019', Department of Planning, Monitoring and Evaluation, Pretoria (2014).

⁴⁵ Mkhize (n 25) 67.

⁴⁶ S Moja et al 'Characterisation of surface and trapped dust samples collected around human settlements that are in the vicinity of old mine tailings in Mpumalanga Province, South Africa' (2016) 7 *Journal of Earth Science and Climatic Change* 2.

as policy makers. This preference is based on the relative ease of discovery and processing thereof as these minerals appear near the surface. Further, these require minimal costs for exploitation as the associated mining and processing activities are relatively simple. While the mining industry has contributed significantly to the development of the local economy and infrastructure, it has also degraded the natural environment. This is evidenced by mining operations that range from being owned and ownerless, that contribute to seepage of contaminated water, cause dust pollution problems, the contamination of soil, surface and ground water, which present a health hazard to the local communities.⁴⁷

The value chain is characterised by a high degree of vertical integration with local beneficiation and value addition. These entail the making of traditional clay crafts, brick making, producing tiles from dimension stones and crushing stone to produce aggregates thus contributing to local economies. Small-scale mining is regulated by the same legislation which comprehensively addresses the environment, labour issues, mineral rights, exploration and mining permitting, as well empowerment and skills development as applied to large-scale mining. The ASM sector, however, is bedevilled by low levels of compliance, particularly where artisanal mining is concerned.⁴⁸

Over the past few years, South Africa has seen an intensification of illegal mining activities across the country, referred to as *zama-zama* mining. These activities continue to dominate the news headlines and national discourse among different stakeholders including governments, the industry, trade unions, civil society organisations (CSOs), communities and academics. The public discourse is largely fuelled by the increasing death toll during *zama-zama* mining activities across the country.⁴⁹

In response to the public discourse, the Department of Mineral Resources (DMR) and the Mine Health and Safety Council hosted a workshop with the theme 'Combating

⁴⁷ As above.

⁴⁸ Mutemeri & Petersen (n 12).

⁴⁹ K Nhlengetwa & KA Hein 'Zama-zama mining in the Durban Deep/Roodepoort area of Johannesburg, South Africa: An invasive or alternative livelihood?' (2015) 2 *The Extractive Industries and Society* 1-3.

illegal mining and promoting artisanal mining in South Africa' on 24 March 2017. The workshop focused on exploring regulatory mechanisms for artisanal mining in South Africa. Such regulatory mechanisms were aimed at ensuring states' responsibility to protect participants in the ASM sector.

The evaluation of the ASM intervention in the South African mineral landscape depicts a failed attempt to realise the ASM sector that the mineral policy envisioned in 1998. The policy envisioned ASM as a transformational leverage to increase competitiveness of the economy, create jobs, and take over where large-scale mining was unable to operate economically. It was believed this strategy would culminate in an increased portfolio of minerals produced, maximise the exploitation of resources that would be sterilised and provide a channel for increased access to the mining industry.⁵⁰

The ASM sector remains significantly smaller in terms of the number of people participating in the sector and the suggested mineral resource potential of South Africa with limited or no research to scientifically provide evidence of the contribution of the ASM sector to the South African economy.⁵¹

Zama-zama mining has presented a dismal picture of what supposedly is the ASM sector in South Africa and has clouded other types of ASM activities existing in South Africa. Most of these ASM activities, although 'strictly' illegal, were once recognised and supported by government as part of the transformation of the ASM sector. These activities are referred to as informal ASM and include activities conducted mostly by communities in rural and impoverished areas of the country. A three-sector categorisation has been adopted by the Department of Mineral resources which encompasses artisanal or subsistence mining operations (new entrants); sub-optimal formal mining operations; and entrepreneurs with upfront capital. Further, the two decades have seen various initiatives by the state to legalise these operations as well as to provide support towards economic viability. Central to these initiatives has been

⁵⁰ FT Cawood. 'The Mineral and Petroleum Resources Development Act of 2002: A paradigm shift in mineral policy in South Africa' (2004) 104 *Journal of the Southern African Institute of Mining and Metallurgy* 53-64.

⁵¹ Debrah, Quansah & Watson (n 1) 913-921.

the development of several institutional frameworks which have been specifically developed to promote the ASM sector.⁵²

These institutional frameworks were aimed at addressing the challenges faced by informal ASM activities as well as accelerating the creation of economically-viable and sustainable projects that can provide a meaningful contribution to job creation and poverty alleviation in the rural and marginalised communities.⁵³

2.7 Concluding remarks

ASM has characterised the continental drive towards wealth creation and distribution in the mineral resources space. It remains essential that communities be empowered to participate in the ASM sector. Transnational companies that characterise the current mining sector need to prioritise embracing the ASM sector as part of the value chain. This will reduce the current incidences of fatalities in the ASM sector, which are attributed to non-compliance with mining health and safety provisions.

Transnational companies that are role players in the South African mining sector need to ensure that the collateral beneficiation legally accrues to the citizens of the communities where the operations are located.

The ASM sector has traditionally received a low proportion of aid relative to its contribution to livelihoods. However, in the last 10 years recognition of the sector's close connection to poverty has increased with more focus enunciated through the sustainable development goals. In line with a global shift in concern towards poverty alleviation ASM is gaining more attention.

2.7.1 Developing a networked governance perspective

Mkhize asserts that recognition of informal artisanal mining as the contributor to rural economic development demands an integrated intervention. Such an approach should

⁵² <http://www.dmr.gov.za/small-scale-mining.html> .

