

# UNSHACKLING SOUTH AFRICAN ARTISANAL MINERS:

Considering Burkina Faso's legislative provisions as a guideline for  
legalisation and regulation

by

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Thesis submitted to the Faculty of Law, University of Cape Town in fulfilment of the requirements for the  
Master's degree

Date of submission: 19 February 2018

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## **ACKNOWLEDGEMENTS**

I would like to extend my thanks and appreciation to following parties, without whom this dissertation would not have come into fruition:

To my supervisor and mentor, Prof Hanri Mostert. Without your trust and encouragement this dissertation would not have been a possibility, and my career path perceptively different. Thank you for your meticulous guidance, patience, your unique insight and for igniting an unexpected passion for mineral law.

To my colleagues of the Mineral Law in Africa (MLiA) Research Chair. Your attention to detail, constructive advice, interest and consistent support were unwavering. It is both rare and extremely fortunate to have had your input, and for it I am truly grateful.

To the National Research Foundation. Thank you for your provision of funding that made the writing of this dissertation possible. The same gratitude must also be extended to MLiA for its generous funding.

This dissertation was written under the auspices of the Mineral Law in Africa SARChi Research Chair.

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## PROLOGUE: LIFE AS A ZAMAZAMA

*“We are just trying to feed our children... We don’t want to steal and we are not thieves.”*

*“Poverty is stalking us, my brother. That is our enemy.”<sup>1</sup>*

*Zamazama*, a name given to illegal miners in South Africa,<sup>2</sup> means ‘try and try again.’<sup>3</sup> These miners work illegally in abandoned or disused mine shafts<sup>4</sup> to retrieve the residual mineral resources that were too shallow or unprofitable to exploit using industrial methods.<sup>5</sup> *Zamazamas* use their knowledge of the geology to select ‘belts’ (veins) containing the richest rock, which they dig by hand with spades and iron bars.<sup>6</sup> Their use of simple tools and methods is considered artisanal mining, but their technical mining skills are more advanced than typical rudimentary artisanal mining activities.<sup>7</sup>

It is not only abandoned mine shafts that attract these operators. *Zamazamas* also work in closed mines that are blasted open with explosives,<sup>8</sup> and increasingly in the operational mine shafts of large-scale mining companies.<sup>9</sup> In these cases *Zamazamas* often collaborate with the

<sup>1</sup> Lucas Ledwaba ‘Zama-zamas take their chances rather than starve’ (9 August 2017) *Mail & Guardian* accessed on 17 October 2017, available at <https://mg.co.za/article/2017-08-09-zama-zamas-take-their-chances-rather-than-starve>.

<sup>2</sup> J Love ‘Report of the SAHRC Investigative Hearing: Issues and Challenges in relation to Unregulated Artisanal Underground and Surface Mining Activities in South Africa’ (2015) available at <https://www.sahrc.org.za/home/21/files/Unregulated%20Artisanal%20Underground%20and%20Surface%20Mining%20Activities%20electronic%20version.pdf> (the SAHRC Report) at 11.

<sup>3</sup> R Thornton ‘Zamazama, “Illegal: artisanal miners, misrepresented by the South African Press and Government’ (2014) 1 *The Extractive Industries and Society* 127.

<sup>4</sup> The majority of illegal *Zamazama* activity recorded in the past is in abandoned (ownerless or derelict) gold mines. (Directorate for Priority Crime Investigation (HAWKS) ‘Tackling Illicit Mining Activities Impacting South Africa’ (2017) Joint Briefing Session to the Portfolio Committees of Police and Mineral Resources, 16 August 2017 (on file with author).

<sup>5</sup> United Nations Interregional Crime and Justice Research Institute (UNICRI) ‘Strengthening the Security and Integrity of the Precious Metals Supply Chain’ (May 2016) Technical Report presented at the International strategy to combat illicit trafficking in precious metals Meeting held in Cape Town (March 2016), available at [http://files.unicri.it/PM\\_draft\\_onlinev.pdf](http://files.unicri.it/PM_draft_onlinev.pdf), accessed 29 May 2017 (UNICRI Report) at 26.

<sup>6</sup> Thornton ‘Artisanal miners misrepresented’ op cit note 3 at 128.

<sup>7</sup> P Ledwaba & N Mutemeri ‘Preliminary Study on Artisanal and Small-Scale Mining in South Africa’ (2017) Report prepared for Open Society Foundation for South Africa (OFS-SA) by the Centre for Sustainability in Mining and Industry (CSMI) at 9.

<sup>8</sup> Chamber of Mines of South Africa ‘Illegal Mining in South Africa Factsheet’ (2014) available at [www.chamberofmines.org.za](http://www.chamberofmines.org.za), accessed on 24 March 2017 at 3.

<sup>9</sup> Department of Mineral Resources ‘Briefing to the Joint Portfolio Committees of Mineral Resources and Police on Measures Implemented to Combat Illegal Mining’ 25 August 2017 (on file with author).

company employees, who participate in illegal mining activities while at work or during their leave.<sup>10</sup> With the help of employees who send down food and equipment provisions, *Zamazamas* are able to spend long periods of time underground.<sup>11</sup> This has led to the creation of a lucrative secondary informal syndicate market supplying food, liquor and mail.<sup>12</sup>

As it is becoming increasingly difficult to access gold in Gauteng's abandoned mines, *Zamazamas* are compelled to exploit active mines elsewhere in the country.<sup>13</sup> This difficulty is attributed partly to progressively depleted resources, and partly to improved mine closure efforts by the Department of Mineral Resources.<sup>14</sup> If *Zamazamas* do not leave to seek better opportunities elsewhere, they face being injured or killed by members of rival illicit syndicates fighting for exclusive access to the most promising shafts.<sup>15</sup> In addition to this danger, miners can lose their lives in fatal underground rock falls, gas explosions and fires.<sup>16</sup>

*Zamazamas* have always been associated with criminality and gangsterism in the past,<sup>17</sup> and the negative connotation is still prevalent today.<sup>18</sup> However more recently, after numerous

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<sup>10</sup> Chamber of Mines 'Illegal Mining in South Africa Factsheet 2017' op cit note 8 at 3.

<sup>11</sup> Interview with a representative of the National Union of Metalworkers, held at the Union Offices (16 October 2014) in J Munakamwe 'The interface between the legal and illegal mining processes: unpacking the value chain of illegally mined gold' (2015) Paper presented at the 10<sup>th</sup> GLU Conference held in Washington (September/October 2015) at 4.

<sup>12</sup> Directorate for Priority Crime Investigation (HAWKS) 'Tackling Illicit Mining Activities Impacting South Africa' (2017) Joint Briefing Session to the Portfolio Committees of Police and Mineral Resources, 16 August 2017 (on file with author); Chamber of Mines 'Illegal Mining in South Africa Factsheet' op cit note 8 at 2.

<sup>13</sup> More recent reports are of *Zamazamas* operating in mines further afield, such as the Free State, Mpumalanga, Limpopo and North West Provinces. There have also been reports of illegal sand mining in Kwa-Zulu Natal, the Eastern Cape, Limpopo and Gauteng, as well as illegal chrome mining in Limpopo. Department of Mineral Resources 'Measures Implemented to Combat Illegal Mining' op cit note 9 at 4.

<sup>14</sup> Mine Rescue Services 'Submission by the Mine Rescue Services on Illegal Mining in South Africa' at 18 Workshop held by the Department of Mineral Resources in Johannesburg, 27 March 2017 (on file with author) at 22.

<sup>15</sup> Chamber of Mines of South Africa 'Illegal Mining' (2017) Chamber of Mines website, accessed on 11 October 2017, available at <http://www.chamberofmines.org.za/work/illegal-mining>.

<sup>16</sup> N Lepak 'A day for the zama zamas: Illegal gold mining in South Africa' (20 September 2017) *Mining.com* accessed on 16 October 2017, available at <http://www.mining.com/a-day-for-the-zama-zamas-illegal-gold-mining-in-south-africa>.

<sup>17</sup> Z Jinnah 'Between a rock and a hard place: Informal artisanal gold mining in Johannesburg' (2016) *Africa at LSE Blog*, available at <http://blogs.lse.ac.uk/africaatlse/2016/01/26/between-a-rock-and-a-hard-place-informal-artisanal-gold-mining-in-johannesburg/> accessed on 28 March 2017.

<sup>18</sup> SAHRC Report op cit note 2 at 62.

arrests and fatalities,<sup>19</sup> an alternative perspective has emerged.<sup>20</sup> Commentators have argued that *Zamazamas* are not ‘ignorant desperados,’<sup>21</sup> but rather entrepreneurs and job-creators, who manage high-levels of economic productivity in small communities without state assistance.<sup>22</sup> In the minds of the *Zamazamas* themselves, they are miners or businessmen trying to make an income and support their families in South Africa’s fragile economy.<sup>23</sup> These perspectives have brought a new dimension to the multifaceted identity of the *Zamazama* miner.

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<sup>19</sup> See GroundUp ‘Informal mining deaths data’ (2016), available at <http://www.groundup.org.za/article/lethal-toll-informal-gold-mining/>; I Chernick ‘Illegal miners live in fear after 14 killings’ *Cape Times* (8 March 2017); J Bornman, G Hosken, K Cowan & S Jamal, ‘Killing Fields: global crime syndicates wage war for spoils of illegal mining in SA’ *The Times* (8 March 2017); G Hosken, S Jamal, J Bornman, & K Cowan ‘Hellhole to riches: Illegal miners work like slaves, paid like lords’ (27 March 2017) *The Times Live*, available at <http://www.timeslive.co.za/thetimes/2017/03/27/Hellhole-to-riches-Illegal-miners-work-like-slaves-paid-like-lords1>, accessed on 2 April 2017; S Jamal ‘Illegal miners forced at gunpoint to carry bodies’ (27 March 2017) *The Times Live*, available at <http://www.timeslive.co.za/local/2017/03/27/Illegal-miners-forced-at-gunpoint-to-carry-bodies>, accessed on 2 April 2017; G Hosken, ‘The inside story of South Africa’s illegal mining boom’ (22 May 2017), *Rand Daily Mail*, available at <https://www.businesslive.co.za/rdm/business/2017-05-22-the-inside-story-of-south-africas-illegal-mining-boom/>, accessed on 28 May 2017.

<sup>20</sup> Z Jinnah & K Tafira ‘An Ethnography of Informal Artisanal Gold Mining in Johannesburg’ (2017) Report compiled by the Migration and Health Project Southern Africa (MAPSA) available at <http://www.mahpsa.org/wp-content/uploads/2017/05/SEAM-ASM-report-FINAL.pdf> at 8.

<sup>21</sup> Thornton ‘Artisanal miners misrepresented’ op cit note 3.

<sup>22</sup> Ibid.

<sup>23</sup> Jinnah ‘Between a rock and a hard place’ op cit note 17.

# CHAPTER ONE: INTRODUCTION

## 1 Introduction

Over the last decade, the international mining industry has seen a downturn in demand for metals and a consequential decline in commodity prices.<sup>24</sup> In response, numerous mining companies attempted to cut their operating expenses by restructuring operations, cutting labour costs and closing down mines that were no longer profitable.<sup>25</sup> Usually the mineral reserves in these mines are not diminished completely, but the cost of extraction for owners is too high.<sup>26</sup> Since the process of obtaining a mine closure certificate occurs after long delays,<sup>27</sup> if at all, an environment conducive to illegal mining activities has been created.<sup>28</sup>

South Africa's gold mining legacy has left the Department of Mineral Resources (DMR) with the responsibility of securing and rehabilitating a large number of abandoned or ownerless gold mines.<sup>29</sup> According to the South African Chamber of Mines,<sup>30</sup> there is a direct link between the retrenchment of mine workers and informal illegal mining.<sup>31</sup> Former mine workers have the prerequisite knowledge of the process, the workings and the underground infrastructure of the mines.<sup>32</sup> Hence the reality that many illegal artisanal miners, both foreign nationals and South Africans, were previously formally employed on South African mines,<sup>33</sup> but when mines closed

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<sup>24</sup> UNICRI Report op cit note 5 at 17; Ledwaba & Mutemeri 'Preliminary Study on Artisanal and Small-Scale Mining in South Africa' op cit note 7 at 9.

<sup>25</sup> UNICRI Report ibid at 18.

<sup>26</sup> C Johnson 'Lethal toll of informal gold mining' (17 August 2016), available at <http://www.groundup.org.za/article/lethal-toll-informal-gold-mining>.

<sup>27</sup> The cessation of mining operations into decommissioning and closure operations can extend into years. There is still an economic value in the minerals, but not viable for a fully operational mining operator with significant overheads. See SAHRC Report op cit note 2 at 13.

<sup>28</sup> SAHRC Report ibid at 12. Having produced nearly 50 % of all the gold mined in the world over 100 years, the Witwatersrand deposit in Gauteng has left a legacy of abandoned shafts, unworked low-grade areas and many tailings disposal dumps.

<sup>29</sup> Jinnah & Tafira op cit note 20.

<sup>30</sup> In 2006.

<sup>31</sup> SAHRC Report op cit note 2 at 11.

<sup>32</sup> Ibid.

<sup>33</sup> M Wilhelm-Solomon *The Future of Artisanal Mining is Clouded in Dust and Smoke* (28 November 2016) *Migration and Health Project Southern Africa (MaHPSA): University of the Witwatersrand*. Available at <http://www.mahpsa.org/2016/11/28/the-future-of-artisanal-mining-is-clouded-in-dust-and-smoke/>.

they had no alternative but to practise their trade illegally.<sup>34</sup> The Chamber of Mines of South Africa estimates that up to 70 percent of *Zamazamas* are undocumented foreign nationals.<sup>35</sup>

*Zamazama* operations have continued unabated for years. Now, South Africa's socio-economic context appears to be driving illegal mining activity more than it ever did in the past.<sup>36</sup> Consistently high unemployment rates and levels of poverty, diminishing gold prices, an influx of immigration, and a greater difficulty experienced by aspirant miners to access the sector's formal entry channels make South Africa's gold sector particularly amenable to *Zamazama* activities.<sup>37</sup> Participation in the illegal sector is appealing for having virtually no entry costs.<sup>38</sup>

*Zamazama* mining in South Africa is an illegal activity, often linked to organised crime<sup>39</sup> and associated with criminality and irregular immigration.<sup>40</sup> These miners form part of a much larger syndicate channelling gold into the formal sector, operating with dedicated buyers who have national and international demands to meet.<sup>41</sup> South Africa's illegal mining market, operating in parallel to the formal mining industry, has long been recognised as having the characteristics of a multinational and multi-ethnic business with a global reach, driven by profit.<sup>42</sup>

The alternative narrative that has emerged recently frames *Zamazamas* as a skilled workforce, only trying to support their families in an unforgiving economy.<sup>43</sup> Their activities amount to

<sup>34</sup> C Johnson op cit note 26.

<sup>35</sup> Chamber of Mines 'Illegal Mining in South Africa Factsheet 2017' op cit note 8 at 1.

<sup>36</sup> The weakening of the South African Rand from December 2015 to April 2016 resulted in a 20% increase in the price of gold to R600000/kg over a short period of time. This subsequently resulted in the black market value of a gram of gold to approximately R420 per gram, which created an increased incentive for illegal miners (Department of Mineral Resources 'Joint Briefing Session: Portfolio Committees of Police and Mineral Resources – Tackling Illicit Mining Activities Impacting South Africa' held on 16 August 2017 (on file with author). See further SAHRC Report op cit note 2 at 59.

<sup>37</sup> P Ledwaba 'The status of artisanal and small-scale mining sector in South Africa: tracking progress' (2017) 117(1) *Journal of the Southern African Institute of Mining and Metallurgy* 33 at 35.

<sup>38</sup> R Thornton 'Artisanal Mining in South Africa and Zimbabwe: regional patterns of economic and cultural exclusion/inclusion' (2017) Draft copy from Interdisciplinary Conference on Extraction & Exclusion, St Andrew's College, Oxford, 19-20 October 2017.

<sup>39</sup> Chamber of Mines 'Illegal Mining' (2017) op cit note 15.

<sup>40</sup> Jinnah 'Between a rock and a hard place' op cit note 17.

<sup>41</sup> Z Jinnah in G Hosken, 'The inside story of South Africa's illegal mining boom' (22 May 2017), *Rand Daily Mail*, available at <https://www.businesslive.co.za/rdm/business/2017-05-22-the-inside-story-of-south-africas-illegal-mining-boom/>, accessed on 28 May 2017.

<sup>42</sup> Ibid.

<sup>43</sup> D Oliveira 'Lawyer calls for zama-zamas to be brought into formal mining fold' (9 June 2017) *Mining Weekly* accessed on 12 October 2017, available at <http://www.miningweekly.com/article/make-zama-zamas-mainstream-attorney-2017-06-09>.

artisanal mining,<sup>44</sup> but artisanal mining is not legally recognised in the Mineral and Petroleum Development Act<sup>45</sup> (MPRDA). A gap therefore exists for those Zamazamas who do not wish to operate in illicit syndicates, but rely on this easily-accessible activity to survive.<sup>46</sup> Considering this lacuna, the time is ripe to scrutinise the legal framework to establish whether and how it falls short of dealing with the dichotomies of Zamazama mining. This is what the present dissertation proposes to do.

## 2 Problem overview

Definition is a major part of the problem in dealing with the phenomenon of unauthorised mining activity. *Zamazama* miner<sup>47</sup> is a term used synonymously with ‘informal’ or ‘illegal’ miner.<sup>48</sup> The array of terms ranging from “*Zamazama*” to “illegal miner” to “informal” miner” “artisanal miner” are used broadly and indiscriminately.<sup>49</sup> Despite past attempts by experts and researchers to distinguish the informal artisanal miner from the illegal one, no clear distinction has emerged.<sup>50</sup> The similarity lies in their shared reliance on rudimentary techniques to exploit mineral resources,<sup>51</sup> and the work of both groups is undertaken to support their families in an unforgiving economy.<sup>52</sup> However, the illegal *Zamazama* miners choose a life of organised crime,<sup>53</sup> while artisanal informal miners often operate within traditional communities<sup>54</sup> and do not depend on criminal activities as a means to an end.<sup>55</sup>

The MPRDA offers no assistance in clearing the murky waters of interpretation. Since the statute does not explicitly accommodate artisanal mining,<sup>56</sup> there is no differentiation between

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<sup>44</sup> SAHRC Report op note 2 at 11.

<sup>45</sup> 28 of 2002.

<sup>46</sup> Ledwaba ‘Zama-zamas take their chances rather than starve’ op cit note 1.

<sup>47</sup> SAHRC Report op cit note 2 at 11.

<sup>48</sup> Thornton ‘Artisanal miners misrepresented’ op cit note 3 at 127.

<sup>49</sup> Footnote 1 of the SAHRC Report (op cit note 2) stated at 11 that ‘The terms “illegal mining”, “unregulated AM”, “unlawful mining”, and “informal mining” will be used as synonymous and interchangeable in this report.

<sup>50</sup> SAHRC Report ibid at 11.

<sup>51</sup> Z Mkubukeli & R Tengeh ‘Small-scale mining in South Africa: an assessment of the success factors and support structures for entrepreneurs’ (2015) 6 *Environmental Economics* 15.

<sup>52</sup> Oliveira op cit note 43.

<sup>53</sup> SAHRC Report op cit note 2 at 24.

<sup>54</sup> Ledwaba ‘Tracking Progress’ op cit note 37 at 35.

<sup>55</sup> K Nhlengetwa ‘Why it doesn’t make sense that all informal mining is deemed illegal’ (12 April 2016) *Mail & Guardian*, available at <http://mg.co.za/article/2016-04-13-why-it-doesnt-make-sense-that-all-informal-mining-is-deemed-illegal/>, accessed on 21 February 2017.

<sup>56</sup> SAHRC Report op cit note 2 at 26

those skilled artisans that are not legally acknowledged in legislation,<sup>57</sup> and those involved in illegal syndicates.<sup>58</sup> By consequence, all mining activity conducted outside of the MPRDA's provisions is automatically illegal.<sup>59</sup> This is irrespective of whether they are informal artisanal miners conducting basic subsistence mining activities, or illegal *Zamazamas* intending to commit acts of organized crime.<sup>60</sup> This reality in South Africa contrasts with other African jurisdictions,<sup>61</sup> including Burkina Faso, where artisanal mining is explicitly given legal status in the Code.<sup>62</sup> Instead of including provisions that specifically accommodate artisanal mining, the MPRDA provides legislative guidelines that focus predominantly on large-scale mining operations.<sup>63</sup> Only a few exceptional provisions relate to 'small-scale mining', the collective term for all artisanal and small-scale<sup>64</sup> mining operations.<sup>65</sup> However, the phrase is loosely applied, and by consequence the varying informal mining activities it encapsulates are not perceived, nor recognized as differentiated.<sup>66</sup>

Not only is express recognition of artisanal miners lacking in the MPRDA, but the provisions governing small-scale mining operations are also too onerous for the average artisanal miner.<sup>67</sup> This is because the process of complying with the relevant provisions<sup>68</sup> requires the submission of technical applications and environmental management plans.<sup>69</sup> These requirements are often

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<sup>57</sup> Mutemeri & Petersen 'Small-scale mining in South Africa: past, present and future' (2002) 26 *Natural resources forum* 286.

<sup>58</sup> In response to the broad issues for discussion in the SAHRC Report (op cit note 2) the DMR submitted (at 52) that "Zamazamas are linked to (in most, or even 100% of cases) criminal elements".

<sup>59</sup> Mkubukeli & Tengeh op cit note 51.

<sup>60</sup> Thornton op cit note 3 at 127; Nhlengetwa op cit note 55.

<sup>61</sup> Examples in North West Africa include Ghana, Mali and Côte d'Ivoire.

<sup>62</sup> In the form of *authorisation d'exploitation artisanale* (authorisation for artisanal mining) in Article 71 of Loi No. 0362015/CNT Portant Code Minier du Burkina Faso JO N°44 Du 29 Octobre 2015 (the Code).

<sup>63</sup> SAHRC Report op cit note 2 at 26.

<sup>64</sup> The DMR articulates the following sub-categories of small-scale mining: Artisanal or subsistence mining operations (new entrants); Sub-optimal formal mining operations; and Entrepreneurs with upfront capital. See Department of Minerals and Resources website, available at [www.dmr.gov.za/small-scale-mining.html](http://www.dmr.gov.za/small-scale-mining.html) accessed on 5 February 2017.

<sup>65</sup> SAHRC Report op cit note 2 at 25. The acronym often used to refer to all artisanal and small-scale mining is 'ASM'.

<sup>66</sup> A Debrah, I Watson, & D Quansah 'Drawing Parallels between Ghana's and South Africa's ASM Sectors: Lessons Learnt and Ways Forward' (Mining, Environment and Society Conference 2013) (2014) 114 *The Southern Institute of Mining and Metallurgy (SAIMM)* at 917.

<sup>67</sup> SAHRC Report op cit note 2 at 26; Ledwaba 'Tracking Progress' op cit note 37 at 35.

<sup>68</sup> Section 27(1)(a) of the MPRDA demands that the mineral be mined 'optimally' and section 27(5)(a) requires that an environmental management plan ("EMP") is submitted.

<sup>69</sup> An application for environmental authorization is another requirement mandated by the MPRDA to reach the level of compliance.

unclear or unfeasible for small-scale miners, and satisfaction of these requirements is unquestionably beyond the capacity of artisanal miners.<sup>70</sup>

Considering this regulatory context, much of the informal mining activity in South Africa involuntarily falls beyond the scope of regulation.<sup>71</sup> The consequence is that artisanal miners are excluded from becoming legitimate stakeholders in the South African mining industry.<sup>72</sup> This failure to regulate artisanal mining in South Africa also poses extensive problems for other stakeholders in the mining industry.<sup>73</sup> Making up the group of stakeholders are relevant government departments performing a regulatory function,<sup>74</sup> as well as institutions tasked with providing support, services and research.<sup>75</sup> Also included are members of the Gauteng Illegal Mining Stakeholder Forum (GIMSF),<sup>76</sup> relevant industry bodies,<sup>77</sup> and mining companies.

It has been acknowledged that research into this field in South Africa is negligible.<sup>78</sup> This contrasts to deliberate attempts by foreign institutions to source essential information and data about the global artisanal and small-scale mining industry.<sup>79</sup> This research aims to fill the gap

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<sup>70</sup> SAHRC Report op cit note 2 at 26.

<sup>71</sup> Mutemeri & Petersen op cit note 57 at 286.

<sup>72</sup> K Nhlengetwa & K 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* 1at 3.

<sup>73</sup> Department of Mineral Resources 'Annual Report 2015/2016' at 8, available at [http://www.gov.za/sites/www.gov.za/files/dmr\\_annual\\_report\\_2015\\_16.pdf](http://www.gov.za/sites/www.gov.za/files/dmr_annual_report_2015_16.pdf), accessed on 28 March 2017.

<sup>74</sup> E.g. the Department of Mineral Resources (DMR), Department of Labour (DOL), Department of Higher Education and Training (DHET), Department of Trade and Industry (DTI), Department of Science and Technology (DST) and Department of Small Business Development.

<sup>75</sup> E.g. The Mining Qualification Authority, Mintek, Council for Geosciences, Council of Scientific & Industrial Research (CSIR), funding agencies, Provincial Departments, Local municipalities and other associated bodies.

<sup>76</sup> Established by the DMR in 2012 for the purpose of implementing measures to ultimately eradicate illegal mining activities. Members include the DMR, National Prosecuting Authority (NPA), the South African Police Service (SAPS) [i.e. Directorate for Priority Crimes and Investigation (DPCI)], Visible Policing (VISPOL) and Crime Intelligence (CI)], the South African Diamond and Precious Metals Regulator (SADPMR), the Department of Home Affairs (DoH), Council for Geoscience (CGS), Mine Health and Safety Council, the affected municipalities, the affected mining companies and mines organised labour.

<sup>77</sup> For e.g. the Chamber of Mines of South Africa.

<sup>78</sup> See SAHRC Report op cit note 2 at 6; Ledwaba 'Tracking Progress' op cit note 37 at 40; P Ledwaba & K Nhlengetwa 'When policy is not enough: prospects and challenges of artisanal and small-scale mining in South Africa' (2016) 7(1) *Journal of Sustainable Development Law and Policy* 25 at 42; Jinnah 'Between a rock and a hard place' op cit note 17; N Mutemeri, N Sellick, & M Hudson 'What is the Status of Small-scale Mining in South Africa?' Discussion document for the MQA SSM Colloquium (August 2010) Centre for sustainability in mining & industry (CSMI): University of the Witwatersrand at 7; Wilhelm-Solomon op cit note 33.

<sup>79</sup> SAHRC Report op cit note 2 at 59. See IIED/WBCSD 'Breaking New Ground: The Mining, Materials and Sustainable Development (MMSD) Project' (2002), available at <http://pubs.iied.org/pdfs/9084IIED.pdf>, accessed on 29 March 2017; A Buxton 'MMSD+10: Reflecting on a decade of mining and sustainable development' (2012), available at <http://pubs.iied.org/pdfs/16041IIED.pdf>, accessed on 29 March 2017; World Bank Group and PACT 'DELVE Project Prospectus' (2017), available at [http://www.delve.pactworld.org/delve\\_project\\_prospectus](http://www.delve.pactworld.org/delve_project_prospectus), accessed 29 March 2017.

in knowledge about South African artisanal mining and provide the critical insight that has been called for.<sup>80</sup> Burkina Faso is a useful comparator in this respect because it has seen gold as its most valuable mineral commodity in terms of its contribution to government revenues and GDP,<sup>81</sup> similar to South Africa in the past.<sup>82</sup>

This dissertation is predicated on the opinion<sup>83</sup> that regulating artisanal mining through the legislative framework will benefit the formal mining industry and its stakeholders on the whole.<sup>84</sup> Amongst the beneficiaries will be those artisanal miners involved in what currently are extra-legal activities. Through regulation, it will be argued, they will have a better chance at being included in the distribution of wealth within the mining sector. This formal inclusion is essential if artisanal miners are ever to escape the cycle of poverty that currently envelops them.<sup>85</sup>

### 3 Responses to date

Recognizing that artisanal mining is ‘inadequately dealt with in South African laws’,<sup>86</sup> the South African Human Rights Commission resolved to investigate the issues and challenges relating to artisanal mining in the country.<sup>87</sup> Their report<sup>88</sup> (SAHRC Report) and the DMR’s

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<sup>80</sup> By the Panel in the SAHRC Report op cit note 2 at 63, by representatives of the DMR and by academic commentators op cit note 78.

<sup>81</sup> O Bermúdez-Lugo “The Mineral Industry of Burkina Faso” (2016) in U.S. Geological Survey Minerals Yearbook-2013: Burkina Faso [Advance Release] (2016) at 5.1

<sup>82</sup> Gold made up 67,0% of all South Africa’s mineral sales in 1980, however has subsequently lost the prominent place it once held in the economy (Statistics South Africa (2015) *Mining: Production and Sales* (Online), available at <http://www.statssa.gov.za/publications/P2041/P2041January2015.pdf>, accessed 29 March 2017.

<sup>83</sup> Of the SAHRC Report Panel as well as the academic commentators cited in footnote 42.

<sup>84</sup> As acknowledged by the DMR in the 2015/2016 Annual Report op cit note 73 at 8.

<sup>85</sup> It was stated in the SAHRC Report op cit note 2 at 24 that the challenges faced by artisanal and small-scale miners, one example being the lack of financial capital, have the effect of perpetuating their poverty. The Report goes on to state that without government support, artisanal miners will remain in a poverty trap where ‘their operations rarely graduate above subsistence and remain economically and environmentally-unsustainable.’

<sup>86</sup> SAHRC Report op cit note 2 at 11.

<sup>87</sup> The formal hearing convened by the SAHRC involved the submissions and participation of key stakeholders in the mining industry and those parties with direct relationships to managing and addressing challenges related to unregulated artisanal and small scale mining activities in South Africa (at 13). The participant Respondents were the Chamber of Mines, the National Coordination Strategic Management Team on Illegal Mining, the Department of Health, the Department of Trade and Industry, the Aggregate and Sand Producers Association of Southern Africa, the South African Diamond and Precious Metals Regulator, the Department of Labour and the Department of Mineral Resources.

<sup>88</sup> SAHRC Report op cit note 2.

responses to it, as well as examples from further afield in Africa, provide the backdrop to this study.

### 3.1 SAHRC Report and Responses from the Government

The SAHRC Report<sup>89</sup> disclosed the failure of South African legislation<sup>90</sup> to deal adequately with unregulated artisanal mining. It also highlighted the lack of research into the issue, and how this has exacerbated the associated challenges and complexities.<sup>91</sup> The manifest lack of understanding of the profile of *Zamazama* miners is another issue recognised.<sup>92</sup> Contrary to popular perception, Zamazamas do not all engage in artisanal mining activities with the intention of involving themselves in criminal syndicates.<sup>93</sup> Rather, a range of different Zamazama activities exist along a ‘criminal’ - ‘informal’ continuum.<sup>94</sup>

While this misunderstanding prevails, all artisanal mining practices are equated with illegal activities.<sup>95</sup> As a consequence, a vital consideration is ignored, namely that artisanal mining has the potential to encourage job creation<sup>96</sup> and support informal trade.<sup>97</sup> This possibility of artisanal mining facilitating social and economic development has not gone unnoticed by academic commentators,<sup>98</sup> who have endeavoured to draw attention to the unique skills of these ‘entrepreneurs’.<sup>99</sup>

Due to the unfortunate lack of research on artisanal and small-scale mining (ASM) in South Africa, there is currently no evidence to substantiate its contribution to social and economic development.<sup>100</sup> There is, however, insistence from the international ASM community that this

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<sup>89</sup> Ibid 'Chapter 8: Analysis of Evidence and Findings' at 59.

<sup>90</sup> Primarily the MPRDA.

<sup>91</sup> SAHRC Report op cit note 2 at 59.

<sup>92</sup> Ibid.

<sup>93</sup> Ibid.

<sup>94</sup> Ledwaba & Mutemeri 'Preliminary Study on Artisanal and Small-Scale Mining in South Africa' op cit note 7 at 10.

<sup>95</sup> Examples include the theft of cables from mine shafts, as well as tax evasion during the process when artisanally mined gold is absorbed into refineries without proper declaration.

<sup>96</sup> Pontsho Ledwaba and Kgothatso Nhlengetwa op cit note 78 at 38.

<sup>97</sup> SAHRC Report op cit note 2 at 59.

<sup>98</sup> See Mutemeri & Petersen op cit note 57 at 26; Mkubukeli & Tengeh op cit note 51; C O'Faircheallaigh & T Corbett 'Understanding and improving policy and regulatory responses to artisanal and small scale mining' (2016) 3(4) *The Extractive Industries and Society* 961.

<sup>99</sup> Thornton op cit note 3 at 127.

<sup>100</sup> Ledwaba & Nhlengetwa op cit note 78 at 29. The authors articulate these 'socioeconomic indicators' as national GDP, country's mineral production, local economies, local employment, rural development, etc.

potential exists, and should be nurtured to empower sustainable livelihood alternatives for the rural poor.<sup>101</sup> With an estimated 90% of the global mining workforce being artisanal and small-scale miners,<sup>102</sup> and a single miner equalling 6 downstream jobs,<sup>103</sup> the World Bank has taken the initiative to ‘bridge the data divide’<sup>104</sup> to determine the true social and economic potential of the global ASM sector.<sup>105</sup>

The DMR has in fact acknowledged that it is ‘commonly known’ that artisanal mining can contribute to social and economic development, as evidenced by other African jurisdictions.<sup>106</sup> It has also documented the small-scale sector’s potential to alleviate poverty, sustain rural livelihoods and assist in revenue generation for the State if its importance is properly recognised.<sup>107</sup> These acknowledgements support the DMR’s submission in the SAHRC Report that artisanal mining ‘exists beyond survivalist mining’<sup>108</sup> and hence must be ‘integrated fully into the small-scale mining sector’.<sup>109</sup>

However, despite these apparent undertakings by the DMR to address the extra-legal nature of artisanal mining, numerous policy gaps and contradictions exist in their efforts and public statements.<sup>110</sup> On the one hand, the DMR claims to be facilitating the legalisation of small-scale mining operations and is endeavouring to find means to help these operations to be ‘economically viable’ for small-scale miners.<sup>111</sup> This includes the establishment of a

<sup>101</sup> World Bank ‘Artisanal and Small-Scale Mining’ (2013), available at <http://www.worldbank.org/en/topic/extractiveindustries/brief/artisanaland-small-scale-mining>, accessed on 28 March 2017.

<sup>102</sup> World Bank Group and PACT ‘DELVE Project Prospectus (2017), available at [http://www.delve.pactworld.org/delve\\_project\\_prospectus](http://www.delve.pactworld.org/delve_project_prospectus), accessed on 29 March 2017.

<sup>103</sup> Ibid.

<sup>104</sup> World Bank ‘Using Data to tell the Artisanal and Small-Scale Mining Story’ (30 January 2017), available at <http://www.worldbank.org/en/news/feature/2017/01/30/using-data-to-tell-the-artisanal-and-small-scale-mining-story>, accessed on 28 March 2017.

<sup>105</sup> The World Bank, partnering with PACT (a non-profit international development organization) to develop DELVE, which is being piloted in 2017. DELVE is a platform for artisanal and small-scale mining data, and will rely on data contributions from various stakeholders. Available at <http://www.delve.pactworld.org>.

<sup>106</sup> DMR Media Report ‘Media Statement on the Illegal Mining Incident at George Harrison Park Museum in Langlaagte in Gauteng Province and General Facts and Figures Around Illegal Mining’ (14 September 2016) at 2.

<sup>107</sup> Department of Mineral Resources Annual Report 2015/2016 op cit note 73 at 7. The DMR stated that this potential could be harnessed by ensuring that small-scale mining becomes at least as important as large-scale mining (LSM) in South Africa.

<sup>108</sup> SAHRC Report op cit note 2 at 60.

<sup>109</sup> Ibid.

<sup>110</sup> Nhlengetwa op cit note 55.

<sup>111</sup> DMR ‘Small-Scale Mining’ op cit note 64.

Directorate of Small-Scale Mining to promote the development of the small-scale sector and offer support to artisanal and small-scale miners.<sup>112</sup>

However, these attempts to regulate the artisanal mining sector, specifically, and encourage the small-scale sector, in general, have been largely unsuccessful.<sup>113</sup> In 2003 it was reported that the DMR's small-miner programme was underutilised with only a few programmes having been established.<sup>114</sup> It was also recognised in the SAHRC Report<sup>115</sup> that there is no indication of continued progress being made by the DMR to regulate ASM on its website or in any parliamentary reports. On the other hand, government has taken a 'wholly punitive' approach<sup>116</sup> by criminalising all mining activity falling outside of formal regulatory provisions.<sup>117</sup>

This fragmented approach seems to contradict any aforementioned attempt to formalise the artisanal mining sector.<sup>118</sup> It is predicted<sup>119</sup> that the blanket characterisation of artisanal miners as "illegal" will aggravate, rather than reduce, the dangers associated with this form of mineral exploitation.<sup>120</sup> This thesis argues that South Africa's mining legislation must provide for artisanal mining. In particular, it needs a comprehensive framework that facilitates, manages and improves artisanal mining practices. With such legislative support in place, the opportunities of artisanal mining can be harnessed, and its challenges can be addressed.

### 3.2 Alternative model of Burkina Faso

Unlike South Africa, Burkina Faso is a jurisdiction that explicitly accommodates artisanal mining activity. The 2015 mining code<sup>121</sup> offers the possibility for artisanal miners to formalise their operations in the form of *authorisation d'exploitation artisanale*,<sup>122</sup> or authorization for

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<sup>112</sup> Ibid.

<sup>113</sup> Ledwaba & Nhlengetwa op cit note 78 at 41.

<sup>114</sup> See Z Botha 'Small-miner support programme underutilized' (8 August 2003) *Mining Weekly*.

<sup>115</sup> SAHRC Report op cit note 2 at 25

<sup>116</sup> Nhlengetwa & Hein op cit note 72 at 2.

<sup>117</sup> In a press release made by the SAPS on 21 February 2017 concerning the conviction of 22 illegal miners the National Head of the Directorate For Priority Crime Investigation (HAWKS) Lieutenant General Mthandazo Ntlemeza hailed the conviction by commenting as follows: 'From now on, illegal mining and those who continue to perpetuate this dangerous and criminal activity will feel the full might of the law' See All Africa 'South Africa: 22 Illegal Miners Found Guilty On 577 Charges' available at <http://allafrica.com/stories/201702220288.html>.

<sup>118</sup> SAHRC Report op cit note 2 at 26.

<sup>119</sup> By the SAHRC Panel.

<sup>120</sup> SAHRC Report op cit note 2 at 60.

<sup>121</sup> The Code op cit note 62.

<sup>122</sup> Ibid Article 71.

artisanal mining (AAM) While its commercial gold production has never reached the level that South Africa once did,<sup>123</sup> gold has been Burkina Faso's primary export product since 2009.<sup>124</sup> Gold's dominant status is largely attributed to large-scale mining of gold in Burkina Faso, however artisanal and small-scale mining activity is still recognised as making a contribution to national gold production output.<sup>125</sup> It was estimated that, since 2008, the Burkinabe artisanal gold mining sector contributes 2.3% to the country's GDP annually.<sup>126</sup>

The number of people involved in the artisanal and small-scale mining sector in Burkina Faso is significant.<sup>127</sup> Not only are a large number of people employed directly in mining and its associated services, but ASM also supports significant numbers of dependents.<sup>128</sup> By considering the regulatory provisions in Burkinabe mining legislation, necessary direction can be gained as to how South Africa's regulatory framework could accommodate artisanal mining, of gold particularly, as its own 'niche sub-sector'.<sup>129</sup> Since Burkina Faso has not received significant attention from scholars, this dissertation will also address this knowledge gap.

The need to seek guidance from African jurisdictions such as Burkina Faso can no longer be overlooked, and is essential to address the ambiguities, contradictions and gaps in South African mining law and practice.<sup>130</sup> Until then, the challenges that artisanal mining has posed for the DMR, the South African police, and mining companies for a considerable time,<sup>131</sup> will

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<sup>123</sup> In 1970 it was estimated that South Africa was producing over 1000 tonnes of gold. See Nhlengetwa & Kim Hein op cit note 72 at 1.

<sup>124</sup> *Expansion du secteur minier et développement durable au Burkina Faso: cas de l'exploitation aurifère*. Ouagadougou: Conseil économique et social (2012) Rapport provisoire. Ouagadougou: Direction Générale des Mines et de la Géologie (2014) at 4.

<sup>125</sup> Bermúdez-Lugo op cit note 11 submits that the International Monetary Fund ("IMF") estimated that gold production from six of the country's seven industrial gold mines, together with production from small-scale and artisanal gold miners, accounted for about 71% of the country's total exports by value in 2013 and for about 16% of Government revenues.

<sup>126</sup> *Analyse économique du secteur des mines liens pauvreté et environnement*. Consortium sba-Ecosys-CEDRES, Ministère de l'Environnement et du Cadre de Vie (MECV), Projet Initiative Pauvreté Environnement (IPE), (2011) available at <http://www.unpei.org/sites/default/files/dmdocuments/Burkina%20Faso%20-%20Evaluation%20economique%20-%20Mining%20sector.pdf> at 48.

<sup>127</sup> See K Werthmann 'Working in a boom-town: female perspective on gold-mining in Burkina Faso' (2009) 34 *Resources Policy* 18 at 19.

<sup>128</sup> C Arthur & A Domiter 'United Nations Industrial Development Organisation (UNIDO) to help Burkina Faso work towards elimination of mercury use in the artisanal and small-scale gold mining sector' (6 March 2017) *INIDO* accessed on 25 October 2017, available at <https://www.unido.org/news/press/unido-to-help-burkin.html>.

<sup>129</sup> A term used by Debrah, Watson & Quansah op cit note 66.

<sup>130</sup> SAHRC Report op cit note 2 at 60.

<sup>131</sup> *Ibid* at 11.

persist; as will the blanket and indiscriminate use of the term “illegal mining”, a phrase that is experiencing increasing media coverage.<sup>132</sup>

This unfavourable attention, most likely attributed to the sensationalized clashes between artisanal miners and mining companies<sup>133</sup> that have come to the fore,<sup>134</sup> only adds to the stigma incriminating South African artisanal or *Zamazama* miners. However, just as their deleterious reputation has gained momentum, so has public opinion<sup>135</sup> that this sector of South Africa’s mining industry is undeserving of its illegal status and worthy of official recognition in the MPRDA.

#### 4 Research Question and Motivation

The question at the heart of this dissertation is whether artisanal mining should be explicitly accommodated in South Africa's primary mining legislation, the MPRDA. The Preamble to the MPRDA makes it clear that the legislative provisions of the MPRDA have a unique and deliberate focus. While the regulatory context of mineral law in South Africa has always been, and remains, focused on the optimal exploitation of mineral resources,<sup>136</sup> there is a more recent (and arguably more important) key driver underpinning the industry in our new democratic dispensation. That is the transformation of the industry and the redress of past discrimination by promoting equal access to South Africa’s mineral wealth.<sup>137</sup>

This driver includes the substantial (and meaningful) expansion of opportunities for historically disadvantaged persons to enter into, and benefit from, the exploitation thereof.<sup>138</sup> While the deliberate commitment of the MPRDA to transform the industry is laudable, it fails to provide adequately for artisanal mining. This is because the MPRDA’s recognition of artisanal mining is only to the extent that the regulatory requirements are complied with, and artisanal miners

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<sup>132</sup> See footnote 14.

<sup>133</sup> In the SAHRC Report it is submitted at 24 that ‘Large-scale mining (LSM) and ASM often have an acrimonious relationship. Trespassing by ASM operators on concessions and the eviction of informal indigenous miners by LSM companies lead to confrontation.’

<sup>134</sup> S Karim ‘Ekapa and zama-zamas fight over mining rights’ (5 December 2016) available at <http://www.groundup.org.za/article/ekapa-and-zama-zamas-fight-over-mining-rights/>, accessed 16 February 2017.

<sup>135</sup> See N Mutemeri & F Petersen op cit note 57 at 292; Nhlengetwa op cit note 55.

<sup>136</sup> H Mostert *Mineral Law: Principles and Policies in Perspective* (2012) at 15.

<sup>137</sup> MPRDA section 2(c). See *Agri South Africa v Minister of Minerals and Energy* 2013 (4) SA 1 (CC) para 73.

<sup>138</sup> MPRDA section 2(d).

lack the financial and skills capacity to comply.<sup>139</sup> It is argued that if artisanal mining was specifically catered for by the MPRDA, the consequence would be enhanced accessibility to mineral wealth for members of the population that need it most, such as rural communities and other historically disadvantaged persons.

It is also argued that by giving artisanal mining its own legal identity in the MPRDA, the Act's inherent transformative purpose and objects will be fulfilled. This is because an accommodation of artisanal mining would promote local and rural development,<sup>140</sup> and also promote equitable access to South Africa's mineral resources.<sup>141</sup> Furthermore, this legislative recognition would realise the aforementioned social and economic development potential that artisanal mining is capable of offering.<sup>142</sup> Not only could it contribute to the country's GDP,<sup>143</sup> but it could also aid in social development and poverty alleviation to assist South Africa's most vulnerable people.<sup>144</sup>

In light of the above, and considering the DMR's explicit acknowledgment that artisanal mining must be formally regulated,<sup>145</sup> the initially stated two-fold research question can be elaborated as follows:

First, should artisanal mining be ascribed with its own 'legal identity' in South Africa's legislative regime regulating the formal mining sector?<sup>146</sup> This would imply that unique provisions specifically catering for artisanal operations are formulated. It needs to be determined whether this differentiation of the types of mining activities falling within the MPRDA's mining permit category is necessary.