⁵³ G Kwata .Small-scale mining support and regulatory framework' Artisanal and Small-Scale Mining Workshop, University of the Witwatersrand, South Africa, 10 November 2016.

embrace the economic and security sectors to enable an integrated outlook. Such an outlook commands the integration of capabilities and resources commanded through a networked governance perspective. Such governance is to be defined by a culture of close cooperation between government, local communities, law enforcement agencies, the South African National Defence Force (SANDF), the South African Police Service (SAPS), civil society organisations (CSOs) and non-governmental organisations (NGOs). In addition, such networked governance should be rooted in and aligned with cooperative arrangements as they manifest in and are aligned with other global and regional initiatives.⁵⁴

South Africa must embrace practices that prevail within the Communities of Artisanal and Small-Scale Mining (CASM) Charter, the Yaoundé Vision and the Africa Mining Vision, wherein the practice of IAM is not criminalised but is encouraged as a niche source for sustainable livelihoods.⁵⁵

Similarly, interventions will benefit from collaborative arrangements at the global level through the United Nations (UN), the World Bank and the International Monetary Fund; at the regional level through the SADC; and at the domestic level. These collaborative arrangements can be viewed as a hybrid of top-down, bottom-up and multi-level approaches. Operationally, governments (national and local) need to spearhead the reappraisal of IAM through poverty alleviation strategies. Tactically, all stakeholders should be included as much as is practically possible. This can better be achieved by aligning as derivatives of the Social License to Operate consultations and approaches adopted to ensure that formal mining operations are supported⁵⁶ South Africa as a signatory to the Africa Mining Vision (AMV) should consider the domestication of the AMV.⁵⁷ Such domestication would result in the development of appropriate support frameworks for the ASM sector to enable it to contribute to the South African economy.⁵⁸

⁵⁴ Mkhize (n 25) 67-75.

⁵⁵ As above.

⁵⁶ As above.

⁵⁷ African Union 'Africa Mining Vision' Addis Ababa, Ethiopia, 2009.

⁵⁸ Ledwaba & Mutemeri (n 35) 141-148.

In recognition of the reality that informal artisanal mining is propagated by poverty and a call for rural economic development, a blend of proactive and reactive approaches is canvassed by scholars. These approaches that pursue a reduction in environmental and health hazards as well as environmental degradation must be rooted in participation by all affected stakeholders in consultation with the Chamber of Mines.⁵⁹

The proliferation of the ASM sector by non-citizens who are forced to engage in these activities as a source for survival requires the prioritisation of poverty alleviation initiatives. These should entail the provision of empowerment and skills that improve the prospects of employment in the formal sectors, especially for non-South Africans, in their countries of origin.

The Chamber of Mines contends that IAM takes place on the surface and underground at closed, abandoned and operating mines and as such presents social, economic, environmental and health and safety risks for the communities as well as the participants. The recognition of these risks demands that government and civil society and the formal mining sector provide subsidies and financing to be available for ASM through fostering partnerships between ASM and large-scale mining.⁶⁰ Of essence is the formalisation of the ASM sector to realise a fully-registered self-sustainable and recognised legitimate economic activity.⁶¹

The economic, social, environmental and health and safety challenges presented by ASM to sustainable development require the provision of a certain legal framework that embraces developmental goals of the ASM sector with clear monitoring processes primarily to stamp out corruption within government. Making ASM a sustainable livelihood is to recognise and formalise it. Peaceful and all-encompassing approaches that formalise ASM are thus a non-negotiable because ASM remains significant source of livelihood for mainly the poor and those who are unemployable due to a lack of professional skills.⁶²

⁵⁹ P Ledwaba 'The status of artisanal and small-scale mining sector in South Africa: Tracking progress' (2017) 117 *Journal of the Southern African Institute of Mining and Metallurgy* 33; Mkhize (n 25) 67-75.

⁶⁰ Chamber of Mines presentation 'Illegal mining in South Africa' 27 March 2017, www.chamberofmines.org/industry_news/publications/presentations (accessed 2 August 2017).

⁶¹ Zvarivadza (n 21).

⁶² As above.

CHAPTER 3: ANALYSIS OF THE SOUTH AFRICAN POLICY AND LEGISLATIVE FRAMEWORK

3.1 Introduction

Several Continental and regional initiatives impact on the evolution of the ASM sector for some years the UN has promoted the concept of National Sovereignty Over Natural Resources (NSONR). At the UN the continent has through the Africa Mining Vision acknowledged the importance of ASM as a niche sub-sector of the mining industry.⁶³ South Africa is a signatory to Africa Mining Vision.

The South African Constitution remains the supreme law of the country and has provided a basis for justiciable socio-economic rights. No other policy document or law may contradict the Constitution. It provides the fundamental pillars on which the Mineral Policy (1998) rests. The Bill of Rights, which gives substance to the International Covenant on Economic, Social and Cultural and Rights (ICESCR),⁶⁴ provides for the property clause, an essential precondition for mine development. A property clause provides better security of tenure to mine developers than any other legal rights, such as agreements, authorisations and licenses. Because of the scale of investment, especially for deep mine development, it is important for investors to ensure that security of tenure is guaranteed. Furthermore, investors must be reassured that mining can proceed without policy uncertainties, which may be regarded as threats in the form of expropriation, groundless claims by indigenous groups, and new taxes.⁶⁵

Section 35 of the Constitution states that '[n]o one may be deprived of property' and '[w]here any rights in property are expropriated, such expropriation may only continue if it is in the public interest and owners are compensated for any losses'.⁶⁶

⁶³ African Union (n 53).

⁶⁴ Assembly, UG (1966). 'International Covenant on Economic, Social and Cultural Rights' United Nations Treaty Series 993 (3).

⁶⁵ Cawood (n 46).

⁶⁶ Constitution of the Republic of South Africa, 1996.

Despite this assurance, provision was made for land reform to ensure equitable access to all South Africa's natural resources. Section 39 of the Constitution deals with interpreting the Bill of Rights and states that when interpreting the Bill of Rights, one must consider international law. This stipulation opened the door for implementing the ideology of the Reconstruction and Development Plan (RDP) document

To give effect to the constitutional provisions, the policy framework was developed which provided levers for the transformation of the sector to inclusiveness and increased participation of designated groups and local communities. The release of the mineral policy was followed by the establishment of specific programmes aimed at revitalising the ASM sector. These special programmes that focus on the transformation agenda are at the centre of the paradigm shift in mineral policy that has been ushered by the Mineral and Petroleum Resources Development Act of 2002.⁶⁷

Ledwaba and Mutemeri have highlighted that in reviewing the legislative framework for ASM in South Africa, it is crucial to first establish if legislation governing the sector is supportive of the aspirations of the mineral policy as it pertains to ASM.

The objectives of the MPRDA profile the aspirations of the mineral policy as supported particularly in terms of increasing the participation of HDSAs in the mining industry. However, it is argued that while the spirit of the MPRDA is aligned to the ambitions of the mineral policy, its requirements, for instance administration, regulation and compliance, are considered burdensome to the majority who wish to participate in and benefit from the mining industry.⁶⁸

The new mining legislation (MPRDA) came into effect in 2004.⁶⁹ The legislation remains a springboard for the establishment of a series of programmes that profile the increased interest in ASM. Through targeted programmes, more people would gain

⁶⁷ Cawood (n 46).

⁶⁸ As above.

⁶⁹ R Alberts et al 'Complexities with extractive industries regulation on the African continent: What has "best practice" legislation delivered in South Africa?' (2017) 4 *The Extractive Industries and Society* 267.

awareness of the new channel through which they can participate and benefit from the mining industry.⁷⁰

3.2 MPRDA and ASM Provisions

To redress historical inequalities within the mining sector as well as give effect to the pronouncements of the Section 9 of the Bill of Rights of the Constitution of the Republic of South Africa, 1996, the Mineral and Petroleum Resources Development Act 28 of 2002 was enacted. The primary objective of the MPRDA is to ensure the attainment of Government's objectives, that is, to redress historical socio-economic inequalities, to ensure broad - based economic empowerment and the meaningful participation of Historically Disadvantaged Persons in the mining and minerals industry. The MPRDA is founded on several principles. Three main themes emerge, namely, an emphasis on equitable access to minerals; the concept of sustainable development; and an emphasis on HDSAs.⁷¹

The distinctive feature of the MPRDA is that it recognizes the State as the custodian of the minerals and petroleum resources in South Africa. Section 3(1) of the Act declares that '[m]ineral and petroleum resources are the common heritage of all people of South Africa and the State is the custodian thereof for the benefit of all South Africans.'⁷²

One of the objectives of the MPRDA is to 'substantially and meaningfully expand opportunities for historically disadvantaged persons, including women, to enter the mineral and petroleum industries and to benefit from the exploitation of the nation's mineral and petroleum resources'⁷³

This specific objective aligns with the post-1994 agenda for the mining industry and ASM which sought to redress past racial discrimination of the apartheid system and

⁷⁰ A Morrison-Saunders et al *Enhancements in mine closure planning in Western Australia and possible applications for Africa* (2014).

⁷¹ FT Cawood (n 49)

⁷² MPRDA, Mineral. "Petroleum Resources Development Act 28 of 2002, 3 October 2002." *Government Gazette* 448.23922.overnment Gazette No 23922, 2002

⁷³ MPRDA(n 72 above)

ensure that previously disadvantaged South Africans participate meaningfully in the mining industry.⁷⁴

3.3 SDG imperatives for ASM sector

The vision of the UN's 2030 Agenda for Sustainable Development, adopted by 193 of its members, is bold: (seventeen)17 goals to 'transform our world'. These Sustainable Development Goals (SDGs) include eradicating poverty and hunger; ensuring access to clean water, sanitation and affordable, clean energy; promoting inclusive and sustainable economies, with decent employment for all; ensuring responsible consumption and production patterns; and combating desertification, land degradation, and loss of biodiversity.⁷⁵

The direct correlation between promotion of ASM sector as a vehicle to fast track the comprehensive realization of SDGs is glaringly evident. This is further expressed through the environmental impacts that mining operations factor regardless of scale.⁷⁶The interplay of NEMA in the realization of SDGs within ASM sector is manifest as sustainable use of natural resources is not simply a matter of good global citizenship but an imperative for human survival on Earth.⁷⁷ Mining activities are known to have a negative effect on the local environments in which they occur. Many local and traditional communities make sacrifices for the sake of extraction of the resources needed for modern lifestyles, yet local economies do not typically benefit from mining projects in ways that they should or could, hence the emergence of ASM activities and practices.

⁷⁴ Ledwaba & Mutemeri (n 35)

⁷⁵ Hanri Mostert and Cheri Young, 'From Promise to Practice: South Africa's Legal Framework for Mineral Resources and the Sustainable Development Goals' (2018)

⁷⁶ UN, 'Transforming our World: The 2030 Agenda for Sustainable Development', Resolution Adopted by the General Assembly on 25 September 2015 A/Res/70/1, http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E accessed on 15 October 2018

⁷⁷ Mostert and Young, above n

The MPRDA and NEMA both function under the fundamental right to a clean and healthy environment, as entrenched in section 24 of the Constitution of the Republic of South Africa.⁷⁸

3.4 DMR Policies and Charter on ASM provisions

The evaluation of the Act reveals several shortcomings in the current provisions, as these relate to the promotion of the ASM sector. The MPRDA does not differentiate between ASM and LSM and does not even mention ASM in the Act, notwithstanding the reality that it makes provision for ASM in the form of mining permits which are considered accommodative of ASM operators.