Second, to what degree could the artisanal mining provisions contained in Burkina Faso's mining legislation be replicated in the MPRDA? This inquiry would demand a consideration

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<sup>139</sup> Ledwaba & Nhlengetwa op cit note 78 at 38.

<sup>140</sup> Preamble of the MPRDA.

<sup>141</sup> Section 2(c) of the MPRDA.

<sup>142</sup> C O'Faircheallaigh & T Corbett op cit note 98 at 961.

<sup>143</sup> And hence align with section 2(e) of the MPRDA, namely the object of promoting economic growth and mineral and petroleum resources development in the Republic.

<sup>144</sup> This also aligns with another of the MPRDA's key objects, which is to promote employment and advance the social and economic welfare of all South Africans (section 2 (f)).

<sup>145</sup> SAHRC Report op cit note 2 at 60; DMR 2015/2016 Annual Report op cit note 73 at 8; DMR 'Small-scale mining' op cit note 64.

<sup>146</sup> The term used by the DMR on its small-scale mining web page *ibid*.

of how the Burkinabe provisions cater for and regulate artisanal mining. Burkina Faso is chosen specifically for the second part of the inquiry since the contribution that artisanally-mined gold makes to the Burkinabe economy is considerable.<sup>147</sup> It is estimated that artisanal gold mining sector has produced almost \$139,460,440 million USD<sup>148</sup> a year in direct and indirect revenues since 2008.<sup>149</sup> The issues for consideration under this part of the inquiry concern the suitability of the Burkinabe provisions for the South African context, with a specific focus on the mining of gold.

To be determined is whether the construction of Burkina Faso's artisanal mining provisions could be replicated in the MPRDA, namely the *authorisation d'exploitation artisanale* (authorisation for artisanal mining) license.<sup>150</sup> It will also have to be established whether Burkinabe artisanal mining provisions would suit the type of artisanal mining prevalent in South Africa. This includes a consideration of whether surface industrial minerals which have been successfully exploited in small-scale operations in the past can also be mined using on an artisanal scale.<sup>151</sup> It also includes a consideration of whether residual gold in tailings and in underground abandoned or decommissioned shafts could be regulated by an artisanal mining provision.<sup>152</sup>

## 5 Thesis Structure

The Prologue introduces the phenomenon of *Zamazama* that is unique to South Africa's mining industry. Chapter 1 situates *Zamazama* mining within the broader ASM sector and flags the associated issues that will be examined. Chapter 2 considers the way ASM is understood, particularly artisanal mining as a unique activity within the sector. This includes an examination of the legislation governing ASM in both South Africa and Burkina Faso and outlines the key concepts of formality and legality that are necessary to understand the ASM sectors' dynamics.

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<sup>147</sup> A Martin & H de Balzac 'The West African El Dorado: mapping the illicit trade of gold in Cote d'Ivoire, Mali and Burkina Faso' (January 2017) Partnership Africa Canada available at [http://www.pacweb.org/images/PUBLICATIONS/PAC\\_El\\_Dorado\\_Jan\\_2016\\_EN.pdf](http://www.pacweb.org/images/PUBLICATIONS/PAC_El_Dorado_Jan_2016_EN.pdf) at 12.

<sup>148</sup> The equivalent of 82 billion CFA.

<sup>149</sup> *Analyse économique du secteur des mines liens pauvreté et environnement* op cit note 126.

<sup>150</sup> Article 71 of the Code op cit note 62.

<sup>151</sup> Ledwaba 'Tracking progress' op cit note 37 at 35.

<sup>152</sup> SAHRC Report op cit note 2 at 11.

Chapter 3 examines the context in which ASM occurs by examining the lived realities of participants across Africa in general, and in South Africa and Burkina Faso specifically. This includes an examination of the scope of the sector, the type of minerals exploited, how mining operations are conducted in practice, and brief theoretical justifications for the persistence of ASM activities.

Chapter 4 investigates the issues that are commonly associated with ASM activity, across the continent and in South Africa and Burkina Faso particularly. The main negative consequences identified are the environmental impact, the threats to health and safety, and the range of criminality associated with the sector. Chapter 5 consider the challenges that South African and Burkinabe artisanal and small-scale miners face in their attempt to enter the formal sector. These include access to authorization, financing constraints, a lack of technical capacity and market knowledge, and the general lack of institutional support.

Chapter 6 canvasses the motivations in favour of the formalisation of South Africa's ASM sector. It argues that formalisation can only be achieved if artisanal mining is given explicit legal recognition in the MPRDA, if the present mining permit provisions are amended to better cater for the needs of small-scale miners, and if support is provided to both activities in the ASM sector. It is explained why, once formalized, ASM participants can overcome the challenges that inhibit sustainable and profitable operations. It also explains why the development of the ASM sector in this way speaks to the transformative goals of the MPRDA.

By way of conclusion, Chapter 7 will canvass the recommendations as to how this formalisation can be put into practice. It first considers whether Burkina Faso's legislative provisions regulating artisanal mining can be replicated in the MPRDA. It then proposes a two-prong strategy for the formalisation of South Africa's ASM sector, composed of recommended legislative amendments and targeted areas that require support.

The mechanisms needed for this strategy to be successful include the collaboration of all relevant stakeholders, and the creation of an ASM state agency to coordinate members, who include ASM operators themselves who need to be organized into cooperatives. Finally, the chapter highlights the areas for future research, that are beyond the scope of the dissertation. These notably include the consideration of alternative jurisdictions for legislative guidance, and an investigation of the feasibility of collaboration opportunities between large-scale mining companies and ASM operators. Comments on the overall findings then conclude the paper.

## CHAPTER TWO: UNDERSTANDING ARTISANAL MINING IN AFRICA

### 1 Introduction

Artisanal mining in Africa is not just about mining, it is about livelihoods.<sup>153</sup> There is a global consensus<sup>154</sup> that artisanal mining is a poverty-driven activity, undertaken by individuals with very few employment alternatives.<sup>155</sup> Despite this general consensus, past investigations of artisanal and small-scale mining (ASM) in sub-Saharan African countries have not made this defining characteristic the focus.<sup>156</sup> Instead, stakeholders in ASM sectors have dedicated their efforts to finding universal definitions for artisanal and small-scale mining,<sup>157</sup> with little success. Today, a generally accepted description for this form of mining has not been formulated,<sup>158</sup> yet the preoccupation with finding a general definition still lingers. The result is that the universal aspect of ASM is overlooked: that it is a poverty-driven activity sustaining livelihoods all over the world.<sup>159</sup>

This chapter attempts to move away from the tendency to frame ASM within prescribed definitions. Instead, it constructs an understanding of ASM by considering the way ASM activities are carried out in practice. The practical meanings of artisanal mining thus far have been determined by the unique context in which activity occurs, and vary by country.<sup>160</sup>

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<sup>153</sup> I Smillie 'Foreword' in G Hilson (ed) *Small-Scale Mining, Rural Subsistence and Poverty in West Africa* (2006).

<sup>154</sup> This consensus was reached in May 1995 at the International Roundtable on Artisanal Mining hosted by the World Bank. See M Barry (ed) 'Regularizing Informal Mining: A Summary of the Proceedings of the International Roundtable on Artisanal Mining, May 17-19 1995' (1996) World Bank Industry and Energy Department Occasional Paper No. 6.

<sup>155</sup> Hilson (2006) op cit note 153 at 1.

<sup>156</sup> G Hilson 'Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: a critical overview' (2016) 3(2) International Institute for Environment and Development (IIED) Issue Paper (March 2016).

<sup>157</sup> In G Hilson 'Small-scale mining, poverty and economic development in sub-Saharan Africa: An overview' (2009) 34 *Resources Policy* 1 Hilson maintains that this focus was particularly evident in literature and policy dialogues of the 1970s and 80s that followed international ASM workshops during this time, including the 'International Conference on the Future of Small-Scale Mining' (Mexico, 1978) and the 'Strategies for small-scale mining and mineral industries Seminar' (Kenya, 1980).

<sup>158</sup> T Hentschel, F Hruschka, & M Priester 'Global report on artisanal and small-scale mining' (2002) Mining, Minerals and Sustainable Development (MMSD) Report of the IIED at 5.

<sup>159</sup> Hilson (2016) op cit note 156 at 4.

<sup>160</sup> J Love 'Report of the SAHRC Investigative Hearing: Issues and Challenges in relation to Unregulated Artisanal Underground and Surface Mining Activities in South Africa' (2015) available at

Therefore, it makes sense to consider how ASM is undertaken in the context in which it occurs in order to appreciate the complex and diverse nature of artisanal and small-scale mining sectors.

The chapter illustrates how artisanal and small-scale mining are differentiated in terms of the scale of operations and the level of mechanization employed.<sup>161</sup> It is shown how artisanal mining activity generally manifests as a subsistence activity, undertaken by individuals and families to sustain their livelihoods. Small-scale mining, by contrast, often has the additional characteristic of being profit-driven. This chapter also unpacks the key concepts associated with ASM, such as informality and illegality. This approach intends to offer a practical understanding of ASM in Africa that is not achieved by a definition-based focus. Within this broad discussion of ASM in Africa, the chapter considers the mining activities within South Africa and Burkina Faso specifically.

## 2 Artisanal mining in Africa: Basic Concepts

The attempts by various institutions at defining artisanal and small-scale mining independently, and ASM collectively, have culminated in numerous meanings that remain disputed.<sup>162</sup> The fact that a common definition of ASM has yet to be established<sup>163</sup> is understandable when considering the vast differences in each country's geological framework, mining history and macroeconomic situation.<sup>164</sup> Since ASM sectors<sup>165</sup> are diverse in terms of scale, legality, demographics and seasonality,<sup>166</sup> a universal definition would not be appropriate, as the section below illustrates. To understand the development and reality of artisanal mining in Africa, consideration must be given to the determining factors that differ from one unique context to the next.

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<https://www.sahrc.org.za/home/21/files/Unregulated%20Artisanal%20Underground%20and%20Surface%20Mining%20Activities%20electronic%20version.pdf> (the SAHRC Report) at 22.

<sup>161</sup> SAHRC Report at 22.

<sup>162</sup> A Buxton 'Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help?' (2013) IIED Sustainable Markets Paper at 1.

<sup>163</sup> Hentschel, Hruschka & Priesterop cit note 158 at 5.

<sup>164</sup> Ibid at 6.

<sup>165</sup> At the World Bank's international roundtable discussion in 1995, ASM was officially recognised as its own sector globally. See Barry op cit note 154.

<sup>166</sup> Buxton op cit note 162 at 1.

## 2.1 ASM

Artisanal mining and small-scale mining are commonly grouped together under the umbrella term ‘ASM’.<sup>167</sup> There is, however, a need to distinguish between artisanal and small-scale mining, which are not always treated as different types of mining activities.<sup>168</sup> The World Bank defines artisanal mining as ‘manual, low technology mining conducted on a small scale, predominantly in rural areas of the developing world’.<sup>169</sup> Artisanal mining is the smallest and simplest mining operation; it is highly labour-intensive and is conducted using hand-digging methods, such as shovels or hammer and chisels.<sup>170</sup> Artisanal mining usually is linked with rural subsistence farming families in sub-Saharan Africa, as a means to supplement their income.<sup>171</sup> Since this kind of artisanal mining is influenced by changing seasons and individuals’ desperation to escape poverty in harsh economic climates,<sup>172</sup> it lacks the formal organization of small-scale operations.

Small-scale mining, by contrast, is mechanical. It requires the use of basic mining and processing technology such as mechanical drilling and blasting, mechanized loading and hauling, hoisting, and processing by gravity concentration.<sup>173</sup> Traditional small-scale mining includes licensed and registered mining operations, either non-mechanized or semi-mechanized, that are run by individuals or organized cooperatives.<sup>174</sup>

The above distinctions highlight the difference between the manual nature of artisanal mining, and the mechanised aspect of small-scale mining. Since they often overlap, the two mining types are invariably grouped together as ‘ASM’ to refer to all mining activity occurring below an industrial scale.<sup>175</sup> The issue with this generic term, however, is that a country’s ASM sector includes a wide spectrum of mining operations. If undifferentiated, they are not catered for

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<sup>167</sup> SAHRC Report op cit note 160 at 9.

<sup>168</sup> Buxton op cit note 162 at 1.

<sup>169</sup> S Rupprecht ‘Bench mining utilizing manual labour and mechanized equipment – a proposed mining method for artisanal small-scale mining in Central Africa’ (2017) 117 *The Journal of Southern African Institute of Mining and Metallurgy* 25.

<sup>170</sup> Ibid at 26.

<sup>171</sup> Hilson (2016) op cit note 156 at 4.

<sup>172</sup> S Banchirigah & G Hilson ‘De-agrarianization, re-agrarianization and local economic development: Re-orientating livelihoods in African artisanal mining communities’ (2010) 43(2) *Policy Sciences* at 161.

<sup>173</sup> Rupprecht op cit note 169 at 26.

<sup>174</sup> Ibid.

<sup>175</sup> See Jaques et al ‘Artisanal and small-scale gold mines in Burkina Faso: today and tomorrow’ in Hilson (2006) op cit note 153 at 115.

specifically by a regulatory framework. The inevitable consequence is that artisanal mining activities are misunderstood,<sup>176</sup> and the specific needs of artisanal miners are overlooked.<sup>177</sup> Furthermore, the associated problems and socio-economic potential of artisanal mining are not recognised and addressed adequately.<sup>178</sup>

In South Africa, where artisanal mining is not formally recognised as a unique, standalone form of mining in the Mineral and Petroleum Resources Development Act (MPRDA),<sup>179</sup> the conundrum is obvious. The MPRDA is South Africa's primary legislation regulating all forms of mining activity, whether on a small or large scale.<sup>180</sup> Instead of there being separate definitions that differentiate artisanal, small-scale and large-scale mining, the MPRDA differentiates these types of mining activity in terms of whether they meet the requirements for the granting of a mining permit,<sup>181</sup> or a mining right.<sup>182</sup> Any form of mining activity conducted without one of the aforementioned authorisations is considered illegal.<sup>183</sup> As a consequence, ASM in South Africa is frequently understood to be forms of illegal mining.<sup>184</sup>

To mine legally as an ASM miner,<sup>185</sup> operators must possess a valid mining permit provided for in section 27 of the MPRDA, which is granted after all the requirements stipulated by the legislation are met. The first requirement is that the mineral must be optimally mined within two years,<sup>186</sup> and the mining area cannot exceed 1.5 hectares in size.<sup>187</sup> An application for a

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<sup>176</sup> A Debrah, I Watson, & D Quansah 'Drawing Parallels between Ghana's and South Africa's ASM Sectors: Lessons Learnt and Ways Forward' (Mining, Environment and Society Conference 2013) (2014) 114 *The Southern Institute of Mining and Metallurgy (SAIMM)*.

<sup>177</sup> P Ledwaba & K Nhlengetwa 'When policy is not enough: prospects and challenges of artisanal and small-scale mining in South Africa' (2016) 7(1) *Journal of Sustainable Development Law and Policy* 25 at 38.

<sup>178</sup> African Union 'African Mining Vision' (2009) United Nations Economic Commissions for Africa (UNECA) at 27, available at [http://www.africaminingvision.org/amv\\_resources/AMV/Africa\\_Mining\\_Vision\\_English.pdf](http://www.africaminingvision.org/amv_resources/AMV/Africa_Mining_Vision_English.pdf).

<sup>179</sup> Act 28 of 2002.

<sup>180</sup> Ledwaba & Nhlengetwa op cit note 177 at 27.

<sup>181</sup> In terms of section 27(6) of the MPRDA supra note 179.

<sup>182</sup> Ibid section 23(1).

<sup>183</sup> Ibid section 5(2).

<sup>184</sup> SAHRC Report op cit note 160 at 6.

<sup>185</sup> Chamber of Mines 'Illegal Mining' op cit note 15.

<sup>186</sup> Section 27(1)(a) of the MPRDA supra note 179.

<sup>187</sup> Ibid section 27(1)(b).

permit must be lodged at the office of the Regional Manager in the area where the land to be mined is located,<sup>188</sup> along with the prescribed application fee.<sup>189</sup>

If the permit application is accepted, the applicant miner must submit an environmental management plan,<sup>190</sup> which means a plan to manage and rehabilitate the environmental impact caused by the mining operations conducted under the permit.<sup>191</sup> The applicant must also give written notice to and consult with the landowner and lawful occupier and affected parties and submit the outcome of the consultation to the Regional Manager.<sup>192</sup> Any holder of a mining permit must pay the state royalties,<sup>193</sup> and the mining permit is valid for a maximum period of two years, which, if renewed, may not exceed one year.<sup>194</sup>

By contrast, the requirements of a mining right needed to conduct large-scale mining operations are more onerous. For a mining right to be granted by the Minister, the applicant must show that the mineral can be mined optimally in accordance with the mining work programme,<sup>195</sup> which is not required for the granting of a mining permit. A mining right applicant must also submit a social and labour plan,<sup>196</sup> and also must prove that they have the financial resources and technical ability to conduct the proposed mining operation optimally.<sup>197</sup> Unlike a mining permit there is no limit to the size of the proposed mining area when applying for a mining right, and is valid for a period of up to 30 years.<sup>198</sup>

The mining right applicant's environmental obligations differ to those of the mining permit applicant, as they must submit an environmental management programme.<sup>199</sup> This includes the additional obligation of conducting an environmental impact assessment in conjunction with

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<sup>188</sup> Ibid section 27(2)(a).

<sup>189</sup> Ibid section 27(2)(c).

<sup>190</sup> Ibid section 27(5)(a).

<sup>191</sup> Ibid section 1 'Definitions'.

<sup>192</sup> Ibid section 27(5)(a). This must be completed within 30 days of receiving notice from the Regional Manager that the application has been successful.

<sup>193</sup> Ibid section 27(7)(c).

<sup>194</sup> Ibid section 27(8)(a).

<sup>195</sup> Ibid section 23(1)(a). A "mining work programme" means the planned mining work programme to be followed to mine a mineral resource optimally. See Section 1 'Definitions'.

<sup>196</sup> Ibid section 23(1)(e).

<sup>197</sup> Ibid section 23(1)(b).

<sup>198</sup> Ibid section 23(6).

<sup>199</sup> Ibid section 39(1).

the environmental requirements specified for an environmental management plan.<sup>200</sup> Similar to the mining permit, mining right holders must pay State royalties.<sup>201</sup> Since the royalty payable is determined by the mineral resource's gross sales,<sup>202</sup> it will be higher for a large-scale mine operating under a mining right than small-scale mining operations conducted under a permit. As in the case of a mining permit application, a mining right applicant must pay an application fee,<sup>203</sup> but has the additional obligation of proving that the granting of the mining right will further the objects of the MPRDA,<sup>204</sup> and will accord with the broad-based socio-economic empowerment Charter<sup>205</sup> and prescribed social and labour plan.<sup>206</sup>

In response to the absence of legislative guidance for what artisanal and small scale mining activities fall under the permit category, the formal definition relied on is that in the National Small Business Act.<sup>207</sup> The relevance of relying on a business-orientated construction is, however, unclear. By classifying ASM as a 'small business',<sup>208</sup> the definition places artisanal and small-scale mining activities on the same level as other small businesses in South Africa.<sup>209</sup>

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<sup>200</sup> Ibid section 39(3).

<sup>201</sup> Ibid section 25(2)(g).

<sup>202</sup> See Section 6 of the Mineral and Petroleum Resources Royalty Act 28 of 2008.

<sup>203</sup> Section 24(1)(c) of the MPRDA supra note 179.

<sup>204</sup> The specified objects are Section 2(d) and (f) of the MPRDA. Section 2(d) is the commitment 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" and section 2(f) is the commitment to "promote employment and advance the social and economic welfare of all South Africans".

<sup>205</sup> Section 100(2)(a) of the MPRDA provides '100 (2)(a) To ensure the attainment of Government's objectives of redressing historical, social and economic inequalities as stated in the Constitution, the Minister must within six months from the date on which this Act takes effect develop a broad-based socio-economic empowerment Charter that will set the framework, targets and time-table for effecting the entry of historically disadvantaged South Africans into the mining industry, and allow such South Africans to benefit from the exploitation of mining and mineral resources.

<sup>206</sup> Section 23(1)(h) of the MPRDA.

<sup>207</sup> 102 of 1996. This is the piece of legislation that was enacted to promote Small, Medium and Micro Enterprises (SMMEs) development in South Africa.

<sup>208</sup> In terms of the Schedule read with the definition of 'small business' in the National Small Business Act 102 of 1996. With respect to the mining and quarrying sectors, a small business organisation means an organisation of less than 50 employees, a turnover of less than R7.5 million and gross asset value of less than R4.5 million. By comparison, so-called 'junior miners' have an asset base of between R50 million and R7 billion. Any mining operations above these thresholds are termed 'majors' and those below these are 'small-scale miners'. See Mining Qualifications Authority 'Sector Skills Plan for the Mining and Minerals Sector Submitted by the Mining Qualifications Authority (MQA) to the Department of Higher Education and Training' (31 August 2016), Update 2017-2018 available at <http://www.mqa.org.za/sites/default/files/MQA%20SSP%202017%20-%202018.pdf> at 10.

<sup>209</sup> Ledwaba & Nhlengetwa op cit note 177 at 27.

However, since many small-scale entities do not fit neatly into this category, this form of classification is problematic.<sup>210</sup>

The South African situation contrasts to Burkina Faso, where the first mining code<sup>211</sup> introduced the possibility for miners to formalise their activities by obtaining an Authorisation for Artisanal Mining (AAM).<sup>212</sup> This specific legislative recognition also features in the principal mining legislation today, Loi No. 0362015/CNT Portant Code Minier du Burkina Faso<sup>213</sup> (the Code). Article 71 provides for the authorization required for artisanal mining operations, which the Code defines as the mining of all commodities and deposit types using traditional and manual methods.<sup>214</sup> Such methods do not involve the use of mechanical or electrical equipment, and are not based on proof of an existing mineral deposit.<sup>215</sup>

The acquisition of authorization for artisanal mining<sup>216</sup> is the only obligation for prospective artisanal miners. It is granted only to Burkinabe nationals,<sup>217</sup> or to Burkinabe-owned companies,<sup>218</sup> to cover an area of up to 100 hectares,<sup>219</sup> and for an initial period of two years.<sup>220</sup> The Code provides further that the beneficiary of such authorization shall exploit the mineral substances rationally in accordance with public health and safety standards and the applicable environmental regulations.<sup>221</sup>

Those wishing to mine artisanally do not require an exploration license nor mining license, which are required to mine on a small or industrial scale.<sup>222</sup> These licenses require additional administrative authorization for prospecting, processing, transport, processing and marketing

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<sup>210</sup> Mining Qualifications Authority – Centre for Sustainability in Mining and Industry (MQA-CSMI) ‘Report and Analysis of Outputs’ (2010) Small Scale Mining Colloquium, Johannesburg, September 2010.

<sup>211</sup> Loi No. 023/97/II/AN of October 22, 1997.

<sup>212</sup> M Côte ‘Striking Gold in Burkina Faso’ (2013) Focus on Land in Africa Brief (November 2013) accessed on 23 October 2017, available at <https://agriknowledge.org/downloads/5x21tf448> at 3.

<sup>213</sup> JO N°44 Du 29 Octobre 2015.

<sup>214</sup> Ibid Chapter 2 ‘Des Definitions: Exploitation artisanale de substances de mine’.

<sup>215</sup> Ibid Chapter 2 ‘Des Definitions: Exploitation artisanale de substances de mine’.

<sup>216</sup> Issued by the Directorate General of Mines, Geology and Quarries after consulting with the local authorities concerned.

<sup>217</sup> Article 71 of the Code supra note 213.

<sup>218</sup> Côte op cit note 212 at 3.

<sup>219</sup> Article 75 of the Code supra note 213.

<sup>220</sup> Ibid Article 78. It is, however, infinitely renewable.

<sup>221</sup> Ibid Article 76.

<sup>222</sup> Ibid Article 11.

of mineral substances.<sup>223</sup> The cost of obtaining these exploration or mining licenses is higher than that required for authorisation for artisanal mining.<sup>224</sup>

Small-scale mining is defined by the Code<sup>225</sup> as any mining on a small scale, including mining at small mines,<sup>226</sup> semi-mechanized mining,<sup>227</sup> the mining of waste dumps and tailings,<sup>228</sup> the mining of quarries,<sup>229</sup> and artisanal mining. Industrial mining is defined by the Code as all operations involving the extraction and gathering of mineral substances, using modern and highly mechanized methods and processes in the chain of operations.<sup>230</sup>

It is therefore evident that the Burkinabe mining Code differentiates artisanal, small-scale, and industrial<sup>231</sup> mining activities, and does so according to the notion of scale.<sup>232</sup> As in the South African context, official authorisation is required for mining activity to be formalised, which in turn depends on it being legally classified within the Code. Formality and legality are concepts that invariably feature within all ASM in Africa discourse, but without proper explanation.<sup>233</sup> Hence the following paragraph seeks to clarify what formal and informal, legal

<sup>223</sup> Ibid.

<sup>224</sup> The cost of an industrial exploration license is 100 000 FCFA, and the cost of an exploitation license is 2 000 000 FCFA. By contrast, the cost of authorisation for artisanal mining is 50 000 FCFA. See Article 3(1), 3(2) and 3(4) respectively of Decret No. 2017-0023/PRES/PM/MEMC/MINEFID portant fixation des taxes et redevances minières.

<sup>225</sup> Chapter 2 ‘Des Definitions: Exploitation minière à petite échelle’ supra note 213.

<sup>226</sup> The Code defines small mines in Chapter ‘Des Definitions: petite mine’ as small-scale mining based on the justification of the existence of a deposit, using according to the rules of the practice, semi-industrial or industrial processes and whose average annual production does not exceed a certain tonnage of the marketable product such as ore, concentrate or metal.

<sup>227</sup> The Code defines semi-mechanised mining in Chapter 2 ‘Des Definitions: Exploitation semi-mécanisée’ as all operations that include extracting and gathering mineral substances, and the recovery of commercial products for disposal using some mechanical means in the chain of operations.

<sup>228</sup> The Code defines waste dumps and tailings in Chapter 2 ‘Des Definitions: Haldes et terrils de mines’ to include waste, rubble, excavated material and residue substances from mining activity.

<sup>229</sup> The Code defines the mining of quarries in Chapter 2 ‘Des Definitions: Exploitation artisanale de substances de carrières’ as all operations involving the extraction and concentration of mineral substances classified as quarry substances and the recovery of commercial products for disposal using manual methods and processes. It does not use mechanical and electrical equipment and is not based on the prior identification of a deposit.

<sup>230</sup> Chapter 2 ‘Des Definitions: exploitation industrielle’ supra note 213.

<sup>231</sup> The production capacity for industrial operations has been fixed from 500-1000 tonnes per day, whereas the maximum production capacity for ASM operations is estimated at 150-200 tonnes per day. See Hentschel, Hruschka, & Priester op cote note 158 at 5.

<sup>232</sup> Jaques et al in Hilson (2006) op cit note 153 at 115.

<sup>233</sup> Nellie Mutemeri speaking at the ASM workshop hosted by African Centre for Migration & Society (ACMS) and the Centre for Sustainability in Mining and Industry (CSMI) (10 November 2016) in M Wilhelm-Solomon ‘The Future of Artisanal Mining is Clouded in Dust and Smoke’ (28 November 2016), available at <http://www.mahpsa.org/2016/11/28/the-future-of-artisanal-mining-is-clouded-in-dust-and-smoke/>, accessed on 6 April 2017.

and illegal mean with reference to mining activity in Africa in general, and in South Africa and Burkina Faso specifically.

## 2.2 Informality and Illegality

It is necessary to engage with the meanings of informal mining and illegal mining for purpose of this dissertation, as both terms are commonly associated with artisanal and small-scale mining. This is evident in the World Bank's definition of artisanal mining as 'the most primitive type of **informal**, small-scale mining, characterized by individuals or groups of individuals exploiting deposits – usually **illegally** – with the simplest equipment.'<sup>234</sup> Since the definitions of ASM remain disputed today,<sup>235</sup> unpacking their complexities does not offer any clarity. It is rather preferable to consider the distinction of informality, which is key to understanding the nature of Africa's ASM sectors generally,<sup>236</sup> and artisanal mining particularly.

There are different types of ASM activities that can be described as 'informal'. First, informal can refer to miners operating in the absence of an *applicable* legal framework (own emphasis).<sup>237</sup> This is the case in South Africa, where the enabling mining legislation does not explicitly recognise artisanal mining as a type of small-scale mining that is legal.<sup>238</sup> A similar reality is evident in jurisdictions across the globe, where regulations and policy do not cater for artisanal mining specifically.<sup>239</sup> In South Africa's case informal artisanal mining is associated with the traditional subsistence activities undertaken by communities.<sup>240</sup>

Informality can also mean ASM operators working in the absence of an *appropriate* legal framework (own emphasis).<sup>241</sup> This is the case both in South Africa, and countries across the continent, where the legal obligations are too onerous for operators to comply with.<sup>242</sup> Hence

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<sup>234</sup> Barry op cit note 154.

<sup>235</sup> Buxton op cit note 162 at 1.

<sup>236</sup> Ibid at 4.

<sup>237</sup> Ibid.

<sup>238</sup> SAHRC Report op cit note 160 at 60.

<sup>239</sup> B Marshall & M Veiga 'Formalisation of artisanal miners: Stop the train, we need to get off!' (2017) 4 *The Extractive Industries and Society* 300 at 301.

<sup>240</sup> P Ledwaba 'The status of artisanal and small-scale mining sector in South Africa: tracking progress' (2017) 117 *The Journal of the Southern African Institute of Mining and Metallurgy* 33 at 35.

<sup>241</sup> Buxton op cit note 162 at 4.

<sup>242</sup> Verbrugge points out that in cases where primitive formalisation frameworks offer a degree of legal recognition to artisanal or small-scale mining, it is often limited to the interests of advanced small-scale entrepreneurs, to the

they are unable to obtain legal authorisation, and without it operate informally. These informal artisanal and small-scale activities are however, also illegal, as it amounts to a contravention of section 5(4) of the MPRDA. Section 5(4) mandates that no mining activity can occur without the requisite authorization.<sup>243</sup>

This overlap of informality and illegality is also evident in the second understanding of informal mining, namely when individuals contravene the applicable legal framework and regulations intending to commit a crime.<sup>244</sup> They contrast the legal operators who conduct their mining activities within a legal framework, hold land titles and government permits, pay taxes and are subject to social and environmental regulations.<sup>245</sup> Without the requisite legal authorisation, the mining activity is clearly illegal.<sup>246</sup>

The difficulty with associating informal artisanal mining with illegal artisanal mining in South Africa is that the term ‘illegal mining’ (known as *Zamazama* mining) is associated with artisanal miners who are members of organized crime groups.<sup>247</sup> There is no explicit provision that criminalises the act of mining illegally,<sup>248</sup> and so arrested miners are convicted for violating other laws associated with the activity.<sup>249</sup> Since they are also violating 5(4)(b) of the MPRDA, like informal miners are, this has exacerbated the misconception of artisanal mining in South Africa as a type of illegal mining.<sup>250</sup>

The overlap of informality and illegality explains why the United Nations Interregional Crime and Justice Research Institute prefers to use the term ‘non-formal’, which it argues

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exclusion of the informal workforce. See B Verbrugge ‘The Economic Logic of Persistent Informality: Artisanal and Small-Scale Mining in the Southern Philippines’ (2015) 46(5) *Development and Change* 1023.

<sup>243</sup> Section 5(4) provides that “(4) No person may prospect for or remove, mine, conduct technical co-operation operations, reconnaissance operations, explore for and produce any mineral or petroleum or commence with any work incidental thereto on any area without— (b) a reconnaissance permission, prospecting right, permission to remove, mining right, mining permit, retention permit, technical co-operation permit, reconnaissance permit, exploration right or production right, as the case may be.”

<sup>244</sup> Buxton op cit note 162 at 4.

<sup>245</sup> Ibid.

<sup>246</sup> Ibid.

<sup>247</sup> Chamber of Mines of South Africa ‘Illegal Mining’ (2017) Chamber of Mines website, accessed on 11 October 2017, available at <http://www.chamberofmines.org.za/work/illegal-mining>.

<sup>248</sup> For a discussion that argues in favour of introducing a specific illegal mining offence, see Chapter 7.

<sup>249</sup> Including trespassing or the possession of unwrought metal. See Chapter 4 for a detailed discussion.

<sup>250</sup> SAHRC Report op cit note 160 at 59.

encompasses both informal and illegal mining activities.<sup>251</sup> However a technical distinction such as ‘non-formal’ merely complicates the inquiry and is not widely used. For the purpose of this legal dissertation, ‘informal’ artisanal or small-scale miners are understood to be those operating outside of legal regulations, either because they are non-existent, or unobtainable. ‘Illegal’ mining will refer to those artisanal miners who deliberately contravene numerous statutes through their involvement in organised crime syndicates.<sup>252</sup> This distinction takes into account of the reality that a ‘continuum’ of Zamazama activities take place in South Africa.<sup>253</sup>

Since informal mining, like illegal mining, is recognised as unlawful for contravening the MPRDA, the use of the term in a legal dissertation may seem inappropriate. This is because it may create the impression that informal miners are inculpable in cases where the legal framework regulating their activities is inappropriate or absent. These individuals are undoubtedly acting unlawfully, however this distinction is not made clearly in the literature.<sup>254</sup> This dissertation seeks to address the absence of an adequate engagement with ASM’s informal character,<sup>255</sup> specifically from a legal perspective, however there is still a need for further investigation.<sup>256</sup> In the interim, ‘informality remains one of (ASM’s) defining features’<sup>257</sup> in the existing literature. To abstain from using this term would, therefore, be contrived. This dissertation will use the term ‘informal’, not to condone unlawful mining, but to describe the majority of African ASM operators who work within regulatory frameworks that offer no, or limited, ‘legal recognition’.<sup>258</sup>

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<sup>251</sup> United Nations Interregional Crime and Justice Research Institute (UNICRI) ‘Strengthening the Security and Integrity of the Precious Metals Supply Chain’ (May 2016) Technical Report presented at the International strategy to combat illicit trafficking in precious metals Meeting held in Cape Town (March 2016), available at [http://files.unicri.it/PM\\_draft\\_onlinev.pdf](http://files.unicri.it/PM_draft_onlinev.pdf), accessed 29 May 2017 (UNICRI Report) at 25.

<sup>252</sup> P Ledwaba & N Mutemeri ‘Preliminary Study on Artisanal and Small-Scale Mining in South Africa’ (2017) Report prepared for Open Society Foundation for South Africa (OFS-SA) by the Centre for Sustainability in Mining and Industry (CSMI) at 10. This type of mining is termed ‘criminal mining’ by the authors.

<sup>253</sup> Ibid at 10.

<sup>254</sup> Instead, commentators describe informal ASM activity as ‘illegal’, deliberately employing inverted commas to circumvent the complexity of the informality/illegality overlap. See Verbrugge op cit note 242 at 1024.

<sup>255</sup> Hilson et al ‘Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Reconceptualising formalization and ‘illegal’ activity’ (2017) 83 *Geoforum* 80 at 89.

<sup>256</sup> Ibid.

<sup>257</sup> Verbrugge op cit note 242. See further S Siegel & M Veiga ‘Artisanal and Small-Scale Mining as an Extralegal Economy: De Soto and the Redefinition of “Formalization”’ (2007) 34(1-2) *Resources Policy* 51.

<sup>258</sup> Verbrugge ibid at 1024.

### 3 Proposed conceptualization of ASM

What the above engagement shows is that the definitions of ASM, which are varied and disputed, are unappealing tools to understand and conceptualise this form of mining. While definitions have been adopted in the Burkinabe Code, the classification of ASM in South Africa is still recognised as being inherently difficult.<sup>259</sup> Most of the definitions do not clearly explain what it means to mine artisanally, informally, and illegally, and hence remain ambiguous.<sup>260</sup> Once more, the business-orientated description proposed for ASM in South Africa does not suit the type of artisanal mining activity conducted by many South African operators.<sup>261</sup> This is because operations can take the form of subsistence mining as opposed to a profit-driven activity,<sup>262</sup> and so it becomes unsuitable to apply the National Small Business Act.<sup>263</sup>

In response to this reality, South African commentators have attempted to propose their own definitions for the ASM sector. Artisanal mining has been defined as a form of small-scale, subsistence mining<sup>264</sup> that relies on simple mining techniques and rudimentary tools such as picks and shovels.<sup>265</sup> This understanding of artisanal mining as a form of subsistence mining aligns with the Department of Mineral Resources' categorisation of small-scale mining activities, which equates artisanal with subsistence mining operations in one of the sub-categories.<sup>266</sup> As such, artisanal mining is a sub-category of mining activity on a small scale. It is, however, seen to be differentiated from the types of mechanised small-scale mining activities conducted with the intention to make a commercial profit.

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<sup>259</sup> N Mutemeri, N Sellick & H Mtegha 'What is the status of small scale mining in South Africa?' (2010) Discussion document for the MQA SSM Colloquium (August 2010) at 10.

<sup>260</sup> Naseema Fakir speaking at the ASM workshop hosted by African Centre for Migration & Society (ACMS) and the Centre for Sustainability in Mining and Industry (CSMI) (10 November 2016), see M Wilhelm-Solomon op cit note 233.

<sup>261</sup> G Kwata 'Small-Scale Mining Support and Regulatory Framework' (2016) Paper Presented at the Artisanal and Small-Scale Mining Workshop, held at the University of Witwatersrand; Ledwaba & Mutemeri 'Preliminary Study' op cit note 252 at 3.

<sup>262</sup> DMR 'Junior Miners', presentation to Parliamentary Portfolio Committee, 24 May 2017.

<sup>263</sup> Supra note 263.

<sup>264</sup> Debrah, Watson & Quansah op cit note 176.

<sup>265</sup> R Thornton 'Informal, 'illegal', or 'artisanal' mining in Johannesburg' (2013) Blog entry at <http://robertthorntonza.blogspot.com/2013/07/informal-illegal-orartisanal-mining-in.html> and [http://academia.edu/3893926/Roodeport\\_Artisanal\\_Mining\\_Johanne](http://academia.edu/3893926/Roodeport_Artisanal_Mining_Johanne).

<sup>266</sup> See Department of Mineral Resources 'Small-Scale Mining', *DMR website* available at [www.dmr.gov.za/small-scale-mining.html](http://www.dmr.gov.za/small-scale-mining.html), accessed on 5 February 2017. The other sub-categories articulated are sub-optimal formal mining operations and entrepreneurs with upfront capital.

This conception of artisanal mining, as simple form of subsistence mining, shall be employed in this dissertation. Additional determinants in the conceptualization are scale of operations and level of mechanization. As was shown above, these factors are employed in the Burkinabe mining regulations to differentiate different types of mining activities. There is also an apparent consensus amongst academic discourses on ASM in sub-Saharan countries that artisanal mining is purely manual and on a very small scale, compared to small-scale mining that requires some form of mechanization.<sup>267</sup> Hence the notion of artisanal and small-scale mining can be articulated by distinguishing between manual, rudimentary techniques, and mechanised work. This aligns with the opinion that technical definitions in existing legislation are impractical, and should rather be substituted with production level as a preferable qualifier of artisanal and small-scale activities.<sup>268</sup>

## 4 Conclusion

Using the above factors to classify artisanal and small-scale mining activities avoids a reliance on ASM definitions, which have created confusion and contention in the past. When ‘ASM’ is employed in this dissertation it describes the sector of a country’s mining industry involving activities on a small scale. This does not imply that the types of mining activities are undifferentiated or synonymous. The range of artisanal and small-scale mining activities falling within the acronym are recognised as individual, but because of the overlapping similarities, or ‘blurred boundaries’<sup>269</sup> they can be grouped together.

Often ASM activities fall within the informal mining sector, which means they occur outside of legal parameters. While these mining activities are a source of livelihood for many, without legal authorisation they are illegal. That established, the next chapter gives a contextual background of ASM activity. It considers the factors that contribute to its commencement, how and why it persists, and the role it plays in sustaining the lives of millions of Africans. It does so by considering the lived experiences of artisanal and small-scale mining activities in Africa in general, and then in South Africa and Burkina Faso specifically.

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<sup>267</sup> Hentschel, Hruschka, & Priester op cit note 128 at 5. Looking at Mali by way of example, the authors explain that small-scale mining is differentiated from artisanal mining by the presence of permanent, fixed installations that are established once an ore body is confirmed.

<sup>268</sup> Marshall and Veiga op cit note 239 at 302.

<sup>269</sup> Jaques et al in Hilson (2006) op cit note 153 at 115.

## CHAPTER THREE: THE REALITIES OF ASM IN AFRICA

### 1 Introduction

The previous chapter argues that ASM is better understood in terms of the unique types of mining activity taking place, and not in terms of fixed definitions. It explains that artisanal mining, using hand tools and not machinery, has been recognised as a subsistence activity to sustain livelihoods.<sup>270</sup> By contrast, small-scale mining is a mechanised activity undertaken with the intention to make a profit.<sup>271</sup> However a consideration of the present context of ASM activities in African countries reveals that there can be an overlap of the two circumstances. In South Africa for example, individuals are choosing artisanal mining operations as their sole means of income, as it is more lucrative than alternative forms of employment.<sup>272</sup>

With these nuances in mind, this chapter examines the lived realities of artisanal and small-scale mining activities in Africa in general, and then in South Africa and Burkina Faso specifically. To introduce the discussion, the chapter examines the main explanations academics have offered for why ASM emerges and persists in the sub-Saharan context. In the past, these propositions framed ASM as either a ‘get-rich-quick’ activity,<sup>273</sup> or more commonly, one which is ‘poverty-driven’ and taken up out of necessity.<sup>274</sup> Recently, however, commentators have offered explanations that take a wider set of complex factors into account to explain why individuals choose ASM as their employment sector.<sup>275</sup> It is shown how these theories explain the occurrence of ASM activities in South Africa and Burkina Faso.

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<sup>270</sup> See Chapter 2 para 3.

<sup>271</sup> Ibid.

<sup>272</sup> P Nyoni ‘Unsung Heroes? An Anthropological Approach into the Experiences of ‘Zamazamas’ in Johannesburg, South Africa’ in A Nhemachena *Mining Africa: Law, Environment, Society and Politics in Historical and Multidisciplinary Perspectives* (2017) at 145.

<sup>273</sup> S Banchirigah & G Hilson ‘De-agrarianization, re-agrarianization and local economic development: re-orientating livelihoods in African artisanal mining communities (2010) 43(2) *Policy Sciences* 157 at 160.

<sup>274</sup> Ibid at 158, 160.

<sup>275</sup> See Musah-Surugu et al ‘Rural Poverty and Artisanal Mining in Sub-Saharan Africa: New Perspective through Environment–Poverty Paradox’ (2017) 13(2) *International Journal of Rural Management* 1.

Following an examination of these theories, the chapter considers the context of ASM activities on a continental level. Various criteria<sup>276</sup> have been relied on in the past to guide such an inquiry.<sup>277</sup> Although insightful, applying the full range of criteria can complicate rather than illuminate the inquiry. To avoid complexity, the discussion below narrows the number of criteria applied to each region in question. These are the number of participants in and benefactors of ASM, the types of minerals exploited, and a general explanation of the ASM activities that take place.

## 2 Explanations for the emergence and persistence of ASM in Africa

In response to the ASM sector's rapid expansion in sub-Saharan Africa in the 1990's, scholars and policy makers began engaging with justifications for its widespread occurrence.<sup>278</sup> Informing this engagement was the recognition that ASM is strongly linked to economic hardship,<sup>279</sup> with numerous accounts of how it provides employment to vulnerable groups emerging in scholarship.<sup>280</sup> Two main 'schools of thought' or 'narratives', as they have been termed,<sup>281</sup> emerged. The first, popular within policy-making circles, is that people engage in ASM for the sole purpose of 'getting rich quickly'.<sup>282</sup> This is the idea that artisanal miners are opportunistic entrepreneurs rather than individuals without alternative sources of income,

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<sup>276</sup> Often gleaned from the legal rubrics governing mining activities in different countries.

<sup>277</sup> These include production volume, number of people per productive unit, intensity (volume) of capital employed, labour productivity, size of mine claim, quantity of reserves, sales volume, operational continuity, operational reliability and the duration of the mining cycle. See further T Hentschel, F Hruschka, & M Priester 'Global report on artisanal and small-scale mining' (2002) Mining, Minerals and Sustainable Development (MMSD) Report of the IIED at 5.

<sup>278</sup> G Hilson 'Small-scale mining, poverty and economic development in sub-Saharan Africa: An overview' (2009) 34 *Resources Policy* 1.

<sup>279</sup> *Ibid.*

<sup>280</sup> See G Hilson 'Fair trade gold: antecedents, prospects and challenges' (2008) 39 (1) *Geoforum* 386; G Hilson 'A load too heavy': a critical examination of the child labour problem in African Artisanal mining communities' (2008) 30 *Children and Youth Services Review* 1233; G Hilson & S Banchirigah 'Are alternative livelihood projects alleviating poverty in mining communities? Experiences from Ghana' (2009) 45(2) *Journal of Development Studies* 172.

<sup>281</sup> For a general overview, see Hilson (2009) *op cit* note 278 at 3.