While the mining permit is less costly compared to mining rights (which remain appropriate for LSM), majority of ASM operators are excluded because of the lack of financial resources, skills and capacity to meet these obligations.⁷⁹ The MPRDA addresses only a percentage of the current activities in ASM. These constitute those on the upper end of the ASM spectrum who can afford it (for instance, those classified as entrepreneurs with upfront capital, as mentioned above) and those at the lower end of the spectrum, for instance, artisanal or subsistence mining operators, are still not provided for.⁸⁰ The Legal Resources Centre has emphasised the importance of contextualising and understanding the spectrum of ASM activities in order to provide tailored solutions to the different categories.⁸¹

The other shortcomings identified in the current legislation relate to the limitations in terms of the provisions of the mining permits, such as the mining area and the duration of the permit. It is further argued that the small mining area prohibits the economic exploitation of industrial minerals and construction materials which are usually large deposits required in bulk, hence the required large aerial extent.⁸²

⁷⁸ National Environmental Management Act 107 of 1998

⁷⁹ Debrah, Quansah & Watson (n 1).

⁸⁰ As above.

⁸¹ Ledwaba & Mutemeri (n 35)

⁸² Ledwaba (n 55).

3.4 .1 Broad Based Socio- Economic Empowerment Charter for The Mining and Minerals Industry, 2018.

Section 100 (2) (a) of the MPRDA empowers the Minister to develop a Broad -Based Black Economic Empowerment Charter for the South African Mining and Minerals Industry "Mining Charter " as a regulatory instrument.

The monitoring and evaluation of the implementation of the Mining Charter has traversed through phases characterizing implementation evaluation as economic impact evaluation stages, resulting in improvements to the Mining Charter.

During 2004 the Minister developed the Mining Charter with specific measurable targets to effect transformation of the industry. The implementation evaluation of the Charter in transforming the mining sector was conducted in 2009, against the objectives and agreed targets contained in the Mining Charter, 2004, revealed several shortcomings in the implementation of the various elements of the Mining Charter. These shortcomings related to Ownership, Procurement, Employment Equity, Beneficiation, Human Resource Development, Mine Community Development, and Housing and Living Conditions. Necessarily, the Mining Charter was amended in 2010 to streamline and expedite the attainment of its objectives.⁸³

The amended Mining Charter also introduced the Sustainable Development element, which sought to enhance sustainable transformation and growth of the mining industry. In 2014, a decade after the Mining Charter came into effect, the Department conducted a second assessment.

The implementation evaluation revealed that the overall transformation of the mining industry remains unacceptably low; The spirit of the Mining Charter was not fully embraced, and compliance was generally thought of as means to protect the "social license to operate "; and The majority of mining communities continue to live in abject

⁸³ Mineral Resources, Department of/ Minerale Hulpbronne, Departement van 1002 Mining Charter, 2018: Publication Of The Mining Charter, 2018 For Implementation.....

poverty despite the State, being the custodian of the Country's mineral wealth on behalf of the nation.

The achievement of meaningful participation by Historically Disadvantaged Persons remains limited, owing to the following: The trickle flow of benefits; which sought to service debt and to provide cash - flow directly to BEE partners, is wholly inadequate; and because of inefficient administration, trusts holding the interest of mine employees and communities constrained the flow of benefits to their intended beneficiaries.⁸⁴

In line with Government policy on evaluations, another comprehensive review process was initiated in 2015 with a focus on strengthening the effectiveness of the Mining Charter as a tool for effecting broad -based and meaningful transformation of the mining and minerals industry. The impact evaluation exercise of the Mining Charter recognises that transformation vis -à -vis competitiveness and growth are mutually reinforcing.

The review of the Mining Charter seeks to remove ambiguities and bring about regulatory certainty by introducing new definitions, terms and targets to harmonise with other legislation. The harmonisation of legislation is intended to ensure meaningful participation of Historically Disadvantaged Persons in accordance with the objects of the MPRDA.

The review further acknowledges that growth and transformation of the junior mining sector; precious metals sector and the diamond sector, is important for competitiveness of the upstream and downstream minerals sector. In this regard, the Mining Charter, 2018, introduces new provisions applicable to junior miners and amendments to the provisions relating to the precious metals and diamond sectors.⁸⁵

The 2018 Mining charter seeks to facilitate sustainable transformation, growth and development of the mining industry. These noble intentions that are further

⁸⁴ GOVERNMENT GAZETTE no 41934 of 27 SEPTEMBER 2018

⁸⁵ n81 above

substantiated through the objects of the charter enumerated below are expected to impact positively on the ASM sector.⁸⁶

The objects of the Mining Charter, 2018 are: (a) The affirmation of the internationally recognised principle of State sovereignty; its right to exercise authority and make laws within its boundaries; over the life of its country - including all its mineral wealth; (b) To deracialise ownership patterns in the mining industry through redress of past imbalances and injustices; (c) To substantially and meaningfully expand opportunities of Historically Disadvantaged Persons to enter the mining and minerals industry and to benefit from the exploitation of the nation's mineral resources; to utilize and expand the existing skills base for the empowerment of Historically Disadvantaged Persons; (e) To advance employment and diversify the workforce to achieve competitiveness and productivity of the industry; (f) To enhance the social and economic welfare of South Africans so as to achieve social cohesion; (g) To promote sustainable growth and competitiveness of the mining industry; (h) To enable growth and development of the local mining inputs sector by leveraging the procurement spend of the mining industry; and (i) To promote beneficiation of South Africa's mineral commodities.⁸⁷

3.5 Review of legislative provisions

The implementation evaluation of the MPRDA has revealed several institutional gaps regarding implementation. These are enumerated below.

First, it is worth emphasising that the South African mining policy and legislative framework as it relates to ASM broadly support the development of the sector. This is particularly so with respect to increasing the participation of previously disadvantaged South Africans and providing mandates to government-related institutions to support the sector.

Second, the legislation does not go far enough in terms of providing a framework for the ASM customised sector realities. It remains vague about the sector and how it

⁸⁶ N81 above

⁸⁷ N81 above

links with the socio-economic transformation agenda of the mining industry. As such, it is left to the different actors and stakeholders to interpret what could be considered provisions for the sector.⁸⁸

Third, the link between ASM and socio-economic transformation has fallen by the wayside. There is considerable criticism of the requirements of the framework which are argued to hinder the development of the sector. The implied legal provisions appear too onerous for the ASM level of operations, causing obstacles to compliance. This inadvertently forces operators to either operate outside the law or to have limited compliance. This is particularly so for environmental management provisions.⁸⁹

Fourth, the ASM support programmes have not been properly coordinated and the dual role of the government as regulator and promoter of the sector needs to be re-examined.⁹⁰

Fifth, the role and involvement of local stakeholders in the ASM remain unclear, and this is argued to have contributed to the minimal impact the ASM programmes had on the sector.

Sixthly, no practical realisation of the broad-based economic empowerment ideals as espoused in the objects of the MPRDA, is evident within the ASM sector. This is evidenced by tracking of programmes that were established to support the ASM sector. A few of these programmes were disbanded.⁹¹

3.6 Conclusion

There are continental processes that could guide the formalisation of the ASM sector. These entail the domestication of the Africa Mining Vision (AMV) as South Africa is a signatory of the AMV.

⁸⁸ Mineral and Petroleum Resources Development Act 28 of 2002

⁸⁹ n85 Above

⁹⁰ Ledwaba & Mutemeri (n 35) 141-148

⁹¹ Ledwaba & Mutemeri (n 35) 141-148

It is argued that while a main legislative framework broadly exists that embraces a transformation agenda as it pertains to ASM (such as increasing the participation of disadvantaged South Africans), the mandatory requirements of the framework are claimed to have hindered the development of the sector.⁹²

South Africa should consider adopting support development programmes that embrace appropriate institutional frameworks for the sector. This will demand appreciation and an acknowledgement of the historical socio-economic context that shaped its mining industry and what that means to ASM development and its role in the South African economy and a better understanding of the ASM sector. Of importance is a clear understanding and consensus of what is considered illegal versus informal ASM and the implications on how these are treated in relation to the positives and negatives emanating from these activities.⁹³

There is also a need to conduct an impact assessment to learn from the successes and failures of past and present ASM support programmes. This will allow government and related stakeholders to obtain insights into what has worked and what has not; to draw lessons from past and present interventions; to assess the adequacy of support given by various stakeholders to address the needs of ASM operators; and to assess the relationship between legal and institutional arrangements and the role of the multiple stakeholders, particularly the potential role that local stakeholders can play in promoting the development of the ASM sector in South Africa.⁹⁴

Government should also consider ASM as part of the issues of national importance when signing bilateral and multilateral contracts with other countries and the donor community. South Africa can draw lessons from other African countries that have had some levels of success and positive stories to tell. The African Minerals Development Centre in the Country Mining Vision Guidebook provides examples of countries that have positive stories and experiences to share, such as Ghana, Ethiopia, Zambia and Zimbabwe.

⁹² Ledwaba & Mutemeri (n 35) 141-148.

⁹³ As above.

⁹⁴ As above.

ASM sector as envisioned in the mineral Policy in 1998, was profiled as a platform to realise increased competitiveness through creation of jobs as well promote collaboration across all the sectors within mining to a level where the ASM would take over in cases where LSM was unable to operate economically, thus increasing the portfolio of mineral production.

CHAPTER 4 ANALYSIS WITH ILLUSTRATIVE CASE ON POSSIBLE WAYS TO MITIGATE THE IDENTIFIED LACUNA: GHANA AND TANZANIA

4.1 Introduction

The previous chapter provided the intentions of widening access to mineral resources as provided for in White Paper, the codification of such in the MPRDA as well as the implementation evaluation of the enabling legislation. The current limitations that are presented by the MPRDA in so far as the promotion of the ASM sector have been equally unveiled, as contradictions that frustrate the founding principles of the legislation which regard mineral and petroleum as the common heritage of all people of South Africa. The role of the State as the custodian of the resources for the benefit of all South Africans, is questionable when such is applied to widening participation to the artisanal and small-scale miners.

The chapter that follows provides illustrative cases as gleaned from the policy and legislative approaches adopted by Ghana as well as Tanzania in recognizing the contribution made by the ASM sector as well as supporting collaboration across all sectors within the mining sector.

This chapter presents the test case as gleaned from at least two countries that have developed legislative frameworks to promote artisanal small-scale mining.

4.2 Overview of Ghana and Tanzania

Ghana has defined small-scale mining to encompass both the exploitation of mineral deposits using rudimentary implements as well as at low levels of production with minimal capital investment. While large-scale mining of particularly gold has become predominant, small-scale mining, which predates such operations, has continued to be characterise economic activity, particularly within the remote and poorer areas of

the country.⁹⁵ There are some instances where more sophisticated small-scale mining concession holders/owners employ others and may even have contractors, some of which may be expatriates. This phenomenon has resulted in environmental degradation with no *quid pro quo* benefit for locals.⁹⁶ There are three categories of methods in the small-scale mining of precious minerals in Ghana. These are shallow alluvial mining; deep alluvial mining; and hard rock (lode) mining; each with its own requirements on mechanisation, human capital and market access.⁹⁷

Ghana is known for its opulent use of gold in attire, coupled with customary practices of the traditional chieftaincy institution. Indigenous cultural practices have forced chiefs to invoke control and regulation as a mechanism to keep a close watch over small-scale gold mines operating on their lands. This has resulted in the side-by-side indigenous existence of artisanal or small-scale mining that continued in Ghana even after the introduction of modern exploration and mining methods.⁹⁸