<sup>282</sup> See M Barry (ed) 'Regularizing Informal Mining: A Summary of the Proceedings of the International Roundtable on Artisanal Mining, May 17-19 1995' (1996) World Bank Industry and Energy Department Occasional Paper No. 6; States Agency for International Development (USAID) 'Minerals and conflict: A toolkit for intervention' (2005) Office of Conflict Management and Mitigation, Washington; World Bank 'The millennium development goals and small-scale mining: A conference for forging partnerships for action' (2005) Workshop Report, Washington.

desperate to escape economic hardship.<sup>283</sup> Often associated with this narrative are the feverish ‘rushes’ that occur in response to newly discovered mineral deposits, resulting in the formation of semi-permanent or permanent ASM sites.<sup>284</sup>

A proposed alternative to the pull-of-wealth narrative is the ‘pull’ of poverty.<sup>285</sup> The latter theory gained momentum in 1995.<sup>286</sup> This is the idea that the rapid expansion of ASM was poverty-driven,<sup>287</sup> often in response to the untenable state of rural or smallholder farming.<sup>288</sup> On this line of reasoning, scholars argue that the ‘get rich quick’ narrative led to the drafting of questionable rural poverty alleviation strategies,<sup>289</sup> and contradicted the majority of accounts of rural farmers who were seeking ASM employment out of necessity.<sup>290</sup>

More recently, however, scholars have moved away from singling out standalone justifications for the occurrence of widespread ASM activities.<sup>291</sup> In contextualising the phenomena of present informal ASM economies, which are unique and heterogeneous,<sup>292</sup> they have argued in favour of a nuanced understanding: that a ‘complex brand’ of informality characterises and drives ASM sectors today.<sup>293</sup> Among these arguments is the proposal that ASM activities form

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<sup>283</sup> Banchirigah & Hilson op cit note 273 at 158.

<sup>284</sup> G Hilson ‘Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: a critical overview’ (2016) IIED Issue Paper (March 2016) at 11.

<sup>285</sup> Ibid.

<sup>286</sup> At the 1995 International Roundtable on Artisanal Mining hosted by the World Bank, bank officials in particular underscored their interest in ASM as a ‘poverty-driven activity... (in light) ...of the organisation’s mandate to alleviate poverty’ Barry op cit note 282 at 1.

<sup>287</sup> B Aryee, B Ntibery & E Atorkui ‘Trends in the small-scale mining of precious minerals in Ghana: A perspective on its environmental impact’ (2003) 11(2) *Journal of Cleaner Production* 131; K Yelapaala & S Ali ‘Multiple scales of diamond mining in Akwatia, Ghana: Addressing environmental and human development impact’ (2005) 30(3) *Resources Policy* 145; G Hilson & S Pardie ‘Mercury: An agent of poverty in Ghana’s small-scale gold mining industry?’ (2006) 31(2) *Resources Policy* 106.

<sup>288</sup> Banchirigah & Hilson op cit note 273 at 158.

<sup>289</sup> Hilson (2009) op cit note 278; S Banchirigah & G Hilson ‘De-agrarianization, re-agrarianization and local economic development: Re-orientating livelihoods in African artisanal mining communities’ (2010) 43(2) *Policy Sciences* 157 at 158; Hilson (2016) op cit note 284. See further Hilson et al ‘Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Reconceptualising formalization and ‘illegal’ activity’ (2017) 83 *Geoforum* 80 at 82.

<sup>290</sup> See United Nations Economic Commission for Africa (UNECA) ‘Reports on Selected Themes in Natural Resources Development in Africa: Artisanal and Small-Scale Mining and Technology Challenges in Africa’ (2003) Addis Ababa.

<sup>291</sup> See Musah-Surugu op cit note 275.

<sup>292</sup> Hilson 2017 op cit note 289 at 82.

<sup>293</sup> Ibid.

a *type* of entrepreneurial activity,<sup>294</sup> aptly termed ‘necessity entrepreneurship’.<sup>295</sup> More specifically, the suggestion that a reality of endemic poverty and few economic opportunities has compelled many Africans to become entrepreneurs solely out of need.<sup>296</sup> This explanation is supported by observations that, after the pandemonium of ASM ‘rushes’ dies down, the pull of employment brings desperate individuals into the permanent or semi-permanent industries.<sup>297</sup>

With these overlaps in mind, and owing to the diverse features of different ASM sectors across sub-Saharan Africa, it would be inappropriate to determine which of the above theories is correct. What does seem clear, however, is the need to acknowledge that people are driven into ASM activities not for a singular reason, but rather in virtue of a variety of ‘complex, intertwined and overlapping socio-economic and eco-political issues’.<sup>298</sup>

### 3 Reality on the ground: the continental context

When contextualising ASM in different African jurisdictions, more than one theory may find application, and the extent to which they accurately apply may also differ. This is illustrated in the general consideration of Sub-Saharan Africa, and detailed examinations of South Africa and Burkina Faso below.

#### 3.1 Participants

Estimates on the exact numbers of ASM participants vary, however there are at least 20 million people employed directly in the sector, with a further 100 million people depending indirectly on these activities for their livelihoods.<sup>299</sup> There is still the need for more reliable data,<sup>300</sup> but this is still a significant increase from the 3.7 million African ASM miners documented in

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<sup>294</sup> G Hilson ‘Once a miner, always a miner’: poverty and livelihood diversification in Akwatia, Ghana’ (2010) 26(3) *Journal of Rural Studies* 296.

<sup>295</sup> Hilson (2017) op cit note 289 at 86.

<sup>296</sup> Ibid.

<sup>297</sup> Hilson (2017) op cit note 284 at 11.

<sup>298</sup> Musah-Surugu op cit note 275.at 2.

<sup>299</sup> Hilson (2017) op cit note 284.

<sup>300</sup> A Buxton ‘Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help?’ (2013) IIED Sustainable Markets Paper) at 1. Buxton comments that the lack of reliable figures is symptomatic of a broader neglect and misunderstanding of the sector.

1999.<sup>301</sup> Once more, the increasing trend is expected to continue for the foreseeable future,<sup>302</sup> given the socio-economic realities of most developing countries.<sup>303</sup> Specifically, the consistently high levels of unemployment, poverty and inequality that plague most developing countries today.<sup>304</sup>

### 3.2 Minerals exploited

Across the continent ASM operators produce more than 35 different minerals, with emphasis on ‘high-value low-volume’ minerals such as gold, coltan, and precious and semi-precious stones including diamonds.<sup>305</sup> However ASM operations extend beyond the borders of countries endowed with high-value minerals, since it is often the case that ASM miners mine and process industrial minerals such as lime used in agriculture.<sup>306</sup> In 2009, the African Mining Vision documented that between 15% and 20% of the world’s non-fuel minerals, 18% of Africa’s gold, and almost all African gemstones,<sup>307</sup> excluding diamonds, are produced by ASM.<sup>308</sup> These figures depict how ASM has immense potential to contribute to national and local economies of resource-rich countries in Africa.<sup>309</sup>

### 3.3 ASM in practice

ASM sectors, usually informal and poverty driven, are diverse in scale of activities and composition of operators.<sup>310</sup> As Hilson puts it, the sub-sector ‘is characterised by complex

<sup>301</sup> International Labour Organisation (ILO) ‘Social and Labour Issues in Small-scale Mines’ (1999) Report for discussion at the Tripartite Meeting on Social and Labour Issues in Small-scale mines (TMSSM).

<sup>302</sup> ‘Artisanal Mining Training in Africa’ (April 2017) *Geoscientist Online* available at <https://www.geolsoc.org.uk/Geoscientist/Archive/April-2017/Artisanal-mining-training-in-Africa> accessed on 24 May 2017.

<sup>303</sup> P Ledwaba ‘The status of artisanal and small-scale mining sector in South Africa: tracking progress’ (2017) 117(1) *Journal of the Southern African Institute of Mining and Metallurgy* 33.

<sup>304</sup> Ibid.

<sup>305</sup> C Villegas et al ‘Artisanal and Small-Scale Mining in Protected Areas and Critical Ecosystems Programme: A Global Solutions Study (2012) WWF Report (September 2012) available at <http://www.sidalc.net/repdoc/A10263I/A10263I.PDF> accessed on 24 May 2017.

<sup>306</sup> J Love ‘Report of the SAHRC Investigative Hearing: Issues and Challenges in relation to Unregulated Artisanal Underground and Surface Mining Activities in South Africa’ (2015) available at <https://www.sahrc.org.za/home/21/files/Unregulated%20Artisanal%20Underground%20and%20Surface%20Mining%20Activities%20electronic%20version.pdf> (the SAHRC Report) at 22.

<sup>307</sup> Except for diamonds.

<sup>308</sup> African Union ‘African Mining Vision’ (2009) United Nations Economic Commissions for Africa (UNECA) at 27, available at [http://www.africaminingvision.org/amv\\_resources/AMV/Africa\\_Mining\\_Vision\\_English.pdf](http://www.africaminingvision.org/amv_resources/AMV/Africa_Mining_Vision_English.pdf).

<sup>309</sup> P Ledwaba, Pontsho & K Nhlengetwa ‘When policy is not enough: prospects and challenges of artisanal and small-scale mining in South Africa’ (2016) 7(1) *Journal of Sustainable Development Law and Policy* 25 at 28.

<sup>310</sup> Buxton op cit note 303 at 4.

labour hierarchies, unique forms of production, and informal levels of assistance, all of which have evolved, for the most part, in an environment devoid of regulation and formal support.<sup>311</sup> The organisation of these labour hierarchies can be directed by a ‘pit owner’ who sets the terms of the informal employment arrangements.<sup>312</sup> Alternatively it can involve a group of miners sharing the responsibility of financing operations and hiring a work force.<sup>313</sup>

Given the variability of ASM operations in different sub-Saharan countries, it is difficult to summarise accurately how ASM is regulated in sub-Saharan Africa. Rather, it is appropriate to consider the challenges experienced by individuals wishing who wish to enter the formal ASM sector. In fact, when building their cases for the regularisation of ASM operations, scholars, donors and policymakers<sup>314</sup> have focused on the challenges faced by artisanal and small-scale miners in their attempt to obtain formal authorisation. These challenges will be explored in Chapter 5.

### 3.4 Theoretical justifications

From a continental perspective, ASM is often framed within the poverty-driven narrative. ASM is highly labour intensive, and hence generally creates the opportunity for more jobs than large-scale mining.<sup>315</sup> In doing so, the ASM sector plays a vital role as a source of livelihoods for communities with limited economic opportunities.<sup>316</sup> Today, artisanal and small-scale mining is an economic mainstay in rural sub-Saharan Africa,<sup>317</sup> contributing significantly to the economic development of countries in which it occurs.<sup>318</sup>

ASM in Africa has become such an important economic activity in rural areas that it has overtaken subsistence agriculture.<sup>319</sup> In fact, ASM generates up to five times the income of

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<sup>311</sup> G Hilson ‘Small-scale mining, poverty and economic development in sub-Saharan Africa: An overview’ (2009) 34 *Resources Policy* 1 at 4.

<sup>312</sup> The participants in ASM sectors range from ‘diggers’ who are often wage labourers, to pit/equipment owners who are the heads of labour hierarchies and oversee all operations. See Buxton op cit note 303 at 4.

<sup>313</sup> Hilson (2009) op cit note 311 at 3-4.

<sup>314</sup> Hilson (2017) op cit note 289.

<sup>315</sup> SAHRC Report at 23.

<sup>316</sup> Ledwaba op cit note 303.

<sup>317</sup> Hilson ‘(2009) op cit note 311.

<sup>318</sup> ‘Artisanal Mining Training in Africa’ (2017) op cit note 302.

<sup>319</sup> Ibid.

other rural poverty-driven activities in agriculture and forestry.<sup>320</sup> Evidence suggests that the majority of people who have turned to ASM because of economic hardship over the past 10–15 years<sup>321</sup> are subsistence farmers.<sup>322</sup> Research has captured the inseparable linkages (in terms of labour and capital flows) between ASM and farming in sub-Saharan Africa,<sup>323</sup> as seen in Ghana,<sup>324</sup> Liberia,<sup>325</sup> Cameroon,<sup>326</sup> and as will be shown below, Burkina Faso.<sup>327</sup>

The evidence highlighting the importance of the sector for the livelihoods of Africa's rural population<sup>328</sup> thus seems to fall squarely in the poverty-driven narrative. For this reason, African heads of state have acknowledged its contribution to socio-economic development through job creation, poverty alleviation and aiding in rural development.<sup>329</sup> However, the 'entrepreneurial spirit' recognised as being a characteristic of artisanal operators<sup>330</sup> cannot be ignored; neither can the arguments that ASM involves heterogeneous activities that are attributed to multiple complex factors.<sup>331</sup>

The varying factors or incentives influencing individuals to choose this livelihood activity need to be kept in mind to properly understand the 'segmented'<sup>332</sup> diversity of the sector. For example, poverty-driven operators in Ghana are differentiated from advanced small-scale mining entrepreneurs in Tanzania.<sup>333</sup> These nuances, together with the different types of minerals exploited, influences the different types of activities undertaken. These range from the

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<sup>320</sup> Buxton op cit note 300 at v.

<sup>321</sup> Hilson (2016) op cit note 284 at 11.

<sup>322</sup> Ibid.

<sup>323</sup> Ibid at 12.

<sup>324</sup> G Hilson & C Garforth 'Everyone now is concentrating on the mining': Drivers and Implications of Changing Agrarian Patterns in the Eastern Region of Ghana' (2013) 49(3) *The Journal of Development Studies* 348.

<sup>325</sup> G Hilson & S van Bockstael 'Poverty and Livelihood Diversification in Rural Liberia: Exploring the Linkages Between Artisanal Diamond Mining and Smallholder Rice Production' (2012) 48(3) *The Journal of Development Studies* 416.

<sup>326</sup> M Bakia 'East Cameroon's artisanal and smallscale mining bonanza: How long will it last? The Futures of Small-Scale Mining in Sub-Saharan Africa' (2014) 62 *Futures* 40; J Schure et al 'Is the god of diamonds alone? The role of institutions in artisanal mining in forest landscapes, Congo Basin' (2011) 36(4) *Resources Policy* 363.

<sup>327</sup> Hilson (2016) op cit note 284 at 12.

<sup>328</sup> J Jønsson & N Fold 'Mining from below: taking Africa's artisanal miners seriously' (2011) 5(7) *Geography Compass* 479.

<sup>329</sup> Ledwaba op cit note 303.

<sup>330</sup> Hilson (2017) op cit note 289.

<sup>331</sup> Ibid at 89.

<sup>332</sup> B Verbrugge 'The Economic Logic of Persistent Informality: Artisanal and Small-Scale Mining in the Southern Philippines' (2015) 46(5) *Development and Change* 1023 at 1026.

<sup>333</sup> Ibid at 1024.

basic artisanal mining using hammers, chisels and pans, to small-scale mining businesses that involve mechanised excavation equipment to facilitate production.<sup>334</sup> Since South Africa and Burkina Faso are the focus of this dissertation, the applicability of these narratives to these countries, and not sub-Saharan Africa generally, will be considered in more detail below.

## 4 The South African context

The same areas of focus applied to the continental context will be followed in the contextual examination of South Africa below.

### 4.1 Participants

The estimated range, from 8,000 to 30,000, is used to capture both the number of small-scale miners in South Africa,<sup>335</sup> as well as the number of illegal miners in the country.<sup>336</sup> The sizeable the range between the figures highlights the difficulty in assessing the exact number of people involved.<sup>337</sup> Since there has been no proper baseline study to date, it is unlikely that these figures can be relied on to reflect the reality on the ground.<sup>338</sup> Once more, it cannot be ascertained whether the above data relates to illegal artisanal and small-scale mining operations, or only the permitted activities that are formally regulated.<sup>339</sup> Hence it is impossible to gauge the composition precisely. What *is* known is that the figures include legal small-scale miners operating with a mining permit,<sup>340</sup> informal artisanal miners, and illegal artisanal *Zamazama* miners who work independently or in established criminal syndicates.<sup>341</sup>

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<sup>334</sup> K Hein & T Funyufunyu 'Artisanal mining in Burkina Faso: A historical overview of iron ore extraction, processing and production in the Dem region' (2014) 1 *The Extractive Industries and Society* 260 at 261.

<sup>335</sup> Mark Olalde, 'Bringing South Africa's Small-Scale Miners Out of the Shadows' (2016) *Inter Press Service*, available at <http://www.ipsnews.net/2016/12/bringing-south-africas-small-scale-miners-out-of-the-shadows/> accessed on 4 October 2017.

<sup>336</sup> United Nations Interregional Crime and Justice Research Institute (UNICRI) 'Strengthening the Security and Integrity of the Precious Metals Supply Chain' (May 2016) at 10, technical report presented and discussed during an International Meeting on "International strategy to combat illicit trafficking in precious metals," organised by UNICRI in March 2016 in Cape Town, South Africa, available at [http://files.unicri.it/PM\\_draft\\_onlinev.pdf](http://files.unicri.it/PM_draft_onlinev.pdf), accessed 29 May 2017.

<sup>337</sup> *Ibid* at 28.

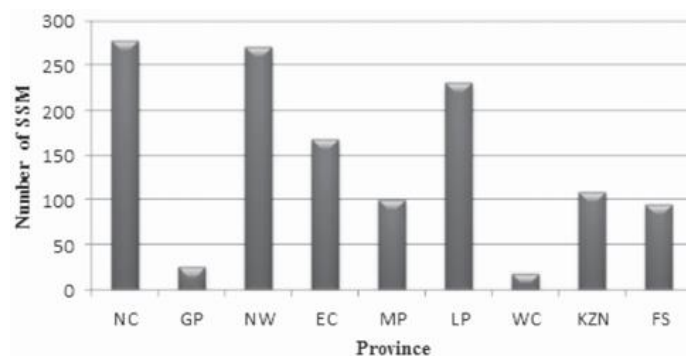
<sup>338</sup> Ledwaba op cit note 303 at 34.

<sup>339</sup> Ledwaba & Nhlengetwa op cit note 309 at 29.

<sup>340</sup> Grated in terms of Section 27 of the MPRDA.

<sup>341</sup> These are the three categories of South African ASM operators presented in Chapter 2 at para 2.2.

Despite the dearth of evidence, there have been reports suggesting that the ASM sector has grown significantly.<sup>342</sup> One of the few detailed studies conducted by the Minerals and Energy Policy Centre dates back to 1998,<sup>343</sup> and documented 550 ASM operations in total<sup>344</sup> employing 3,783 people.<sup>345</sup> More recently, the Mine Health and Safety Council released a report in 2011 that estimated the number of registered ASM operations to be 1,030.<sup>346</sup> Evidently the sub-sector has grown since 1994, which academic commentators have attributed to the enactment of the MPRDA in 2002.<sup>347</sup> The DMR confirmed an increase in the number of mining permits between 2005 and 2006,<sup>348</sup> and more than 1000 mining permits were issued by the DMR between 2004 and 2010.<sup>349</sup> In its most recent 2015/2016 Annual Report, the Minister of Mineral Resources confirmed that 3 800 permits have been granted by the Department of Mineral Resources (DMR) to the public in total.<sup>350</sup> The exact timeframes were not specified.



**FIGURE 2: Number of Mining Permits issued between 2004 and 2010 in each Province.**<sup>351</sup>

<sup>342</sup> Ledwaba op cit note 303 at 34.

<sup>343</sup> The study followed the release of the Green Paper on Minerals and Mining Policy earlier that year, and aimed to ascertain the particular challenges plaguing the ASM sub-sector. See Ledwaba & Nhlengetwa op cit note 309 at 29.

<sup>344</sup> Which according to the recognised definition of ASM translated as 550 mines employing less than 50 people.

<sup>345</sup> At the time the mining industry employed 546,164 people in total. See R Scott & R Hudson 'The Status of Small-Scale Mining in South Africa – A Preliminary Study' (1998) Minerals and Energy Policy Centre and The Marketing Shop (October 1998) 58-77.

<sup>346</sup> Mine Health and Safety Council 'The Mine Health and Safety Council work on the small-scale mining project (2011) Johannesburg.

<sup>347</sup> See Ledwaba op cit note 303 at 34; Ledwaba & Nhlengetwa op cit note 309 at 29.

<sup>348</sup> From 103 to 141 permits. See Department of Mineral Resources 'Nurturing Junior Miners of the Future: A Strategic Framework to facilitate the growth of small scale mining sector in South Africa' (2011) Pretoria.

<sup>349</sup> See Ledwaba op cit note 303 at 35.

<sup>350</sup> Department of Mineral Resources 'Annual Report 2015/2016' at 8, available at [http://www.gov.za/sites/www.gov.za/files/dmr\\_annual\\_report\\_2015\\_16.pdf](http://www.gov.za/sites/www.gov.za/files/dmr_annual_report_2015_16.pdf), accessed on 28 March 2017 at 7.

<sup>351</sup> Figures from database provided by the DMR, see Ledwaba op cit note 303 at 35.

FIGURE 2 above illustrates how the number of permits that have been issued throughout the country is not significant. While the bulk of the permits appear to have been issued in the Northern Cape and North West provinces, numbers are still below 300. The number of permits issued in the Gauteng province is noticeably low, which contrasts to the extensive illegal mining activity recorded in the province.<sup>352</sup> The data above does not capture the years after 2010. No information that is equally detailed has subsequently been released by the DMR. What has been expressed by the DMR are the negative impacts of artisanal and small-scale mining, and the detrimental consequences thereof for stakeholders in the industry.

## 4.2 Minerals exploited

The types of minerals exploited by artisanal and small-scale miners in South Africa include precious minerals as well as construction and industrial minerals.<sup>353</sup> Today the majority of legal ASM operations exploit the latter group of materials required for the production of infrastructural development products like cement bricks and aggregates.<sup>354</sup> The DMR estimates that over 90% of small-scale mining operations exploit these minerals.<sup>355</sup> They are deemed suitable for artisanal or small-scale mining because they are found near the surface, are easy to mine, and only require simple equipment and machinery to exploit them.<sup>356</sup> Even though South Africa possesses significant deposits of industrial minerals, the industrial minerals sector has received little attention in the past.<sup>357</sup> A high percentage of industrial minerals remain underexploited, mainly because of their low economic value compared to the gold and platinum group minerals.<sup>358</sup>

## 4.3 Informal operators: artisanal mining in practice and theoretical justifications

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<sup>352</sup> See GroundUp ‘Informal mining deaths data’ (2016), available at <http://www.groundup.org.za/article/lethal-toll-informal-gold-mining/>.

<sup>353</sup> Ledwaba & Nhlengetwa op cit note 309 at 30.

<sup>354</sup> L Kearney ‘Mining and Minerals in South Africa’ (16 August 2012) *Brand South Africa website*, accessed on 11 October 2017, available at <https://www.brandsouthafrica.com/investments-immigration/business/economy/mining-and-minerals-in-south-africa#junior>.

<sup>355</sup> N Mutemeri, N Sellick & Mtegha What is the Status of Small-scale Mining in South Africa? (2014) Discussion document for the MQA SSM Colloquium (August 2010) Centre for sustainability in mining & industry (CSMI): University of the Witwatersrand.

<sup>356</sup> N Dlambulo & R Motsie, ‘Industrial minerals overview: South Africa’s Minerals Industry (2014) Department of Mineral Resources, Pretoria.

<sup>357</sup> Ledwaba op cit note 303 at 35.

<sup>358</sup> P Ledwaba et al ‘Understanding the small-scale mining industry in the Northern Cape – Primary focus on tiger’s eye’ (2013) Mintek Internal Report, Randburg.

These easily accessible industrial minerals are also exploited by informal artisanal operators. Their operations have been taking place across the country for years, with many individuals becoming involved in mining through customary practices.<sup>359</sup> Informal artisanal miners are often unaware of the existence of, or requirements for, mining permits. Instead, they operate with the permission from the local chief or municipality,<sup>360</sup> mining industrial minerals like sand<sup>361</sup> or semi-precious minerals like tiger's eye.<sup>362</sup> A study<sup>363</sup> conducted in a community informally mining clay in Blaauwbosch in KwaZulu-Natal revealed that 94 percent of the mining participants had never held a mining permit, and many did not know about the existence of the MPRDA.<sup>364</sup> Many of the miners in the study were the breadwinners of their households, as their informal activities sustained themselves and their families.<sup>365</sup>

The reality that informal mining practices are sustaining livelihoods contrasts to the widely-held perception that artisanal mining is a substitute commercial initiative undertaken in times of economic stress.<sup>366</sup> While there are cases of subsistence farmers who turn to artisanal mining seasonally as a way of supplementing their income,<sup>367</sup> studies show how informal artisanal mining operations in South Africa are undertaken as a source of livelihood.<sup>368</sup> These arguments can be aligned with the theories justifying the persistence of ASM activities described above. Many of South Africa's informal artisanal miners exploiting industrial commodities are not trying to 'get rich quickly', but rather conduct mining activities to sustain themselves in a fragile economy.

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<sup>359</sup> Olalde op cit note 335.

<sup>360</sup> P Ledwaba & N Mutemeri 'Preliminary Study on Artisanal and Small-Scale Mining in South Africa' (2017) Report prepared for Open Society Foundation for South Africa (OFS-SA) by the Centre for Sustainability in Mining and Industry (CSMI) at 8.

<sup>361</sup> Sand is mined in all nine of South Africa's provinces. Ibid at 11.

<sup>362</sup> Ledwaba et al op cit note 358.

<sup>363</sup> Conducted by Sizwe Phakathi, head of safety and sustainable development at the Chamber of Mines, the Minerals and Energy for Development Alliance and the African Minerals Development Centre.

<sup>364</sup> Olalde op cit note 335.

<sup>365</sup> Ibid.

<sup>366</sup> Nyoni op cit note 272 at 140.

<sup>367</sup> As articulated by the DMR at the 'Junior Miners' presentation to Parliamentary Portfolio Committee, 24 May 2017.

<sup>368</sup> Ledwaba & Mutemeri op cit note 360 at 13. See S Phakathi 'Making a living: The safety practices, risks and challenges of informal artisanal miners in the community of Blaauwbosch in KwaZulu Natal, South Africa' (2016) Paper presented at the Artisanal and Small-Scale Mining Workshop, University of the Witwatersrand, 10 November 2016.

#### 4.4 Illegal 'Zamazama' operators: artisanal mining in practice and theoretical justifications

The argument that informal artisanal mining sustains livelihoods also applies to the illegal *Zamazama* artisanal miners operating in abandoned and operational mine shafts. Authors have argued that beyond the associated notions of illegality and criminality lies 'a panacea for sustainable livelihood development'.<sup>369</sup> In contrast to the informal artisanal miners who mostly mine surface industrial minerals like sand and clay, *Zamazamas* are associated with the exploitation of residual gold ore that lie in the abandoned, closed or operational shafts of gold mines of the Witwatersrand.<sup>370</sup> The chain of activities involved occurs at various levels: in addition to the miners themselves, it includes the entrepreneurs supplying equipment and consumables, the ore processors, the grinders (who are often female) gold buyers and those who act as the security guards of shaft entrances.<sup>371</sup>

The illegal mining activities of *Zamazamas* are a unique manifestation of the theories explained above, their activities forming part of the informal livelihood strategies adapted to this particular environment.<sup>372</sup> The diverse group includes the poor and desperate artisanal miners who operate at the bottom of the hierarchy of criminal syndicates.<sup>373</sup> It also includes the senior syndicate members orchestrating the transnational organised crime operations, who are motivated by the lucrative profits.<sup>374</sup> The latter group aligns with the narrative that ASM is purely driven by profit and the desire to get rich quick, as high incomes are generated fairly rapidly.<sup>375</sup>

This contrasts to the artisanal miners operating underground who receive meagre earnings.<sup>376</sup> Since the profits generated from the chain of activities are spread between many participants in

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<sup>369</sup> Nyoni op cit note 272) at 140.

<sup>370</sup> K Nhlengetwa & K 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.

<sup>371</sup> Nyoni op cit note 272 at 150.

<sup>372</sup> J Munakamwe 'The interface between the legal and illegal mining processes: unpacking the value chain of illegally mined gold' (2015) Paper presented at the 10<sup>th</sup> GLU Conference, Washington (Sept/Oct 2015) at 15.

<sup>373</sup> See Chapter 4 para 2.3.

<sup>374</sup> UNICRI Report op cit note 336 at 52.

<sup>375</sup> Interview with Peter Bishop Anglo-Gold Ashanti, 15/10/2014; Newtown Offices in Janet Munakamwe 'The interface between the legal and illegal mining processes: unpacking the value chain of illegally mined gold' (2015) Paper presented at the 10<sup>th</sup> GLU Conference, Washington (Sept/Oct 2015) at 5.

<sup>376</sup> J Munakamwe 'The interface between the legal and illegal mining processes: unpacking the value chain of illegally mined gold' (2015) Paper presented at the 10<sup>th</sup> GLU Conference, Washington D.C. (Sept/Oct 2015), at 5.

the criminal syndicates they form part of, very little is left for the miners themselves.<sup>377</sup> Many of these illegal artisanal miners are illegal immigrants from neighbouring countries desperate to generate some form of income for themselves and their families.<sup>378</sup> In this sense their activities are poverty-driven, as individuals are willing to risk their lives daily to send money back to their origin countries.<sup>379</sup>

Somewhere within these two narratives are the motivations of illegal miners that can be aligned to the ‘necessity entrepreneurship’ described above. According to *Zamazama* miners’ perspectives, their trade does not amount to illegal or informal activities but rather legitimate ‘work’ or ‘businesses’.<sup>380</sup> *Zamazama* informants explain that their businesses as gold buyers are their main source of income, which has allowed them to build homes, buy family cars, and send their children to school just like others employed in the formal economy.<sup>381</sup>

In addition to the individuals acting as buyers and sellers, there are other entrepreneurial activities that are stimulated around the mine shaft operations. These include women selling food, female ore grinders, those processing the gold ore, and other business people selling items needed by the miners.<sup>382</sup> Similar to the recorded testimonies of gold buyers, female informants have expressed how their positions as gold crushers are preferable to their previous jobs as domestic workers, as they are able to negotiate with every gold buyer and hence feel less exploited.<sup>383</sup> As the section below illustrates, this reality of women empowering themselves as entrepreneurs in the informal artisanal mining subsector is also apparent in the Burkinabe context.

## 5 The Burkinabe context

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<sup>377</sup> N Lepak ‘A day for the zama zamas: Illegal gold mining in South Africa’ (20 September 2017) *Mining.com* accessed on 16 October 2017, available at <http://www.mining.com/a-day-for-the-zama-zamas-illegal-gold-mining-in-south-africa>.

<sup>378</sup> See Z Jinnah & K Tafira ‘An Ethnography of Informal Artisanal Gold Mining in Johannesburg’ (2017) Report compiled by the Migration and Health Project Southern Africa (MAPSA) at 15.

<sup>379</sup> G Hosken ‘The inside story of South Africa’s illegal mining boom’ (22 May 2017) *Rand Daily Mail* accessed on 16 October 2017, available at <https://www.businesslive.co.za/rdm/business/2017-05-22-the-inside-story-of-south-africas-illegal-mining-boom/>.

<sup>380</sup> Z Jinnah & K Tafira ‘An Ethnography of Informal Artisanal Gold Mining in Johannesburg’ (2017) Report compiled by the Migration and Health Project Southern Africa (MAPSA) at 15.

<sup>381</sup> Nyoni op cit note 272 at 139-140.

<sup>382</sup> Including food and alcohol. See Jinnah & Tafira op cit note 378 at 22.

<sup>383</sup> Nyoni op cit note 272 at 145.

Artisanal mining in Burkina Faso is referred to as *orpaillage*.<sup>384</sup> Similar to South Africa, the Burkinabe ASM sector is still largely informal.<sup>385</sup> Unlike South Africa however, artisanal gold mining is largely undertaken in surface-level pits.<sup>386</sup> This reality, together with the unique dynamics of the Burkinabe mining sector, clearly differentiate the two contexts.

## 5.1 Participants

Apart from historical operations in the south west,<sup>387</sup> artisanal gold mining in Burkina Faso is a relatively recent phenomenon.<sup>388</sup> After severe droughts<sup>389</sup> and crippling structural adjustment policies<sup>390</sup> in the 1980s, artisanal gold mining was triggered as an alternative to farming.<sup>391</sup> The country's gold production was initially low, with only two tonnes of gold produced on average per year.<sup>392</sup> However in 2008 production intensified significantly.<sup>393</sup> Since then, the amount of artisanally mined gold produced annually is added to the total output of gold produced by Burkina Faso, gold being the country's primary export product.<sup>394</sup>

It was only very recently, however, that the full extent of the informal extraction sector's contribution to Burkina Faso's GDP growth was revealed.<sup>395</sup> This information was released by the National Institute of Statistics and Demography in October 2017, as part of the first survey

<sup>384</sup> M Côte 'Striking Gold in Burkina Faso' (2013) *Focus on Land in Africa* brief at 2, accessed on 23 October 2017, available at <https://agriknowledge.org/downloads/5x21tf448>.

<sup>385</sup> A Martin, & H de Balzac 'The West African El Dorado: mapping the illicit trade of gold in Cote d'Ivoire, Mali and Burkina Faso' (January 2017) Partnership Africa Canada available at [http://www.pacweb.org/images/PUBLICATIONS/PAC\\_El\\_Dorado\\_Jan\\_2016\\_EN.pdf](http://www.pacweb.org/images/PUBLICATIONS/PAC_El_Dorado_Jan_2016_EN.pdf) at 12.

<sup>386</sup> Jaques et al 'Artisanal and small-scale gold mines in Burkina Faso: today and tomorrow' in Gavin M. Hilson (ed) *Small-scale Mining, Rural Subsistence and Poverty in West Africa* (2006) at 117.

<sup>387</sup> These are the historical gold districts in the southwestern Poura region and Lobi.

<sup>388</sup> Jaques et al in Hilson (2006) op cit note 386 at 116.

<sup>389</sup> S Luning 'Liberalisation of the Gold Mining Sector in Burkina Faso' (2008) 35(117) *Review of African Political Economy* 387 at 390.

<sup>390</sup> For more detail see Hilson (2016) op cit note 284.

<sup>391</sup> Ibid at 12.

<sup>392</sup> This was measured in the period between 1985 and 2007. See Expansion du secteur minier et développement durable au Burkina Faso: cas de l'exploitation aurifère. Ouagadougou: Conseil économique et social, 2012, p. 4; Rapport provisoire. Ouagadougou: Direction Générale des Mines et de la Géologie, 2014.

<sup>393</sup> Ibid.

<sup>394</sup> Stratégie de communication du Ministère des Mines et de l'Énergie: volet mines. Ouagadougou: Ministère de l'Énergie, des Mines et des Carrières (2014) at 9. Of the 38.3 tonnes of gold produced in 2013, 465kg came from artisanal operations.

<sup>395</sup> B Bonkoungou 'Orpaillage au Burkina Faso: 438 sites répertoriés, 9,5 t d'or produites en 2016' (20 October 2017) *Ecodufaso* accessed on 23 October 2017, available at <http://www.ecodufaso.com/orpaillage-au-burkina-faso-438-sites-repertories-95-t-dor-produites-en-2016/>.

of the gold mining industry to be conducted.<sup>396</sup> It estimated that in 2016, the total amount of artisanal gold produced was 9.5 tonnes, equating to more than 230 billion FCFA (over R5.6 billion). This figure is considerably more than the data captured by previous studies. A study conducted from 2008 to 2011 estimated that over the three-year period, the artisanal gold sector generated 82 billion CFA, (over R2 billion) in direct and indirect revenues.<sup>397</sup> This equated to 2.3% of a nominal country's GDP.<sup>398</sup> The new statistics suggest that the informal ASM sector plays a more important part of Burkina Faso's economy than it was thought before.<sup>399</sup>

The exact number of artisanal gold miners involved is unknown.<sup>400</sup> In 2014, a 2 million participant estimation was suggested.<sup>401</sup> The recent survey estimated that the total number of jobs generated from the informal ASM sector is 140 196.<sup>402</sup> However the survey was only conducted in 104 of the 438 gold panning sites in operation.<sup>403</sup> Earlier in the year the United Nations Development Organisation estimated that there are between 600,000 and one million participants that are directly and/or indirectly involved in the ASM sector.<sup>404</sup> It also estimated that ASM mining activities produced approximately 27 tonnes of gold per year in over than 200 legal mine sites, as well as in several hundred informal artisanal mining sites.<sup>405</sup>

## 5.2 Minerals exploited

The artisanal and small-scale mining sector in Burkina Faso includes gold production, iron ore extraction,<sup>406</sup> and the exploitation of construction materials like limestone<sup>407</sup> and quartz.<sup>408</sup>

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<sup>396</sup> Ibid.

<sup>397</sup> Analyse économique du secteur des mines liens pauvreté et environnement. Consortium sba-Ecosys-CEDRES, Ministère de l'Environnement et du Cadre de Vie (MECV) Projet Initiative Pauvreté Environnement (IPE) (2011) at 48, available at <http://www.unpei.org/sites/default/files/dmdocuments/Burkina%20Faso%20-%20Evaluation%20economique%20-%20Mining%20sector.pdf>.

<sup>398</sup> A Martin, & H de Balzac op cit note 385.

<sup>399</sup> Bonkougou op cit note 395.

<sup>400</sup> A Martin, & H de Balzac op cit note 385.

<sup>401</sup> Ibid.

<sup>402</sup> Of which 114,879 are in gold mining, 22,037 in crushing, grinding, and washing, and 3,280 in gold buying. See Bonkougou op cit note 395.

<sup>403</sup> Ibid.

<sup>404</sup> C Arthur & A Domiter 'United Nations Industrial Development Organisation (UNIDO) to help Burkina Faso work towards elimination of mercury use in the artisanal and small-scale gold mining sector' (6 March 2017) *INIDO* accessed on 25 October 2017, available at <https://www.unido.org/news/press/unido-to-help-burkin.html>.

<sup>405</sup> Ibid.

<sup>406</sup> See Hein & Funyufunyu op cit note 334.

<sup>407</sup> D Gueye 'Small-Scale Mining in Burkina Faso' (2001) 73 *Mining, Minerals and Sustainable Development (MMSD) Project of the International Institute for Environmental Development (IIED)* at 21.

<sup>408</sup> Hein & Funyufunyu op cit note 334.at 261.

Most of the country's gold deposits are contained in volcanic sedimentary formations that extend over 70,000km.<sup>409</sup> Burkinabe artisanal mining is characterised by a high diversity of gold deposit types, including disseminated gold, stock works, veins, quartzitic or lateritic eluvium, laterite and alluvium.<sup>410</sup>

Since the deposit types have varying grades, and bare different mineral reserve potential, they present unique technical constraints for artisanal miners.<sup>411</sup> Many artisanal miners work quartz veins,<sup>412</sup> which are less rich than other types of deposits.<sup>413</sup> They are also poorly oxidised which necessitates the use of explosives to mine them.<sup>414</sup> Difficulty is further increased by the need to pump water out of mining pits,<sup>415</sup> as the water table in the southern areas of the country can sit at 10 meters.<sup>416</sup> By consequence, it has become common for artisanal miners to adopt mechanized equipment such as motorised water pumps.<sup>417</sup>

### 5.3 Artisanal mining in practice

Since the 1980s Burkina Faso's artisanal gold mining sites have been characterised by alternating periods of 'boom' rushes and quiet activity.<sup>418</sup> As the known and accessible gold resources became depleted, artisanal miners left the traditional gold-producing areas of the north,<sup>419</sup> Gradually artisanal gold mining spread to the western and southern areas of Burkina Faso by the 1990s,<sup>420</sup> with operations expanding in response to increases in global gold prices.<sup>421</sup> The type of mining practices differ depending on the type of deposit being mined and its location.<sup>422</sup> However the majority of artisanal operators depend on manual methods of

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<sup>409</sup> Gueye op cit note 407 at 7.

<sup>410</sup> Jaques et al in Hilson (2006) op cit note 386 at 117.

<sup>411</sup> Ibid.

<sup>412</sup> K Hein 'The Bagassi Gold Deposits on the Eastern Margin of the Houndé Greenstone Belt, Burkina Faso' (2016) 78 *Ore Geology Reviews* 660.

<sup>413</sup> They contain approximately 5-30 grams per tonne of gold.

<sup>414</sup> Jaques et al in Hilson (2006) op cit note 386 at 118.

<sup>415</sup> These can be 25 metres deep.

<sup>416</sup> Jaques et al in Hilson (2006) op cit note 386 at 118.

<sup>417</sup> Ibid.

<sup>418</sup> Luning op cit note 389 at 396.

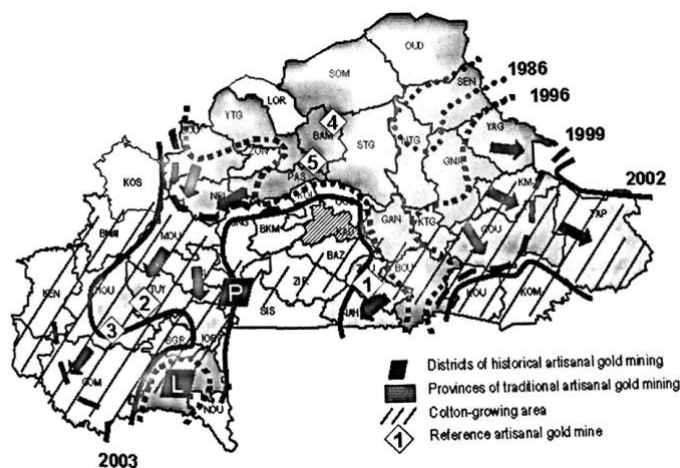
<sup>419</sup> Jaques et al in Hilson (2006) op cit note 386 at 116.

<sup>420</sup> K Werthmann 'Gold rush in West Africa. The appropriation of "natural" resources: non-industrial gold mining in south-western Burkina Faso' (2000) 50(1) *Sociologus* 90.

<sup>421</sup> Côte op cit note 384 at 2.

<sup>422</sup> Aryee, Ntibery & Atorkui op cit note 287.

extraction that involves the use of simple equipment such as shovels, pans, chisels, pick-axes and hammers.<sup>423</sup> On modern ASM sites the more advanced ASM operators buy cheap and easily mobile excavation equipment to assist in production.<sup>424</sup>



**Figure 3.1 Main stages of the migration of Burkina Faso's artisanal mining frontlines, 2003.**<sup>425</sup>

Today Burkina Faso's gold mining sector is made up of a foreign-based, large-scale mining industry on the one hand, and domestic, rural-based small-scale mining on the other.<sup>426</sup> Before the first Mining Code introduced formal artisanal mining provisions in 1997, the artisanal mining operations conducted by farmers were supervised by members of the Burkinabe Precious Metals Board (CBMP).<sup>427</sup> These individuals were civil servants posted in rural areas to regulate working arrangements, acting as the authority in charge when issues arose on *orpaillage* (artisanal mining) sites.<sup>428</sup> After the country's gold export and trade was privatised in the 1990's,<sup>429</sup> the CBMP became redundant and was replaced by the 1997 Mining Code, which was subsequently replaced by the latest Mining Code in 2015.<sup>430</sup>

<sup>423</sup> Hein & Funyufunyu op cit note 334 at 261.

<sup>424</sup> Ibid.

<sup>425</sup> Jaques et al in Hilson (2006) op cit note 386 at 117.

<sup>426</sup> Côte op cit note 384 at 2.

<sup>427</sup> Jaques et al in Hilson (2006) op cit note 386 at 120.

<sup>428</sup> Gueye op cit note 407.

<sup>429</sup> The introduction of Structural Adjustment Programmes by the World Bank reduced the government's control in the mining sector, effectively ending the State monopoly. See Côte op cit note 384 at 3.

<sup>430</sup> Loi No. 0362015/CNT Portant Code Minier du Burkina Faso JO N°44 Du 29 Octobre 2015 (the Code).

The 2015 Code provides for artisanal mining in the form of *authorisation d'exploitation artisanale*<sup>431</sup>, or authorization for artisanal mining (AAM).<sup>432</sup> In practice, however, AAM licenses are rarely held by the miners themselves.<sup>433</sup> Instead the AAM licenses, which are only issued to a Burkinabe person or company,<sup>434</sup> are held by national elites who often own gold trading companies called *comptoirs* (trading posts) that buy gold from the artisanal miners.<sup>435</sup> If artisanal miners do not work within formal AAM license areas, their activities are considered illegal.<sup>436</sup> The set of relationships between these local Burkinabe companies, the foreign large-scale mining companies and the artisanal actors, as well as the unique way that their respective operations are conducted, has been recognized as highly unique and complex.<sup>437</sup> These dynamics at play can be briefly explained as follows.

Mining companies in Burkina Faso are defined according to the way they derive their revenues.<sup>438</sup> International mining companies are termed 'junior companies', which are essentially venture capital companies that only conduct exploration and not mining operations.<sup>439</sup> 'Senior producers'<sup>440</sup> are companies that generate their income from the production and sale of the particular mineral commodity it mines, which is usually gold.<sup>441</sup> When junior companies are granted exploration permits it is often the case that artisanal miners operate in the same area.<sup>442</sup> Companies interpret their presence as a sign of promising gold prospects.<sup>443</sup> Generally the junior companies will not immediately evict artisanal operators. Instead they hire security personnel who prevent the miners from accessing promising areas for exploration activity, allowing them to work in low-priority areas of the exploration permit zone.<sup>444</sup>

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<sup>431</sup> Article 71 *supra*.

<sup>432</sup> Authorisation is granted by the Director General of Mines and Quarries.