Despite having passed a series of industry-specific laws and regulations, and implementing an array of support services under the guidance of the *Deutsche Gesellschaft für Technische Zusammenarbeit* (GTZ) and the World Bank, the Ghanaian government is widely regarded as having failed in its attempts to regulate the sector and bring it into the public domain.⁹⁹ With all the legislative provisions in place as reflective of the state's intention to widen access to communities, illegal ASM activities are rife.¹⁰⁰

From a Tanzanian perspective, ASM is preferred, and is understood to encompass small, medium, informal, legal, and illegal miners who use rudimentary techniques to extract any kind of mineral substance.¹⁰¹ In Tanzania, the ASM sector employs

⁹⁵ BN Aryee, BK Ntibery & E Atorkui 'Trends in the small-scale mining of precious minerals in Ghana: A perspective on its environmental impact' (2003) 11 *Journal of Cleaner Production* 131-140.

⁹⁶ As above.

⁹⁷ As above.

⁹⁸ As above.

⁹⁹ G Hilson & C Potter 'Why is illegal gold mining activity so ubiquitous in rural Ghana?' (2003) 15 *African Development Review* 237.

¹⁰⁰ As above.

¹⁰¹ MM Veiga, PA Maxson & LD Hylander. 'Origin and consumption of mercury in small-scale gold mining' (2006) 14 *Journal of Cleaner Production* 436.

approximately 200 000 to 300 000 largely unskilled persons, contributing to poverty reduction in rural areas where gold production from the small-scale mining sector provided some 76 per cent of Tanzania's total mineral export in 1992.¹⁰² ASM activities in Tanzania and Zimbabwe are characterised by small-scale gold miners that produce two types of tailings. These are the 'light' fraction tailings discarded after gravity separation which commonly contain some metal concentrations from inefficient gravity separation, and the concentrate tailings, where gold was extracted by amalgamation techniques containing large amounts of metals, including the introduced Mercury.¹⁰³

4.3 ASM attributes as gleaned from Ghanaian and Tanzanian legislative framework provisions for ASM

Historically in Ghana, the role of traditional leaders over the land was depicted by the rule that in any mining operation, the chief whose land was mined for gold was generally entitled to one-third of the gold yielded, and he therefore sought to promote the proper organisation of the activity.¹⁰⁴ The effect of large-scale mining on the indigenous small-scale activities rendered these activities illegal. The increasing awareness of negative economic effects of the continued marginalisation of the small-scale gold mining sector was detrimental to the economy, and led to a study of the phenomenon, which resulted in its regularisation through the enactment of the Small-Scale Gold Mining Law, PNDC L 218, in May 1989. The object of the legislation was to effectively legalise small-scale gold mining and industrial operations in the country. These initiatives have collectively maximised economic participation as well as contributed positively to the national gold output, the country's balance of payments as well as foreign exchange earnings.¹⁰⁵

To ensure enforcement , the state agency responsible for marketing diamonds – the Diamond Marketing Corporation (DMC) – received a widened mandate that included

¹⁰² P van Straaten 'Mercury contamination associated with small-scale gold mining in Tanzania and Zimbabwe' (2000) 259 *Science of the Total Environment* 105.

¹⁰³ As above.

¹⁰⁴ Aryee, Ntibery & Atorkui (n 76).

¹⁰⁵ G Hilson 'The environmental impact of small-scale gold mining in Ghana: Identifying problems and possible solutions' (2002) 168 *Geographical Journal* 57.

precious minerals. The organ of state was renamed the Precious Minerals Marketing Corporation (PMMC) and was mandated to provide a ready market for both gold and diamonds produced by resident small-scale miners. Unfortunately, the resourcing implications for the organ of state were not fully appreciated in line with the Personnel, Organisation, Sustainment, Training, Equipment, Doctrine, Facilities, Information and Technology (POSTEDFIT).¹⁰⁶

Despite the legalisation, there has been a rapid escalation in mercury deposits in Ghana. This has prevailed because of the inadequate resourcing of the Ghanaian Minerals Commission which has been burdened with most of the jurisdictional responsibilities related to small-scale mining. The enforcement of the legislative provision is capacitated by a staff complement of only 35 to 40 people working with a pool of highly obsolete research resources. Such obsolete research capabilities clearly are incapable of facilitating enough environmental improvement that is critical in the high toxic mercury environmental degradation.¹⁰⁷

During 2017 Tanzania enacted resource nationalism legislative frameworks that reformed the institutional structure of the mining sector. Resource nationalism is a direct strategic or legislative intervention by the state through policies that allow for greater intervention by the state in the mining sector, increased royalties as well as more stringent demands on LSM companies regarding the sourcing of goods and services, savings and repatriation of profits with the emphasis on local content. Local content policies have emerged as strategic levers for resource nationalist strategies in Africa.

This initiative has led to a need for decentralisation of decision making, and consultation with stakeholders resulting in increased access to training, capital and technology.¹⁰⁸ This strategic resource positioning is born out of concern of African governments as well as the African Union as to the ability of Africa to benefit from

¹⁰⁶ Aryee, Ntibery & Atorkui (n 76).

¹⁰⁷ Hilson (n 83) .

¹⁰⁸ A Kinyondo & C Huggins 'Resource nationalism in Tanzania: Implications for artisanal and small-scale mining' (2018) *The Extractive Industries and Society*.

large-scale mining operations. Conflicts involving multinational mining companies and local communities have equally precipitated these reforms.¹⁰⁹

4.3.1 *Impact of legalisation of the ASM sector*

In Tanzania the Mining Act of 2010 provided measures to allocate land areas specifically to small scale mining thus reducing tensions between small scale miners and large-scale miners. The positive returns of the legalisation of the ASM sector is evident in the Tanzanian state where the implementation of a mineral trade liberalisation policy in the late 1980s created to formalise the ASM sector increased the legally-traded gold production from US \$0,55 million in 1985 to US \$38,78 million in 1992.¹¹⁰ The number of ASM has increased in Tanzania from 150,000 in 1987 to over 700,000 in 2012.

In addition, the support provided to women is visibly demonstrated by the establishment of the Tanzanian Women Miners Association (TAWOMA) of which the aim is cited as the capability to promote the participation of women in the ASM sector. This multi-pronged strategy adopted entailed the establishment of a centre for the rental of mining equipment and tools; a lapidary and jewellery production unit; and a skills training centre focusing on environmentally sustainable mining and processing methods, health and safety issues and the rehabilitation of ecologically sensitive mining areas.¹¹¹

4.4 Implications for South African policy and legislative arrangements

In the first place, the existence of a policy framework that rejuvenates and sustains the ASM sector is critical for any state to realise the poverty alleviation feature that contributes to the realisation of sustainable development goals. Such a policy, which will respond to the needs of the small-scale mining sector, will contribute to the rural

¹⁰⁹ C Huggins 'Artisanal and small-scale mining: Critical approaches to property rights and governance' (2016) 1 *Third World Thematics: A TWQ Journal* 151.

¹¹⁰ Hentschel, Hruschka & Priester (n 6).

¹¹¹ As above.

development as it will be integrated into the formal economy of the country. Governments are meant to develop a consistent sector policy. Such a policy framework should be based on four strategic pillars, namely, poverty alleviation; the optimisation of the business climate for the small-scale mining sector; the assurance of sustainability; and the stabilisation of government revenues from the sector.¹¹²

To enable the realisation of the above strategic levers, specific tools are central. These entail the delivery of demand-oriented extension services through appropriate fit-for-purpose legal, organisational, economic and technical means for the ASM sector. The second is the establishment of an incentive scheme for legal ASM operations which includes taxation aids for young enterprises; exemptions from import duties; the provision of access to financing schemes; free markets; and improved export facilities. The third is the integration of all relevant governmental institutions into the sector policy implementation process. This integration involves finance ministry; mining ministry; social issues authorities; and provincial and local administration. The fourth is the transparent and appropriate legal frame that delivers certainty. This will enable supporting the organisation of the private sector. Finally, strict control of the compliance with the legal framework and sanctions against infractions.¹¹³

4.5 Concluding remarks

Policy options that provide for moral suasion, regulation, the manipulation of market forces as well as the provision of investment assistance for small-scale miners has been profiled by the Ghanaian government as non-negotiable. It is apparent that legislation on its own will not produce the desired transformation in the mining sector.¹¹⁴ A real breakthrough will manifest in the ASM sector only if the government prospects and demarcates land for small-scale gold miners; improves the quality of industry support services; as well as provides programmes that focus on the re-skilling of miners for work in other professions.¹¹⁵ Further, the case of Ghana, illustrated above, has revealed that the full appreciation of the resource implications of the

¹¹² As above.

¹¹³ As above.

¹¹⁴ J Abor & P Quartey 'Issues in SME development in Ghana and South Africa' (2010) 39 *International Research Journal of Finance and Economics* 215.

¹¹⁵ Hilson & Potter (n 80).

legislative provision is non-negotiable if a positive impact on the improvement of lives is required. From the Ghanaian case study, it is concluded that marked environmental improvements can only be achieved if full attention is paid to at least the four strategic levers that profile collaborations at all levels of government; the existence of the latest industry-specific capabilities; and fit-for-purpose ASM prospecting capabilities with fully implemented mercury torting programmes.¹¹⁶

Ghana is reported to have experienced some success after the enactment of its legal framework which recognised ASM activities in 1989 and which led to the establishment of administrative, institutional and marketing structures to support the ASM sector.¹¹⁷

¹¹⁶ Hilson (n 83).
¹¹⁷ As above.

CHAPTER 5: LESSONS FOR SOUTH AFRICA

5.1 Introduction

The profiling of the ASM sector that has been showcased in Tanzania as well as in Ghana provides an opportunity for strategic benchmarking. Artisanal and small-scale mining (ASM) provides an important source of livelihood for rural communities throughout the world.¹¹⁸ These activities are frequently accompanied by extensive environmental degradation and deplorable socio-economic conditions, both during operations as well as after mining activities have ceased. As gold is easily sold and not influenced by the instability of local governments, it is the main mineral extracted by artisanal miners.¹¹⁹

5.2 Lessons from Tanzania

Several lessons ranging from legislative to support programmes provisioning as gleaned from the Tanzania are presented herein. Government's Political will to promote ASM sector is evidenced by the exclusive designation of small-scale mining for all minerals as a justiciable right of citizens of Tanzania. Further evidence relates to the provisioning of a Small-Scale capability within the structure of the Ministry which is mandated to administer all matters pertaining to promotion of the ASM agenda through the facilitation of appropriate and affordable mining and mineral processing technologies. This is further embellished by the pro poor stance adopted that has led to the aggressive promotion of local content.¹²⁰

Firstly, the provisions of the Mining Act of 2010 that stipulated measures to designate and allocate land resources specifically to small scale mining as an initiative to reduce conflict between small scale miners and large-scale miners. The improvement in security of tenure from 5 to 7 years which enabled small scale miners to use mineral

¹¹⁸ P Masanja, 'ASM Activities and Management in Tanzania' (2013) *A presentation material of former chief executive officer of Tanzania Minerals Audit Agency*. <http://im4dc.org/wp-content/uploads/2013/07/ASM-in-Tanzania.pdf> (accessed on May 1, 2016)