<sup>433</sup> Côte 'Striking Gold in Burkina Faso' (2013) *Focus on Land in Africa* brief at 3, accessed on 23 October 2017, available at <https://agriknowledge.org/downloads/5x21tf448>.

<sup>434</sup> Article 71 Loi No. 0362015/CNT Portant Code Minier du Burkina Faso JO N°44 Du 29 Octobre 2015.

<sup>435</sup> Côte *op cit* note 384 at 4.

<sup>436</sup> Côte *op cit* note 384 at 3.

<sup>437</sup> Luning *op cit* note 389 at 399.

<sup>438</sup> *Ibid* at 390.

<sup>439</sup> *Ibid*; The companies rely on capital markets to finance exploration activities.

<sup>440</sup> Such as AngloGold Ashanti.

<sup>441</sup> Luning *op cit* note 389 at 390.

<sup>442</sup> *Ibid* at 393.

<sup>443</sup> *Ibid*.

<sup>444</sup> Côte *op cit* note 384 at 5.

The artisanal miners' activity is monitored by a Burkinabe company, or *comptoir*, who act in the permit areas as buyers of gold in terms of the AAM licenses.<sup>445</sup> With this authorization, the Burkinabe entrepreneurs have the monopoly to buy gold from the local artisanal miners operating in the area.<sup>446</sup> The artisanal miners take the gold-bearing ore to a processing zone close to the pits where it is extracted before selling it to gold buyers holding AAM licenses. Artisanal gold miners in Burkina Faso do not receive wages for their work; they independently locate and extract the gold ore-bearing rock, and then are obliged to sell it to the licensed buyers in the area.<sup>447</sup>

The license holders regulate a particular area<sup>448</sup> by overseeing the treatment of the ore, which is mainly done by women.<sup>449</sup> These processes include the pulverization of the ore, washing the crushed material and then separating the gold from the rock, usually by using mercury.<sup>450</sup> Since they do not hold the licenses themselves, the result is that artisanal miners operating within a designated site of a valid AAM license are unable to claim a legal right to mine in that area.<sup>451</sup>

This reality contrasts to the legal position of junior exploration companies who hold legal land titles in the form of permits.<sup>452</sup> While they have some reassurance that they will not be evicted from the demarcated low-priority AAM zones, artisanal miners' work is restricted to the specific zones and they are obliged to sell their gold to the authorized gold buyers in the area.<sup>453</sup> It has therefore been argued that the law leads to inequity as companies with formal concessions are legally empowered while artisanal miners are marginalized.<sup>454</sup> They rely on the AAM licenses of buyers for protection from eviction, and still this only allows them to operate in less promising areas.<sup>455</sup>

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<sup>445</sup> Luning op cit note 389 at 391.

<sup>446</sup> Of 100 hectares.

<sup>447</sup> Luning op cit note 389 at 397. This aligns with discourses on ASM informality highlighting that the exploitation of the informal labour force by the more dominant stratum of entrepreneurs contributes to the persistence of ASM sectors' informality. See B Verbrugge 'The Economic Logic of Persistent Informality: Artisanal and Small-Scale Mining in the Southern Philippines' (2015) 46(5) *Development and Change* 1023 at 1024.

<sup>448</sup> Known as a *comptoir* (trading post).

<sup>449</sup> K Werthmann 'Working in a boom-town: female perspective on gold-mining in Burkina Faso' (2009) 34 *Resources Policy* 18 at 19.

<sup>450</sup> Luning op cit note 389 at 397.

<sup>451</sup> Ibid at 399.

<sup>452</sup> These may be prospecting or exploitation permits.

<sup>453</sup> Luning op cit note 389 at 398.

<sup>454</sup> Ibid at 400.

<sup>455</sup> Ibid at 395.

Despite this informal tenure system at Burkina Faso's main artisanal gold mining sites,<sup>456</sup> they still have defined organizational structures.<sup>457</sup> Sites operate according to customary practices that have developed naturally over time, and studies have exposed the three main 'configurative principles' according to which sites appear to be informally regulated.<sup>458</sup> These principles, which guide labour and land allocation,<sup>459</sup> can be based on previous lineage-based or custody practices and institutions,<sup>460</sup> previous administrative and technological arrangements instilled by the CBMP in its regulatory role,<sup>461</sup> and configurations determined by geological and geographical context.<sup>462</sup> Evidence of this is found in both the southwestern areas of Burkina Faso,<sup>463</sup> and in the north.<sup>464</sup>

Despite being characterised by low productivity, artisanal mining sites still provide an abundance of employment opportunities for different individuals.<sup>465</sup> Everyone working on a site carries out specific jobs that require specific equipment, depending on their age and gender. For example, elderly men act as watchmen, women take care of manual grinding, young boys crush and transport the ore and water, and young girls usually sort through waste heaps.<sup>466</sup> The 'boom' periods of gold discovery and exploitation are usually dominated by male miners, while the 'lean' (scarce) periods are characterised by women reworking the tailings that male miners leave behind.<sup>467</sup>

#### 5.4 Theoretical justifications

The theoretical narratives justifying ASM emergence and persistence in sub-Saharan Africa can be applied to the Burkinabe context, and reflect the reality in South Africa to some degree.

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<sup>456</sup> Côte op cit note 384 at 3.

<sup>457</sup> Jaques et al in Hilson (2006) op cit note 386 at 120.

<sup>458</sup> Côte op cit note 384 at 3.

<sup>459</sup> Ibid.

<sup>460</sup> C Panella 'Gold mining in West Africa – Worlds of debts and sites of co habitation' in C Panella (ed) *Worlds of Debts. Interdisciplinary Perspectives on Gold Mining in West Africa* (2010) at 4.

<sup>461</sup> Jaques et al in Hilson (2006) op cit note 386 at 120. After the CBMP became redundant they have evolved unsupervised by the administration and beyond legal boundaries because of the lack of adequate legal frameworks that should accompany AAM licenses. See Côte op cit note 384 at 3.

<sup>462</sup> Panella op cit note 460 at 4.

<sup>463</sup> K Werthmann 'Gold diggers, earth priests and district heads: Land rights and gold mining in Southwestern Burkina Faso' in R Kuba & C Lentz (eds) *Land and the Politics of Belonging in West Africa* (2006) 119.

<sup>464</sup> Côte op cit note 384 at 3.

<sup>465</sup> Jaques et al in Hilson (2006) op cit note 386) at 119.

<sup>466</sup> Ibid at 120.

<sup>467</sup> Luning op cit note 389 at 396.

ASM in Burkina Faso has a noteworthy microeconomic and social impact, as incomes are redistributed some to large numbers of people.<sup>468</sup> By creating jobs in rural areas it sustains livelihoods,<sup>469</sup> thus aligning with the ‘poverty-driven’ narrative. By the same token, however, it also subsists the incomes of individuals, who are often farmers,<sup>470</sup> and are not necessarily characterised as ‘rural’ or ‘poor’. In the Ioba province, women have moved to artisanal mining sites because they earn considerably more money pounding ore than as waitresses in the capital of Ouagadougou,<sup>471</sup> or as farmers.<sup>472</sup>

This is very similar to the experiences of female ore-crushing *Zamazamas* described above.<sup>473</sup> Also similar are the roles played by the AAM license gold buyers, who perform almost identically to the *Zamazama* gold buyers as ‘necessity entrepreneurs’, with the exception that they operate formally. There are also examples of female entrepreneurs in Burkina Faso who have improved the quality of their lives through entrepreneurial ventures. Namely, those ore crusher who invested their profits in plots of land on which they build houses to rent out.<sup>474</sup>

Also similar to the South African context is the reality that other entrepreneurs are attracted to artisanal mining sites by the prospect of earning an income. These include shopkeepers selling food and drink, water traders, as well as those providing transport, accommodation and health services.<sup>475</sup> This generation of indirect employment, in response to the demand for goods and services, is one of the reasons why the government seems to tolerate the illegal *orpaillage* activity.<sup>476</sup> It is therefore evident that, while artisanal mining is generally conducted illegally, artisanal and small-scale mines in Burkina Faso form positive enterprises<sup>477</sup> that sustain the livelihoods of many of the country’s citizens.

## 6 Conclusion

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<sup>468</sup> Jaques et al in Hilson (2006) op cit note 386 at 134.

<sup>469</sup> Ibid.

<sup>470</sup> Ibid.

<sup>471</sup> See Werthmann ‘Working in a Boom-Town’ op cit note 449.

<sup>472</sup> Hilson (2016) op cit note 284 at 12.

<sup>473</sup> See para 4.

<sup>474</sup> See Werthmann ‘Working in a Boom-Town’ op cit note 449.

<sup>475</sup> Jaques et al in Hilson (2006) op cit note 386 at 124.

<sup>476</sup> Côte Côte op cit note 384 at 2.

<sup>477</sup> Jaques et al in Hilson (2006) op cit note 386 at 134.

This chapter illustrates how the circumstances driving ASM activities in Africa, as well as the motivations to undertake these operations, can be very different. The different narratives which seek to explain these realities are not settled, and there is still a prevailing view that artisanal miners are only seeking to ‘get-rich-quick’, a narrative that characterizes the miners as chance-takers trying to make easy profits.<sup>478</sup> To characterise ASM activities according to this profit-motive narrative exclusively has, however, been criticized.<sup>479</sup> Such a focus disregards the reality that ASM sectors in African countries have emerged out of individuals’ need to sustain themselves and their families.<sup>480</sup>

Despite the difference in opinion of the drivers behind ASM activity, and the different ways in which it occurs in South Africa and Burkina Faso, the shared feature of both contexts is that ASM has been, and remains, an ‘employment engine.’<sup>481</sup> There are, however, severe environmental, health and safety and criminal issues that are associated with these activities. The next chapter explores these issues as well as the explanations for how and why they occur.

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<sup>478</sup> Hilson (2016) op cit note 284 at 4.

<sup>479</sup> Ibid.

<sup>480</sup> I Smillie ‘Foreword’ in Gavin M. Hilson (ed) *Small-Scale Mining, Rural Subsistence and Poverty in West Africa* (2006).

<sup>481</sup> Hilson (2016) op cit note 284 at 5.

## CHAPTER FOUR: ISSUES ASSOCIATED WITH THE ASM SECTOR

### 1 Introduction

In the past, ASM has been framed as a poverty-driven, short-term coping mechanism in the face of shocks and stress, that did not promote long-term sustainability.<sup>482</sup> However as the previous chapter illustrates, there are cases like South Africa and Burkina Faso where individuals choose ASM because it provides a better lifestyle than other alternative livelihoods.<sup>483</sup> Whether undertaken intermittently between agricultural seasons, or permanently as the sole source of income, much of ASM in Africa is conducted without requisite licenses or authorisation.<sup>484</sup> The result is that a significant proportion of the sector's activities are illegal,<sup>485</sup> and illegal operators do not abide by environmental, health and safety regulations.

In its unregulated form, none of the detrimental effects of ASM can be regulated. These negative impacts are frequently the focus of ASM policy documents and interventions, often to the exclusion of its positive benefits.<sup>486</sup> This chapter considers these negative consequences of artisanal mining, as they are encountered in South Africa and Burkina Faso, but which are common to most ASM sectors in sub-Saharan Africa.<sup>487</sup> It is illustrated how, without the skills, education and capacity to operate efficiently in the formal sector, the negative effects of ASM activities are perpetuated.<sup>488</sup>

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<sup>482</sup> M Hoadley & D Limpitlaw 'The Artisanal and Small-Scale Mining Sector & Sustainable Livelihoods' (2004) Paper presented at the Mintek Small Scale Mining Conference (9 September 2004), Johannesburg at 1.

<sup>483</sup> P Nyoni 'Unsung Heroes? An Anthropological Approach into the Experiences of 'Zamazamas' in Johannesburg, South Africa' in Artwell Nhemachena *Mining Africa: Law, Environment, Society and Politics in Historical and Multidisciplinary Perspectives* (2017) at 133.

<sup>484</sup> Hilson et al 'Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Reconceptualising formalization and 'illegal' activity' (2017) 83 *Geoforum* 80.

<sup>485</sup> Ibid.

<sup>486</sup> P Ledwaba & N Mutemeri 'Preliminary Study on Artisanal and Small-Scale Mining in South Africa' (2017) Report prepared for Open Society Foundation for South Africa (OFS-SA) by the Centre for Sustainability in Mining and Industry (CSMI) at 20.

<sup>487</sup> G Hilson 'Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: a critical overview' (2016) IIED Issue Paper (March 2016) at 8.

<sup>488</sup> B Marshall & M Veiga 'Formalisation of artisanal miners: Stop the train, we need to get off!' (2017) 4 *The Extractive Industries and Society* 302.

## 2 Negative consequences of artisanal mining

Governments across Africa have acknowledged the importance of ASM' as income-generating activities, but they have also recognized its downside.<sup>489</sup> This section considers the environmental, health and safety and criminality issues associated with ASM in Africa. It is structured as a general overview to introduce these issues before they are considered in the specific contexts of South Africa and Burkina Faso.

Many of the negative impacts of ASM recognised in other African jurisdictions are similarly reflected in South Africa. The extent thereof is not ascertainable, however, due to the lack of reliable data and research.<sup>490</sup> This contributes to the general misunderstanding of the informal ASM sector.<sup>491</sup> Even though Burkinabe mining legislation provides specifically for artisanal mining,<sup>492</sup> the ASM sector is still largely informal.<sup>493</sup> Hence, many of the associated problems that accompany the activity are also present in Burkina Faso.

### 2.1 Environmental impact

The detrimental effect of unregulated ASM on the environment, especially with respect to resultant pollutants, is widely acknowledged.<sup>494</sup> Since artisanal and small-scale miners usually operate outside their host country's legal framework, they rarely acknowledge the impact their activities have on the environment.<sup>495</sup> Without the requisite training and technical expertise,

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<sup>489</sup> 'Artisanal Mining Training in Africa' *Geoscientist Online* (April 2017) available at <https://www.geolsoc.org.uk/Geoscientist/Archive/April-2017/Artisanal-mining-training-in-Africa>, accessed 24 May 2017.

<sup>490</sup> Pontsho Ledwaba speaking at the ASM workshop hosted by African Centre for Migration & Society (ACMS) and the Centre for Sustainability in Mining and Industry (CSMI), 10 November 2016, see M Wilhelm-Solomon 'The Future of Artisanal Mining is Clouded in Dust and Smoke' (28 November 2016), available at <http://www.mahpsa.org/2016/11/28/the-future-of-artisanal-mining-is-clouded-in-dust-and-smoke/>, accessed on 6 April 2017.

<sup>491</sup> *Ibid.*

<sup>492</sup> See Article 71 of Loi No. 0362015/CNT Portant Code Minier du Burkina Faso JO N°44 Du 29 Octobre 2015 (the Code).

<sup>493</sup> A Martin & H de Balzac 'The West African El Dorado: mapping the illicit trade of gold in Cote d'Ivoire, Mali and Burkina Faso' (January 2017) Partnership Africa Canada available at [http://www.pacweb.org/images/PUBLICATIONS/PAC\\_El\\_Dorado\\_Jan\\_2016\\_EN.pdf](http://www.pacweb.org/images/PUBLICATIONS/PAC_El_Dorado_Jan_2016_EN.pdf). at 12.

<sup>494</sup> For a detailed discussion, see G Hilson 'Small-Scale Mining in Africa: Tackling Pressing Environmental Problems With Improved Strategy' (2002) 11(2) *Journal of Environment & Development* 149.

<sup>495</sup> United Nations Interregional Crime and Justice Research Institute (UNICRI) 'Strengthening the Security and Integrity of the Precious Metals Supply Chain' (May 2016) Technical report presented at the UNICRI seminar "International strategy to combat illicit trafficking in precious metals" (March 2016), Cape Town, available at [http://files.unicri.it/PM\\_draft\\_onlinev.pdf](http://files.unicri.it/PM_draft_onlinev.pdf) accessed 29 May 2017 (UNICRI Report) at 36.

much of their activities pollute water supplies, and can cause water shortages.<sup>496</sup> Ecological integrity is also compromised, as ASM activity causes deforestation, water pollution, the destruction of the ecosystems,<sup>497</sup> biodiversity loss, soil erosion, river siltation and water-course diversion.<sup>498</sup>

Chronic soil degradation of agricultural land<sup>499</sup> can preclude the continuation of other economic activities such as agriculture,<sup>500</sup> and waste produced by ASM activities is also harmful to the environment. These include the tailings and waste dumps that are not disposed properly, acid mine drainage, and toxic effluent dumping.<sup>501</sup> One of the most hazardous environmental issues associated with illegal artisanal gold mining is related to the use of mercury during processing.<sup>502</sup> The United Nations Environment Programme estimates that, on a global scale, 30-40% of the mercury released into the environment comes from artisanal gold mining.<sup>503</sup> This makes ASM the world's second worst polluter, releasing 640–1350 tonnes of mercury a year from at least 70 countries.<sup>504</sup>

Illegal artisanal miners still use the amalgamation method to extract gold from the ore they mine.<sup>505</sup> Mercury is released when the gold–mercury amalgam is burnt during the processing of the ore.<sup>506</sup> After the amalgam has collected the gold which came out of the pulverised rock, the rock containing small amounts of mercury is discarded as waste in tailings.<sup>507</sup> Over time, the mercury in these waste dumps will leach out and pollute nearby soils, groundwater supplies

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<sup>496</sup> Artisanal Mining Training in Africa' *Geoscientist Online* (April 2017) available at <https://www.geolsoc.org.uk/Geoscientist/Archive/April-2017/Artisanal-mining-training-in-Africa>, accessed 24 May 2017.

<sup>497</sup> Hoadley & Limpitlaw op cit note 482 at 4.

<sup>498</sup> *Ibid.*

<sup>499</sup> Artisanal Mining Training in Africa' *Geoscientist Online* (April 2017) available at <https://www.geolsoc.org.uk/Geoscientist/Archive/April-2017/Artisanal-mining-training-in-Africa>, accessed 24 May 2017.

<sup>500</sup> Hoadley & Limpitlaw op cit note 482 at 4.

<sup>501</sup> UNICRI Report op cit note 495 at 25.

<sup>502</sup> *Ibid* at 36.

<sup>503</sup> United Nations Environmental Programme 'Global Mercury Assessment 2013: sources, emissions, releases and environmental transport' (2013) Report compiled by the UNEP Chemicals Branch, Geneva.

<sup>504</sup> A Buxton 'Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help?' (2013) IIED Sustainable Markets Paper) at 9.

<sup>505</sup> See UNICRI Report at 37 for a detailed description of the process.

<sup>506</sup> *Ibid.*

<sup>507</sup> UNICRI Report op cit note 495 at 37.

and streams.<sup>508</sup> Mercury exposure is also highly dangerous for the miners themselves. The sections below discuss environmental impact issues in the two jurisdictions studied.

### 2.1.1 Environmental impact of ASM in Burkina Faso

Artisanal mining has caused a number of ecological problems in Burkina Faso.<sup>509</sup> As in the case of sub-Saharan Africa in general and in South Africa more particularly, the majority of Burkinabe artisanal miners use mercury in their processing methods to extract gold from ore.<sup>510</sup> The amount of mercury released into the environment in Burkina Faso is one of the highest documented levels in Africa, with small-scale and artisanal miners using approximately 35 tons of mercury annually.<sup>511</sup> It has also become more common for artisanal miners to use mills to grind ore to obtain a purer form of gold.<sup>512</sup> The use and disposal of oil and gas in these processes contributes to the environmental damage caused by mercury.<sup>513</sup>

Beyond these pollutants, artisanal mining activities pose a threat to the quality of farm lands. The gradual shift of artisanal gold mining to the humid southern regions of the country has caused land and water-use conflicts with the agri-pastoral communities that farm cotton in the same area.<sup>514</sup> Miners degrade arable land by digging and creating embankments, causing soil erosion.<sup>515</sup> The pollutants from their activities can make land infertile, and they lower the groundwater table through excessive pumping of water which is not recycled.<sup>516</sup> Finally, forests are damaged when trees are cleared in mining zones to build houses, create wall supports, make ladders and build fires for cooking.<sup>517</sup>

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<sup>508</sup> Ibid at 37.

<sup>509</sup> Jaques et al 'Artisanal and small-scale gold mines in Burkina Faso: today and tomorrow' in Gavin M. Hilson (ed) *Small-scale Mining, Rural Subsistence and Poverty in West Africa* (2006) at 124.

<sup>510</sup> C Arthur & A Domiter 'UNIDO to help Burkina Faso work towards elimination of mercury use in the artisanal and small-scale gold mining sector' (6 March 2017) *INIDO* accessed on 25 October 2017, available at <https://www.unido.org/news/press/unido-to-help-burkin.html>.

<sup>511</sup> Ibid.

<sup>512</sup> Gueye op cit note 509 at 31.

<sup>513</sup> Ibid.

<sup>514</sup> Jaques et al in Hilson op cit note 509 at 117.

<sup>515</sup> Gueye op cit note 509 at 30.

<sup>516</sup> Jaques et al in Hilson op cit note 509 at 124.

<sup>517</sup> Gueye op cit note 509) at 31.

### 2.1.2 Environmental impact of ASM in South Africa

The MPRDA prescribes the protective environmental measures that are to be employed by permit holders to conduct their activities sustainably.<sup>518</sup> However, since informal artisanal miners operate outside of the regulatory framework, they cannot benefit from institutional support. Without assistance, ASM miners' lack of expertise and resources renders compliance nearly impossible,<sup>519</sup> and environmental damage occurs as a result.<sup>520</sup> The same consequences follow illegal mining activities, as these miners completely disregard the legislative requirements for operating in an environmentally sustainable manner.<sup>521</sup>

The negative environmental impacts that flow from unregulated ASM activities bare some resemblance to those in Burkina Faso, but they particularly relate to the operations in and around abandoned mines. This includes damage to water pipelines, which contaminates water supplies and the surrounding environment; sinkholes created as a consequence of this damage; the blasting open of sealed and rehabilitated shafts, and water wastage.<sup>522</sup>

The extent of water wastage that occurs during artisanal mining operations has been recognised as a grave concern.<sup>523</sup> After the severe drought in 2016, the significant volumes of water used by illegal artisanal gold miners to process gold-bearing ore was exposed.<sup>524</sup> It was revealed that thousands of illegal miners were threatening the City of Johannesburg's water supply by tapping into community reservoirs, thus bypassing pre-paid water meters.<sup>525</sup> The result was that supplies dried up, severely impacting communities that were left without access to water.<sup>526</sup> Finally, a major environmental hazard is the use of mercury, similar to the Burkinabe context. Illegal South African artisanal miners' reliance on mercury to conduct their refining methods

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<sup>518</sup> Namely an environmental management plan, as prescribed in section 27 of the MPRDA.

<sup>519</sup> SAHRC Report at 31.

<sup>520</sup> Ledwaba & Mutemeri op cit note 486 at 20.

<sup>521</sup> Chamber of Mines of South Africa 'Submission by the Chamber of Mines on Illegal Mining in South Africa' Workshop held by the Department of Mineral Resources in Johannesburg, 27 March 2017, available at <http://www.chamberofmines.org.za/industry-news/publications/presentations> at 4.

<sup>522</sup> Department of Mineral Resources 'Briefing to the Joint Portfolio Committees of Mineral Resources and Police on Measures Implemented to Combat Illegal Mining' 25 August 2017 at 16 (on file with author).

<sup>523</sup> Chamber of Mines of South Africa 'Submission' op cit note 521 at 3.

<sup>524</sup> Chamber of Mines of South Africa 'Illegal Mining' (2017) Chamber of Mines website, accessed on 11 October 2017, available at <http://www.chamberofmines.org.za/work/illegal-mining>.

<sup>525</sup> I Chernick 'Zama zamas' illegal water usage is a major concern' (23 December 2016) accessed on 17 October 2017, available at <https://www.iol.co.za/news/south-africa/gauteng/zama-zamas-illegal-water-usage-is-a-major-concern-7268601>.

<sup>526</sup> Ibid.

is extremely detrimental to the environment,<sup>527</sup> and on the health of miners themselves, as discussed below.

## 2.2 Health and safety concerns

Artisanal miners' exposure to mercury vapour during ore processing leads to serious adverse health effects, including impaired brain functioning, coordination and memory damage and birth defects.<sup>528</sup> Many of the negative environmental impacts discussed above also have knock-on effects for health.<sup>529</sup> Artisanal and illegal miners are generally exposed to the scourge of poor sanitation and contaminated water, causing typhoid, dysentery, and tuberculosis, which can reach epidemic proportions if not effectively controlled.<sup>530</sup> The presence of stagnant water also attracts mosquitoes, increasing chances of contracting malaria.<sup>531</sup>

In addition to these health problems, artisanal miners in Africa face a multitude of safety challenges on a daily basis.<sup>532</sup> Hazards for surface artisanal miners include the collapse of high walls or slumping and rock falls from slopes above the mine workings.<sup>533</sup> For those artisanal miners working underground, occupational dangers take the form of gas leaks or explosions, underground fires, tunnel collapses or rock falls.<sup>534</sup>

Even though a wide range of skills are used to exploit various mineral deposits, there is a low level of understanding of safety and compliance with governmental rules, standards, or regulations.<sup>535</sup> Helmets are infrequently worn, and the use of safety equipment like gloves, masks and earplugs is rare.<sup>536</sup> Ultimately, artisanal mining has been recognised as more

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<sup>527</sup> Chamber of Mines 'Illegal Mining' op cit note 524.

<sup>528</sup> Ban Toxics 'The price of gold: Mercury use and current issues surrounding artisanal and small scale gold mining in the Philippines' (2010) *Ban Toxics!* available at [www.bantoxics.org](http://www.bantoxics.org).

<sup>529</sup> A Buxton 'Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help?' (2013) IIED Sustainable Markets Paper) at 9.

<sup>530</sup> UNICRI Report op cit note 495 at 36.

<sup>531</sup> Buxton op cit note 504 at 9.

<sup>532</sup> J Love 'Report of the SAHRC Investigative Hearing: Issues and Challenges in relation to Unregulated Artisanal Underground and Surface Mining Activities in South Africa' (2015) available at <https://www.sahrc.org.za/home/21/files/Unregulated%20Artisanal%20Underground%20and%20Surface%20Mining%20Activities%20electronic%20version.pdf> (the SAHRC Report) at 24.

<sup>533</sup> S Rupprecht 'Bench mining utilizing manual labour and mechanized equipment – a proposed mining method for artisanal small-scale mining in Central Africa' (2017) 117 *The Journal of Southern African Institute of Mining and Metallurgy* at 26.

<sup>534</sup> C Johnson 'Lethal toll of informal gold mining' (17 August 2016), available at <http://www.groundup.org.za/article/lethal-toll-informal-gold-mining>.

<sup>535</sup> Rupprecht op cit note 533 at 26.

<sup>536</sup> Buxton op cit note 504 at 9.

dangerous than large-scale modern mining operations.<sup>537</sup> This is because artisanal miners focus more on their immediate socio-economic concerns than the long-term consequences (for them and for others) of their activities,<sup>538</sup> and hence operate outside of the health, safety and environmental obligations mandated for large scale mining practices.

### 2.2.1 Health and safety concerns in Burkina Faso

Artisanal gold mining in Burkina Faso is associated with a variety of grave health and safety concerns.<sup>539</sup> First, the physically demanding work conducted at artisanal sites is considered high risk, since mortal or disabling accidents can occur in the pits.<sup>540</sup> Hazards include ground collapses, rock falls and flooding, usually a result of inadequate support for pit walls, pillar collapses, inconsistent water pumping, the accumulation of waste next to pits and the unregulated use of explosives.<sup>541</sup>

Mining sites are usually located in remote areas and the miners live in poor housing conditions without access to safe drinking water or electricity.<sup>542</sup> When gold rush periods are triggered, living conditions can severely deteriorate. Cumulatively, the lack of clean drinking water, malnutrition, and absence of sanitary installations in the temporary housing arrangements favours the spread of epidemics like cholera.<sup>543</sup> Furthermore, mining activities such as crushing, digging, and sluicing produces dust, which - along with the gas produced from chemical products like nitric acid - pollutes the air.<sup>544</sup> This air pollution has been linked to eye troubles, skin diseases and respiratory infections of miners working on the artisanal mining sites.<sup>545</sup>

A serious and long term health hazard is miners' exposure to mercury when processing ore, which can cause severe neurological or lung impairment.<sup>546</sup> Artisanal miners working without protective equipment are exposed to mercury through direct contact with the balls of mercury that are used in amalgamation, and are also exposed to the vapours when roasting the

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<sup>537</sup> Rupprecht op cit note 533 at 26.

<sup>538</sup> Ibid.

<sup>539</sup> Gueye op cit note 509 at 30.

<sup>540</sup> Jaques et al in Hilson op cit note 509 at 126.

<sup>541</sup> Ibid.

<sup>542</sup> Gueye op cit note 509 at 31.

<sup>543</sup> Jaques et al in Hilson op cit note 509 at 126.

<sup>544</sup> Gueye op cit note 509 at 31.

<sup>545</sup> Ibid.

<sup>546</sup> Jaques et al in Hilson op cit note 509 at 126.

amalgam.<sup>547</sup> There are cleaner and safer alternative practices and technologies available to Burkinabe artisanal miners, however they often ignore these possibilities and the health warnings about mercury exposure because they lack the capacity, funds, and incentive to adopt safer mining methods.<sup>548</sup>

### 2.2.2 Health and safety concerns in South Africa

Beyond neurological damage from mercury exposure, illegal artisanal gold miners face daily dangers in the shafts in which they operate. Many illegal miners lose their lives in mining shaft accidents, often fatally injured in mine collapses when explosives are used to break apart the rock.<sup>549</sup> They also compromise their personal health and safety when opening cement-plugged shafts of abandoned mines with explosives.<sup>550</sup> The only protection they rely on are the pillars erected by previous mine employees to balance the rocks and prevent collapses.<sup>551</sup> Gas explosions are another likely threat, which was illustrated by the deaths of 25 illegal miners<sup>552</sup> in May 2017 during an underground explosion in a mine near Welkom.<sup>553</sup>

Illegal *Zamazama* artisanal miners can live underground for extended periods of time in their search for gold, and do so without necessary protective gear.<sup>554</sup> A study undertaken into informal coal mining in Blaauwbosch, Kwa-Zulu Natal,<sup>555</sup> illustrated how often miners operate without personal protective equipment such as hard hats, gloves and googles.<sup>556</sup> The coal

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<sup>547</sup> Ibid at 125.

<sup>548</sup> Arthur & Domiter op cit note 510.

<sup>549</sup> Chamber of Mines Illegal Mining' op cit note 524.

<sup>550</sup> Chamber of Mines of South Africa 'Illegal mining: fact Sheet 2017' at 2, accessed on 11 October 2017, available at <http://www.chamberofmines.org.za/industry-news/publications/fact-sheets/send/3-fact-sheets/386-illegal-mining>.

<sup>551</sup> N Lepak 'A day for the zama zamas: Illegal gold mining in South Africa' (20 September 2017) *Mining.com* accessed on 16 October 2017, available at <http://www.mining.com/a-day-for-the-zama-zamas-illegal-gold-mining-in-south-africa>.

<sup>552</sup> 'Bodies of 25 illegal miners recovered from abandoned South African gold shaft' (17 May 2017) *Reuters* accessed on 16 October 2017, available at <http://www.reuters.com/article/us-safrica-illegal-mining-harmony-gold-m/bodies-of-25-illegal-miners-recovered-from-abandoned-south-african-gold-shaft-idUSKCN18D1ZH>.

<sup>553</sup> Lepak op cit note 551.

<sup>554</sup> Chamber of Mines Illegal mining: fact Sheet 2017' op cit note 550 at 2.

<sup>555</sup> S Phakathi 'Making a living: The safety practices, risks and challenges of informal artisanal miners in the community of Blaauwbosch in KwaZulu Natal, South Africa' (2016) Paper presented at the Artisanal and Small-Scale Mining Workshop, University of the Witwatersrand, 10 November 2016.

<sup>556</sup> M Olalde, 'Bringing South Africa's Small-Scale Miners Out of the Shadows' (2016) *Inter Press Service*, available at <http://www.ipsnews.net/2016/12/bringing-south-africas-small-scale-miners-out-of-the-shadows/> accessed on 4 October 2017.

mining operations also cause harmful gases to be released, resulting in the forced relocation of the local high school nearby.<sup>557</sup>

Ultimately, *Zamazamas* working in operating shafts not only pose severe risks to themselves, but also to formal mine employees, surrounding communities to safety protocols, to shaft infrastructure and stability.<sup>558</sup> Furthermore, the state and mining companies bear the cost of commissioning the Mine Rescue Services in cases of underground disasters.<sup>559</sup> This arguably creates an ethical dilemma for the voluntary, private organisation that provides emergency services to formal employees.<sup>560</sup>

### 2.3 Associated criminality

On the one hand, there are those illegal miners who willingly engage in a variety of illegal activities that threaten the global precious metals supply chain.<sup>561</sup> Many fall under the umbrella terms of ‘precious metals theft’ with respect to the stock or products that are illegally mined.<sup>562</sup> It has been accepted that when illegal artisanal miners mix and disguise illegally mined gold with other licit metal sources, the process of it becoming part of the legal supply chain represents a form of money laundering.<sup>563</sup> There are also the acts of violence between the gangs of illegal mining syndicates that make up the criminal activities associated with ASM.<sup>564</sup>

On the other hand, there are those informal miners who do not deliberately intend on engaging in criminal activities, but none the less still operate outside of the law because they lack the appropriate authorisation.<sup>565</sup> One of the main consequences of this are the clashes with large scale companies. Gold is often the target of illegal artisanal and small scale mining as it is relatively easy to extract and rework.<sup>566</sup> Since large to medium scale gold mining operations take place in some of the world’s lowest income countries, they often attract artisanal miners

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<sup>557</sup> Olalde op cit note 556.

<sup>558</sup> Chamber of Mines ‘Illegal mining: fact Sheet 2017’ op cit note 550 at 2.

<sup>559</sup> Chamber of Mines ‘Submission’ op cit note 521 at 13.

<sup>560</sup> See Mine Rescue Services South Africa ‘Our Mission’ *Mine Rescue Services* available at <http://minerescue.co.za/about-us/> accessed on 22 October 2017.

<sup>561</sup> UNICRI Report op cit note 495 at 27.

<sup>562</sup> Ibid.

<sup>563</sup> Ibid.

<sup>564</sup> Ibid at 25.

<sup>565</sup> Hilson et al ‘Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Reconceptualising formalization and ‘illegal’ activity’ (2017) 83 *Geoforum* 80.

<sup>566</sup> UNICRI Report op cit note 495 at 10.

to the same gold bearing area.<sup>567</sup> These miners either work mined-out areas that are no longer viable, or exploit the same mineral resource on concessions that have been demarcated to foreign large-scale mining firms.<sup>568</sup> This intrusion of artisanal miners in formal operations frequently results in violent clashes and the disruption of the relations between mining companies and the surrounding mining communities.<sup>569</sup>

Governments' response to artisanal miners 'intrusion' of industrial mining company space has invariably been to carry out military 'sweeps' of ASM camps throughout sub-Saharan Africa, forcibly removing miners and destroying their equipment.<sup>570</sup> Those who choose to operate illegally in the sub-Saharan Africa region have gained notorious reputations for working on land that has been demarcated by governments to international mining companies.<sup>571</sup> However it has been argued that the motivation behind such uses of force is unsubstantiated in situations where companies are not using the land.<sup>572</sup> Research undertaken in Ghana, Tanzania, The Democratic Republic of Congo has shown that considerable portions of the concessions awarded to mining companies are unused.<sup>573</sup>

Since these areas contain alluvial or surface mineral deposits, they are suitable for the manual exploitation characteristic of artisanal mining.<sup>574</sup> However they end up lying untouched because the large scale mining companies cannot work them economically.<sup>575</sup> Many of the subsistence groups who congregate to these areas do not intend to engage in criminal activity, but are branded as illegal operators that steal the minerals 'belonging to' large scale companies.<sup>576</sup> Often the reason for their mining informally can be attributed to the difficulty in obtaining legal

<sup>567</sup> Ibid.

<sup>568</sup> S Banchirigah & G Hilson 'De-agrarianization, re-agrarianization and local economic development: re-orientating livelihoods in African artisanal mining communities (2010) 43(2) *Policy Sciences* 157 at 158.

<sup>569</sup> UNICRI Report at 10.

<sup>570</sup> Ibid at 166.

<sup>571</sup> Ibid footnote 6. See for example International Labour Organization (ILO) 'Social and labour issues in small-scale mines' (1999) Report for discussion at the Tripartite Meeting on Social and Labour Issues in Small-scale Mines, Geneva; A Kitula 'The environmental and socio-economic impacts of mining on local livelihoods in Tanzania: A case study of Geita district' (2006) 14(3-4) *Journal of Cleaner Production* 405; G Hilson & N Yakovleva 'Strained relations: A critical analysis of the mining conflict in Prestea, Ghana' (2007) 26(1) *Political Geography* 98.

<sup>572</sup> Banchirigah & Hilson op cit note 568 at 166 footnote 5.

<sup>573</sup> Ibid at footnote 6.

<sup>574</sup> Ibid.

<sup>575</sup> G Hilson, N Yakovleva & S Banchirigah 'To move or not to move': Reflections on the resettlement of artisanal miners in the western region of Ghana' (2007) 106(424) *African Affairs* 413; N Mutemeri & F Petersen 'Small-scale mining in South Africa: Past, present and future' (2002) 26 *Natural Resources Forum* 286.

<sup>576</sup> See ILO op cit note 571; P Tschakert & K Singha 'Contaminated identities: Mercury and marginalization in Ghana's artisanal mining sector' (2007) 38 *Geoforum* 1304.

artisanal mining authorisation. These ‘barriers’ preventing miners from entering into formal ASM sectors will be discussed in the next chapter.

### 2.3.1 Associated criminality: Burkina Faso

The types of criminality associated with artisanal gold mining in Burkina Faso are wide-ranging. This includes individual acts of sporadic theft, illegal *orpaillage* conducted without authorisation,<sup>577</sup> and long-term fraud that involves a number of participants.<sup>578</sup> Gold can be stolen from the pits during the night, so miners work throughout the night to guard the ore they have exposed.<sup>579</sup> Often AAM license holders hire security guards to patrol the pits and processing areas, and body checks are a daily occurrence to prevent miners from taking undeclared gold off-site.<sup>580</sup>

Further criminality associated with the ASM sector is the widespread illegal *orpaillage* practices across the country, which seem to be tolerated by the Burkinabe government. The first explanation that has been proposed for this is that AAM licenses have become a tool for industrial mining companies to control *orpaillage* activities in their permit areas.<sup>581</sup> Studies have shown<sup>582</sup> that, instead of evicting artisanal miners, industrial companies can restrict their operations to certain ‘low-priority’ areas of their permit areas, using AAM holder security personnel to ensure they are confined and supervised in that limited space.<sup>583</sup>

The second justification is that, after the CBMP became redundant,<sup>584</sup> tracking the licensed AAM operations and gold traders was the only way the government could assess non-industrial gold production.<sup>585</sup> The Artisanal and Orpaillage Department of the Ministry of Mines has confirmed this role, but admitted that the state has little control in holding the private *comptoirs*

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<sup>577</sup> Muriel Côte ‘Striking Gold in Burkina Faso’ (2013) *Focus on Land in Africa* brief at 3, accessed on 23 October 2017, available at <https://agriknowledge.org/downloads/5x21tf448>.

<sup>578</sup> Jaques et al in Hilson op cit note 509 at 122.

<sup>579</sup> S Luning ‘Liberalisation of the Gold Mining Sector in Burkina Faso’ (2008) 35(117) *Review of African Political Economy* 387 at 397.

<sup>580</sup> Ibid at 397.

<sup>581</sup> Côte op cit note 577 at 5.

<sup>582</sup> See S Luning ‘Gold mining in Sanmatenga, Burkina Faso: Governing Sites, Appropriating Wealth’ (2008) in J Abbink & A van Dokkum (eds) *Dilemmas of Development: Conflicts of Interest and their Resolutions in Modernizing Africa* (2008) at 195-211; S Luning ‘Artisanal gold mining in Burkina Faso: permits, poverty and perceptions of the poor in Sanmatenga, the “land of gold”’ in G Hilson (ed) *Small-Scale Mining, Rural Subsistence and Poverty in West Africa* 135-148.

<sup>583</sup> Côte op cit note 577 at 5.

<sup>584</sup> See Chapter 3 para 5.3.

<sup>585</sup> Côte op cit note 577 at 5.

to declare exactly what they produce.<sup>586</sup> This points to the more serious issue preoccupying the state, namely the vast disparities in the reported quantities of gold produced, and what is actually exploited.<sup>587</sup>

Gold production fraud appears to have grown since the first Mining Code<sup>588</sup> introduced liberal mining laws in 1997.<sup>589</sup> The recorded artisanal gold production and exportation data figures previously stated<sup>590</sup> are far lower than what is actually exploited.<sup>591</sup> In 2006 a study conducted by the *Bureau de Recherches Géologiques et Minières*<sup>592</sup> revealed that 90% of artisanal gold is not reported.<sup>593</sup> This aligns with the present testimonies of government officials who admit that there is minimal oversight of the ASM sector.<sup>594</sup> This has been attributed to the fact that systematic control of artisanal gold producing sites is often expensive and inefficient.<sup>595</sup>

The lack of oversight facilitates the export of the majority of artisanally produced gold via illicit conduits.<sup>596</sup> It is, however, difficult to quantify exactly how much artisanal gold goes unreported.<sup>597</sup> In 2014 the Ministry of Mines, Quarries and Energy registered 208 kg of gold produced by artisanal mining.<sup>598</sup> However officials estimate that the true amount of gold exported over the year was between three and 10 tonnes.<sup>599</sup> This indicates that, despite the small size of Burkina Faso's informal sector compared to the industrial mining sector, it still causes a significant portion of lost government revenues.<sup>600</sup>

Another element of criminality that is evident in artisanal mining sites is the conflict that occurs between *orpaillage* miners and AAM holders or *comptoir* staff.<sup>601</sup> As soon as gold buyers

<sup>586</sup> Interview between The Artisanal and *Orpaillage* Department and the author in Côte op cit note 577 at 5.

<sup>587</sup> Martin & de Balzac 'The West African El Dorado' op cit note 493 at 12.

<sup>588</sup> Law No. 023/97/II/AN of October 22, 1997.

<sup>589</sup> Jaques et al in Hilson op cit note 509 at 122.

<sup>590</sup> See Chapter Three 'Burkina Faso: participants'.

<sup>591</sup> Martin & de Balzac 'The West African El Dorado' op cit note 493 at 12.

<sup>592</sup> Translation: "The French Geological Survey" which is France's reference public institution for Earth Science applications in the management of surface and subsurface resources and risks. See <http://www.brgm.eu/brgm/brgm-french-geological-survey/brgm-french-geological-survey>.

<sup>593</sup> Jaques et al in Hilson op cit note 509 at 123.

<sup>594</sup> Martin & de Balzac 'The West African El Dorado' op cit note 493 at 12.

<sup>595</sup> Jaques et al in Hilson op cit note 509 at 123.

<sup>596</sup> Interview conducted with the Ministry of Mines, Quarries and Energy, Ouagadougou, Burkina Faso, February 17, 2015 in Martin & de Balzac 'The West African El Dorado' op cit note 493 at 12.

<sup>597</sup> Ibid.

<sup>598</sup> Ibid.

<sup>599</sup> Interview conducted with the Ministry of Mines, Quarries and Energy, Ouagadougou, Burkina Faso, February 17, 2015. in Martin & de Balzac 'The West African El Dorado' op cit note 493 at 12.

<sup>600</sup> Ibid.

<sup>601</sup> Côte op cit note 577 at 5.

acquire AAM licenses to act in a designated site, any artisanal miners already mining in the area are obliged to sell gold to those license holders, which could be at a lower price than what they could receive elsewhere.<sup>602</sup> This can cause violent conflict between the different actors which can result in deaths of *orpaillage* operators.<sup>603</sup> It is not, however, the AAM holders that bear responsibility, but rather the informal miners without legal redress that are usually imprisoned.<sup>604</sup>

### 2.3.2 Associated criminality: South Africa

Similar to the Burkina context, there are different forms of illegality associated with artisanal mining in South Africa.<sup>605</sup> The first circumstance in which artisanal mining is illegal is when operators work outside of the MPRDA's regulatory framework, or 'informally'.<sup>606</sup> While not intending to evade the law, these miners nonetheless operate illegally because they do not possess mining permits,<sup>607</sup> and therefore contravene the MPRDA.<sup>608</sup> As the next chapter explains, they are usually hamstrung by the associated costs, the complicated bureaucratic procedures involved, and the unavailability of transport to DMR regional offices.<sup>609</sup> Alternatively, they operate under the mistaken impression that their activities are a legitimate community practice that has occurred for generations.<sup>610</sup>

The other associated illegality is the artisanal mining conducted within illicit gold mining organizations.<sup>611</sup> These miners are also contravening the MPRDA, but their organised activities are additionally linked with money laundering and other commercial crimes.<sup>612</sup> Hence the situation bears some similarity to Burkina Faso, however the level of fraudulent gold production practices is more advanced. South African enforcement bodies recognise illegal mining as a

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<sup>602</sup> Ibid.

<sup>603</sup> Ibid.

<sup>604</sup> F Ilboudo 'Site d'orpaillage a Fêtakolé: Les dessous d'un emprisonnement' (29 July 2012) *LeFaso.net*, available at <http://www.lefaso.net/spip.php?article49224>.