¹¹⁹ As Above

¹²⁰ Masanja, above n

rights to facilitate bank loans as well as decentralization of the permitting process to zonal mine offices to enable more rigorous monitoring.¹²¹

The conduct of the baseline survey by Government in 2011 through World Bank funding, to provide reliable qualitative information on the state, position and performance of ASM activities in Tanzania. This diagnostic evaluation study entailed socio economic aspects, organizational aspects, technical, marketing, environmental and Occupational Health and Safety issues. The findings and recommendations of the study were used as a basis for development of programmes to improve ASM performance.¹²²

The recognition of the ASM that has led to provision of extension services to all the participants of the ASM sector by various Government institutions in relation to legal and regulatory requirements, techniques on exploration, mining and mineral processing, mineral beneficiation and value addition, mineral markets, acquisition of loans, financial accounting, record keeping and monitoring and evaluation.¹²³

5.3 Lessons from Ghana

The likelihood of adoption and customisation of large-scale methodologies to specifically leverage the ASM sector depends upon key factors that should respond to the demands of the artisanal miner. These factors include increased or comparable simplicity; quick recovery of the economic minerals; the availability of materials (chemicals, steel rods, piping, generators, and so forth); capital and operating cost requirements; and access to technical support, with the undeniable demonstrated financial gain.¹²⁴

Ghana's test case ushers in a four-pronged strategy is proposed for consideration by the South African ASM legislative development agenda. First, it is critical that

¹²¹ Masanja, above n

¹²² Masanja, above n

¹²³ Masanja, above n

¹²⁴ Aryee, Ntibery & Atorkui (n 76).

assistance be provided to the Minerals Commission through collaboration and partnerships with local governmental bodies as well as institutions of higher learning and academic research units. Second is the design and implementation of industry-specific environmental management tools and strategies. In the third place, there should be a deliberate and concerted effort to prospect for deposits that are fit and suitable for small-scale gold mining, to ensure profiling of the sector as well as protection from large business players, thus preventing unnecessary exploration.

Lastly, the Ghanaian case study presents a need for the commissioning of a nationwide industrial mercury study to develop and implement high impact mercury retorting programmes.¹²⁵ This has been necessitated by the environmental degradation that is manifest within the ASM, as evidenced by water pollution, dangerous uncovered pits and an increased incidence of the pervasive use of mercury in Ghana.¹²⁶

To ensure that environmental impacts are kept at a minimum, small-scale precious mineral miners in Ghana are required to obtain an environmental permit from the Environmental Protection Agency (EPA) as a precondition to receiving a license to mine. The EPA requires as prerequisites for granting the permit, proposed operational methods; a site plan of the area in which mining is to be undertaken; anticipated environmental impacts; proposed mitigation measures; and costs for reclamation proposals.¹²⁷

5.4 Proposed legislative provisions for South Africa

South Africa must consider legislation that primarily focuses on the ASM sector. Further, a legislative amendment in the primary legislation forcing LSM and ASM collaboration in relation to local content is necessary. Charters provide important elements of collaborative governance, including a reliance on interest-based negotiation and an expectation that business contributes to the public benefit as good corporate citizens.¹²⁸

¹²⁵ Hilson (n 83).

¹²⁶ H Appiah 'Organisation of small-scale mining activities in Ghana' (1998) 98 *Journal of the Southern African Institute of Mining and Metallurgy* 307-310.

¹²⁷ Aryee, Ntibery & Atorkui (n 76).

¹²⁸ Bernd Dreschler, 'Small-scale mining and sustainable development within the SADC region' (2001) 84

It is essential that the ASM prioritisation be fast-tracked by an ASM focused Charter. South Africa must embrace practices that prevail within the Communities of Artisanal and Small-Scale Mining (CASM) Charter, the Yaoundé Vision and the Africa Mining Vision, wherein the practice of IAM is not criminalised but is encouraged as a niche source for sustainable livelihoods.¹²⁹ Political Will to ensure recognition of the ASM sector as a fast growing sector is essential so as to ensure a development of a cross sectoral support capability to promote sustainability and compliant operations and monitoring and evaluation. Categorisation of ASM as small businesses that require strategic, financial and accountability support is critical to enable multiplication of cooperatives within the mining sector as force multipliers.¹³⁰

A shift from profiling Zama zamas as illegal miners to a sector that contributes to rural economic livelihood is critical. Such mind shift will enable the development of extension programmes and services across all organs of state as are evident in the Tanzanian test case.

5.5 Way forward

It is worth noting that, because most small-scale mines are low-technology and employ poorly-trained uneducated people, self-sustaining improvements in the sector remain a challenge.¹³¹ Governments and regional international bodies are expected to, in embracing the sustainable development goals, play an expanded role in bridging critical information, technological and economic gaps.¹³² Governments and regional organisations could deploy initiatives that are aimed at accomplishing much improved sustainability in the small-scale mining industry through (i) legalising small-scale mining and implementing sector-specific legislation; (ii) contributing to community development and providing increased economic support; and (iii) providing training and educational assistance, and playing an expanded role in the dissemination and

Mining, Minerals and Sustainable Development

¹²⁹ Aryee, Ntibery & Atorkui (n 76).

¹³⁰ R Alberts et al, 'Complexities with extractive industries regulation on the African continent: What has 'best practice' legislation delivered in South Africa?' (2017) 4(2) *The Extractive Industries and Society* 267

¹³¹ Mallo (n 9).

¹³² Hilson (n 11) 3-13.

transfer of important technologies.¹³³ In pursuit of the above new dawn agenda of maximising economic participation for the designated groups across all societies, the following research questions have been selected to drive the interventionist approach to widen sustainable and safe economic participation in the mining sector.

¹³³ As above.

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