<sup>605</sup> SAHRC Report op cit note 532 at 24.

<sup>606</sup> Ledwaba & Mutemeri op cit note 486 at 8.

<sup>607</sup> Granted in terms of section 27 of the Mineral and Petroleum Development Act 28 of 2002 (MPRDA).

<sup>608</sup> Section 5(4)(b) of the MPRDA.

<sup>609</sup> P Ledwaba & K Nhlengetwa 'When policy is not enough: prospects and challenges of artisanal and small-scale mining in South Africa' (2016) 7(1) *Journal of Sustainable Development Law and Policy* 25 at 35.

<sup>610</sup> Olalde op cit note 556.

<sup>611</sup> SAHRC Report op cit note 532 at 24.

<sup>612</sup> UNICRI Report op cit note 495 at 53.

form of organized crime, as it is considered a predicate offence to money laundering, which falls within the definition of ‘illicit financial flows’.<sup>613</sup>

Global Financial Integrity defines illicit financial flows as the movement of funds or assets that are illegally earned, transferred and/or utilised.<sup>614</sup> Hence, this classification covers both money laundering and other activities that form a part of the illicit trade of precious metals or stones.<sup>615</sup> Gold mining is a particularly attractive vehicle for money laundering.<sup>616</sup> This is because it provides a mechanism for organised crime groups to convert illegally obtained money into a stable, unidentifiable and easily exchangeable asset to realise the profits of criminal activities.<sup>617</sup> The United Nations Interregional Crime and Justice Research Institute’s 2016 report (UNICRI Report)<sup>618</sup> revealed that South Africa’s precious metal and stones supply chain is exploited at various levels by illegal miners working within organised criminal groups.<sup>619</sup>

This implicates the offences of illicit dealing in or possession of precious metals or precious stones.<sup>620</sup> There is no offence for mining illegally. Instead, illegal miners are arrested and prosecuted on related charges such as trespassing, and are merely sentenced to a fine of

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<sup>613</sup> Directorate for Priority Crime Investigation (HAWKS) ‘Illicit Financial Flows and Base Erosion and Profit Shifting’ (2017) Presentation to the Joint Meeting of the Portfolio Committee on Police and the Standing Committee on Finance, held at Old Assembly Chamber, Cape Town, 30 August 2017 (on file with author) at 3-4.

<sup>614</sup> See Global Financial Integrity ‘Illicit Financial Flows’ *GFI website*, accessed on 3 December 2017, available at <http://www.gfintegrity.org/issue/illicit-financial-flows/>.

<sup>615</sup> See UNICRI op cit note 495 at 39.

<sup>616</sup> Money laundering in South Africa is defined in section 1 of the Financial Intelligence Centre Act 38 of 2001 (FICA) as: "An activity which has or is likely to have the effect of concealing or disguising the nature, source, location disposition or movement of the proceeds of unlawful activities or any interest which anyone has in such proceeds". Jonathan Burch ell explains further that "the process of disguising the criminal origin of money could constitute one of a variety of common-law or statutory offences" one of the most common examples being fraud. See J Burch ell *Principles of Criminal Law* 4 end (2013) at 885, 886.

<sup>617</sup> See Financial Action Task Force (FATF) and Asia/Pacific Group on Money Laundering (APG) ‘Money laundering and terrorist financing risks and vulnerabilities associated with gold’ (2015) FATF Report, Paris, accessed on 3v December 2017, available at [www.fatf-gafi.org/topics/methodsandtrends/documents/ml-tf-risks-and-vulnerabilities-gold.html](http://www.fatf-gafi.org/topics/methodsandtrends/documents/ml-tf-risks-and-vulnerabilities-gold.html).

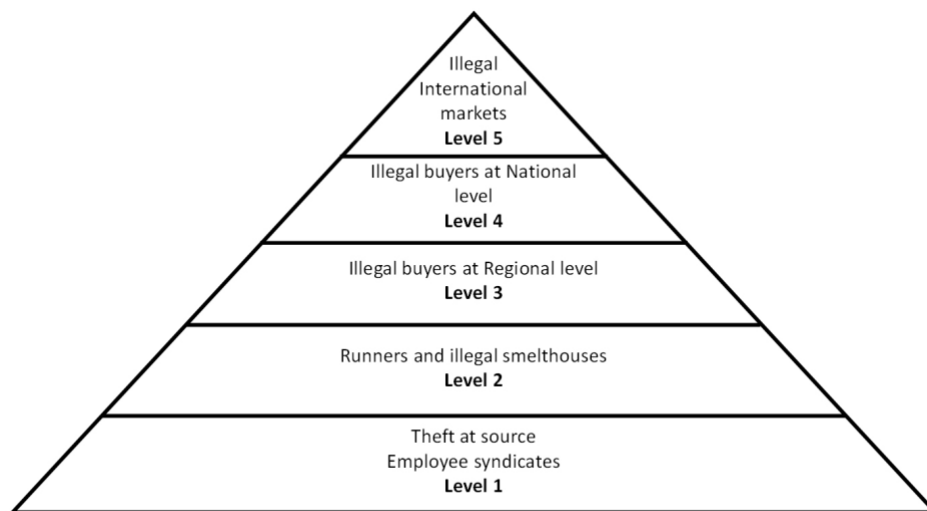
<sup>618</sup> Op cit note 495

<sup>619</sup> Ibid at 82.

<sup>620</sup> In South Africa these are the sentences imposed by the Criminal Procedure act 51 of 1977 (Schedule 2, Part II and III) for a breach of the Precious Metals Act 37 of 2005 or the Diamonds Act 56 of 1986, as amended. See UNICRI Report op cit note 495 at 58.

R2000.<sup>621</sup> <sup>622</sup> More serious charges are brought under the Criminal Procedure Act<sup>623</sup>, the Hazardous Substances Act,<sup>624</sup> the Precious Metals Act<sup>625</sup> and explosives legislation.<sup>626</sup>

The South African Chamber of Mines has estimated that the annual commercial value of illegal mining, including the illicit dealings in precious metals, is over R20 billion.<sup>627</sup> An analysis of South Africa's organized criminal syndicates revealed that the precious metals mining industry is not only the target of organised crime groups with local syndicates connected to larger international operations, but is also the victim of crime groups operating in Nigeria, Russia, Germany, India and China.<sup>628</sup> The illegal gold mining market in South Africa takes the form of a well-managed, 5-tier syndicate system:<sup>629</sup>



**Figure 4.1<sup>630</sup>: A representation of the five intricately linked levels of organised criminal actors in South Africa's illegal gold market.<sup>631</sup>**

<sup>621</sup> Section 2(1) of the Trespass Act 6 of 1959 provides that a person convicted of trespassing is liable to a R2 000 fine or a maximum of two years in prison, or both.

<sup>622</sup> Chamber of Mines 'Illegal Mining' op cit note 524.

<sup>623</sup> Supra note 620.

<sup>624</sup> 15 of 1973.

<sup>625</sup> Supra note 620.

<sup>626</sup> Chamber of Mines 'Illegal Mining' op cit note 524.

<sup>627</sup> This cost includes lost sales, taxes and royalties. See Chamber of Mines 'Submission' op cit note 521 at 13.

<sup>628</sup> UNICRI Report op cit note 495 at 53.

<sup>629</sup> Chamber of Mines 'Illegal Mining' op cit note 524.

<sup>630</sup> Coetzee & Horn 'The theft of precious metals from South African mines and refineries' (2006) Report by the Institute of Security Studies for the Chamber of Mines of South Africa, August 2006, accessed 17 October 2017, available at [https://www.files.ethz.ch/isn/101895/2006\\_11\\_27.pdf](https://www.files.ethz.ch/isn/101895/2006_11_27.pdf).

<sup>631</sup> UNICRI op cit note 495 at 53.

The first tier is made up of the underground workers who conduct the physical mining work.<sup>632</sup> They are mostly immigrants who have worked in the mines before, and use simple tools and chemicals to extract and refine the mineral ore.<sup>633</sup> The second tier includes buyers operating at the surfaces of mines, who organise and support first tier miners by providing them with food, equipment, and protection from rival Zamazama gangs and police raids.<sup>634</sup> The third tier is made up of regional bulk buyers, who invariably take the form of entities possessing permits to trade in precious metals, issued in terms of the Precious Metals Act.<sup>635</sup> The fourth tier includes individuals who distribute the precious metal nationally or internationally through front companies or legitimate exporters.<sup>636</sup> The final fifth tier is made up of the top international receivers and distributors, who conduct their operations through international refineries and intermediary companies.<sup>637</sup>

Of particular importance is the applicability of Precious Metals Act, which outlines the prohibitions related to acquisition, possession or disposal of unwrought precious metal.<sup>638</sup> If an individual does not hold a refining licence, or is not an authorised dealer, a producer of unwrought precious metal, a holder of a precious metal beneficiation licence or has not been issued a certificate or special permit by the regulator, or is not in the employ of such a licence or permit holder, he or she would be in breach of the Precious Metal Act.<sup>639</sup> In essence, the legal position is such that even the mere possession of gold ore which is usually unprocessed is illegal.<sup>640</sup>

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<sup>632</sup> Chamber of Mines 'Submission' op cit note 521 at 7.

<sup>633</sup> Ibid.

<sup>634</sup> Chamber of Mines 'Illegal Mining' op cit note 524.

<sup>635</sup> Supra note 620.

<sup>636</sup> Chamber of Mines 'Illegal Mining' op cit note 524.

<sup>637</sup> Chamber of Mines 'Submission' op cit note 521 at 11.

<sup>638</sup> Section 1 'Definitions' provides that "unwrought precious metal" means:

- a) precious metal that-
  - is unrefined (including concentrate and matte), or has been refined to a purity less than 99,9% and has not undergone any manufacturing process other than being refined or formed into a bar (but not a minted bar), an ingot, a button, plate, sponge, powder, granules, (excluding granules made from precious metal that has
- i) been refined to or beyond 99,9% purity, and carat gold alloys), solution; or
- is prescribed as any substance, material or product of similar form to any such substance, material or
- ii) product listed in paragraph (a)(i); or
- b) any article or substance containing or consisting of precious metal contemplated in paragraph (a), but does not include any article that is of archaeological interest or that has been processed or manufactured for one or more specific industrial, professional or artistic uses.

<sup>639</sup> In terms of section 4(1) of the Precious Metals Act supra note 620.

<sup>640</sup> Nyoni op cit note 483 at 146.

In addition to the above offences, there is also the theft of copper cables from both underground workings and surface operations.<sup>641</sup> The theft of these copper cables, along with the theft of explosives, diesel and other equipment, is linked to the forging of illegal electricity connections from the electricity infrastructure of large-scale mines.<sup>642</sup> This poses a serious problem for mining companies as any disruption of the electricity supply can compromise the mine's underground ventilation system and its ability to lift miners from underground in an emergency.<sup>643</sup>

In light of the above threats, significant costs are incurred by mining companies in their effort to address illegal artisanal mining activity around or in their mines.<sup>644</sup> These include the provision of increased private security, and the cost of repeated stoppage, repair and maintenance of mine shafts.<sup>645</sup> Mining companies must continuously repair perimeter fences broken by illegal miners to gain access to old mine shafts and tailings dumps which, left unattended, pose a safety threat to the surrounding community, especially children.<sup>646</sup>

In an attempt to address these criminal activities, the regional and national state agents involved<sup>647</sup> have adopted various approaches on the sites where *Zamazamas* operate.<sup>648</sup> This has manifested in frequent raids by the South African Police Services (SAPS), confiscation of their equipment, detention, site demolition and re-sealing the shaft entrances.<sup>649</sup> However the 'wholly punitive' approach<sup>650</sup> adopted by the government is not having a recognisable effect. Commentators have argued that the illegal artisanal mining will not be eradicated by multiple police raids, as those arrested serve brief jail time before returning to sites to continue

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<sup>641</sup> UNICRI Report op cit note 495 at 53.

<sup>642</sup> Department of Mineral Resources 'Briefing to the Joint Portfolio Committees of Mineral Resources and Police on Measures Implemented to Combat Illegal Mining' 25 August 2017 (on file with author) at 16.

<sup>643</sup> Chamber of Mines 'Illegal Mining' op cit note 524.

<sup>644</sup> Ibid.

<sup>645</sup> Chamber of Mines 'Submission' op cit note 521 at 13.

<sup>646</sup> Mine Rescue Services 'Submission by the Mine Rescue Services on Illegal Mining in South Africa' at 18 Workshop held by the Department of Mineral Resources in Johannesburg, 27 March 2017 (on file with author) at 31.

<sup>647</sup> Falling under the National Coordination and Strategic Management Team (NCSMT). For a detailed description of the governance, coordination and composition of the NCSMT, see Chapter 6.

<sup>648</sup> Nyoni op cit note 483 at 147.

<sup>649</sup> Ibid.

<sup>650</sup> K Nhlengetwa & K 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 at 2.

working.<sup>651</sup> This is not only because of the absence of proper law aimed at addressing illegal mining, but also because of the corruption at SAPS level, as miners pay officers to turn a blind eye to their operations.<sup>652</sup>

This corruption also extends to members of private security companies who are hired by mining companies to guard the mine shaft entrances.<sup>653</sup> Furthermore, the ‘sweeps’ of illegal artisanal mining operations undertaken by SAPS seem futile when, after the area has been cleared, the illegal activity flares up in another mining area.<sup>654</sup> Despite the consequences of these raids, informant miners have expressed that they would rather face violence or detention than abandon their precious sites, as it is the only form of income they have.<sup>655</sup>

This resilient approach points to the continuation of these practices, and the reality that the criminal justice system lacks the capacity to resolve illegal mining. There are few resources at the disposal of law enforcement agencies such as SAPS officers, immigration and border control officers and prosecuting authorities.<sup>656</sup> With the large number of abandoned, closed and operating mines at their disposal, illegal artisanal gold miners are likely to continue relying on these practices to alleviate their socioeconomic problems.<sup>657</sup>

### 3 Conclusion

As growth of emerging markets slows and commodity prices drop, countries in sub-Saharan Africa face a decline in the quality of employment and the available productive opportunities.<sup>658</sup> In this context artisanal mining will persist, in its primarily informal form, as long as there are few alternative sources of income.<sup>659</sup> There are, however, negative consequences of ASM which overshadow its potential as a means of sustaining rural livelihoods. Negative images of

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<sup>651</sup> D Oliveira ‘Lawyer calls for zama-zamas to be brought into formal mining fold’ 59 June 2017) *Mining Weekly* accessed on 12 October 2017, available at <http://www.miningweekly.com/article/make-zama-zamas-mainstream-attorney-2017-06-09>.

<sup>652</sup> F Moosa ‘The case for giving zama-zamas mining rights’ (5 September 2017) *Mail & Guardian* accessed on 17 October 2017, available at <https://mg.co.za/article/2017-09-05-the-case-for-giving-zama-zamas-mining-rights>.

<sup>653</sup> Mine Rescue Services ‘Submission’ op cit note 646 at 18.

<sup>654</sup> UNICRI Report op cit note 495 at 28.

<sup>655</sup> Nyoni op cit note 483 at 147.

<sup>656</sup> Chamber of Mines ‘Illegal mining: fact Sheet 2017’ op cit note 550.

<sup>657</sup> Oliveira op cit note 651.

<sup>658</sup> ‘Facing the growing unemployment challenges in Africa’ (20 January 2016) International Labour Organization (ILO) Press release, accessed on 22 October 2017, available at [http://www.ilo.org/addisababa/media-centre/pr/WCMS\\_444474/lang--en/index.htm](http://www.ilo.org/addisababa/media-centre/pr/WCMS_444474/lang--en/index.htm).

<sup>659</sup> Banchirigah & Hilson op cit note 568 at 176.

ASM activities, especially their close association with criminality, taint the sector's image.<sup>660</sup> This has contributed to its diminished stature in policy<sup>661</sup> and has made it a low priority on the research and policy agendas of development agencies.<sup>662</sup>

Development donors, governments, wider industry players and NGOs choose rather to focus on the associated environmental, health and safety and criminality issues instead of the redress of ASM's structural challenges.<sup>663</sup> Until these challenges are redressed, however, ASM activities will remain informal and consequently the negative impacts will continue. These challenges concern the lack of financial and technical capacity, and the absence of institutional support. They are discussed in detail in the next chapter.

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<sup>660</sup> P Tschakert & K Singha 'Contaminated identities: Mercury and marginalization in Ghana's artisanal mining sector' (2007) 38(6) *Geoforum* 1304.

<sup>661</sup> Banchirigah & Hilson op cit note 568 at 176.

<sup>662</sup> G Hilson (ed) 'Introduction: resuscitating the policy and research agenda for artisanal and small-scale mining' in *Small-Scale Mining, Rural Subsistence and Poverty in West Africa* (2006) at 1.

<sup>663</sup> Buxton op cit note 504 at v.

# CHAPTER FIVE: CHALLENGES PROHIBITING ASM OPERATORS FROM MEETING THEIR LEGAL OBLIGATIONS

## 1 Introduction

The previous chapter discusses the key issues associated with Africa's ASM sectors generally, and South Africa's and Burkina Faso's specifically. The issues include environmental degradation, health and safety concerns, and accompanying criminal activities. It is argued that a preoccupation with these negative aspects has led to the prolonged neglect of the sector's potential and the broader socioeconomic issues underpinning its emergence.<sup>664</sup> A misdirected focus on the negative consequences has also contributed to the ineffectiveness of the few promising policy initiatives in existence.<sup>665</sup>

The ineffectiveness is perpetuated by the lack of governmental support to assist artisanal and small-scale miners to create profitable and sustainable operations.<sup>666</sup> Such support is vital for operators who experience many difficulties in their attempts to enter the formal ASM sector. This chapter considers the main challenges faced by artisanal and small-scale miners when acquiring legal authorisation to conduct ASM activities, in South Africa and Burkina Faso specifically.

## 2 Typical barriers to entry into the formal ASM sector

Without the provision of proper support for ASM miners to enter, and be incentivised to enter, the formal sector, ASM operations will remain environmentally and economically unsustainable.<sup>667</sup> Furthermore, illegal artisanal mining will continue to flourish,<sup>668</sup> and the

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<sup>664</sup> G Hilson (ed) 'Introduction: resuscitating the policy and research agenda for artisanal and small-scale mining' in *Small-Scale Mining, Rural Subsistence and Poverty in West Africa* (2006) at 1.

<sup>665</sup> Ibid.

<sup>666</sup> J Love 'Report of the SAHRC Investigative Hearing: Issues and Challenges in relation to Unregulated Artisanal Underground and Surface Mining Activities in South Africa' (2015) available at <https://www.sahrc.org.za/home/21/files/Unregulated%20Artisanal%20Underground%20and%20Surface%20Mining%20Activities%20electronic%20version.pdf> (the SAHRC Report) at 24.

<sup>667</sup> Ibid.

<sup>668</sup> United Nations Interregional Crime and Justice Research Institute (UNICRI) 'Strengthening the Security and Integrity of the Precious Metals Supply Chain' (May 2016) Technical report presented at the UNICRI seminar

potential of ASM to sustain livelihoods will not be realised. The entry barriers include the bureaucratic procedures involved in license applications as well as a lack of available finance, technical capacity, appropriate equipment and market knowledge.

## 2.1 Difficulty in obtaining the requisite permits

To some extent, all of the negative effects of ASM articulated in the previous chapter are linked to the miners' **difficulty in obtaining the requisite permits to operate legally**.<sup>669</sup> By the mid 1990s, most African countries had begun to formalise their ASM sectors by implementing legislation and supportive policy frameworks.<sup>670</sup> However, many of the regulatory systems turned out to be unwieldy and bureaucratic,<sup>671</sup> and the procedures for acquiring licences tended to be cumbersome and inappropriate for those whose artisanal mining activities are poverty-driven.<sup>672</sup>

The general 'user-unfriendliness' of the sector's legislation has many negative implications.<sup>673</sup> Inappropriate regulations that do not specifically accommodate artisanal mining merely exacerbate regulation inefficiencies of local authorities, who already lack the capacity to enforce the frameworks in existence.<sup>674</sup> Once more, even if jurisdictions have explicitly accommodated ASM in their legislative frameworks to regulate the sector, the lack of supportive policy frameworks prohibits the emergence and growth of sustainable ASM operations.<sup>675</sup>

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"International strategy to combat illicit trafficking in precious metals" (March 2016), Cape Town at 36 available at [http://files.unicri.it/PM\\_draft\\_onlinev.pdf](http://files.unicri.it/PM_draft_onlinev.pdf) accessed 29 May 2017 (UNICRI Report) at 10.

<sup>669</sup> Hilson et al 'Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Reconceptualising formalization and 'illegal' activity' (2017) 83 *Geoforum* 80.

<sup>670</sup> E Fisher 'Occupying the Margins: Labour Integration and Social Exclusion in Artisanal Mining in Tanzania' (2007) 38(4) *Development and Change* 735.

<sup>671</sup> G Hilson 'Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: a critical overview' (2016) IIED Issue Paper (March 2016) at 14.

<sup>672</sup> Ibid.

<sup>673</sup> See International Labour Organization (ILO) 'Social and labour issues in small-scale mines' (1999) Report for discussion at the Tripartite Meeting on Social and Labour Issues in Small-scale Mines, International Labour Organization, Sectoral Activities Program. International Labour Office, Geneva; T Hentschel, F Hruschka & M Priester 'Global report on artisanal and small-scale mining' (2002) Working Paper 70, Mining, Minerals and Sustainable Development (MMSD) Project, International Institute for Environment and Development (IIED) London.

<sup>674</sup> World Gold Council 'Artisanal and Small-Scale Mining' Available at <http://www.gold.org/gold-mining/responsible-mining/artisanal-and-small-scale-mining>.

<sup>675</sup> This is evident in both Ghana and Niger. See Hilson (2017) op cit note 669 at 87-88.

### 2.1.1 Burkina Faso

The introduction of artisanal mining authorization in Burkina Faso, in the form of authorisation for artisanal mining (AAM), was intended to formalise the sector.<sup>676</sup> The aim was to create a ‘graduation path’ for ASM activities that ultimately led to the development of large-scale mining operations.<sup>677</sup> Artisanal mining in Burkina Faso is referred to as *orpaillage*.<sup>678</sup> As indicated in the previous chapter, AAM licences are rarely held by rural *orpaillage* miners who wish to formalise their activities.<sup>679</sup> Instead the AAM licenses, which are only issued to a Burkinabe person or company,<sup>680</sup> are held by national elites who often own gold trading companies called *comptoirs*.<sup>681</sup>

The main problem is that AAM licences do not confer tenure security,<sup>682</sup> and hence can be superseded by industrial mining licenses.<sup>683</sup> If an area is found to be mineral-rich, a wealthy Burkinabe<sup>684</sup> entrepreneur may apply for an exploration permit or industrial mining license that allows them to exclude any previous AAM holders from operating in that area.<sup>685</sup> This often occurs, given that aspirant exploration permit holders see the presence of artisanal miners as a promising sign of success.<sup>686</sup>

Since exploration and exploitation licenses trump AAM licenses, this creates a disincentive for artisanal miners to formalise their activities.<sup>687</sup> This is a significant reason why the ASM sector

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<sup>676</sup> Oxford Policy Management ‘Political Economy Analysis of the Mining Sector in Burkina Faso’ (2011) at 46, Oxford Policy Management, Oxford, available at <http://www.opml.co.uk/sites/opml/files/PEA%20Burkina%20Final%20Report.pdf>.

<sup>677</sup> Ibid.

<sup>678</sup> M Côte ‘Striking Gold in Burkina Faso’ (2013) *Focus on Land in Africa* brief at 2, accessed on 23 October 2017, available at <https://agriknowledge.org/downloads/5x21tf448>.

<sup>679</sup> Ibid at 5.

<sup>680</sup> Article 71 Loi No. 0362015/CNT Portant Code Minier du Burkina Faso JO N°44 Du 29 Octobre 2015 (the Code).

<sup>681</sup> Côte op cit note 678 at 4.

<sup>682</sup> See Chapter 3 para 5.3.

<sup>683</sup> Côte op cit note 678 at 4.

<sup>684</sup> The legislation restricts AAM applications to Burkinabe nationals. See Article 71 of the Code supra note 680.

<sup>685</sup> Côte op cit note 678 at 4.

<sup>686</sup> S Luning ‘Liberalisation of the Gold Mining Sector in Burkina Faso’ (2008) 35(117) *Review of African Political Economy* 387 at 390; See further Q Mégret ‘Gaining access to a globally coveted mining resource: a case study in Burkina Faso’ (2010) 61(202) *International Social Science Journal* 389.

<sup>687</sup> Côte op cit note 678 at 4.

is still largely informal.<sup>688</sup> Another reason for perpetuated informality is that entrepreneurs who have AAM licenses but lack tenure security pursue industrial prospecting licenses only to sell them to make a profit. These prospecting licenses secure holders' access to gold<sup>689</sup> and prove the value of a certain area, so entrepreneurs obtain merely to sell them to industrial mining companies who bid highly for them.<sup>690</sup> The downside of this practice is that it encourages land speculation instead of facilitating and improving formalised artisanal gold mining production.<sup>691</sup>

### 2.1.2 South Africa

The MPRDA's section 27 mining permit was introduced with the intention of freeing small-scale applicants from the onerous obligations of industrial-scale operations.<sup>692</sup> However, artisanal and small-scale miners have struggled to satisfy the permit requirements,<sup>693</sup> and without one cannot operate in the formal ASM sector. The main challenges encountered in the application process include the costs involved, the bureaucratic nature of the procedures involved, as well as the size and duration constraints that the mining permit imposes.

The first, and arguably most serious hurdle,<sup>694</sup> is the cost of the application process. The total cost of acquiring a permit is less than that of a mining right;<sup>695</sup> however, the applicant must still cover the costs of consultation with the landowner/occupier and affected parties, must make financial provision for rehabilitation, and must cover the cost of obtaining an Environmental

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<sup>688</sup> A Martin & H de Balzac 'The West African El Dorado: mapping the illicit trade of gold in Cote d'Ivoire, Mali and Burkina Faso' (January 2017) Partnership Africa Canada available at [http://www.pacweb.org/images/PUBLICATIONS/PAC\\_El\\_Dorado\\_Jan\\_2016\\_EN.pdf](http://www.pacweb.org/images/PUBLICATIONS/PAC_El_Dorado_Jan_2016_EN.pdf) at 12.

<sup>689</sup> See Luning op cit note 686.

<sup>690</sup> Côte op cit note 678 at 4.

<sup>691</sup> Ibid.

<sup>692</sup> N Mutemeri, N Sellick & H Mtegha 'What is the status of smallscale mining in South Africa?' (2010) Discussion document for the MQA Small-Scale Mining Colloquium (August 2010) at 12.

<sup>693</sup> SAHRC Report op cit note 666 at 26.

<sup>694</sup> Most notably by Kgothatso Nhlengetwa, a South African mining geology researcher specialising in artisanal mining. See F Moosa 'The case for giving zama-zamas mining rights' (5 September 2017) *Mail & Guardian* accessed on 17 October 2017, available at <https://mg.co.za/article/2017-09-05-the-case-for-giving-zama-zamas-mining-rights>; see further P Ledwaba & K Nhlengetwa 'When policy is not enough: prospects and challenges of artisanal and small-scale mining in South Africa' (2016) 7(1) *Journal of Sustainable Development Law and Policy* 25.

<sup>695</sup> For a detailed comparison of the differences between a mining right and a mining permit, see Chapter 2 para 2.1.

Management Plan (EMP).<sup>696</sup> The costs involved in obtaining an EMP are significant for a small-scale miner.<sup>697</sup> The non-refundable fee for a scoping report ranges between R2000 and R10000,<sup>698</sup> which does not include the additional fees that must be paid to registered professionals to conduct these assessments.<sup>699</sup> Even before these application fees are encountered, the initiation of the application process can be problematic.<sup>700</sup> DMR satellite offices in rural areas are few, and there is generally only one office in each province.<sup>701</sup> Regional officers are thus often located far from the communities where aspirant artisanal or small-scale operators live, elevating transport costs beyond the means of potential applicants.<sup>702</sup>

Beyond the costs involved in obtaining a mining permit, the bureaucratic application process is another hurdle for small-scale operator miners.<sup>703</sup> The online application process for mining permits, known as the South African Mineral Resources Administration Online System,<sup>704</sup> has been found by miners to be too advanced and complicated.<sup>705</sup> They are further hampered by their lack of internet resources, and their inability to pay internet café fees.<sup>706</sup> Since application fees can only be paid online, they are denied access to obtaining permits. This reality contrasts with the original motivation behind initiating an online system, which was to make mining permits more accessible to the public.<sup>707</sup> Once more, the numerous technical processes required<sup>708</sup> may not be understandable nor achievable for small-scale operators, and almost

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<sup>696</sup> P Ledwaba 'The status of artisanal and small-scale mining sector in South Africa: tracking progress' (2017) 117 *The Journal of the Southern African Institute of Mining and Metallurgy* 33 at 35.

<sup>697</sup> Mark Olalde, 'Bringing South Africa's Small-Scale Miners Out of the Shadows' (2016) *Inter Press Service*, available at <http://www.ipsnews.net/2016/12/bringing-south-africas-small-scale-miners-out-of-the-shadows/> accessed on 4 October 2017.

<sup>698</sup> In terms of National Environmental Management Act 107 of 1998.

<sup>699</sup> Ledwaba & Nhlengetwa op cit note 694 at 34.

<sup>700</sup> Moosa op cit note 694.

<sup>701</sup> Ledwaba op cit note 696 at 36. The author explains at 37 that during a focus group discussion with salt miners in the Soutpan area of the Free State (29 October 2014) the miners explained how there was only one person dealing with the challenges they faced as small-scale miners.

<sup>702</sup> Ledwaba op cit note 696 at 35; Olalde, op cit note 697.

<sup>703</sup> Ledwaba & Nhlengetwa op cit note 694.

<sup>704</sup> The online system was launched on the 11<sup>th</sup> of April 2011 with the objective of improving the mining permit application process. See Department of Mineral Resources 'Annual Report 2011/2012' (2012) available at [http://www.gov.za/sites/www.gov.za/files/Department\\_of\\_Mineral\\_Resources\\_annual\\_report\\_2011\\_2012.pdf](http://www.gov.za/sites/www.gov.za/files/Department_of_Mineral_Resources_annual_report_2011_2012.pdf).

<sup>705</sup> Community workshop on the application of mining permits held in Soutpan, Free State Province, South Africa (18 November 2014). Co-hosted by Mintek and the Department of Mineral Resources (DMR).

<sup>706</sup> Ledwaba op cit note 696 at 35.

<sup>707</sup> DMR op cit note 704.

<sup>708</sup> See section 27 of the Mineral and Petroleum Development Act 28 of 2002 (MPRDA).

certainly beyond the reach of artisanal miners.<sup>709</sup> Hence, despite the initial motivation of a mining permit being to make it easy and affordable, for the majority of aspirant miners the financial and bureaucratic requirements remain the largest barrier to entry.<sup>710</sup>

The final challenge for miners when it comes to obtaining mining permits concerns the time and space constraints prescribed in the mining permit provisions. It has been argued that the section 27 permit limitations regarding the duration of mining operations and the size of land to be mined prevent the sustainable growth of the sector.<sup>711</sup> The MPRDA provides that a mining permit is valid for a maximum period of two years, which can be renewed annually for a further three years.<sup>712</sup>

It has been argued that even with the allowance for renewal, five years is insufficient for profitable mining operations to be developed.<sup>713</sup> This is not encouraging for financial institutions in their assessment of whether to provide financial assistance to ASM operators.<sup>714</sup> While the 2013 Amendment Bill proposes an increase to seven years after renewals,<sup>715</sup> commentators have argued that this is still too limiting and discourages development of the sub-sector.<sup>716</sup> With limited guarantee of a profitable return within this short time, miners are unlikely to obtain loans for their operations.<sup>717</sup>

The size of the area that can be mined with a mining permit also weakens the financial sustainability of miners' small-scale operations. A mining permit limit the extent of the area to be mined to 1,5 hectares,<sup>718</sup> which has been argued to be too small for aspirant small-scale miners who mostly mine 'high bulk' mineral commodities such as salt, sand and granite.<sup>719</sup> To

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<sup>709</sup> SAHRC Report op cit note 666 at 26.

<sup>710</sup> Ledwaba op cit note 696 at 35at 36.

<sup>711</sup> Ibid at 37.

<sup>712</sup> Section 27(8)(a) of the MPRDA.

<sup>713</sup> Ledwaba & Nhlengetwa op cit note 694 at 34.

<sup>714</sup> P Ledwaba & N Mutemeri 'Preliminary Study on Artisanal and Small-Scale Mining in South Africa' (2017) Report prepared for Open Society Foundation for South Africa (OFS-SA) by the Centre for Sustainability in Mining and Industry (CSMI) at 17.

<sup>715</sup> Section 22(k) of the Mineral and Petroleum Resource Development Bill 15 of 2013.

<sup>716</sup> Ledwaba & Nhlengetwa op cit note 694 at 34.

<sup>717</sup> Olalde op cit note 697.

<sup>718</sup> Section 27(1)(b) of the MPRDA.

<sup>719</sup> Ledwaba & Mutemeri op cit note 714 at 17.

circumvent this issue, miners have begun applying for more than one permit to increase the size of the area.<sup>720</sup> In light of the cost implications for each application, this is not an appealing solution.

## 2.2 Licensing costs and financing

Another major reason deterring artisanal and small-scale operators from formalising their operations is the **costs of license applications**.<sup>721</sup> In Ghana, scholars<sup>722</sup> have repeatedly highlighted how the costly fees for ASM licenses and environmental permits keep miners in the informal economy.<sup>723</sup> This is also the case in Zimbabwe,<sup>724</sup> and in the Central African Republic where, beyond costly annual permits, artisanal miners also experience the financial burden of elevated taxes, state royalties, and rental costs.<sup>725</sup>

**Financing** is generally one of the main barriers limiting the growth of ASM projects.<sup>726</sup> Small-scale miners across Africa seek funding from donor organizations, government initiatives and middlemen,<sup>727</sup> who are usually buyers in the informal sector.<sup>728</sup> Financing is required for exploration (geological investigation) and operation, in the forms of loans and equity.<sup>729</sup> Financing of exploration to identify appropriate areas for artisanal or small-scale project is difficult in light of its quantum, the high risk nature of the projects, and the minimal direct benefit to the financier.<sup>730</sup> Finding government or donor organisations to fund these operations

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<sup>720</sup> Ledwaba op cit note 696 at 37.

<sup>721</sup> Hilson (2017) op cit note 669.

<sup>722</sup> See G Hilson & C Potter 'Structural adjustment and subsistence industry: artisanal gold mining in Ghana' (2005) 36(1) *Development and Change* 103; P Tschakert & K Singha 'Contaminated identities: mercury and marginalization in Ghana's artisanal mining sector' (2007) 38(6) *Geoforum* 1304.

<sup>723</sup> Hilson (2017) op cit note 669.

<sup>724</sup> See S Spiegel 'Shifting formalization policies and recentralizing power: the case of Zimbabwe's artisanal gold mining sector' (2015) 28(5) *Society & Natural Resources* 543.

<sup>725</sup> J Hinton et al 'Comparative Study: Legal and Fiscal Regimes for Artisanal Diamond Mining' (2010) Prepared by Tetra Tech for USAID, available at <http://www.levinsources.com/projects/comparative-analysis-of-legal-and-fiscal-regimes-for-artisanal-diamond-mining-in-central-african-republic>.

<sup>726</sup> S Mondlane Jr. 'ASM and LSM Relationship' (2010) Meeting document presented at the Global Forum on Artisanal and Small Scale Mining, Manila, Philippines, 7 December 2010, available at <http://wedocs.unep.org/handle/20.500.11822/12829>.

<sup>727</sup> The term 'middlemen' is the generally-accepted term in ASM literature to describe the individuals acting in between informal actors and formal buying markets in ASM sectors. A preferable term, however, is 'intermediaries', which will be used for the purpose of this dissertation.

<sup>728</sup> B Dreschler 'Small scale mining and sustainable development within SADC region' (2001) Minerals Mining and Sustainable Development (MMDS) Report No. 84 (August 2001).

<sup>729</sup> Mondlane op cit note 726 at 3.

<sup>730</sup> Ibid.

is also challenging because these institutions are only willing to offer equipment and working capital if there is proof that the ASM projects are viable.<sup>731</sup>

Loan finance, through government loan schemes, has been implemented in several countries.<sup>732</sup> This is generally facilitated by financial institutions and by using special purpose funds.<sup>733</sup> The main shortcoming of these loan schemes, however, is that their success is dependent on the recipients' ability to pay back the borrowed funds and create viable business plans.<sup>734</sup> There are other forms of finance available, including equity-based financial schemes, venture capital funds, investment banks funding, and unit trust or mutual funds.<sup>735</sup> The problem, however, is that these financial tools rely on the project being lucrative. In general, the average artisanal or small-scale miner lacks the business skills and market knowledge to create successful business plans that result in profitable projects.<sup>736</sup>

The consequence of these financial challenges is that informal ASM operators can become caught in negative cycles of cause and effect.<sup>737</sup> The use of inadequate mining and processing techniques results in low productivity of operations and low recovery of valuable minerals. A low recovery of minerals, in turn, leads to low revenues and the inability to accumulate funds for investment.<sup>738</sup> These financial constraints prevent artisanal miners from improving their methods and acquiring appropriate equipment, and by consequence, they are restricted to crude and inefficient mining that results in poor health and safety conditions and environmental damage.<sup>739</sup>

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<sup>731</sup> Ibid.

<sup>732</sup> Including Zambia, Mozambique and South Africa.

<sup>733</sup> Mondlane op cit note 726 at 3.

<sup>734</sup> Ibid.

<sup>735</sup> Ibid.

<sup>736</sup> A Buxton 'Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help?' (2013) International Institute for Environment and Development (IIED) at 10.

<sup>737</sup> M Barry (ed) 'Regularizing Informal Mining: A Summary of the Proceedings of the International Roundtable on Artisanal Mining, May 17-19 1995' (1996) World Bank Industry and Energy Department Occasional Paper No. 6 at 4.

<sup>738</sup> Ibid.

<sup>739</sup> SAHRC Report op cit note 666 at 24.

### 2.2.1 Burkina Faso

Since the possession of an AAM license does not prevent the superposition of an exploration license by someone else, AAM license holders must pre-empt this happening by requesting a small-mine exploration license when operations become profitable.<sup>740</sup> The cost of an exploration license is double that of an AAM license. The cost of an industrial exploration license is 100 000 FCFA, whereas the cost of authorisation for artisanal mining is 50 000 FCFA.<sup>741</sup> If the AMM license holder lacks the financial capacity to obtain a small-mine exploration license they are challenged by the fact that an AAM license cannot be used as a financial guarantee for obtaining a bank loan.<sup>742</sup>

The non-existent value of an AAM license compared to an industrial exploitation permit is also evident when it comes to compensation paid by an exploration permit or mining license holder for excluding artisanal operators from working in that area. Legislation is not clear when it comes to how AAM holders are to be compensated, and since agreements between actors are not made public it is uncertain whether any compensation actually takes place.<sup>743</sup>

### 2.2.2 South Africa

There are few South African financial institutions in existence that provide financial assistance to small-scale miners, and the numerous financial and other uncertainties for these miners elevate the risk that their activities will not be profitable.<sup>744</sup> Such factors include a lack of knowledge of an area's mineral resource potential, the economic value and lifespan of a given deposit, the extent of the cash flow required, the skills and capacity needed, and market availability.<sup>745</sup> In South Africa, none of the three typical channels to access finance (government initiatives, donor organisations and intermediaries<sup>746</sup>) have been successful in offering sustainable support for the ASM sector.

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<sup>740</sup> Jaques et al 'Artisanal and small-scale gold mines in Burkina Faso: today and tomorrow' in Gavin M. Hilson (ed) *Small-scale Mining, Rural Subsistence and Poverty in West Africa* (2006) at 131.

<sup>741</sup> See Article 3(1) and 3(4) respectively of Decret No. 2017-0023/PRES/PM/MEMC/MINEFID portant fixation des taxes et redevances minières (on copy with author).

<sup>742</sup> Jaques et al in Hilson (2006) op cit note 740 at 131.

<sup>743</sup> Côte op cit note 678 at 4.

<sup>744</sup> Ledwaba op cit note 696 at 37.

<sup>745</sup> Ibid.

<sup>746</sup> Dreschler op cit note 728.

With respect to the past governmental initiatives, the National Steering Committee (NSC) of service providers was established in 2002<sup>747</sup> as a part of the National Small Scale Development Framework.<sup>748</sup> The members were various stakeholders in the mining industry, each possessing the unique skill-set to facilitate the support of ASM activities.<sup>749</sup> The mandate of the NSC was to produce economically viable small-scale mining projects,<sup>750</sup> with the provision of technical, financial and managerial support.<sup>751</sup> Funding for the projects was in the form of a loan that covered 90 percent of the costs, and the remaining ten percent was to be raised by the recipients.<sup>752</sup> This funding was designated for the purchase of equipment, to act as a guarantee for rehabilitation and to cover daily operational costs.<sup>753</sup> Also part of the strategy was to consolidate miners into their own small companies, and then establish ties with large neighbouring commercial mining firms that would assist with treatment of the ore.<sup>754</sup>

The programme was discontinued in 2007 after poor overall outcomes. This was mainly due to operators' inability to repay their loans,<sup>755</sup> which has been the shortfall of many funding initiatives launched in the past. One example was the government's establishment of a loan/private equity fund, the African Mining Fund, with the help of the International Finance Corporation in 2002.<sup>756</sup> The aim was to provide finance for small-scale operators whose capital requirements could not be met through normal financing methods.<sup>757</sup> The initiative was,

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<sup>747</sup> N Mutemeri & F Petersen 'Small-scale mining in South Africa: past, present and future' (2002) 26 *Natural resources forum* 286 at 287-288.

<sup>748</sup> Ledwaba op cit note 696 at 37.

<sup>749</sup> Participants included the then Department of Minerals and Energy, the Council for Geoscience, Mintek, (South Africa's national minerals research organisation) the Council for Scientific and Industrial Research, the South African Diamond Board, private mining companies, the Industrial Development Cooperation and the Minerals and Energy Policy Centre.

<sup>750</sup> Ledwaba & Nhlengetwa op cit note 694 at 33.

<sup>751</sup> Dreschler op cit note 728.

<sup>752</sup> Ledwaba op cit note 696 at 37.

<sup>753</sup> Ibid at 37.

<sup>754</sup> 'Maduna's pledge to South Africa's 3000 illegal mines' (26 February 1999) *Mining Weekly* available at <http://www.miningweekly.com/article/madunax2019s-pledge-to-south-africax2019s-3-000-illegal-mines-1999-02-26/searchString:Maduna%26rsquo%3Bs+pledge+to+South+Africa%26rsquo%3Bs+3+000+illegal+mines>.

<sup>755</sup> Ledwaba op cit note 696 at 37.

<sup>756</sup> The private sector lending organ of the World Bank Group.

<sup>757</sup> L Joseph 'IFC Provides Financing to Junior Mining Sector in South Africa' (29 August 2002) *International Finance Corporation* accessed on 29 October 2017, available at <https://ifcextapps.ifc.org/ifcext/pressroom/ifcpressroom.nsf/0/91AF43A22691289285256C240055F0B2?OpenDocument>.

however, dependent on the projects being profitable so that operators could pay back their loans.<sup>758</sup> Since the productivity levels of most operations were too low to generate profits, miners had no income to pay back the money they owed.

In 2006, the NSC was replaced by the Small Scale Mining Board, which handled 173 documented projects in total.<sup>759</sup> There is a lack of information about how these projects were supported both financially and technically.<sup>760</sup> The only update was released in 2015, namely that the then Department of Minerals and Energy (now the Department of Mineral Resources (DMR)) had allocated R15.1 million to developing small-scale mining projects.<sup>761</sup> Only 20 small-scale mining projects were assisted by these funds.<sup>762</sup> In response to the low viability of these operations, the DMR stopped the supply of funding to all small-scale mining projects.<sup>763</sup>

There are currently very few financial institutions and developmental agencies in South Africa assisting small-scale operators.<sup>764</sup> The Eastern Cape Development Corporation has a Business Support Unit that assists mining small, medium and micro enterprises (SMME's) with drafting business plans and conducting feasibility studies required by financial institutions.<sup>765</sup> However these useful services are only available to operators in the Eastern Cape Province. The Small Enterprise Finance Agency provides financial assistance to SMME's with junior miners identified as the particular target market.<sup>766</sup> However the requirement of providing collateral to secure loans from the agency hinders many small-scale operators from benefiting from their service.<sup>767</sup>

Without access to financial assistance ASM operators are unable to conduct market studies.<sup>768</sup> Lack of market knowledge is a key challenge faced by South African artisanal and small-scale

<sup>758</sup> Mondlane op cit note 726 at 3.

<sup>759</sup> Mutemeri, Sellick & Mtegha op cit 692.

<sup>760</sup> Ledwaba op cit note 696 at 37.

<sup>761</sup> I Solomons 'Artisanal, small-scale mining could stimulate huge socioeconomic benefits' (17 July 2015) *Mining Weekly* accessed on 30 October 2017, available at <http://www.miningweekly.com/print-version/artisanal-and-small-scale-mining-sector-needs-more-support---dmr-2015-07-17>.

<sup>762</sup> Ibid.

<sup>763</sup> Ledwaba op cit note 696 at 37.

<sup>764</sup> Ledwaba & Mutemeri op cit note 714 at 14.

<sup>765</sup> See 'Business Support' on the Eastern Cape Development Corporation, available at <http://www.ecdc.co.za/our-productservices/business-funding-and-support/>.

<sup>766</sup> See the Small Enterprise Finance Agency website, available at <http://www.sefa.org.za/contacts/apply>.

<sup>767</sup> Ledwaba & Mutemeri op cit note 714 at 14.

<sup>768</sup> Ibid.

miners.<sup>769</sup> Most small-scale operations are located far from major markets, and participants further lack the necessary marketing skills to operate competitively.<sup>770</sup> The only forms of marketing employed are referrals and word-of-mouth advertising, and the markets for ASM are small.<sup>771</sup> These comprise of individual customers and small businesses that are conducted in the surrounding areas.<sup>772</sup>

### 2.3 Lack of capacity, technology and know-how

Beyond the financial constraints, artisanal and small-scale miners are hampered by **restricted technical capacity and access to suitable technology**.<sup>773</sup> Miners are geographically marginalised by the lack of available transport to mineralised areas, but even if they can access these areas, they lack the proper infrastructure and equipment to operate.<sup>774</sup> Across the sub-Saharan Africa region, efforts to demarcate areas to prospective ASM licensees have been described as ‘pedestrian at best’.<sup>775</sup> Instead of proactively prospecting and reserving lands suitable for ASM, governments seem to be delaying any demarcation attempts, rather choosing to wait for mining and mineral exploration companies to dedicate sections for ASM operations.<sup>776</sup> In Ghana for example, despite there being a system of transferable mineral rights in place, the government relies on the goodwill of managers of individual mining companies to release unused sections of their concessions to small-scale operators. Similar phenomena<sup>777</sup> have been observed in Tanzania.<sup>778</sup>

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<sup>769</sup> Olalde op cit note 697.

<sup>770</sup> Ledwaba op cit note 696 at 37.

<sup>771</sup> Ibid.

<sup>772</sup> Ibid.

<sup>773</sup> SAHRC Report op cit note 666 at 24.

<sup>774</sup> Buxton op cit note 736 at 10.

<sup>775</sup> Hilson (2016) op cit note 761 at 15.

<sup>776</sup> Ibid.

<sup>777</sup> See further Hilson (2017) op cit note 669.

<sup>778</sup> See T Lissu ‘Conducive Environment’ for Development? Globalisation and the Politics of Plunder in Tanzania’s Mining Sector’ (2004) Report by Lawyers’ Environmental Action Team (LEAT), Dar es Salaam, available at [http://www.tanzaniagateway.org/docs/conductive\\_envirnments\\_for\\_development.pdf](http://www.tanzaniagateway.org/docs/conductive_envirnments_for_development.pdf); S Lange ‘Benefit Streams from Mining in Tanzania: Case Studies from Geita and Mererani’ (2006) Chr. Michelsen Institute (CMI) Report No. 11, available at T Lissu ‘Conducive Environment’ for Development? Globalisation and the Politics of Plunder in Tanzania’s Mining Sector’ (2004) Report by Lawyers’ Environmental Action Team (LEAT), Dar es Salaam, available at [http://www.tanzaniagateway.org/docs/conductive\\_envirnments\\_for\\_development.pdf](http://www.tanzaniagateway.org/docs/conductive_envirnments_for_development.pdf).

### 2.3.1 Burkina Faso

Burkina Faso's artisanal miners mine quartz veins from pits less than 30 metres deep.<sup>779</sup> Since these veins are less rich in gold than the shear-zone targets that were abundant in the past,<sup>780</sup> they are difficult to mine without explosives.<sup>781</sup> Moreover, the southern area of the county where much artisanal activity takes place is very humid, which can raise the water table to 10 metres below the surface.<sup>782</sup> This necessitates motor pumps to lower the water table, which, if not motorised, makes the work of artisanal miners extremely arduous and labour intensive.<sup>783</sup>

Since the crude artisanal mining techniques are usually productive only with grades in excess of 20 g/t gold, artisanal mining is a good indicator to aspirant industrial exploration license holders of an areas gold mineralization potential.<sup>784</sup> When artisanal miners operate in these areas however, the amount of gold they will be able to recover is only 20-40 percent, due to their rudimentary methods, technical constraints and high operating costs.<sup>785</sup> Furthermore, if miners are unable to obtain dynamite or mechanised mining tools they have to abandon mineralised veins for accessible wall rock structures and fracture zones which may be less rich.<sup>786</sup>

### 2.3.2 South Africa

Small-scale miners' inability to acquire technical skills sets back mining operations considerably.<sup>787</sup> The level of technology employed in the ASM sector is considered low.<sup>788</sup> It ranges from the use of basic tools<sup>789</sup> to limited forms mechanisation, and depends on high-intensity manual labour.<sup>790</sup> The lack of developed technology in South Africa's ASM sector has

<sup>779</sup> Jaques et al in Hilson (2006) op cit note 740 at 118.

<sup>780</sup> Ibid. The veins usually bear 5-30 grams of gold per tonne, compared to the shear-zone type targets which produced more than 50 grams of gold per tonne.

<sup>781</sup> Ibid.

<sup>782</sup> Ibid.

<sup>783</sup> Ibid.

<sup>784</sup> Luning op cit note 686 at 393.

<sup>785</sup> Jaques et al in Hilson (2006) op cit note 740 at 118.

<sup>786</sup> Ibid.

<sup>787</sup> Olalde op cit note 697.

<sup>788</sup> Chamber of Mines of South Africa 'Submission by the Chamber of Mines on Illegal Mining in South Africa' Workshop held by the Department of Mineral Resources in Johannesburg, 27 March 2017, available at <http://www.chamberofmines.org.za/industry-news/publications/presentations> at 4.

<sup>789</sup> See further R Thornton 'Zamazama, "Illegal: artisanal miners, misrepresented by the South African Press and Government' (2014) 1 *The Extractive Industries and Society* 128.

<sup>790</sup> Ledwaba op cit note 696 at 38.

been recognised to be caused partly by the lack of research on the sector, and partly because of the lack of funding to support the necessary research.<sup>791</sup>

In the Northern Cape for example, small-scale miners had the necessary experience in mining industrial minerals but lacked the earthmoving equipment to operate productively.<sup>792</sup> A 2015 survey conducted by the Mining Qualifications Authority<sup>793</sup> revealed that most small-scale mines throughout the country are without access to necessary training opportunities.<sup>794</sup> It was found that projects experienced difficulty when participants left to undergo off-site training, which could not be remedied by obtaining in-house training and expertise as this was too expensive.<sup>795</sup>

The ASM sector has seen the development of some technologies for operators mining gold.<sup>796</sup> The technology was developed with the aim of eliminating the use of mercury that is typically used in the process of recovering gold from mined ore. Although technically sound, it was difficult to encourage miners to substitute their mercury usage with the improved processes because of the cost involved.<sup>797</sup> Furthermore, miners' perceptions of the new technology have also played a role in their reluctance to adopt it. Such reluctance has been attributed to their lack of training and support, inadequate needs analysis, the cost of the equipment and a lack of consultation with operators.<sup>798</sup>

In response to the recognised need for training and skills in South Africa's ASM sector, Mintek<sup>799</sup> established the Artisanal and Small Scale Mining School in 2004. The initiative followed the introduction of Skills Development Act,<sup>800</sup> the MPRDA, and the South African

<sup>791</sup> Ibid.

<sup>792</sup> 'Maduna's pledge' *Mining Weekly* op cit note 754.

<sup>793</sup> 'Sector Skills Plan for the Mining and Minerals Sector' Submitted by the Mining Qualifications Authority (MQA) to the Department of Higher Education and Training, Final Submission Update 2015-2020, available at <http://www.mqa.org.za/sites/default/files/MQA%20SSP%20Final.pdf>.

<sup>794</sup> Ibid at 24.

<sup>795</sup> EE Research Focus 'Small Companies Survey: Diamond Processing, Jewellery Manufacturing, and Cement, Lime, Aggregates and Sand (CLAS) subsectors' (May 2011) Report to the MQA. See MQA Update (2014) at 24.

<sup>796</sup> Ledwaba op cit note 696 at 38.

<sup>797</sup> Ibid.

<sup>798</sup> N Mutemeri et al 'Capacity building for self-regulation of the artisanal and small-scale mining (ASM) sector: a policy paradigm shift aligned with development outcomes and a pro-poor approach' (2016) 3(3) *The Extractive Industries and Society* 653.

<sup>799</sup> South Africa's national research and technology organisations. See <http://www.mintek.co.za/corporate-profile/corporate-information/>.

<sup>800</sup> 97 of 1998.

Qualifications Authority Act.<sup>801</sup> The training school was established to offer ASM operators with the theoretical and practical training to mine minerals in a safe, efficient and environmentally-sustainable manner.<sup>802</sup> However, a 2014 evaluation of the 47 trainees indicated that none had managed to obtain mining permits for their operations due to the costs of the license application and a lack of financial resources.<sup>803</sup>

## 2.4 Lack of support

Findings<sup>804</sup> on the above challenges point to how they discourage hundreds of thousands of Africans from operating in the legal domain.<sup>805</sup> A key reason why these problems are exacerbated is that there is scarce capacity within governmental mining departments to enforce the frameworks in existence.<sup>806</sup> Often the lack of adequate operational resources and fiscal revenues makes it difficult for mining authorities to enforce regulations effectively.<sup>807</sup> If state institutions have difficulty in merely regulating the sector, it is unsurprising that they lack the capacity to provide institutional support. Without assistance in the license application process, or in obtaining financial and technical support, informality of ASM activities continues. The result is poor environmental, health, and safety standards, a loss of fiscal revenues, and perpetuates illegal operations.<sup>808</sup>

### 2.4.1 Burkina Faso

By contrast, there have been significantly less government-led efforts to support ASM operations in Burkina Faso, even though there are challenges in need of redress. These are specific to the unique context in which artisanal and small-scale operations exist in the country.<sup>809</sup> One characteristic of this context is the highly centralised nature of the regulation of the mining sector. All mineral resources in Burkina Faso belong to the State, and the power

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<sup>801</sup> 58 of 1995.

<sup>802</sup> See 'SSMB Training School' *Mintek* website, available at <http://www.mintek.co.za/technical-divisions/small-scale-mining-beneficiation/ssmb-training-school/>.

<sup>803</sup> T Legoale 'Monitoring and evaluation of previously trained SMMEs' (2014) Mintek, South Africa.

<sup>804</sup> G Hilson & C Potter 'Structural adjustment and subsistence industry: artisanal gold mining in Ghana' (2005) 36 (1) *Development and Change* 103.

<sup>805</sup> G Hilson 'Small-scale mining, poverty and economic development in sub-Saharan Africa: An overview' (2009) 34 *Resources Policy* 1 at 4.

<sup>806</sup> World Gold Council 'Artisanal and Small-Scale Mining' available at <http://www.gold.org/gold-mining/responsible-mining/artisanal-and-small-scale-mining>, accessed on 12 April 2017.

<sup>807</sup> Barry op cit note 737 at 4.

<sup>808</sup> Ibid.

<sup>809</sup> See Chapter 3 para 5.3.

to allocate mining licenses rests only with the central authorities.<sup>810</sup> Instead of prioritising support to *orpaillage* operators, it has been suggested that government officials were involved in allocating permits to specific Burkina entrepreneurs who had good connections with the Compaoré regime.<sup>811</sup>

Considering the significant number of Burkinabe entrepreneurs that historically have worked for the state,<sup>812</sup> further research is needed to properly determine the continuities in power relations in the Burkinabe mining regime.<sup>813</sup> Evidence suggests that the centralisation of power in national officials prevents supportive formalisation efforts to be initiated by municipal authorities. Locally-elected municipal authorities only have a consultative role when it comes to the granting of AAM licenses, and hence the rural communities they represent have no say in the granting of AAM licenses over the area they live and work in.<sup>814</sup> In this scenario, rural authorities offer their consent without fully understanding the implications, which can be problematic given the potential for conflict between AAM or *comptoir* staff and *orpaillage* operators.<sup>815</sup>

#### 2.4.2 South Africa

The lack of institutional support for South Africa's ASM sector was identified as one of the critical gaps inhibiting the development of the sector in the Mining, Minerals and Sustainable Development (MMSD) report.<sup>816</sup> The report argued that collaborative partnerships between government bodies, educational institutions, private companies, and donor organisations are required to address the needs of the ASM sector.<sup>817</sup> The justification given for this argument was that the challenges experienced in the ASM sector are interrelated, which demands a collaborative approach for their resolution.<sup>818</sup>

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<sup>810</sup> Côte op cit note 678 at 5.

<sup>811</sup> Blaise Compaoré was president of Burkina Faso from 1987 to 2014.

<sup>812</sup> Jaques et al in Hilson (2006) op cit note 740 at 129.

<sup>813</sup> Luning op cit note 686 at 396.

<sup>814</sup> Côte op cit note 678 at 5.

<sup>815</sup> Ibid.

<sup>816</sup> Hentschel, Hruschka & Priester op cit note 673.

<sup>817</sup> Ledwaba op cit note 696 at 38-39.

<sup>818</sup> Ibid at 39.

One major challenge that requires institutional support is the lack of information available to ASM sector participants.<sup>819</sup> Small-scale miners lack the vital information needed to identify the location of minerals, to understand the geology and determine mineral quality, to carry out technical mining practices and processing operations, to navigate legislation and regulatory-related issues, and to ensure their compliance with health and safety and environmental obligations.<sup>820</sup>

It was in response to recognition of these barriers that the government, through the Department of Minerals and Energy, established several support structures for the development of the ASM sector, which have been discussed above.<sup>821</sup> In addition to these programmes, related institutions created assistance programmes to further the development initiative.<sup>822</sup> Qualifications, learnerships and skills programmes were introduced by the Mining Qualifications Authority (MQA),<sup>823</sup> which involved 350 learners across nine provinces.<sup>824</sup>

However, the MQA has reported that the training was discontinued because its impact on the sector was not determinable.<sup>825</sup> This lack of information on the impact of ASM support programmes has been a common trend over time.<sup>826</sup> The knowledge gap makes it difficult to measure the progress and successes of the initiatives with respect to the sector's

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<sup>819</sup> This was identified by the Department of Minerals 'A Minerals and Mining Policy for South Africa. Department of Minerals Resources' (2012) Mining Permit Applications Database in Ledwaba op cit note 696 at 39.

<sup>820</sup> Hentschel, Hruschka & Priester op cit note 673.

<sup>821</sup> As mentioned above, these include the National Small Scale Development Framework (1999), National Steering Committee of Service Providers (NSC) (2000), Small Scale Mining Directorate (2004), and Small Scale Mining Board (2006).

<sup>822</sup> Ledwaba op cit note 696 at 39.

<sup>823</sup> M Solomons 'The rise of resource nationalism: A resurgence of state control in an era of free markets or the legitimate search for a new equilibrium?' (2010) Study to inform multi stakeholder dialogue on state-participation in mining held by Southern African Institute of Mining and Metallurgy (SAIMM) in Johannesburg, available at <http://www.saimm.co.za/Conferences/ResourceNationalism/ResourceNationalism-20120601.pdf>.

<sup>824</sup> Mining Qualifications Authority (MQA) 'Sector skills plan for the mining and minerals sector' (2014) submitted by the Mining Qualifications Authority (MQA) to the Department of Higher Education and Training Update 2015-2020 at 27.

<sup>825</sup> Ledwaba op cit note 696 at 39.

<sup>826</sup> A study conducted on small-scale mining in KwaZulu-Natal revealed that the poor performance of mining operations was due to a lack of skills and capacity within the Department of Mineral Resources, a lack of continuity of support, and poor stakeholder communication and co-ordination. See A Marriott 'Extending health and safety protection to informal workers: an analysis of small scale mining in KwaZulu-Natal' (2008) Research report no. 76. School of Development Studies, University of KwaZulu-Natal. January 2008.

development.<sup>827</sup> The consequence is that, despite the challenges being identified, it is not always clear why the initiatives failed to redress them.<sup>828</sup>

### 3 Consequences of restricted access

Linked to, or rather perpetuated by, the above challenges is the complex relationship between ASM and poverty.<sup>829</sup> Research has shown that many artisanal miners are trapped in a cycle of impoverishment that is perpetuated by indebtedness to corrupt gold buyers or various intermediaries.<sup>830</sup> In the absence of formal support, these operators exploit their advantageous position and provide loans on inequitable terms.<sup>831</sup> A study<sup>832</sup> in Ghanaian gold ASM camps illustrated how miners accumulate expenses amounting to thousands of dollars, and are powerless to pursue legalization until the debts are paid.<sup>833</sup> Similar to the Ghanaian context, artisanal miners operating informally in other African gold mining are also vulnerable to exploitation in trade because they do not secure the best prices for the gold-bearing ore they mine.<sup>834</sup> Desperate for an income, artisanal miners have little choice but to accept a price for their gold that can be as little as 70 percent of the internationally agreed price.<sup>835</sup>

This outcome is particularly evident in the South African context. Without financial support from the government or donor organisations, small-scale operators in South Africa are reliant on intermediaries. For aspirant or existing small-scale operators, their lack of market knowledge and funding forces them to engage with these individuals to market their minerals.<sup>836</sup> Miners enter into exploitative contracts with intermediary buyers who invest capital and equipment into the mining operations, and then demand that products are sold to them exclusively for pre-

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<sup>827</sup> Ledwaba op cit note 696 at 39.

<sup>828</sup> Pinpointing the reasons for such failings is vital if we want to avoid making the same mistakes in future support programmes and policies. This argument is expanded on in Chapter 7: Recommendations and areas for future research.

<sup>829</sup> Hilson (2006) op cit note 664 at 1.

<sup>830</sup> Ibid.

<sup>831</sup> Hilson (2009) op cit note 805 at 3.

<sup>832</sup> See S Banchiriga 'Challenges with eradicating illegal mining in Ghana: a perspective from the grassroots' (2008) 331(1) *Resources Policy* 28.

<sup>833</sup> Ibid.

<sup>834</sup> Buxton op cit note 736 at 10.

<sup>835</sup> Ibid.

<sup>836</sup> SAHRC Report op cit note 666 at 24.

determined prices.<sup>837</sup> These are often lower than the market value, but miners' ignorance or desperation often leaves them with no alternative.<sup>838</sup> This unequal bargaining power at play is apparent in numerous African jurisdictions.<sup>839</sup>

The unavailability of capital partly explains the appeal of operating illegally as a *Zamazama*, as there is virtually no cost of entry into the illegal sector.<sup>840</sup> However, these miners are then dependant on illegal syndicates whose organisational structures facilitate the sale of resources into the market through illicit channels.<sup>841</sup> As miners are on the 'bottom rung' of the complex hierarchy of actors,<sup>842</sup> by the time everyone else is paid they receive little for their work that risks their lives on a daily basis.<sup>843</sup> In this way, they are caught in a cycle of poverty that it is perpetuated by the illegal syndicates they are a part of, and rely on, for survival.<sup>844</sup>

Similar consequences of restricted access to the formal sector are also evident in Burkina Faso where, without formal support, artisanal miners find it less exploitative to operate informally. Since *orpaillage* miners form the labour force of AAM holders or *comptoirs*, they are obliged to sell gold to them at a price that is often lower than what they could receive on the black market.<sup>845</sup> Artisanal miners working in the licensed AAM sites of wealthy Burkinabe entrepreneurs end up being disempowered,<sup>846</sup> which perpetuates the state of poverty that initially caused them to turn to artisanal mining.

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<sup>837</sup> Ledwaba op cit note 696 at 37.

<sup>838</sup> G Hilson *The Socio-Economic impacts of Artisanal and Small-Scale Mining in Developing Countries* (2005) at 258.

<sup>839</sup> See P Ledwaba et al 'Understanding the small-scale mining industry in the Northern Cape – Primary focus on tiger's eye' (2014) 114(11) *Journal of the Southern African Institute of Mining and Metallurgy* 881; Olalde op cit note 697.

<sup>840</sup> R Thornton 'Artisanal Mining in South Africa and Zimbabwe: regional patterns of economic and cultural exclusion/inclusion' (2017) Draft copy from Interdisciplinary Conference on Extraction & Exclusion, St Andrew's College, Oxford, 19-20 October 2017.

<sup>841</sup> David Oliveira 'Lawyer calls for zama-zamas to be brought into formal mining fold' 59 June 2017) *Mining Weekly* accessed on 12 October 2017, available at <http://www.miningweekly.com/article/make-zama-zamas-mainstream-attorney-2017-06-09>.

<sup>842</sup> Moosa op cit note 694.

<sup>843</sup> Nadia Lepak 'A day for the zama zamas: Illegal gold mining in South Africa' (20 September 2017) *Mining.com* accessed on 16 October 2017, available at <http://www.mining.com/a-day-for-the-zama-zamas-illegal-gold-mining-in-south-africa>.

<sup>844</sup> Hilson (2005) op cit note 838 at 258.

<sup>845</sup> Côte op cit note 678 at 4.

<sup>846</sup> *Ibid.*

This creates the incentive for artisanal miners to seek work elsewhere in areas without AAM licenses, which simply fuels the illegal sector.<sup>847</sup> It also fuels the negative perception of *orpaillage* activities that is generally held by the public. In light of the conflict between artisanal *orpaillage* miners and AAM staff,<sup>848</sup> the miners have a negative reputation, which in turn, perpetuates the stigmatization of artisanal mining as an illegitimate practice.<sup>849</sup>

## 4 Conclusion

The above chapter illustrates how many of the negative consequences of ASM are the product of bureaucratic and costly regulatory procedures, which prevent artisanal and small-scale miners from entering the formal mining industries.<sup>850</sup> In South Africa, where there is no provision for artisanal mining, only the challenges faced by small-scale operators have been documented. Furthermore, the lack of adequate support has allowed the same challenges identified over a decade ago to persist today.<sup>851</sup> They are access to mineral rights,<sup>852</sup> access to funding, access to markets, technology and skills, and institutional support.

The same challenges are experienced by artisanal miners in Burkina Faso, but the unique way in which license holders interact differentiates the ASM sector. While the enabling legislation does provide for artisanal mining authorisation, these licenses are held by gold buyers, and not the artisanal miners themselves. Hence, like in South Africa, artisanal miners have no recourse to legal rights, despite being recognised by the legislation. There are also many difficulties for artisanal gold buyers who face the possibility of being evicted from gold mining areas by exploration permit and industrial mining license holders because no security is provided for by the legislation. These shortcomings point to how the Burkinabe mining laws are unfavourable as guiding instruments for the legislative amendment of South Africa's mining provisions.

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<sup>847</sup> M Côte 'What's in a right? The liberalisation of gold mining and decentralisation in Burkina Faso' (2013) Land Deals Politics Initiative Working Paper Series, Working Paper No. 25, available at [http://www.iss.nl/fileadmin/ASSETS/iss/Research\\_and\\_projects/Research\\_networks/LD\\_PI/LD\\_PI\\_WP\\_25.pdf](http://www.iss.nl/fileadmin/ASSETS/iss/Research_and_projects/Research_networks/LD_PI/LD_PI_WP_25.pdf).

<sup>848</sup> See Chapter 4 para 2.3.1.

<sup>849</sup> Côte op cit note 678 at 5.

<sup>850</sup> For a general discussion, see S Seigel & M Veiga 'Artisanal and small-scale mining as an extralegal economy: De Soto and the redefinition of "formalization"' (2009) 34 *Resources Policy* 51.

<sup>851</sup> Ledwaba op cit note 696 at 40.

<sup>852</sup> Which in the context of ASM refers to the application for a mining permit.

It is the argument of this dissertation that such legislative amendment is required for the redress of the challenges faced by ASM operators, and effective support initiatives and policy reform must equally be prioritised. The next chapter canvasses the main arguments proposed in favour of improved legislative regulation and accompanying support of the largely informal ASM sector in Africa generally, and then specifically in South Africa.

# CHAPTER SIX: THE CASE FOR FORMALISING ARTISANAL MINING IN SOUTH AFRICA

## 1 Introduction

Addressing the challenges faced by informal ASM miners wanting to enter the formal, regulated mining sector will assist miners to operate legally and enable them to benefit from governmental support.<sup>853</sup> On the premise that such support is needed to help miners operate sustainably, and to redress negative health and safety, environmental, and criminality issues,<sup>854</sup> this chapter motivates for both improved legislative regulation, and government-led support, in South Africa's ASM sector.

There is already considerable support for the legalisation of the artisanal mining 'subsector' that is currently illegal in South Africa and not provided for in legislation.<sup>855</sup> A further, associated need is to support small-scale mining initiatives that are struggling to operate sustainably and meet the mining permit obligations.<sup>856</sup> Focusing on these two aspects – legalising artisanal mining and improving support for small-scale mining – is needed to formalise the ASM sector so as to redress of the issues and challenges articulated above, which include illegality, health/safety and environmental issues, conflict between ASM miners and large-scale mining companies, and miners' lack of financing, technology and market knowledge needed to operate profitably. The chapter further argues that the formalisation of the ASM sector could create employment opportunities for retrenched mineworkers, and finally that the promotion of the ASM sector speaks to the transformative goals of the MPRDA.

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<sup>853</sup> See Chapter 5 para 2.4.

<sup>854</sup> J Love 'Report of the SAHRC Investigative Hearing: Issues and Challenges in relation to Unregulated Artisanal Underground and Surface Mining Activities in South Africa' (2015) available at <https://www.sahrc.org.za/home/21/files/Unregulated%20Artisanal%20Underground%20and%20Surface%20Mining%20Activities%20electronic%20version.pdf> (the SAHRC Report) at 24.

<sup>855</sup> Ibid at 6.

<sup>856</sup> Such as sandstone small-scale mining projects operating in the Free State. See P Ledwaba 'The status of artisanal and small-scale mining sector in South Africa: tracking progress' (2017) 117 *The Journal of the Southern African Institute of Mining and Metallurgy* 33 at 49.

## 2 Calls for formalisation of the ASM sector through improved legislative regulations

As ASM expanded rapidly through sub-Saharan Africa, government officials expressed the need for policy to facilitate the regulation of artisanal and small-scale activities.<sup>857</sup> These efforts were continued by scholars, donor agencies and policymakers who began advocating for formalisation in the ASM sector.<sup>858</sup> The main point of the previous chapter is that the same major shortcomings associated with the prevailing regulatory and policy approaches to formalising ASM sectors across Africa<sup>859</sup> are evident in the South African context. Namely, the failure of existing policies to address ASM's negative impacts<sup>860</sup> and the challenges faced by operators.<sup>861</sup>

A key area of research needed is the opportunity for legislative amendment, as support initiatives on their own will not be sufficient to formalise South Africa's ASM sector.<sup>862</sup> None of the efforts to formalise the sector have included the drafting of a legislative provision that recognises artisanal mining as a unique form of mining in the ASM sector.<sup>863</sup> The section below provides an overview and analysis of the lobby to recognise the rights of artisanal miners.

### 2.1 South African position: inadequate regulatory framework

One of the causes of the widespread informality of African ASM sectors has been recognised as the 'stifling' regulatory frameworks regulating mineral exploitation.<sup>864</sup> This restrictive nature

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<sup>857</sup> G Hilson (ed) 'Introduction: resuscitating the policy and research agenda for artisanal and small-scale mining' in *Small-Scale Mining, Rural Subsistence and Poverty in West Africa* (2006) at 1.

<sup>858</sup> Hilson et al 'Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Reconceptualising formalization and 'illegal' activity' (2017) 83 *Geoforum* 80; see International Labour Organisation (ILO) 'Social and Labour Issues in Small-Scale Mines: Report for Discussion at the Tripartite Meeting on Social and Labour Issues in Small-Scale Mines' (1999) ILO, Geneva; R Maconachie & G Hilson 'Safeguarding livelihoods or exacerbating poverty? Artisanal mining and formalization in West Africa' (2011) 35 (4) *Natural Resources Forum* 293.

<sup>859</sup> See G Hilson & J McQuilken 'Four decades of support for artisanal and small-scale mining in sub-Saharan Africa' (2014) 1 *The Extractive Industries and Society* 104; B Labonne 'Who is afraid of artisanal and small-scale mining (ASM)?' (2014) 1 *The Extractive Industries and Society* 121.

<sup>860</sup> Mutemeru et al 'Capacity building for self-regulation of the Artisanal and Small-Scale Mining (ASM) sector: A policy paradigm shift aligned with development outcomes and a pro-poor approach' (2016) 3 *The Extractive Industries and Society* 653.

<sup>861</sup> See Chapter 5.

<sup>862</sup> See P Ledwaba & K Nhlengetwa 'When policy is not enough: prospects and challenges of artisanal and small-scale mining in South Africa' (2016) 7(1) *Journal of Sustainable Development Law and Policy* 25.

<sup>863</sup> Ibid at 38.

<sup>864</sup> G Hilson 'Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: a critical overview' (2016) IIED Issue Paper (March 2016) at 17.

of mining regulatory frameworks prevalent in sub-Saharan Africa is also a feature of the South African context. The key outcome of the SAHRC investigative hearing on South Africa's unregulated artisanal mining activities was that the primary mining legislation, the MPRDA, does not adequately provide for artisanal mining.<sup>865</sup>

In its submission to the SAHRC panel, the Department of Mineral Resources insisted that artisanal miners are catered for in the form of a mining permit.<sup>866</sup> However the panel's findings were that the MPRDA does not provide for artisanal mining,<sup>867</sup> and that in practice, the permitting procedure has not promoted the development of artisanal mining in the way the 1998 White Paper<sup>868</sup> envisioned.<sup>869</sup> This is because the two types of mining are distinguishable,<sup>870</sup> but the legislation does not recognise these differences.<sup>871</sup> The MPRDA's mining permit only addresses the small-scale activities in the ASM sector, and they are often conflated with BEE small-scale mining initiatives.<sup>872</sup> The artisanal operations on the lower end of the ASM activity spectrum are excluded from the regulatory framework.<sup>873</sup>

Recently there have been numerous calls by several mining industry stakeholders in favour of the explicit provision for artisanal mining in the MPRDA. Beyond the motivations<sup>874</sup> presented by the panel members of the SAHRC investigative hearing into unregulated artisanal mining,<sup>875</sup>

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<sup>865</sup> SAHRC Report at 6. This finding is supported in South African scholarship. See M Hoadley and D Limpitlaw 'The Artisanal and Small-Scale Mining Sector & Sustainable Livelihoods' (2004) A paper presented at the Mintek Small Scale Mining Conference, 2004, 9 September, Nasrec, Johannesburg, Book of Proceedings at 4; Ledwaba & and Nhlengetwa op cit note 862 at 38.

<sup>866</sup> SAHRC Report op cit note 854 at 52.

<sup>867</sup> Ibid at 60.

<sup>868</sup> *White Paper: A Minerals and Mining Policy for South Africa* (GN 2359, 20 October 1998).

<sup>869</sup> SAHRC Report op cit note 854 at 6. It has been further argued by Hoadley and Limpitlaw that the wording of the 1998 White Paper (ibid) does not suggest that the government sees artisanal mining as having development potential. The authors argue that while the document highlights the advantages of *promoting, assisting and developing* small-scale mining, with respect to artisanal mining it merely provides that "resources need to be employed by the State to *control* artisanal mining as effectively as possible" (authors' emphasis). See Hoadley & Limpitlaw op cit note 865 at 4.

<sup>870</sup> As Chapter 2 explained, artisanal mining is the most basic form of mining using rudimentary tools and methods. Small-scale mining, by contrast, includes some level of mechanisation and often the use of machinery.

<sup>871</sup> Ledwaba & and Nhlengetwa op cit note 862 at 38.

<sup>872</sup> SAHRC Report op cit note 854 at 60.

<sup>873</sup> A Debrah, I Watson & D Quansah 'Drawing Parallels between Ghana's and South Africa's ASM Sectors: Lessons Learnt and Ways Forward' (Mining, Environment and Society Conference 2013) (2014) 114(6) *The Southern Institute of Mining and Metallurgy (SAIMM)*.

<sup>874</sup> In favour of the development of permitting and regulatory processes for artisanal mining. See SAHRC Report op cit note 854 at 12.

<sup>875</sup> In the SAHRC Report (ibid at 28) the panel submitted that the absence of policy indicates missed opportunities to enable artisanal mining as a self-employment activity, as well as a missed opportunity to explore how artisanal mining can be more inclusive in general.

other proponents include members of provincial government,<sup>876</sup> the South African Mine Rescue Services,<sup>877</sup> non-governmental organisations,<sup>878</sup> organised labour organisations,<sup>879</sup> corporate mining lawyers,<sup>880</sup> scholars<sup>881</sup> and artisanal miners themselves.<sup>882</sup>

The lack of regulation of artisanal mining is not the only aspect of the MPRDA that bars ASM participants from entering the formal sector. The second shortfall of the legislation is that the requirements in the mining permit, which must be obtained by small-scale operators to operate legally, are too onerous to meet.<sup>883</sup> The result is that small-scale miners, too, are barred from becoming formal operators, as they lack the financial or technological means<sup>884</sup> to obtain a permit.<sup>885</sup> Since they operate informally, miners cannot benefit from the Small-Scale Mining Directorate's assistance.

The consequence is that despite the existence of enabling mining legislation, it cannot be utilized by small-scale operators because of their inaccessibility to the governmental support<sup>886</sup> that is essential for sustainable operations.<sup>887</sup> Adding to these difficulties is the 'technically

<sup>876</sup> At a roundtable discussion on illegal mining held in June, the MEC of the Gauteng Community Safety Department, Sizakele Nkosi-Malobane, argued that one of the problems contributing to illegal mining is the DMR's failure to effectively implement mining legislation. See Masego Rahlaga 'Illegal mining could cripple economy' (14 June 2017) *iafrica.com* available at <http://business.iafrica.com/news/1051361.html> accessed on 10 November 2017.

<sup>877</sup> In its submission at the Workshop on Illegal Mining in South Africa (29 March 2017), the Mine Rescue Services argued that one of the ways ASM can be promoted, within regulation, is through the amendment of existing laws. (Mine Rescue Services 'Submission by the Mine Rescue Services on Illegal Mining in South Africa' Workshop held by the Department of Mineral Resources in Johannesburg, 27 March 2017 (on file with author)).

<sup>878</sup> Including the Mining and Affected Communities United in Action (Macua), Kimberley Artisanal Mine Workers (KAMW) and the Green Revolutionary Council.

<sup>879</sup> Such as the National Union of Mineworkers.

<sup>880</sup> See D Oliveira 'Lawyer calls for zama-zamas to be brought into formal mining fold' 59 June 2017) *Mining Weekly* accessed on 12 October 2017, available at <http://www.miningweekly.com/article/make-zama-zamas-mainstream-attorney-2017-06-09>.

<sup>881</sup> R Thornton 'Zamazama, "Illegal: artisanal miners, misrepresented by the South African Press and Government' (2014) 1 *The Extractive Industries and Society* 127; Ledwaba & and Nhlengetwa op cit note 862 at 35; P Ledwaba & N Mutemeri 'Preliminary Study on Artisanal and Small-Scale Mining in South Africa' (2017) Report prepared for Open Society Foundation for South Africa (OFS-SA) by the Centre for Sustainability in Mining and Industry (CSMI); Hoadley & Limpitlaw op cit note 865.

<sup>882</sup> Artisanal miners, who are labelled as "Zamazamas" see themselves as 'children of the soil' and thus have a right to benefit from mineral wealth as the ANC's Freedom Charter provides. See L Ledwaba 'Zama zamas unite in bid for state to formalise small-scale mining' (23 August 2017) *Business Day* available at <https://www.businesslive.co.za/bd/companies/mining/2017-08-23-zama-zamas-unite-in-bid-for-state-to-formalise-small-scale-mining/> accessed on 19 November 2017.

<sup>883</sup> Ledwaba & and Nhlengetwa op cit note 862 at 35.

<sup>884</sup> Technological in the sense that they do not have access to computers to apply for a mining permit online.

<sup>885</sup> See Chapter 5 para 2.2 and 2.3.

<sup>886</sup> Such as the provision of skills, access to finance and equipment.

<sup>887</sup> K Hayes 'Regional Workshop: Small-scale Mining in Africa—A Case for Sustainable Livelihood' (2008) Common Fund for Commodities.

unworkable<sup>888</sup> aspects of the mining permit. This includes the limitation of the size of the mining area to 1.5 ha irrespective of the type of mineral being exploited.<sup>889</sup> Furthermore, the limitation of the duration of the permit,<sup>890</sup> and prohibition against its transfer,<sup>891</sup> make it difficult for miners to create a business plan for a feasible ASM project.<sup>892</sup>

The DMR recognised these shortcomings of the legislation recently in its plan to ‘amend and relax’ some of the mining permit requirements for small-scale miners.<sup>893</sup> This announcement follows the tentative progress towards reforming legislation made by the DMR in recent years.<sup>894</sup> This endorsement from the department itself validates the above arguments that legislative amendment is essential for the formalisation of the ASM sector. However there needs to be a commitment to legislative amendments, and the drafting of policy on how the ASM sector can be supported to ensure the sustainability and profitability of operations. It was this lack of effective long term support that stunted the development initiatives for the sector in the past<sup>895</sup> arguably because of the lack of research and data available<sup>896</sup> that was needed to ensure that support programmes adequately responded to the reality on the ground that there are different forms of mining within the ASM sector.

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<sup>888</sup> Mutemeri et al ‘Capacity building for self-regulation of the Artisanal and Small-Scale Mining (ASM) sector: A policy paradigm shift aligned with development outcomes and a pro-poor approach’ (2016) 3 *The Extractive Industries and Society* 653 at 654.

<sup>889</sup> See Chapter 5 para 2.1.2.

<sup>890</sup> Section 27(8)(a) of the Mineral and Petroleum Development Act (MPRDA) provides that a mining permit ‘is valid for the period specified in the permit, which may not exceed a period of two years, and may be renewed for three periods each of which may not exceed one year.

<sup>891</sup>Section 27(8) (b) of the MPRDA (ibid) provides that a mining permit ‘may not be transferred, ceded, let, sublet, alienated or disposed of, in any way whatsoever’.

<sup>892</sup> S Banchirigah ‘How have reforms fuelled the expansion of artisanal mining? Evidence from sub-Saharan Africa’ (2006) 31(3) *Resources Policy* 165–171.

<sup>893</sup> The announcement was made on behalf of the DMR by Deputy Minister of the Department of Mineral Resources Godfrey Oliphant at the workshop for ‘Combating illegal mining and promoting artisanal mining in South Africa’ in March 2017 hosted by the DMR and the State-owned Mine Health and Safety Council. See I Solomons ‘Government to “amend and relax” laws for small-scale miners in bid to combat illegal mining’ (24 March 2017) *Mining Weekly* available at [http://www.miningweekly.com/article/govt-rules-out-granting-mining-licences-to-zama-zamas-as-it-seeks-solutions-to-illegal-mining-2017-03-24/rep\\_id:3650](http://www.miningweekly.com/article/govt-rules-out-granting-mining-licences-to-zama-zamas-as-it-seeks-solutions-to-illegal-mining-2017-03-24/rep_id:3650) accessed on 19 November 2017.

<sup>894</sup> In its submissions in the 2016 SAHRC Report (op cit note 854 at 52) the DMR alluded to the possibility of future legislative amendment. It’s to the Panel’s question ‘Would some of the problems of unregulated artisanal mining be addressed by improving the legal framework?’ was that ‘there is always room to review legislation, to strengthen it.’

<sup>895</sup> See Chapter 5 para 2.4.2.

<sup>896</sup> SAHRC Report op cit note 854 at 59.

Today, the reality is that small-scale miners, who often work as small business organisations,<sup>897</sup> are characteristically distinct from artisanal operators, and hence the two types of ASM have different needs to be addressed.<sup>898</sup> Proponents of regulatory changes argue that the legislation needs to take account of the ‘continuum’ of ASM activities in a ground-up approach.<sup>899</sup> The drafting of policy for the support of the sector alone is insufficient to formalise the sector: they argue that legislative changes are necessary.<sup>900</sup> Once more, the inclusion of an artisanal mining provision would be essential for the Small-Scale Mining Directorate to help miners ‘become legal entities’, as it claims on the DMR website. By maintaining that the range of different ASM activities are accommodated by the MPRDA’s permit provision, an arguably ‘one-size-fits-all’ approach,<sup>901</sup> the DMR is preserving the informality of South Africa’s ASM sector.<sup>902</sup>

These two areas are in need of legislative amendment. Although they implicate artisanal and small-scale miners in different ways, both have the same consequence of perpetuating the illegal mining problem.<sup>903</sup> Without the explicit legislative accommodation for the unique activities of artisanal miners, they have no ‘legal status’,<sup>904</sup> and so their operations are automatically illegal.<sup>905</sup> For small-scale miners, the obligations of the current permit are too onerous to meet.<sup>906</sup> Hence, many small-scale operations are conducted without a state-granted permit, and are therefore illegal.<sup>907</sup>

There needs to be differentiation between the individuals who are illegal operators because they are excluded by the legislation, and those illegal operators who deliberately contravene the law

<sup>897</sup> In terms of the Schedule read with the definition of ‘small business’ in the National Small Business Act 102 of 1996. With respect to the mining and quarrying sectors, a small business organisation means an organisation of less than 50 employees, a turnover of less than R7.5 million and gross asset value of less than R4.5 million.

<sup>898</sup> Ledwaba & and Nhlengetwa op cit note 862 at 38.

<sup>899</sup> F Moosa ‘The case for giving zama zamas mining rights’ *Mail & Guardian* accessed on 26 October 2017, available at <https://mg.co.za/article/2017-09-05-the-case-for-giving-zama-zamas-mining-rights>.

<sup>900</sup> M Olalde, ‘Bringing South Africa’s Small-Scale Miners Out of the Shadows’ (2016) *Inter Press Service*, available at <http://www.ipsnews.net/2016/12/bringing-south-africas-small-scale-miners-out-of-the-shadows/> accessed on 4 October 2017.

<sup>901</sup> Moosa op cit note 899.

<sup>902</sup> Chapter 3 para 4.3.

<sup>903</sup> Illegal mining has been identified as a ‘national threat’ by the Chamber of Mines. See Chamber of Mines of South Africa ‘Illegal Mining’ (2017) Chamber of Mines website, accessed on 11 October 2017, available at <http://www.chamberofmines.org.za/work/illegal-mining>.

<sup>904</sup> Terminology adopted by the DMR. See Department of Mineral Resources ‘Small-Scale Mining’ *Department of Mineral Resources website*, available at <http://www.dmr.gov.za/small-scale-mining.html>.

<sup>905</sup> Chamber of Mines ‘Illegal Mining’ op cit note 903.

<sup>906</sup> SAHRC Report op cit note 854 at 52.

<sup>907</sup> In terms of section 5(4) of the MPRDA supra note 890.

by operating in illicit mining syndicates.<sup>908</sup> With respect to small-scale miners, who are catered for by a mining permit, this means improving the provisions to better suit their operations. For artisanal miners, who are not recognised by the MPRDA, a way to differentiate legal and illegal operators is through the recognition of artisanal miners' rights in the legislation.

### 2.2.1 The importance of rights recognition

In recognition of the need to include and not exclude operators from obtaining legal mining titles, scholars began building a case for 'rights recognition' as the key to formalisation of ASM sectors in sub-Saharan Africa.<sup>909</sup> Often associated with De Soto<sup>910</sup> and the legalist school of thought more broadly,<sup>911</sup> this approach argues that extending rights to artisanal miners is key to alleviating poverty, and reducing conflict between formal and informal ASM sectors.<sup>912</sup>

The rights recognition approach has gained majority support from scholars and practitioners in recent years.<sup>913</sup> A consensus has emerged that the redress of ASM challenges will not be successful by focusing separately on 'pollution abatement, capacity building, or technology transfer'.<sup>914</sup> Instead, the improvement of the economic, environmental and technical performance of ASM sectors depends on the legalisation of mining activities.<sup>915</sup> Many other policy reports similarly emphasize that successful economic progress in mining communities hangs on the recognition of miners' legal rights.<sup>916</sup> There is therefore overwhelming support

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<sup>908</sup> See Chapter 4 para 2.3.2.

<sup>909</sup> S Seigel & M Veiga 'Artisanal and small-scale mining as an extralegal economy: De Soto and the redefinition of "formalization"' (2009) 34 *Resources Policy* 51.

<sup>910</sup> H De Soto *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else* (2002); H De Soto *The Other Path: The Economic Answer to Terrorism* (2002).

<sup>911</sup> Hilson et al 'Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Reconceptualising formalization and 'illegal' activity' (2017) 83 *Geoforum* 80 at 89.

<sup>912</sup> Seigel & Veiga op cit note 909 at 53.

<sup>913</sup> For e.g. International Labour Organisation (ILO) 'Social and Labour Issues in Small-Scale Mines: Report for Discussion at the Tripartite Meeting on Social and Labour Issues in Small-Scale Mines' (1999) Geneva; Mining, Minerals and Sustainable Development (MMSD) 'Breaking New Ground: Mining, Minerals, and Sustainable Development' (2001) Earthscan Publications for IIED and World Business Council for Sustainable Development (WBCSD) London; A Pedro 'Mainstreaming Mineral Wealth in Growth and Poverty Reduction Strategies' (2004) UNECA, Addis Ababa (Policy Paper 1); A Pedro 'Minerals Cluster Policy Study in Africa: Pilot studies of South Africa and Mozambique' (2004) United Nations Economic Commission for Africa (UNECA) Addis Ababa; J Hinton 'Communities and Small Scale Mining: An Integrated Review for Development Planning' (2005) Mining Department, World Bank Group, Washington.

<sup>914</sup> Seigel & Veiga op cit note 909.

<sup>915</sup> Hinton op cit note 913 at 44.

<sup>916</sup> Seigel & Veiga op cit note 909.

from international commentators that the acquisition of legal and transferable titles is essential for the formalisation of informal ASM sectors.<sup>917</sup>

These arguments of international scholars have been recognised in the South African context in scholars' proposals for formalisation of the ASM sector. In the most recent and comprehensive study conducted on ASM in South Africa,<sup>918</sup> the authors' understanding of formalisation includes 'integrating informal mining activities by recognising local arrangements in legislation'.<sup>919</sup> This speaks to the reality that artisanal mining in South Africa is a unique and distinct activity from small-scale mining, and this distinction must be made in the legislative framework.

### 2.2.2 Motivation for formalisation

Once the rights of artisanal miners are specifically catered for in the MPRDA, and once the mining permit provisions better cater for the needs of small-scale miners, more operators can transition into the formal ASM sector.<sup>920</sup> The benefits of formalisation in the South African context are numerous, as illustrated below. Formalisation can help address illegal mining and facilitate job creation in a fragile economy. It can address health, safety and environmental issues, and the conflict between ASM operators and large-scale mining companies. It also would help to address the financial, technological and market knowledge challenges faced by operators. Finally, efforts to formalise the sector speaks to the transformative goals of the MPRDA.

#### 2.2.2.1 Addressing South Africa's illegal mining problem.

There are two ways in which improved regulation, through legislative amendment, can redress the national threat that illegal mining presents to the mining industry. The first way is to legislate distinctions between illegal mining actors. The second way is to balance the strictly punitive, yet unsuccessful, approach that has been implemented thus far.

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<sup>917</sup> M Veiga & C Beinhoff 'UNECA Centers: a way to reduce mercury emissions from artisanal gold mining and provide badly need training' 1997 20(4) *Industry and Environment* UNEP 49.

<sup>918</sup> Ledwaba & Mutemeri op cit note 881.

<sup>919</sup> Relying on the definition of formalisation in J McQuilken & G Hilson 'Artisanal and small-scale mining in Ghana. Evidence to inform an "action dialogue"' (2016) International Institute for Environment and Development (IIED) Country Report: Ghana (August 2016).

<sup>920</sup> See 'Figure 14: ASM triangle of Transformation' in Ledwaba & Mutemeri op cit note 881 at 22.

### 2.2.2.1.1 Creating legislated distinctions

In the South African context, the forms of illegality<sup>921</sup> associated with artisanal mining ranges from mining without legal authorisation, to miners' organised crime activities.<sup>922</sup> Since there is no artisanal mining provision in the MPRDA, artisanal miners are mistakenly identified or associated with members of illicit mining syndicates.<sup>923</sup> This is not to say that artisanal miners do not work for illicit syndicates, which they certainly do,<sup>924</sup> but not all of them.<sup>925</sup> Those who want to operate legally should have the opportunity to obtain a form of artisanal mining authorisation, which should be provided for in enabling mining legislation.<sup>926</sup>

This differentiation is an essential step to address illegal mining because individuals operating in the formal ASM sector receive the necessary support to sustain their livelihoods as legal artisanal operators.<sup>927</sup> Anthropological research has shown that beyond notions of illegality and criminality that *Zamazamas* have come to be associated with 'lies a panacea for sustainable livelihood development'.<sup>928</sup> This is evident in the case studies of *Zamazamas* whose practices illustrate business potential that, with proper foundation and support, could allow miners to lead sustainable livelihoods.<sup>929</sup> Drafting an artisanal mining provision will shift the long-held focus from artisanal mining's illegal status to the underlying reason why so many desperate individuals rely on this activity to earn a living.<sup>930</sup>

Among those desperate artisanal miners<sup>931</sup> are those who operate in the lowest tiers of illicit syndicate hierarchies.<sup>932</sup> While these miners operate willingly, they are often forced to do so

<sup>921</sup> SAHRC Report op cit note 854 at 24

<sup>922</sup> Ibid.

<sup>923</sup> Ledwaba & and Nhlengetwa op cit note 862 at 39. The authors argue that "There are undisputed similarities between the two activities and, hence there is a conflation between ASM and illegal mining."

<sup>924</sup> These individuals form the first tier of multinational illicit mining syndicates. Department of Mineral Resources 'Briefing to the Joint Portfolio Committees of Mineral Resources and Police on Measures Implemented to Combat Illegal Mining' 25 August 2017 at 5 (on file with author). See Chapter 4 para 2.3.2.

<sup>925</sup> Ledwaba & and Nhlengetwa op cit note 862 at 38.

<sup>926</sup> The MPRDA supra 890.

<sup>927</sup> See Chapter 5 para 2.4.2.

<sup>928</sup> P Nyoni 'Unsung Heroes? An Anthropological Approach into the Experiences of 'Zamazamas' in Johannesburg, South Africa' in Artwell Nhemachena *Mining Africa: Law, Environment, Society and Politics in Historical and Multidisciplinary Perspectives* (2017) at 134.

<sup>929</sup> Ibid at 139.

<sup>930</sup> See Chapter 4 para 2.3.2.

<sup>931</sup> Mine Rescue Services 'Submission' op cit note 877 at 19.

<sup>932</sup> The *Zamazama* artisanal miners often work at the bottom level of the complex operations of international criminal cartels. Findings show that often the profits are used to fund other syndicated criminal activities such as

out of the desperation to sustain themselves and their families.<sup>933</sup> Since they rely on intermediaries operating higher in the hierarchy to sell their gold at a cost lower than it's worth, they are kept in a poverty trap.<sup>934</sup> Government support, in the form of both an artisanal mining provision and the support to operate in the formal sector, could incentivise these *Zamazamas* to substitute their violent, hazardous and volatile lives underground for the safer, supported formal sector on the surface.<sup>935</sup>

An effort to legally recognise and regulate artisanal mining necessarily must be balanced with a simultaneous attempt to categorize and sanction illegal mining. Only then will legal, and illegal artisanal miners be distinguished in South African statutes. At present, South Africa has no explicit provision in the Criminal Procedure Act<sup>936</sup> that criminalises the act of mining illegally,<sup>937</sup> and also lacks a cohesive strategy to deal with illegal mining.<sup>938</sup> Without such initiatives illegal miners are not distinguished from artisanal miners, and there is no clear enforcement approach to deal with illegal mining and the detrimental consequences thereof. The absence of policy aimed to criminalise illegal mining represents a missed opportunity to effectively reduce the activities associated with illicit financial flows<sup>939</sup> that threatens the industry.<sup>940</sup>

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the smuggling of weapons, human trafficking and drugs. Chamber of Mines of South Africa 'Submission by the Chamber of Mines on Illegal Mining in South Africa' Workshop held by the Department of Mineral Resources in Johannesburg, 27 March 2017, available at <http://www.chamberofmines.org.za/industry-news/publications/presentations> at 3.

<sup>933</sup> See Prologue.

<sup>934</sup> SAHRC Report op cit note 854 at 24.

<sup>935</sup> It is submitted that the question of whether the legalisation of artisanal mining will in fact result in a sizeable number of illegal participants moving to the formal sector is one that requires further research, and is beyond the scope of this dissertation.

<sup>936</sup> 51 of 1977.

<sup>937</sup> Instead prosecution is based on trespassing laws, theft, money laundering or corruption. See J Munakamwe 'The interface between the legal and illegal mining processes: unpacking the value chain of illegally mined gold' (2015) Paper presented at the 10<sup>th</sup> GLU Conference, Washington D.C. (Sept/Oct 2015) at 4, available at [http://www.global-labour-university.org/fileadmin/GLU\\_conference\\_2015/papers/Munakamwe.pdf](http://www.global-labour-university.org/fileadmin/GLU_conference_2015/papers/Munakamwe.pdf).

<sup>938</sup> N Mutemeri, N Sellick, and H Mtegha 'What is the Status of Small-scale Mining in South Africa?' Discussion document for the MQA SSM Colloquium (August 2010) Centre for Sustainability in Mining & Industry (CSMI), University of the Witwatersrand at 4

<sup>939</sup> See Chapter 4 para 2.3.2.

<sup>940</sup> SAHRC Report op cit note 854 at 24.

### 2.2.2.1.2 Balancing the strictly punitive approach

The second way that legislative amendment will help address illegal mining is by adding a socio-economic focus to the strictly punitive approach that has been implemented thus far. The need for this balance has already been articulated by the Chamber of Mines in its submission to the SAHRC panel.<sup>941</sup> The Chamber argued that there needs to be an alignment of government's mandates in a balanced approach that, on the one hand, focuses on the development of the informal ASM sector, and on the other hand increases policing efforts of protection and enforcement.<sup>942</sup> To address the country's illegal mining problem in the past, a strictly punitive approach has been implemented without success.<sup>943</sup> This ineffective outcome is not, however, limited to South Africa, as it has been recognised in jurisdictions across the continent.

Scholars commenting on sub-Saharan Africa argue that the policing 'sweeps' of artisanal mining sites that forcibly remove informal artisanal miners<sup>944</sup> are problematic for at least two reasons. First, they are not a long term solution to the problem.<sup>945</sup> Since the sweeps are costly they are only carried out periodically, allowing artisanal miners to return and continue with their operations.<sup>946</sup> Second, the sweeps are counter intuitive with reference to the recognition that ASM sustains livelihoods and creates jobs, because it destroys whatever basic infrastructures that struggling miners have managed to put in place.<sup>947</sup> Historically these uses of force has been proven to deprive indigenous groups of important sources of income.<sup>948</sup>

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<sup>941</sup> Ibid at 31.

<sup>942</sup> Ibid at 31.

<sup>943</sup> The SAHRC panel submitted (ibid at 6) that the MPRDA and relevant government departments have failed to prevent illegal mining and the dangerous practices associated with it. It was also recognised by the DMR at the Meeting of the Standing Committee on Finance and Portfolio Committees on Trade & Industry, Mineral Resources and Police, session on Illicit Financial Flows, Base Erosion and Profit Shifting (30 August 2017), Assembly Chamber. As one of the 'gaps' and challenges in the redress of illegal mining, the DMR submitted that there are 'inconsistencies in the definitions of illegal mining and in 'the policy and legislative approach.'

<sup>944</sup> Often justified in terms of the applicable legislation, such as trespassing laws.

<sup>945</sup> S Banchirigah & G Hilson 'De-agrarianization, re-agrarianization and local economic development: re-orientating livelihoods in African artisanal mining communities (2010) 43(2) *Policy Sciences* 157 at 167.

<sup>946</sup> Ibid.

<sup>947</sup> Ibid.

<sup>948</sup> Gavin Hilson 'Small-scale mining, poverty and economic development in sub-Saharan Africa: An overview' (2009) 34 *Resources Policy* 1 at 4. In the case of Ghana, for example, it has been observed that the hiring of security forces to evict artisanal gold miners from company concessions is 'at best, short sighted, and at worst, promotes community abjection.'

The same reality is evident in South Africa. First, in many cases of police operations to clear unsealed mine shafts<sup>949</sup> and target refinery areas, *Zamazamas* simply return and begin operating anew.<sup>950</sup> Operations to seal open shafts conducted by the DMR and the Council for Geosciences, and the National Coordinating Strategic Management Team's objective to tackle illegal mining as a form of organised crime,<sup>951</sup> do not appear to have had the effect of eliminating or reducing illegal mining.<sup>952</sup> Second, illegal mining will continue as long as they can access the mineral resources that help to alleviate their socioeconomic problems.<sup>953</sup> Hence the ineffectual outcome speaks to the reality that little to no effort has been made to situate the emergence and persistence of illegal mining within South Africa's socio-political context.<sup>954</sup> Instead, the overarching approach has been to criminalise artisanal mining without focusing on its role as a source of livelihoods.<sup>955</sup> This aligns with the SAHRC panel's findings that that agencies responsible for addressing illegal mining are too focused on eliminating it, to the exclusion of other sustainable solutions.<sup>956</sup>

In addition to being ineffective, the strictly punitive approach to dealing with illegal mining is resource heavy. The SAHRC panel recognised that SAPS<sup>957</sup> does not have adequate capacity to address *Zamazama* activity, in terms of both human and financial resources.<sup>958</sup> Beyond the capacity of the police, the Chamber of Mines has identified that there are limited resources at the disposal of other law enforcement agencies like immigration authorities, border controls

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<sup>949</sup> Mine shafts may be unsealed either because they are operational under a mining right of a mining company, or because they are under 'care and maintenance', or they are shafts of an abandoned mine that have not yet been sealed by the DMR as a necessary part of rehabilitation. See further SAHRC Report at 62.

<sup>950</sup> I Chernick 'Zama zamas' illegal water usage is a major concern' (23 December 2016) accessed on 17 October 2017, available at <https://www.iol.co.za/news/south-africa/gauteng/zama-zamas-illegal-water-usage-is-a-major-concern-7268601>.

<sup>951</sup> These are the arrests and investigations into the value chain of organised criminal activity in the level three, four and five tiers of illegal mining syndicates that make up the national and international buyer market. They are conducted by the Chamber of Mines, assisted by the Standing Committee on Security, the South African Police Service, the National Coordinating Strategic Management Team and the Department of Mineral Resources, in collaboration with international agencies such as the United Nations Interregional Crime and Justice Research Institute, European police, Interpol and international embassies. See Chamber of Mines 'Illegal Mining' op cit note 903.

<sup>952</sup> SAHRC Report op cit note 854 at 59.

<sup>953</sup> Oliveira op cit note 880.

<sup>954</sup> See Chapter 3 para 4.

<sup>955</sup> Z Jinnah *Between a rock and a hard place: Informal artisanal gold mining in Johannesburg* (2016) Africa at LSE, available at <http://blogs.lse.ac.uk/africaatlse/2016/01/26/between-a-rock-and-a-hard-place-informal-artisanal-gold-mining-in-johannesburg/>.

<sup>956</sup> SAHRC Report op cit note 854 at 41.

<sup>957</sup> The South African Polices Services.

<sup>958</sup> SAHRC Report op cit note 854 at 64.

and prosecuting authorities.<sup>959</sup> Addressing the illegal mining problem from a strictly punitive perspective is therefore wasting limited financial resources if miners are simply continuing their operations unabated. Moreover, the criminal justice system does not have the capacity to deal with the numbers of illegal miners that are arrested and then released relatively quickly.<sup>960</sup>

Finally, the punitive approach that has been relied on thus far contradicts the approaches of other stakeholders in the mining industry.<sup>961</sup> As the previous chapter illustrated, there have been numerous efforts by the DMR to abide by its commitment to develop the ASM sub-sector made in the 1998 Minerals and Mining Policy.<sup>962</sup> At the workshop this year<sup>963</sup> the DMR expressed its commitment to ‘to finding a reasonable solution to regulate the artisanal mining sector in South Africa’.<sup>964</sup> At the same time that the DMR attempts to realise the potential of the ASM sector, however, the response of regulatory bodies like the SAPS has been to respond with schemes aimed at its elimination.<sup>965</sup>

Both the DMR and SAPS are members of the Gauteng Illegal Mining Stakeholders Forum, and one of the measures in the forum’s action plan to eradicate illegal operations includes the promotion of legitimate mining.<sup>966</sup> However the past efforts seem restricted to fragmented enforcement without any indication of a simultaneous intention to promote the formalisation of the ASM sector.<sup>967</sup> An approach that primarily concerns security interventions and law

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<sup>959</sup> Chamber of Mines of South Africa ‘Illegal mining: fact Sheet 2017’ at 1, accessed on 11 October 2017, available at <http://www.chamberofmines.org.za/industry-news/publications/fact-sheets/send/3-fact-sheets/386-illegal-mining>.

<sup>960</sup> Oliveira op cit note 880.

<sup>961</sup> SAHRC Report op cit note 854 at 26.

<sup>962</sup> Section 1.4.4.2 of the White Paper on Minerals and Mining Policy of South Africa provides that ‘The capacity of the DME will be enhanced to efficiently facilitate small-scale mining support on the broad spectrum of activities involved in such endeavours. The DME will further facilitate the establishment of a self-sustaining institutional support mechanism for small-scale mining.’ See *Minerals and Mining Policy* op cit note 868.

<sup>963</sup> Ibid.

<sup>964</sup> The DMR said that this regulation would only apply to surface artisanal mining projects and not those in underground areas.

<sup>965</sup> SAHRC Report op cit note 854 at 25.

<sup>966</sup> DMR Media Report ‘Media Statement on the Illegal Mining Incident at George Harrison Park Museum in Langlaagte in Gauteng Province and General Facts and Figures Around Illegal Mining’ (14 September 2016) at 3.

<sup>967</sup> This is despite the DMR’s insistence at meetings and briefings on illegal mining that ‘the promotion of legitimate small-scale mining’ is one of the measures to address the problem. See Department of Mineral Resources ‘Briefing to the Joint Portfolio Committees’ op cit note 924.

enforcement suggests that stakeholders consider all individuals involved in artisanal mining to be criminals.<sup>968</sup>

By looking at the issues associated with ASM strictly in terms of crimes,<sup>969</sup> its role as a source of livelihoods is side-lined.<sup>970</sup> This contradicts the DMR's commitment to promote legitimate ASM as a means to promote socio-economic development. The complex and far-reaching problem of illegal mining cannot, and will not, be addressed if the actions of the key stakeholders contradict each other. Implemented in isolation, enforcement measures will not sustainably address the problematic situation, especially if they are 'ad-hoc, reactive and uncoordinated'.<sup>971</sup> There needs to be simultaneous efforts to regulate the ASM sector through legislative amendment and support.<sup>972</sup> This will pave the way for a formalised sector that meaningfully contributes to South Africa's socio-economic development, as the part below illustrates.

### *2.2.2.2 Creating job opportunities in a fragile economic climate*

As an 'unrivalled employment engine', efforts aimed at eliminating ASM are misguided.<sup>973</sup> Artisanal mining is illegal in South Africa but the approach that prioritizes eradication over regulation has been implemented without a consideration of its socioeconomic basis.<sup>974</sup> The reality is that the country's unstable economy, rising poverty and unemployment has resulted in hundreds of thousands of individuals turning to illegal mining to sustain their livelihoods,<sup>975</sup> despite the fatal dangers that may accompany it.<sup>976</sup> However it is not only those working at the

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<sup>968</sup> SAHRC Report op cit note 854 at 64.

<sup>969</sup> Discussion after DTI submissions ibid at 47.

<sup>970</sup> Jinnah op cit note 955.

<sup>971</sup> This was the description given to the past enforcement measures implemented to address illegal mining by the Department of Mineral Resources at the Meeting of the Standing Committee on Finance and Portfolio Committees on Trade & Industry, Mineral Resources and Police, session on Illicit Financial Flows, Base Erosion and Profit Shifting, held at Assembly Chamber on 30 August 2017 (on file with author).

<sup>972</sup> SAHRC Report op cit note 854 at 64.

<sup>973</sup> Hilson (2016) op cit note 864 at 17.

<sup>974</sup> See Chapter 3 para 4.

<sup>975</sup> SAHRC Report op cit note 854 at 6; Chamber of Mines of South Africa 'Illegal mining: fact Sheet 2017' op cit note 959.

<sup>976</sup> Such as those individuals working in abandoned, closed or operational gold mining shafts. Chamber of Mines 'Submission' op cit note 932 at 3.

bottom of illicit mining hierarchies, but all individuals working without a mining permit in the so-called ‘informal sector’.<sup>977</sup>

Urgent formalisation of South Africa’s ASM sector, through legislative amendment and the provision of support, is essential to create job opportunities as alternatives to illegal mining.<sup>978</sup> Until all the underlying factors contributing to illegal mining are addressed, any approach will be addressing only the symptoms of the problem.<sup>979</sup> Unemployment as a result of business rescue and liquidation of mining companies has been recognized as one of the key factors fuelling illegal mining.<sup>980</sup> Such job losses, along with recent successful mine closure efforts,<sup>981</sup> has resulted in an increase in illegal mining in operational mines.<sup>982</sup>

With a significant number of retrenchments envisioned for 2018,<sup>983</sup> there needs to be greater effort to promote the legitimate small-scale mining of surface resources, including industrial minerals, which offers job opportunities for unemployed miners.<sup>984</sup> If artisanal mining were legislated, industrial mineral deposits would be particularly conducive to artisanal exploitation.<sup>985</sup> Working formally, both artisanal and small-scale miners would benefit from the increased wages they would receive in comparison to working in illegal syndicates. This is because illegal Zamazama artisanal miners serve organised criminal bosses who take the bulk

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<sup>977</sup> SAHRC Report op cit note 854 at 65.

<sup>978</sup> The Department of Minerals has submitted that areas where illegal mining takes place are marked by high unemployment, as the activity appeals to most unemployed individuals in need of a means to survive (Department of Mineral Resources ‘Joint Briefing Session: Portfolio Committees of Police and Mineral Resources – Tackling Illicit Mining Activities Impacting South Africa’, 16 August 2017 (on file with author). While the DMR sees the number of employment opportunities it has created as a result of rehabilitation, restoration and sealing of shafts as an ‘achievement’, the numbers are relatively insignificant. A total of 526 jobs were recorded for 2017 in DMR ‘Briefing to the Joint Portfolio Committees’ op cit note 924.

<sup>979</sup> Mine Rescue Services ‘Submission’ op cit note 877 at 30.

<sup>980</sup> DMR ‘Briefing to the Joint Portfolio Committees’ op cit note 924.

<sup>981</sup> In its submission at the Workshop on Illegal mining in South Africa (27 March 2017) the Mine Rescue services submitted that “stricter controls and closures by the DMR and mining sector has successfully narrowed the number of places available for illegal miners to work” Mine Rescue Services ‘Submission’ op cit note 877.

<sup>982</sup> This is largely prevalent in the Free State Harmony Gold mines as discussed in DMR ‘Joint Briefing Session’ op cit note 978.

<sup>983</sup> In its submission to the SAHRC panel (op cit note 854 at 49) the Department of Labour stated that “It has been suggested that there will be around 145,000 job losses in the mining industry over the coming years.”

<sup>984</sup> This was one of the proposals put forward during the Illegal Mining Seminar held by the DMR in March 2017. See DMR ‘Joint Briefing Session’ op cit note 978.

<sup>985</sup> Industrial minerals are suitable for both artisanal and small-scale mining since they are found near the surface, simple to mine, and can be extracted using basic equipment and machinery. See N Dlambulo & R Motsie ‘Industrial minerals overview. South Africa’s Minerals Industry’ (2014) Department of Mineral Resources, Pretoria.

of the profits, so they do not receive the real value of their efforts.<sup>986</sup> The prospect of increased and secure profits could incentivise individuals work within formal regulations, as opposed to the informal structures that leave them indebted others and hence stuck in a ‘poverty trap’.<sup>987</sup>

In addition to better personal incomes for miners themselves, experience in other countries suggests that the ASM sector will present economic benefits for the country as a whole.<sup>988</sup> To get an idea of what potential ASM presents, the negative financial and social implications of illegal mining<sup>989</sup> can be inverted to have a positive impact if miners are formalised. Most importantly this takes the form of revenue generation for the state through the payment of taxes.<sup>990</sup> Finally, the growth of a formalised ASM sector could contribute to the sustainability of the precarious mining industry in ways which large-scale mining cannot, since mining productivity for industrial minerals<sup>991</sup> is less sensitive to fluctuations in commodity prices.<sup>992</sup>

### *2.2.2.3 Addressing health and safety and environmental issues*

Chapter 4 illustrates how the environmental, health and safety issues that accompany ASM activities pose a serious threat to the miners themselves, to surrounding communities, and other stakeholders in the industry.<sup>993</sup> Generally it is these negative consequences that gain the focus of regulatory bodies, and not the corresponding need to create policy for their redress.<sup>994</sup> This has left the majority of ASM participants operating outside of the law, which decreases access to health and safety services.<sup>995</sup>

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<sup>986</sup> Chamber of Mines ‘Illegal mining: fact Sheet 2017’ op cit note 959 at 1.

<sup>987</sup> See Chapter 4 para 2.3.2.

<sup>988</sup> Ledwaba op cit note 856 at 40.

<sup>989</sup> The estimation of the loss in state revenues to illegal mining for the 2017 financial year is over R7 billion. See Chamber of Mines ‘Illegal mining: fact Sheet 2017’ op cit note 959 at 3.

<sup>990</sup> Hoadley & Limpitlaw op cit note 865 at 4.

<sup>991</sup> Such as slate, sand, clay, sandstone, dolerite and granites, which make up the mined commodities for 90% of small-scale mining enterprises in South Africa. See Statistics South Africa ‘Mining: Production and sales (Preliminary) (March 2015) Statistical Release P2041, available at <http://www.statssa.gov.za/publications/P2041/P2041March2015.pdf>; Mutemeri, Sellick & Mtegha op cit note 938 at 8.

<sup>992</sup> Ledwaba argued that the industrial minerals sector’s potential to diversify the country’s mineral portfolio is appealing in economic downturns that see the high-value mineral commodities like gold and platinum performing poorly. See Ledwaba op cit note 856 at 35.

<sup>993</sup> See Chapter 4.

<sup>994</sup> The SAHRC panel (op cit note 854 at 24) submitted that the absence of policy undermines environmental health and local Safety.

<sup>995</sup> Hoadley & Limpitlaw op cit note 865 at 4.

Legalizing the ASM sector, by drafting an artisanal mining provision and providing support for struggling small-scale miners, allows miners to benefit from such services and hence would improve health and safety compliance.<sup>996</sup> This has been noted by the Mine Health and Safety Council, which submitted that the disproportionately high rates of non-compliance with health and safety requirements by small-scale operators can only be improved by formalising the sector.<sup>997</sup>

The same improvements are equally possible with respect to environmental compliance. Artisanal miners operating illegally are not constrained by regulations governing water usage environmental preservation.<sup>998</sup> While small-scale miners are supposed to adhere to such regulations as provided in an EMP, they often lack the financial capacity to meet their environmental obligations.<sup>999</sup> Visible environmental improvements will only be achieved if government bodies and mining organizations play a role in giving artisanal and small-scale miners the technological, economical and educational resources required for them to mine efficiently.<sup>1000</sup> Without proper formalisation of both artisanal and small-scale mining activities, operators cannot benefit from such support programmes that help them to be environmentally compliant. One of the mining industry stakeholders that could provide this necessary assistance is large-scale mining companies, which will be discussed next.

#### *2.2.2.4 Addressing conflict between ASM and LSM; creating mutual benefits*

The contribution that the large-scale mining sector could make to the ASM sector is complicated by numerous factors, including their infamous antagonistic relationship.<sup>1001</sup> Following the 1998 White Paper on Minerals and Mining Policy<sup>1002</sup> a number of companies

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<sup>996</sup> Ibid.

<sup>997</sup> L Zungu 'Guidelines for the South African Small-Scale Mining to Comply with the Mine Health and Safety Act' (2016) Mine Health and Safety Council, Project number MHSC/061/14-15, available at [http://www.claybrick.org/sites/default/files/downloads/Guidelines\\_SSMS\\_MHSC\\_061\\_1415\\_Draft\\_Final\\_Report\\_Jan2016.pdf](http://www.claybrick.org/sites/default/files/downloads/Guidelines_SSMS_MHSC_061_1415_Draft_Final_Report_Jan2016.pdf) at 2.

<sup>998</sup> Chamber of Mines of South Africa 'Submission' op cit note 932 at 3.

<sup>999</sup> See Chapter 5 para 2.1.2.

<sup>1000</sup> G Hilson 'Small-Scale Mining in Africa: Tackling Pressing Environmental Problems With Improved Strategy' (2002) 11(2) *Journal of Environment & Development* 149.

<sup>1001</sup> Hoadley & Limpitlaw op cit note 865 at 7. The SAHRC panel (op cit note 854 at 27) recognise that "LSM and ASM have historically experienced conflictual relations in South Africa. Reports of police and private security actions against artisanal miners, especially using legislation dealing with trespassing onto LSM property, is common."

<sup>1002</sup> See *Minerals and Mining Policy* op cit note 868.

entered into agreements with ASM operators,<sup>1003</sup> but with little success.<sup>1004</sup> With mutual commitment and reciprocal engagement however, the shortcomings of past partnerships can be addressed so that both mining companies and ASM operators could benefit from these joint ventures.<sup>1005</sup> This collaboration has been explored in other African countries,<sup>1006</sup> and various instruments have been drafted to guide interactions between parties.<sup>1007</sup>

There are three possible ways that large-scale mining companies can provide ASM operators with accessible mineral potential. The first option is for mining companies to contract with artisanal miners to work in portions of their gold mining shafts that have been made safe.<sup>1008</sup> The second is by offering marginal or non-viable areas of the company's right area that they cannot exploit optimally.<sup>1009</sup> The third is allowing ASM operators to rework the tailings produced from their large-scale mining activities.<sup>1010</sup> The first option has already been instigated in Kwa-Zulu natal, and has been recognised as successful on various levels.<sup>1011</sup> In that case the mining company has legally contracted with individuals who used to mine illegally in the company's shafts. This solution to the mine's past illegal mining problem has significantly improved the safety and future viability of the mining operations, which has been

<sup>1003</sup> See 'Maduna's pledge to South Africa's 3000 illegal mines' (26 February 1999) *Mining Weekly* available at [http://www.miningweekly.com/article/madunax2019s-pledge-to-south-africax2019s-3-000-illegal-mines-1999-02-26/searchString:Maduna%26rsquo%3Bs+pledge+to+South+Africa%26rsquo%3Bs+3+000+illegal+mines\\_](http://www.miningweekly.com/article/madunax2019s-pledge-to-south-africax2019s-3-000-illegal-mines-1999-02-26/searchString:Maduna%26rsquo%3Bs+pledge+to+South+Africa%26rsquo%3Bs+3+000+illegal+mines_)

<sup>1004</sup> One response from DMR in its submission to SAHRC panel (op cit note 854 at 54) was that there has been integration attempts between the ASM and LSM sector, but they have failed. It elaborated that in Barberton, the DMR initiated a collaborative project that allowed ASM miners and LSM companies to work together. The initiative failed however because the internalisation of associated costs resulted in reduced profit margins. For further detail of past collaboration projects between mining companies, support institutions and small-scale gold mining companies, see 'Maduna's pledge' *ibid.*

<sup>1005</sup> The SAHRC panel op cit note 854 at 27 submitted that there have been recent policy shifts towards the promotion of collaboration between large-scale mining and ASM in the mining industry.

<sup>1006</sup> See for e.g. A Aubynn 'Sustainable solution or a marriage of inconvenience? The coexistence of large-scale mining and artisanal and small-scale mining on the Abooso Goldfields concession in Western Ghana' (2009) 34 *Resources Policy* 64.

<sup>1007</sup> *Working Together – How large scale mining can engage with artisanal and small-scale miners* (2009) by International Council on Mining & Metals (ICMM) and International Finance Corporation (IFC); The Organisation for Economic Co-operation and Development (OECD) 'Responsible Supply Chains in Artisanal and Small-Scale Gold Mining: Implementing the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas' (2016), accessed 4 December 2017, available at [http://mneguidelines.oecd.org/FAQ\\_Sourcing-Gold-from-ASM-Miners.pdf](http://mneguidelines.oecd.org/FAQ_Sourcing-Gold-from-ASM-Miners.pdf).

<sup>1008</sup> See M Creamer 'Gold Mine reopens using ex-illegal zama-zamas as workforce' (5 June 2017) *Mining Weekly*, accessed on 4 December 2017, available at <http://www.polity.org.za/article/gold-mine-reopens-using-ex-illegal-zama-zamas-as-workforce-2017-06-05>.

<sup>1009</sup> Hoadley & Limpitlaw op cit note 865 at 7

<sup>1010</sup> *Ibid.*

<sup>1011</sup> Creamer op cit note 1008.

made possible by mandating that the artisanal miner workforce adheres to strict safety regulations, managerial control, and the regulations concerning contractor employment.<sup>1012</sup>

As previously discussed,<sup>1013</sup> mining companies usually respond to illegal mining activity by hiring private security to ‘sweep out’ operators who are seen to be stealing minerals ‘belonging to’ companies.<sup>1014</sup> In addition to the possibility of artisanal miners offering particular services for mining companies in underground workings,<sup>1015</sup> it is also possible that sections of the land subject to a mining right lie unused because they cannot be worked economically using large-scale mining methods.<sup>1016</sup> This may be because areas contain alluvial and other near-surface mineral deposits that, while being unoptimal to exploit by the company, are in fact capable of supporting artisanal and small-scale activities.<sup>1017</sup> In circumstances such as these, the harmonious solution would be for the company to dedicate the sections of unused land so that the small-scale miners can obtain a mining permit to operate legally.<sup>1018</sup> The same could be done for artisanal miners, if an artisanal mining provision were included in the MPRDA.

Beyond the mining of underground shafts and accessible surface outcrops, tailings present significant ASM potential. Artisanal and small-scale miners could be allowed to rework tailings, since simple technologies and processes can be used without the need for significant economic resources.<sup>1019</sup> By extracting residual minerals from these structures that are considered ‘waste’ for large companies, mineral value can be obtained which would otherwise

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<sup>1012</sup> Ibid.

<sup>1013</sup> See Chapter 5.

<sup>1014</sup> See S Banchirigah & G Hilson ‘De-agrarianization, re-agrarianization and local economic development: re-orientating livelihoods in African artisanal mining communities (2010) 43(2) *Policy Sciences* 157 at 166 footnote 4.

<sup>1015</sup> In respect of the above example, the artisanal miners are contracted to complete hand-lashing and tramming, and remunerated for each ton of ore that is brought to a collection point.

<sup>1016</sup> See Hilson (2010) op cit note 1014 at 166 footnote 4.

<sup>1017</sup> This potential has been recognised by the DMR in Department of Mineral Resources ‘Briefing to the Joint Portfolio Committees of Mineral Resources and Police on Measures Implemented to Combat Illegal Mining’ 25 August 2017 (on file with author).

<sup>1018</sup> Hilson (2010) op cit note 1014 at 166 footnote 5. See A-M Fleury & L Wall ‘International Council on Mining and Metals (ICMM) Mining Together Toolkit: 11. Segregation of Mineralized Concessions’ (September 2009) Communities and Small-Scale Mining (CASM) AGM, Maputo, available at [http://www.artisanalmining.org/Repository/01/The\\_CASM\\_Files/CASM\\_Meetings\\_International/2009\\_Maputo\\_AGM/Presentations/CASMSept9PM\\_Session5\\_LSMASM\\_AnneMarieFleury%26LizWall.pdf](http://www.artisanalmining.org/Repository/01/The_CASM_Files/CASM_Meetings_International/2009_Maputo_AGM/Presentations/CASMSept9PM_Session5_LSMASM_AnneMarieFleury%26LizWall.pdf).

<sup>1019</sup> In Ghana small-scale mining was legalized in 1989 and in five years artisanal miners brought in over \$US130 million from gold and diamond that were mostly obtained from abandoned waste dumps. See Hoadley & Limpitlaw op cit note 865 at 8.

have gone unrealized. Mintek<sup>1020</sup> has developed a process called ‘Retreatment Flowsheet for Gold and Uranium Tailings’ that could greatly assist artisanal miners in reworking tailings.<sup>1021</sup> The plant has been constructed to remove radioactive uranium and other sulphides from tailings to extract the mineral content that generates acid mine drainage.<sup>1022</sup> Gold is another mineral removed in this process, and hence presents artisanal mining potential while simultaneously removing environmental hazards.

The benefits of collaboration will not only extend to the ASM operators, but also to the mining companies that allow access to the tailings or unused areas. This is because joint ventures could be an opportunity for a meaningful corporate social responsibility investment,<sup>1023</sup> and hence the provision of their assistance could be incorporated into the legislation and policy documents regulating companies’ transformative obligations in South Africa’s mining industry.<sup>1024</sup> Such support could take the form of assisting miners with their permit applications, as well as meeting the associated obligations pertaining to environmental and health and safety compliance.<sup>1025</sup> Since mining companies have the knowledge and capacity to see to the technical, safety and environmental aspects of mineral extraction, they could assist small-scale miners with their expertise.<sup>1026</sup> In addition to helping miners ensure their operations do not pose a threat to the environment, themselves or neighbouring mining communities, mining houses can offer technical assistance programmes that provide improved mining and processing techniques, or facilitate access to processing plants or commodity markets.<sup>1027</sup>

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<sup>1020</sup> Mintek is the country’s leading provider of minerals processing and metallurgical engineering products and services to the mining industry. See <http://www.mintek.co.za/corporate-profile/corporate-information/>.

<sup>1021</sup> The announcement was made by the Deputy Minister of Mineral Resources during the Workshop on Illegal Mining in South Africa (27 March 2017), see I Solomons ‘DMR to be more flexible with small-scale mining applicants’ (7 April 2017) *Mining Weekly* available at <http://www.miningweekly.com/print-version/govt-seeks-solutions-to-illegal-mining-through-stakeholder-forum-2017-04-07> accessed on 19 November 2017.

<sup>1022</sup> Solomons *ibid.*

<sup>1023</sup> Hoadley & Limpitlaw *op cit* note 865 at 8.

<sup>1024</sup> For further engagement see Chapter 7 para 4.

<sup>1025</sup> One major constraint inhibiting profitable ASM operations is that operators lack the requisite geographical knowledge for certain mineral deposits and also an awareness of the optimal design specifications for their projects. Instead of hiring specialists, which they lack the financial capacity to do, large-scale mining companies can provide the capacity in the form of their own resources offered to ASM operators. This is one of the propositions put forward in Hoadley & Limpitlaw *op cit* note 865 at 8.

<sup>1026</sup> *Ibid.*

<sup>1027</sup> Fleury & Wall *op cit* note 1018.

This collaboration could increase the number of small-scale projects significantly as operators benefit from the necessary support that the DMR lacks the capacity to provide.<sup>1028</sup> There is equally great potential for self-empowering artisanal mining opportunities, as operators in this subsector could exploit their particular skills like their ability to prove deposits.<sup>1029</sup> Before any of these benefits can be realised by either party, however, the ASM operators must be formalised and organised.<sup>1030</sup> This means that an artisanal mining provision needs to be included in the MPRDA, and small-scale operators must obtain mining permits, which can be done with the assistance of the mining companies before the mining of tailings or surface outcrops begins. Through regulation, practical and beneficial engagement between parties can be achieved.<sup>1031</sup>

#### *2.2.2.5 Addressing financial, technological and market knowledge challenges*

To the extent that ASM operators cannot benefit from the assistance of large scale mining companies, they again need to be formalised to benefit from the alternative government-led support initiatives. The first form of support small-scale operators need is financial. Government loan schemes have been implemented in the past,<sup>1032</sup> but failed because their success is dependent on the recipients' ability to pay back the borrowed funds and create viable business plans.<sup>1033</sup> In general, the average artisanal or small-scale miner lacks the business skills and market knowledge to create successful business plans that result in profitable projects.<sup>1034</sup>

The DMR recently announced that it will help facilitate access to funding from state-owned financial institutions such as the Industrial Development Corporation.<sup>1035</sup> This initiative will be facilitated by mining sector stakeholders like the South African Mining Development

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<sup>1028</sup> Ledwaba & Nhlengetwa op cit note 862 at 41

<sup>1029</sup> Hoadley & Limpitlaw op cit note 865 at 8.

<sup>1030</sup> With regards to the organisation of artisanal miners into co-operatives, see Chapter 7 para 3.1.

<sup>1031</sup> Fleury & Wall op cit note 1018.

<sup>1032</sup> Cross ref chapter 5 para 2.2.

<sup>1033</sup> S Mondlane 'ASM and LSM Relationship' (2010) Meeting document presented at the Global Forum on Artisanal and Small Scale Mining, Manila, Philippines, 7 December 2010, available at <http://wedocs.unep.org/handle/20.500.11822/12829> at 3.

<sup>1034</sup> Buxton 'Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help?' (2013) International Institute for Environment and Development (IIED) at 10.

<sup>1035</sup> This announcement was made at the Workshop on Illegal Mining in South Africa, see 'DMR promotes small scale mining with stakeholders and facilitates access to funding' (27 March 2017) *Mining Review Africa* accessed on 1 November 2017, available at <https://www.miningreview.com/news/dmr-promotes-small-scale-mining-stakeholders/> accessed on 24 March 2017.

Association (SAMDA).<sup>1036</sup> To ensure that the same outcome of financial assistance initiatives in the past is not repeated, there needs to be a simultaneous effort by the DMR to assist miners in accessing technical skills and obtaining market expertise so that projects will be sustainable.<sup>1037</sup> Appropriate technology is essential to improve operations so that they are safe and environmentally sound.<sup>1038</sup> There are several South African institutions in place catering for the provision of such ASM-related skills and knowledge.<sup>1039</sup> Since these institutions are well-placed to offer the technical support<sup>1040</sup> that the capacity-scarce DMR cannot, the department should make an effort to expose and provide access to these institutions through awareness campaigns.

Alongside technological assistance, small-scale miners require access to markets and market knowledge to operate profitably. With respect to market knowledge, this is one of the teaching areas catered for by Mintek's Small-Scale Mining and Beneficiation Division (SSMB) training school,<sup>1041</sup> and hence this service needs to be made widely accessible. A lack of market access in the past has led to the failing of small-scale support programmes.<sup>1042</sup> One way that ASM operators can access a certain commodity's market is through purchasing programmes with

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<sup>1036</sup> The function of SAMDA in relation to skills development in the minerals and mining sector is to create an enabling environment to raise finance. See Mining Qualifications Authority 'Sector Skills Plan for the Mining and Minerals Sector Submitted by the Mining Qualifications Authority (MQA) to the Department of Higher Education and Training' (31 August 2016), Update 2017-2018 at 10, available at <http://www.mqa.org.za/sites/default/files/MQA%20SSP%202017%20-%202018.pdf>.

<sup>1037</sup> An analysis of the sustainability of South African small-scale mining entities in 2015 revealed that the main constraints hindering sustainable operations were the capital-intensive nature of the industry as well as broader market dynamics. Ibid at 23.

<sup>1038</sup> Ledwaba op cit note 856 at 38.

<sup>1039</sup> Including the Mining Qualifications Authority (MQA) programme ("Programme 4") to "Facilitate and support core sector skills and develop programmes aligned to the qualification framework" See Mining Qualifications Authority 'Annual Performance Report: 1 April 2016 – 31 March 2017' available at <http://www.mqa.org.za/sites/default/files/Annual%20Report%202016%20-%202017.pdf> at 34; Mintek's Small-Scale Mining and Beneficiation Division (SSMB) training school, which offers "artisanal and Small-scale miners an outcome-based theoretical and practical training" see <http://www.mintek.co.za/technical-divisions/small-scale-mining-beneficiation/ssmb-training-school/>; the Chamber of Mines' Emerging Miners Desk, which aims to "provide advice, support and to act as a resource centre for the smaller Chamber member companies" see [http://www.chamberofmines.org.za/work/supporting-emerging-miners\\_](http://www.chamberofmines.org.za/work/supporting-emerging-miners_)

<sup>1040</sup> This is the support offered by the Small-Scale Mining Directorate to "aspiring small-scale miners" on the DMR website. See Department of Mineral Resources 'Small-Scale Mining' *Department of Mineral Resources website*, available at <http://www.dmr.gov.za/small-scale-mining.html>.

<sup>1041</sup> See note 1036.

<sup>1042</sup> For example the Prieska Protocol, which was a program aimed at linking small-scale operators mining tiger's eye to a lapidary, and then onward to international markets. See M Olalde, 'Bringing South Africa's Small-Scale Miners Out of the Shadows' (2016) *Inter Press Service*, available at <http://www.ipsnews.net/2016/12/bringing-south-africas-small-scale-miners-out-of-the-shadows/> accessed on 4 October 2017.

large-scale mining companies.<sup>1043</sup> These programmes could support both artisanal and small-scale through the buying of ore, which could provide a more secure market, would minimize logistical challenges and would improve the prices paid compared to what miners would receive from intermediary buyers in the informal sector.<sup>1044</sup>

#### *2.2.2.6 Achieving the transformative goals of the MPRDA*

The final motivation is that the proper regulation of South Africa's ASM sector would contribute to the transformation of the industry, as it speaks to the Preamble and Objects of the MPRDA.<sup>1045</sup> This was recognised in 1999 by the Department of Minerals and Energy in its initial attempt to develop the ASM sector.<sup>1046</sup> The intention was to transform the sector 'into one that offers healthy business opportunities to those who, in the past, did not have access thereto.'<sup>1047</sup> This aligns with the provision in the Preamble which reaffirms the state's 'commitment to reform to bring about equitable access to South Africa's mineral and petroleum resources'.<sup>1048</sup>

This envisioned transformation has not, however, been as successful as it could have, owing to the onerous mining permit obligations that have excluded individuals from entering the formal sector.<sup>1049</sup> Also contributing to this exclusion is the fact that artisanal mining is not provided for in the MPRDA, which prevents this subsector from operating legally. Past enquiries have illustrated confusion and uncertainty around the MPRDA's ability to fulfil its objects of equity<sup>1050</sup> and poverty alleviation.<sup>1051</sup> However the promotion of the ASM clarifies this uncertainty, as it can translate into historically disadvantaged persons directly benefiting from South Africa's mineral wealth to improve their socio-economic wellbeing.<sup>1052</sup>

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<sup>1043</sup> Fleury & Wall op cit note 1018.

<sup>1044</sup> Ibid.

<sup>1045</sup> In *Agri South Africa v Minister for Minerals and Energy* (CCT 51/12) [2013] ZACC 9 (paras 1 & 2) the Constitutional Court held that the MPRDA constituted the legislative intervention to facilitate equitable access to opportunities in the mining sector, in order to address the gross economic inequality legacy left by apartheid.

<sup>1046</sup> See 'Maduna's pledge' op cit note 1003.

<sup>1047</sup> Ibid.

<sup>1048</sup> Preamble of the MPRDA supra 890.

<sup>1049</sup> See Chapter 5 para 2.1.

<sup>1050</sup> Section 2(c) of the MPRDA supra 890.

<sup>1051</sup> Ibid section 2(f) of the MPRDA. See Hoadley & Limpitlaw op cit note 865 at 8.

<sup>1052</sup> See Oliveira op cit note 880.

At the ASM workshop in November 2016, the representative for the Small-Scale Mining Directorate<sup>1053</sup> argued that the ASM sector is critical to share mineral wealth with historically disadvantaged communities.<sup>1054</sup> This echoes one of the MPRDA's objects to "promote equitable access to the nation's mineral and petroleum resources to all the people of South Africa".<sup>1055</sup> It is argued that if artisanal mining was specifically catered for by the MPRDA, the consequence would be enhanced accessibility to mineral wealth for rural communities and other historically disadvantaged persons.<sup>1056</sup> It is further argued that giving artisanal mining a legal status in the MPRDA would align with the act's commitment to promote local and rural development.<sup>1057</sup> This is because artisanal mining has recognised socioeconomic development potential to offer.<sup>1058</sup>

Both aforementioned motivations for legalizing artisanal mining equally apply to the improved regulation of small-scale mining, which can be achieved by amending mining permit provisions and drafting policy to support operators in overcoming the challenges that inhibit sustainable projects. The formalisation of both forms of ASM could contribute to the country's GDP,<sup>1059</sup> and aid in social development and poverty alleviation to assist South Africa's most vulnerable people.<sup>1060</sup>

### 3 Conclusion

Following from the previous chapter's illustration of the failed support initiatives in the past, this chapter expands on why those efforts were unsuccessful. It posits that the initiatives did not adequately address the realities of operators on the ground. This lack of awareness is the

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<sup>1053</sup> Gad Kwata, director of DMR's small-scale mining division.

<sup>1054</sup> ASM workshop hosted by African Centre for Migration & Society (ACMS) and the Centre for Sustainability in Mining and Industry (CSMI) (10 November 2016), see Matthew Wilhelm-Solomon 'The Future of Artisanal Mining is Clouded in Dust and Smoke' (28 November 2016), available at <http://www.mahpsa.org/2016/11/28/the-future-of-artisanal-mining-is-clouded-in-dust-and-smoke/>, accessed on 6 April 2017.

<sup>1055</sup> Section 2(c) of the MPRDA supra 890.

<sup>1056</sup> The mineral potential presented by tailings and surface mineral outcrops is particularly accessible to artisanal and small-scale miners due to the relatively low capital and technical requirements. See para 2.2.2.4.

<sup>1057</sup> Preamble of the MPRDA supra 890.

<sup>1058</sup> O'Faircheallaigh & Corbett op cit note 63 at 961. See Chapter 3.

<sup>1059</sup> And hence align with section 2(e) of the MPRDA supra 890, namely the object of promoting economic growth and mineral and petroleum resources development in the Republic.

<sup>1060</sup> This also aligns with another of the MPRDA's key objects, which is to promote employment and advance the social and economic welfare of all South Africans (ibid section 2 (f)).

consequence of the dearth of research into South Africa's ASM sector.<sup>1061</sup> This motivation chapter seeks to initiate the provision of research that is vital for effective formalisation of the ASM sector. It canvasses the arguments in favour of artisanal mining rights recognition, improved legislative regulation and accompanying support of South Africa's the largely informal ASM sector, followed by the proposed benefits of doing so.

The first proposition is for a distinction in the MPRDA between artisanal mining and small-scale mining. Providing for the artisanal mining 'subsector' in legislation will legalise this currently illegal activity<sup>1062</sup>, and will distinguish it from small-scale mining initiatives that currently operate under a mining permit.<sup>1063</sup> The second motivation addresses the criminality issue. The strictly punitive approach to the unregulated artisanal mining problem has not, and will not, be successful, because there has not been a proper engagement as to why it occurs. It is argued that the recognition that the country's socio-economic circumstances drives people into artisanal mining<sup>1064</sup> will aid in the development of an appropriate regulatory framework to accommodate these individuals.

To address the illegal mining issue, it is further argued that there needs to be distinctions differentiating the 'spectrum' of illegal operators in the form of a nuanced approach to illegal mining at present. This approach, on the one hand, should facilitate the inclusion of informal artisanal miners within the formal industry, and, on the other hand, appropriately sanction and sentence those who are violating multiple laws.<sup>1065</sup>

The third motivation is that proper regulation and support of the ASM sector will harness its potential as an 'employment engine'.<sup>1066</sup> It is argued that the job opportunities created from a formalised sector present a solution to the growing unemployment in South Africa, and will help redress poverty that initially drives people into these informal activities.<sup>1067</sup> The development of the sector should be prioritised by government considering South Africa's

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<sup>1061</sup> SAHRC Report op cit note 854 at 59.

<sup>1062</sup> Ibid at 6.

<sup>1063</sup> Granted in terms of section 27 of the MPRDA supra 890.

<sup>1064</sup> SAHRC Report op cit note 854 at 59.

<sup>1065</sup> See Chapter 4 para 2.3.2.

<sup>1066</sup> Hilson (2016) op cit note 864 at 5.

<sup>1067</sup> SAHRC Report op cit note 854 at 59.

current fragile economy, and particularly the growing number of retrenchments in the mining sector.<sup>1068</sup>

The fourth motivation is that government-led support of formal operations will help to address the negative health/safety and environmental issues associated with artisanal and small-scale operators.<sup>1069</sup> This can be achieved by educating and supporting operators to abide by the legislation's health, safety and environmental obligations. The fifth motivation is that improved regulation will redress the acrimonious relations between ASM operators and large mining companies, and will also enable the respective parties to benefit from each other's' operations in joint ventures.

The final motivation for the effective regulation of ASM is that it aligns with the transformative spirit of the MPRDA. Through legal recognition and the provision of support, the government will promote access to and benefit from South Africa's mineral wealth for historically disadvantaged persons.<sup>1070</sup> Furthermore, harnessing the country's mineral wealth to sustain and improve the livelihoods of its citizens gives effect to the MPRDA's object of promoting and advancing South Africans' social and economic welfare.<sup>1071</sup>

Considering these advantages, there needs to be legislative amendments drafted, together with the drafting of policy documents that outline how the ASM sector will be supported. This argument is based on the premise that a combination of rights recognition and support is needed to facilitate the successful formalisation of the ASM sector.<sup>1072</sup> The next chapter will canvass the recommendations for how this is to be achieved, as well as highlight areas for future research.

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<sup>1068</sup> See Prologue.

<sup>1069</sup> See para 2.2.2.3.

<sup>1070</sup> In line with section 2(d) of the MPRDA supra 890 which provides '2. *The objects of this Act are to – (d) 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*'.

<sup>1071</sup> Ibid section 2(f) of the MPRDA.

<sup>1072</sup> As the SAHRC Panel speculated (op cit note 854 at 61), "without a comprehensive framework for improving the practices of artisanal mining, current characterisation simply as "illegal", will have the effect, in terms of the panel's prediction, of making AM become more dangerous rather than causing it to disappear."

# CHAPTER SEVEN: RECOMMENDATIONS AND AREAS FOR FUTURE RESEARCH

## 1 Introduction

The previous chapter considers the motivations for the formalisation of South Africa's largely informal ASM sector. It illustrates how a formalised sector is needed to address the negative environmental concerns, health and safety issues and criminality associated with ASM activities.<sup>1073</sup> It also shows how, once formalised, ASM operators can benefit from support programmes to conduct profitable mining projects.<sup>1074</sup> These regulated mining projects present employment opportunities and the possibility of collaboration between ASM operators and large scale mining companies. Regulated ASM projects would generate state revenue and enhance access to and benefit from South Africa's mineral resources.<sup>1075</sup>

This final chapter outlines the recommendations for how formalisation can be achieved. On the basis of the analysis in the previous chapter, it is argued here that amendment of the current legal framework, and the provision of accompanying support is needed. This can be achieved by creating an ASM development strategy that balances the promotion of legitimate ASM practices with the redress of illegal mining. When considering which legislative amendments are needed, an assessment of whether the Burkinabe artisanal mining provisions can be used as guidance is made, and areas for future research are highlighted.

## 2 'ASM for SA Strategy': Recommendations for amending the present legal and policy framework

Based on the comparative research undertaken,<sup>1076</sup> and the premise that the revision of mining regulations is the first essential measure for the legalisation of ASM operators,<sup>1077</sup> the main

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<sup>1073</sup> See Chapter 6 paras 2.2.2.1 and 2.2.2.3.

<sup>1074</sup> Ibid para 2.2.2.5.

<sup>1075</sup> Ibid paras 2.2.2.2 and 2.2.2.6.

<sup>1076</sup> See Chapters 2, 3, 4 and 5.

<sup>1077</sup> B Marshall & M Veiga 'Formalisation of artisanal miners: Stop the train, we need to get off!' (2017) 4 *The Extractive Industries and Society* 300 at 301.

recommendation of this dissertation is for the Department of Mineral Resources (DMR) to design an ‘ASM for SA Strategy’. The DMR should involve all relevant stakeholders in designing this strategy.<sup>1078</sup> The strategy is expected to initiate an amendment of the existing policy and legal framework regulating both artisanal and small-scale mining.

The recommended ASM Strategy is distinguished from previous efforts to develop the ASM sector: First, it offers a concrete plan that replaces the DMR’s development rhetoric that has not resulted in significant improvements,<sup>1079</sup> that does not include committed objectives for which it can be held accountable,<sup>1080</sup> and has not succeeded in reducing the illegal mining problem significantly.<sup>1081</sup> The closest documentation of a strategy to develop the ASM sector is a resolution document, which was the outcome of a series of workshops<sup>1082</sup> hosted by the DMR in 2015. The aim of the workshops was to hear the challenges expressed by artisanal and small-scale miners, and to come up with solutions for South Africa’s future ASM strategy.<sup>1083</sup> The ensuing resolution document<sup>1084</sup> that was adopted by the participating stakeholders had the potential to determine the future of South Africa’s ASM sub-sector. With a committed from government to developing a national framework to support small-scale miners contained in this

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<sup>1078</sup> J Love ‘Report of the SAHRC Investigative Hearing: Issues and Challenges in relation to Unregulated Artisanal Underground and Surface Mining Activities in South Africa’ (2015) available at <https://www.sahrc.org.za/home/21/files/Unregulated%20Artisanal%20Underground%20and%20Surface%20Mining%20Activities%20electronic%20version.pdf> (the SAHRC Report) at 31.

<sup>1079</sup> The DMR announced in the 2015/2016 Annual Report, the most recent report available on its website, that it had ‘provided technical support to 125 small-scale mining projects throughout the country during the 2015/16 financial year’, and had granted a total of 3800 mining permits to the public. (See Department of Mineral Resources Annual Report 2015/2016, available at [http://www.gov.za/sites/www.gov.za/files/dmr\\_annual\\_report\\_2015\\_16.pdf](http://www.gov.za/sites/www.gov.za/files/dmr_annual_report_2015_16.pdf) at 7.) However, Ledwaba and Nhlengetwa argue that these figures are noticeably low when compared to countries with similar mineral wealth. See P Ledwaba, & K Nhlengetwa ‘When policy is not enough: prospects and challenges of artisanal and small-scale mining in South Africa’ (2016) 7(1) *Journal of Sustainable Development Law and Policy* 25 at 30.

<sup>1080</sup> See ‘DMR promotes small scale mining with stakeholders and facilitates access to funding’ (27 March 2017) *Mining Review Africa* accessed on 1 November 2017, available at <https://www.miningreview.com/news/dmr-promotes-small-scale-mining-stakeholders/>.

<sup>1081</sup> The number of illegal mining participants has increased since 2009, the year which counter measures were initiated after the 2009/2010 National Intelligence Estimate (Department of Mineral Resources ‘Joint Briefing Session: Portfolio Committees of Police and Mineral Resources – Tackling Illicit Mining Activities Impacting South Africa’, 16 August 2017 (on file with author).

<sup>1082</sup> These workshops were conducted under the theme ‘Optimising Small-Scale Mining Potential for Economic Growth and Development’ and took place in the Northern Cape and Kwa-Zulu Natal.

<sup>1083</sup> Ledwaba & Nhlengetwa op cit note 1079 at 35.

<sup>1084</sup> The resolution was founded on 6 pillars, namely regulatory framework and support mechanisms, technical support mechanisms, access to funding for ASMs, access to local and international markets, promotion of women and youth in ASM, and implementation plan. See Small-Scale Mining Conference/Imbizo (Esikhaleni, Kwazulu-Natal, 27-28 August 2015) in Ledwaba & Nhlengetwa op cit note 1079 at 35.

document,<sup>1085</sup> commentators have argued that the next necessary step is the implementation of a plan to translate the resolution document into practice.<sup>1086</sup> This is what the ASM for SA Strategy would aim to achieve.

Second, this strategy takes account of the harsh reality that South Africa's fragile economy is pushing desperate individuals into the illegal mining industry.<sup>1087</sup> The previous chapter shows how past ASM promotion strategies failed because didn't consider this reality. By consequence, they did not consider the legalisation of artisanal mining to create a new avenue of formal employment opportunities.<sup>1088</sup> It is argued that an ASM strategy that prioritises legislative amendment, which has not been attempted before, caters for the reality that there are informal artisanal and small-scale miners who wish to access to the formal sector.<sup>1089</sup>

For years, international<sup>1090</sup> and local<sup>1091</sup> commentators have argued for a 'ground-up' approach to the development of ASM sectors. Past practice has shown how 'top down'<sup>1092</sup> approaches that do not take account of ASM's dynamics produce impractical regulations, and result in support schemes that are either ineffective, or incompatible with the context to which they are applied.<sup>1093</sup> Formalisation will only be achieved once the ASM sector and its peculiar needs are

<sup>1085</sup> Ibid at 36.

<sup>1086</sup> Ibid at 40.

<sup>1087</sup> See Chapter 6 para 2.2.2.2.

<sup>1088</sup> Ibid para 2.2.2.

<sup>1089</sup> See the testimonies of informal artisanal *Zamazama* miners in P Nyoni 'Unsung Heroes? An Anthropological Approach into the Experiences of 'Zamazamas' in Johannesburg, South Africa' in Artwell Nhemachena *Mining Africa: Law, Environment, Society and Politics in Historical and Multidisciplinary Perspectives* (2017).

<sup>1090</sup> G Hilson 'Small-scale mining, poverty and economic development in sub-Saharan Africa: An overview' (2009) 34 *Resources Policy* 1 at 3-4; Hilson, G. 'Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: a critical overview' (2016) IIED Issue Paper (March 2016) at 4.

<sup>1091</sup> Ledwaba & Nhlengetwa op cit note 1079 at 41; Mark Olalde, 'Bringing South Africa's Small-Scale Miners Out of the Shadows' (2016) *Inter Press Service*, available at <http://www.ipsnews.net/2016/12/bringing-south-africas-small-scale-miners-out-of-the-shadows/> accessed on 4 October 2017.

<sup>1092</sup> For an explanation of the differences between a 'top-down' and 'bottom-down' approach, see A Buxton 'Responding to the challenge of artisanal and small-scale mining: How can knowledge networks help?' (2013) Paper produced by the International Institute for Environment and Development (IIED) Sustainable Markets Group, IIED, London, at 11.

<sup>1093</sup> G Hilson 'Small-scale mining, poverty and economic development in sub-Saharan Africa: An overview' (2009) 34 *Resources Policy* 1 at 3. This is indicated by findings in Zimbabwean and Mozambique. In Zimbabwe, the user-unfriendliness of legislation and regulatory procedures for small-scale gold mining has rendered government's management initiatives counterproductive. This has highlighted the importance of urgent policy reformulation to ensure that operators are supported in response to their daily needs (See S Spiegel 'Resource policies and small-scale gold mining in Zimbabwe' (2009) 34 *Resources Policy* 39). In Mozambique, legislation regulating small-scale gold mining limits the holders of mining passes to 'designated areas' that are poorly mineralized, and does not adequately address the environmental obligations involved (See S Dondeyne et al 'Artisanal Mining in central Mozambique: Policy and environmental issues of concern (2009) 34 *Resources Policy*

understood by the individuals drafting policy.<sup>1094</sup> Recognition that formalisation is a process and not the end result<sup>1095</sup> will also ensure that a supportive strategy provides long term, sustainable solutions to ongoing challenges.

## 2.2 Long term: Legislative amendment

The recommended policy<sup>1096</sup> objectives in the ‘ASM for SA Strategy’ are two-fold: the drafting policy providing for legislative amendment (the ‘long term ASM strategy’), and the improvement of existing policy for the creation of a support framework for formal ASM operators (the ‘short-medium term ASM strategy’). As it is illustrated below, the recommended legislative amendments and support initiatives concern both regulatory and enforcement measures. This will ensure that a balance is achieved between the formalisation of the ASM sector on the one hand, and the elimination of illegal mining on the other.

### 2.1.1 Artisanal mining

The first legislative amendment recommended is the inclusion of an artisanal mining provision in the MPRDA.<sup>1097</sup> This would create the opportunity for legal artisanal operators to enter the formal sector, and also would differentiate artisanal mining from the ‘continuum’<sup>1098</sup> of activities within the ASM sector. Research into ASM sectors across the globe indicates that the regulations defining artisanal mining activities are generally unclear, and policies only refer to the size of mining projects.<sup>1099</sup> A clearly-drafted artisanal mining provision is needed, accompanied by a description of the production level instead of a convoluted definition.<sup>1100</sup> The specific classification and legalisation of the artisanal mining ‘subsector’ is necessary for two reasons. First, it would cater for the unique needs and capacities of artisanal miners in a way

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45). Until these daily challenges are recognised and addressed in legislation and policy, hundreds of thousands of Africans will be discouraged from operating in the legal domain (Hilson (2009) op cit note 1093 at 4).

<sup>1094</sup> Ledwaba & Nhlengetwa op cit note 1079 at 38, 41.

<sup>1095</sup> See S Siegel & M Veiga ‘Artisanal and small-scale mining as an extralegal economy: De Soto and the redefinition of “formalization”’ (2009) 43 *Resources Policy* 51.

<sup>1096</sup> In this Chapter ‘policy’ is understood as the kind of public sector policy that caters for the laws, legislation, guidelines and approaches adopted by government. See Buxton op cit note 1092 at 11.

<sup>1097</sup> For the motivation behind this recommendation, see Chapter 6 para 2.2.2.6.

<sup>1098</sup> P Ledwaba & N Mutemeri ‘Preliminary Study on Artisanal and Small-Scale Mining in South Africa’ (2017) Report prepared for Open Society Foundation for South Africa (OFS-SA) by the Centre for Sustainability in Mining and Industry (CSMI) at 10.

<sup>1099</sup> Marshall & Veiga op cit note 1077 at 301.

<sup>1100</sup> Cross ref to Chapter 2. In that Chapter it was argued that a description of the production levels of ASM activities is far more useful than convoluted definitions. See further Marshall & Veiga op cit note 1077 at 302.

that the mining permit does not.<sup>1101</sup> Second, it would create the distinction between formal operators and illegal artisanal miners that does not currently exist.

Chapter 1 explains that, in determining whether artisanal mining should be given legal recognition in the MPRDA,<sup>1102</sup> Burkina Faso is considered for guidance. This was predicated on the fact that Burkina Faso gives artisanal mining explicit recognition in its enabling mining legislation.<sup>1103</sup> It was also based on the fact that the two jurisdictions have a history of significant gold reserves,<sup>1104</sup> and hence this similarity could make the Burkinabe legislation appropriate in the South African context. The consideration of Burkina Faso offers insight on how the regulation of artisanal mining can be effected, and the danger of regulations having the unintended effect of perpetuating or even exacerbating informality.<sup>1105</sup> There are, however, numerous reasons why attention should be directed to other jurisdictions for regulatory guidance before an appropriate artisanal mining provision can be proposed for the MPRDA.

The first reason why considering Burkina Faso was a beneficial jurisdiction to consider is that the legislation governing mining in the country<sup>1106</sup> provides for artisanal mining in the form of *authorisation d'exploitation artisanale* (authorisation for artisanal mining).<sup>1107</sup> This recognition highlights artisanal mining's importance as an employment generator, and the positive impact it has on small businesses in rural areas.<sup>1108</sup> Since it has been recognised that artisanal mining in South Africa could offer significant employment opportunities in the mining industry,<sup>1109</sup> it seems necessary to formalise this activity through legislative recognition as Burkina Faso has done.

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<sup>1101</sup> Ledwaba & Nhlengetwa op cit note 1079 at 38.

<sup>1102</sup> See Chapter 1 para 3.1.

<sup>1103</sup> Loi No. 0362015/CNT Portant Code Minier du Burkina Faso JO N°44 Du 29 Octobre 2015.

<sup>1104</sup> Gold has been Burkina Faso's most valuable mineral commodity in terms of its contribution to government revenues and GDP. See Omayra Bermúdez-Lugo "The Mineral Industry of Burkina Faso" (2016) in U.S. Geological Survey Minerals Yearbook - 2013: Burkina Faso [Advance Release] (2016) at 5.1; Balzac, A. M. a. H. H. d. (2017). The West African El Dorado: Mapping the Illicit Trade of Gold in Côte d'Ivoire, Mali and Burkina Faso. Africa Portal at 12.

<sup>1105</sup> See Chapter 5 para 2.1.1.

<sup>1106</sup> Loi No. 0362015/CNT Portant Code Minier du Burkina Faso JO N°44 Du 29 Octobre 2015 (the Code).

<sup>1107</sup> Article 71 of Loi No. 0362015/CNT Portant Code Minier du Burkina Faso JO N°44 Du 29 Octobre 2015.

<sup>1108</sup> This is in virtue of the demand for goods and services that is created as a consequence of mining activities. See M Côte 'Striking Gold in Burkina Faso' (2013) *Focus on Land in Africa* brief at 2, accessed on 23 October 2017, available at <https://agriknowledge.org/downloads/5x21tf448> at 2.

<sup>1109</sup> See Chapter 6 para 2.2.2.2.

In practice, however, artisanal miners in Burkina Faso do not benefit from the legislative provisions regulating artisanal mining.<sup>1110</sup> It is rare that AAM licenses are held by the miners themselves; instead they are held by national elites who act in the permit areas as buyers of gold in terms of the AAM licenses.<sup>1111</sup> Since artisanal miners do not have the licenses themselves, the result is that they are unable to claim a legal right to mine in the designated area of the AAM license.<sup>1112</sup> While there is some reassurance that the artisanal miners will not be evicted from the demarcated low-priority AAM zones, however they are obliged to sell their gold to the authorized gold buyers in the area.<sup>1113</sup> This disempowers the miners, since the AAM license holders often buy gold at a lower price than what the miners could receive.<sup>1114</sup>

The result is that most *orpaillage* miners (artisanal miners) prefer working in areas outside of AAM licenses, which fuels the illegal sector.<sup>1115</sup> This illustrates the possibility of regulations having the opposite effect than that intended: namely, that informality is exacerbated rather than diminished.<sup>1116</sup> Formalisation includes the elimination of barriers that hinder license applications, and the creation of obvious benefits for operators to enter the formal sector.<sup>1117</sup> If aspirant South African ASM operators do not recognise that the acquisition of a mining permit would be beneficial, especially if it results earning less money than their already-low informal incomes, they will not be incentivised to legalise their operations.

The second insight that Burkina Faso provides concerns the interaction between junior companies and artisanal miners. When junior companies are granted exploration permits, they will often allow artisanal miners who were previously present to work in the ‘low-priority’ areas<sup>1118</sup> of the exploration permit zone.<sup>1119</sup> At first this seems to validate arguments in favour

<sup>1110</sup> See Chapter 3 para 5.

<sup>1111</sup> S Luning ‘Liberalisation of the Gold Mining Sector in Burkina Faso’ (2008) 35(117) *Review of the African Political Economy* 387 at 391.

<sup>1112</sup> *Ibid* at 399.

<sup>1113</sup> *Ibid* at 398.

<sup>1114</sup> Côte op cit note 1108 at 4.

<sup>1115</sup> M Côte ‘What’s in a right? The liberalisation of gold mining and decentralisation in Burkina Faso’ (2013) Working Paper no.25, Land Deals Politics Initiative Working Paper Series. ISS, The Hague, available at [http://www.iss.nl/fileadmin/ASSETS/iss/Research\\_and\\_projects/Research\\_networks/LD\\_PI/LD\\_PI\\_WP\\_25.pdf](http://www.iss.nl/fileadmin/ASSETS/iss/Research_and_projects/Research_networks/LD_PI/LD_PI_WP_25.pdf).

<sup>1116</sup> For a detailed discussion see Hilson et al ‘Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Reconceptualising formalization and ‘illegal’ activity’ (2017) 83 *Geoforum* 80.

<sup>1117</sup> In terms of the definition of formalisation in J McQuilken & G Hilson ‘Artisanal and small-scale mining in Ghana. Evidence to inform an “action dialogue”’ (2016) International Institute for Environment and Development (IIED) Country Report: Ghana (August 2016).

<sup>1118</sup> I.e. areas where the grades of gold ore are too low for the companies to exploit optimally.

<sup>1119</sup> Luning op cit note 1111 at 394.

of collaboration between artisanal miners and large-scale mining companies in the South African context.<sup>1120</sup> However, the AAM license does not confer tenure security to artisanal miners, as it can be over-ridden by industrial mining licenses that entitle holders to exclude the pre-existing AAM operations in the area.<sup>1121</sup> It has therefore been argued that the law leads to inequity, as companies with formal concessions are legally empowered while artisanal miners are marginalized.<sup>1122</sup> Since the aim is to improve, and not exacerbate, inimical relations between mining corporations and ASM operators in South Africa,<sup>1123</sup> following an approach that exacerbates the power imbalances between the two parties is not recommended.

Moreover, the potential for collaboration between mining companies and artisanal miners in South Africa lies mainly in respect to the reworking of tailings.<sup>1124</sup> In Burkina Faso, however, the legislation dedicates tailing exploitation to small-scale mining. Small-scale mining is defined by the Code<sup>1125</sup> as any mining on a small scale, including the mining of waste dumps and tailings.<sup>1126</sup> The information on the ground is that small-scale operators mine gold in the tailings or waste produced by artisanal miners working in trenches,<sup>1127</sup> which differs significantly to the reality in South Africa.<sup>1128</sup>

Finally, authorisation for artisanal exploitation covers all commodity types, which would include the abundant industrial mineral potential that could be formally exploited in South Africa.<sup>1129</sup> However, while the artisanal mining of construction minerals in Burkina Faso does take place,<sup>1130</sup> the majority of artisanal activity concerns gold.<sup>1131</sup> This was presented as an

<sup>1120</sup> See Chapter 6 para 2.2.2.4.

<sup>1121</sup> Côte op cit note 1108 at 4.

<sup>1122</sup> Luning op cit note 1111 at 400.

<sup>1123</sup> See Chapter 6 para 2.2.2.4.

<sup>1124</sup> Ibid.

<sup>1125</sup> Chapter 2 'Des Definitions: Exploitation minière à petite échelle' in the Code supra note 1106.

<sup>1126</sup> The Code defines waste dumps and tailings in Chapter 2 ibid 'Des Definitions: Haldes et terrils de mines' to include waste, rubble, excavated material and residue substances from mining activity.

<sup>1127</sup> See Jaques et al 'Artisanal and small-scale gold mines in Burkina Faso: today and tomorrow' in Gavin M. Hilson (ed) *Small-scale Mining, Rural Subsistence and Poverty in West Africa* (2006) at 128; Luning (op cit note 1111 at 396) submits that this reworking of artisanal mining waste or tailings can also be done by other artisanal miners, mostly women.

<sup>1128</sup> In South Africa the artisanal miners mining gold illegally takes place in the mine shafts created by large-scale mining companies. See Prologue.

<sup>1129</sup> See Chapter 6 para 2.2.2.2.

<sup>1130</sup> Such as phosphates and limestone. See D Gueye 'Small-Scale Mining in Burkina Faso' (2001) 73 *Mining, Minerals and Sustainable Development (MMSD) Project of the International Institute for Environmental Development (IIED)* at 21.

<sup>1131</sup> See Jaques et al op cit note 1127 at 117.

appealing similarity at the outset of this dissertation, but the stark differences between the way gold is mined in the two contexts makes it unsuitable to impose the Burkinabe provisions upon South African legislation. In South Africa, the residual gold left in deep mining shafts is what has attracted illegal artisanal mining operators, and the DMR's position is that the regulation of formal artisanal mining would be restricted to surface level mining due to the safety implications.<sup>1132</sup> This surface level potential is in the form of tailings, as the country's alluvial gold reserves have been depleted.<sup>1133</sup> This makes Burkina Faso's artisanal gold mining an unsuitable comparator, where gold is mined in surface-level pits.<sup>1134</sup>

The above engagement illustrates how the Burkinabe AAM license would not be an ideal legislative template to replicate in the MPRDA. Therefore, it is recommended that alternative African jurisdictions are considered for guidance, as their legalisation may be better suited to apply in our unique South African context.<sup>1135</sup> It is also necessary to conduct further research on whether, once empowered by legal titles, ASM operators will continue to work in the sector or simply use the wealth generated to pursue other livelihoods,<sup>1136</sup> which has been recognised in Burkina Faso.<sup>1137</sup>

While this research is beyond the scope of this dissertation it is suggested that, in the interim, the same structure of the mining permit is adopted, and the requirements are tailored to be within the capacity of artisanal miners.<sup>1138</sup> It has been argued that the size stipulated in a mining permit<sup>1139</sup> is in fact suited to artisanal mining operations,<sup>1140</sup> especially in cases where artisanal

<sup>1132</sup> See I Solomons 'Government to "amend and relax" laws for small-scale miners in bid to combat illegal mining' (24 March 2017) *Mining Weekly* available at [http://www.miningweekly.com/article/govt-rules-out-granting-mining-licences-to-zama-zamas-as-it-seeks-solutions-to-illegal-mining-2017-03-24/rep\\_id:3650](http://www.miningweekly.com/article/govt-rules-out-granting-mining-licences-to-zama-zamas-as-it-seeks-solutions-to-illegal-mining-2017-03-24/rep_id:3650) accessed on 19 November 2017.

<sup>1133</sup> Mining Africa 'Greenstone Revival' (2017) *Mining Africa Online* available at <http://www.miningafricaonline.co.za/index.php/mining-features/mining-in-africa/3129-greenstone-revival>, accessed on 15 December 2017.

<sup>1134</sup> Jaques et al op cit note 1127 at 117.

<sup>1135</sup> See 'Areas for Future Research' para 4 below.

<sup>1136</sup> As described in Hilson (2017) op cit note 1116 at 88.

<sup>1137</sup> K Werthmann 'Working in a boom-town: female perspectives on gold mining in Burkina Faso' (2009) 34(1-2) *Resources Policy* 18.

<sup>1138</sup> This would cater for the reality that artisanal miners are usually classified as 'poor', and hence lack the means to meet the financial and operating requirements of enabling mining legislation. See M Hoadley & D Limpitlaw 'The Artisanal and Small-Scale Mining Sector & Sustainable Livelihoods' (2004) Paper presented at the Mintek Small Scale Mining Conference (9 September 2004), Johannesburg at 6.

<sup>1139</sup> Section 27(1)(b) of the Mineral and Petroleum Development Act (MPRDA) limits this size to 1,5 hectares.

<sup>1140</sup> Hoadley & Limpitlaw op cit note 1138 at 6.

miners rework tailings.<sup>1141</sup> To this end, the new artisanal mining provision could specify that tailings and mine dumps can be exploited by artisanal miners.

Another condition to be included in an artisanal mining provision is that all operations must be conducted on the surface.<sup>1142</sup> The DMR has explicitly denied the possibility of underground artisanal mining, which presents numerous safety hazards.<sup>1143</sup> If underground artisanal mining operations are deemed illegal, then this distinction must be made in the new provision to clarify which operations are ‘decriminalised’<sup>1144</sup> As for the environmental and health and safety constraints, these must be appropriate for the capacities of the average artisanal miner. Future research is needed to determine what obligations would be appropriate without compromising environmental and safety standards.<sup>1145</sup>

### 2.1.2 Small-scale mining

The second recommendation is the amendment of provisions in the mining permit that inhibit profitable small-scale projects. When introducing the mining permit into the MPRDA, it was necessary to include the present requirements ‘as a risk management strategy to safeguard against the deleterious effects of ASM on safety, health and environment.’<sup>1146</sup> This is necessary for the development of a sustainable formalised sector that does not impact negatively on surrounding communities, the environment and the miners themselves. The reality that past policy has not addressed small-scale miners’ inability to meet the permit’s obligations needs to be addressed.<sup>1147</sup> Hence the historical, economic, developmental and social backgrounds and circumstances of ASM need to be taken into account in the amendment of the present mining permit provisions in section 27 of the MPRDA.

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<sup>1141</sup> See Chapter 6 para 2.2.2.4.

<sup>1142</sup> The DMR announced at the Workshop on Illegal Mining (27 March 2017) that the department has identified surface outcrops and mineral residue in areas of Gauteng that are appropriate for future artisanal mining activities. See Solomons op cit note 1132.

<sup>1143</sup> Ibid.

<sup>1144</sup> The opinion of Pontsho Ledwaba in F Moosa ‘The case for giving zama zamas mining rights’ *Mail & Guardian* accessed on 26 October 2017, available at <https://mg.co.za/article/2017-09-05-the-case-for-giving-zama-zamas-mining-rights>.

<sup>1145</sup> Mine Rescue Services ‘Submission by the Mine Rescue Services on Illegal Mining in South Africa’ Workshop held by the Department of Mineral Resources in Johannesburg, 27 March 2017 at 31 (on file with author).

<sup>1146</sup> Ledwaba & Nhlengetwa op cit note 1079 at 40.

<sup>1147</sup> Ibid.

The first recommended amendment relates to the size and time constraints. Chapter 5 explains that the limitation of the mining area to 1,5 hectares<sup>1148</sup> weakens the financial sustainability of miners' small-scale operations.<sup>1149</sup> It has been argued to be too small for small-scale miners to create viable operations, as the deposits of industrial minerals are generally large.<sup>1150</sup> Under these constraints it is not justifiable for miners to dedicate their already limited capital and resources to a project that would yield small returns.<sup>1151</sup> Even if it were possible that a profit could be made by a single actor, the finance, skills and effort needed to apply for a mining permit and operate legally make a "one-man" operation near impossible.<sup>1152</sup>

Future research is needed to establish what the size stipulated in the mining permit should be. In a recent study of South Africa's ASM sector, one of the proposed considerations to optimise the MPRDA is that the aerial extent prescribed by the mining permit should be determined by the size of the mineral commodity being mined.<sup>1153</sup> While it is agreed that the size of the mining permit area should encourage profitable exploitation of 'high bulk'<sup>1154</sup> minerals such as sandstone or granite, larger mining companies should not be unduly prevented from areas that they could mine optimally in virtue of their capital and technical resources.<sup>1155</sup> Hence research is needed to determine the degree at which a mining permit's aerial extent should be extended, and whether the size should be based on the mineral in question. Reference can be made to international guidelines,<sup>1156</sup> although it is submitted that the most important guidance is the experiences of past and present small-scale operations that are struggling to mine different minerals sustainably.<sup>1157</sup>

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<sup>1148</sup> Section 27(1)(b) of the MPRDA supra note 1139.

<sup>1149</sup> See Chapter 5 para 2.1.2.

<sup>1150</sup> Ledwaba & Nhlengetwa op cit note 1079 at 34.

<sup>1151</sup> Hoadley & Limpitlaw op cit note 1138 at 5.

<sup>1152</sup> Ibid.

<sup>1153</sup> Ledwaba & Mutemeri op cit note 1098 at 18.

<sup>1154</sup> Ibid at 17.

<sup>1155</sup> In the *Minerals and Mining Policy* (op cit note 1191) small deposits were designated for ASM as they were seen as uneconomical for large companies to exploit. See Ledwaba & Nhlengetwa op cit note 1079 at 34.

<sup>1156</sup> The following guidelines are contained in "The Compendium on Best Practices In Small-Scale Mining in Africa" UNECA (United Nations Economic Commission for Africa) 'The Compendium on Best Practices In Small- Scale Mining (SSM) in Africa' (2002) Addis Ababa, Ethiopia. It is worth noting that the compendium stipulates that the size areas for small-scale mining stipulated in legislation should be determined at the national level, and with reference to the particularities of the country in question.

<sup>1157</sup> Such as those mining granite and sandstone. See the argument of Pontsho Ledwaba of the University of the Witwatersrand's Centre for Sustainability in Mining and Industry in Olalde op cit note 1091.

Chapter 5 also canvasses the challenge presented by the two-year time constraint in the mining permit.<sup>1158</sup> With limited guarantee of a profitable return within this short time, miners are unlikely to obtain loans for their operations.<sup>1159</sup> Even if this time is increased to three years as the Mineral and Petroleum Resource Development Amendment Bill envisions,<sup>1160</sup> this is still too short a time to generate enough income to cover start-up overheads and pay back the loans that are needed to operate.<sup>1161</sup> This problem is not helped by the short period stipulated for renewal which, despite being marginally increased in the 2013 Amendment Bill,<sup>1162</sup> does not offer reassurance of a guaranteed return for the institutions offering loans to small-scale operators.<sup>1163</sup> Future research is needed to determine what the period of time a permit should stipulate. One possibility is that each mining permit is tailored to the type of mineral being exploited, which would determine the appropriate time period.<sup>1164</sup>

Finally, Chapter 5 illustrates how the environmental requirements of mining permits,<sup>1165</sup> while necessary, are beyond the means of small-scale miners.<sup>1166</sup> The reality that applicants need to hire consultants to help them fill out the forms.<sup>1167</sup> This illustrates how the mining permit application process is not as easy or accessible as it should be.<sup>1168</sup> Applicants are also less likely to be familiar with the precautions that must be taken to operate in an environmentally sustainable manner.<sup>1169</sup> Hence, future research is needed to determine whether the content of environmental management plans<sup>1170</sup> could be tailored to the realities of small-scale mining, in

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<sup>1158</sup> Section 27(1)(a) of the MPRDA supra note 1139.

<sup>1159</sup> Olalde op cit note 1091.

<sup>1160</sup> Section 22(a) of the Mineral and Petroleum Resource Development Amendment Bill 15 of 2013 (MPRDA Amendment Bill) in GG no. 36523 of 31 May 2013.

<sup>1161</sup> Olalde op cit note 1091.

<sup>1162</sup> Section 22(k) of the MPRDA Amendment Bill supra note 1160 increases the renewal period merely from one to two years.

<sup>1163</sup> Olalde op cit note 1091.

<sup>1164</sup> This proposal is based on the wording of section 22 of the MPRDA Amendment Bill supra note 1160 that amends section 27 of the MPRDA supra note 1139. The substitution of specified time periods in the application process with “the prescribed period” would suggest that permits could be tailored to individual applicants in following consultations with DLR officials during the application process.

<sup>1165</sup> Section 27 (5)(a) of the MPRDA supra note 1139.

<sup>1166</sup> See Chapter 2.1.2.

<sup>1167</sup> Hoadley & Limpitlaw op cit note 1138 at 6.

<sup>1168</sup> Ledwaba & Nhlengetwa op cit note 1079 at 35.

<sup>1169</sup> Hoadley & Limpitlaw op cit note 1138 at 6.

<sup>1170</sup> See section 14 of the National Environmental Management Act 107 of 1998.

a way that improves the operators' understanding of the importance of their environmental responsibilities.

The above recommended amendments to section 27 of the MPRDA aim to seek a balance between retaining the necessary safeguards for safe operations, and the recognition of small-scale miners' capacity constraints, so as not to discourage informal operators from mining in the formal sector. This is, however, only the first part of the two-prong approach needed to address small-scale miners' financial, technological and knowledge-based challenges. The second prong required is the creation of a support framework that assists small-scale miners to fulfil their statutory obligations, which will be detailed in the 'Support in Compliance' section below.<sup>1171</sup>

### 2.1.3 Illegal mining

The third recommendation is to make the activity of mining illegally an offence, by drafting a novel provision in the Criminal Procedure Act.<sup>1172</sup> In the past illegal miners have been convicted of a variety of offences,<sup>1173</sup> often for trespassing on the mine properties of corporate mining companies.<sup>1174</sup> The length of these sentences is not significant,<sup>1175</sup> and coupled with the practice of miners bribing prosecutors to avoid convictions, there is not a disincentive to mine illegally.<sup>1176</sup> Hence there is a need to create a specific offence that would act as a better deterrent than the offences currently imposed.

The second justification for the creation of a specific offence is to distinguish the act of mining illegally without a permit, which could be done by a single person, from involvement in illegal mining syndicates, which implicates many role players.<sup>1177</sup> This distinction is necessary because enforcement bodies recognise illegal mining as a form of organized crime.<sup>1178</sup> Using

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<sup>1171</sup> See para 3.1 below.

<sup>1172</sup> 51 of 1977.

<sup>1173</sup> The charges include racketeering, money laundering, and contravention of the Precious Metals Act 37 of 2005 and the Immigration Act 13 of 2002. See All Africa 'South Africa: 22 Illegal Miners Found Guilty On 577 Charges' (21 February 2017) available at <http://allafrica.com/stories/201702220288.html>, accessed on 23 February 2017.

<sup>1174</sup> In terms of the Trespass Act 6 of 1959.

<sup>1175</sup> Section 2(1) provides that a person convicted of trespassing is liable to a R2 000 fine or a maximum of two years in prison, or both (ibid).

<sup>1176</sup> See Chapter 4 para 2.3.2.

<sup>1177</sup> Ibid.

<sup>1178</sup> Ibid.

this offence to criminalise illegal mining does not, however, take account of the distinction between an artisanal miner working illegally, but not a part of an organized crime group. Furthermore, the offence of money laundering in connection to illegal mining<sup>1179</sup> often implicates the offences of illicit dealing in, or possession of, precious metals or precious stones.<sup>1180</sup> This does not take account of the variety of other minerals that could be mined illegally without a permit.

To streamline and focus the approach of enforcement agencies, it is recommended that a specific offence is drafted. This would align with the objective of the NCSMT to ‘produce policy designed to lead to legislative reform.’<sup>1181</sup> It is also one of the recommendations produced in the technical report of the United Nations Interregional Crime and Justice Research Institute (UNICRI), which included South Africa in a study to assess the link between transnational organised crime and illicit trafficking of precious metals.<sup>1182</sup>

How the offence would be formulated, and the appropriate length of the sentence imposed, are considerations beyond the scope of this dissertation, and hence demand further research. It is submitted, however, that research is conducted into the possibility of aligning the offence with the existing offence of theft,<sup>1183</sup> and its associated offences such as the receiving of stolen property.<sup>1184</sup> It will have to be determined how the elements of the offence would be satisfied,<sup>1185</sup> including how to prove intention and how to deal with the aspect of ownership.

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<sup>1179</sup> Ibid.

<sup>1180</sup> In South Africa these are the sentences imposed by the Criminal Procedure supra note 1172 (Schedule 2, Part II and III) for a breach of the Precious Metals Act 37 of 2005 or the Diamonds Act 56 of 1986, as amended. See UNICRI at 58.

<sup>1181</sup> See ‘DMR highlights means to deal with illegal mining’ (20 September 2017) *Mining Review Africa* available at <https://www.miningreview.com/news/dmr-highlights-means-to-deal-with-illegal-mining/> accessed on 19 November 2017.

<sup>1182</sup> United Nations Interregional Crime and Justice Research Institute (UNICRI) ‘Strengthening the Security and Integrity of the Precious Metals Supply Chain’ (May 2016) Technical Report presented at the International strategy to combat illicit trafficking in precious metals Meeting held in Cape Town (March 2016), available at [http://files.unicri.it/PM\\_draft\\_onlinev.pdf](http://files.unicri.it/PM_draft_onlinev.pdf), accessed 29 May 2017 (UNICRI Report). The UNICRI report provided at 83 that “an all-inclusive and complete set of legislative provisions within the State, providing relevant administrative and enforcement powers to the various competent authorities, needs to be developed. This will allow the various authorities to effectively regulate and administer the precious metal supply chain.”

<sup>1183</sup> Theft is defined at common law as the “unlawful appropriation with intent to steal a thing capable of being stolen.” See J Burchell *Principles of Criminal Law* 4 ed (2013) at 673.

<sup>1184</sup> The crime of receiving stolen property consists of “unlawfully receiving possession of stolen property knowing it to have been stolen.” Burch ell *ibid* at 696.

<sup>1185</sup> The essential elements of theft are (1) unlawful; (2) appropriation; (3) property; and (4) intention. See Burch ell *ibid* at 675.

The notion of ownership is complicated with respect to South Africa's mineral resources.<sup>1186</sup> The MPRDA is not clear in respect of true ownership of minerals mined by unauthorised third parties (i.e. the illegal miners), which has raised questions as to what legal action is enforceable against the unauthorised third party.<sup>1187</sup> Ownership or control does not vest in individual holders of mining rights, but in the state as 'custodian'.<sup>1188</sup> These unique features of the south African mineral law context need to be taken into account in the drafting of an illegal mining offence.

### 3.1 Support in compliance

In addition to the recommendation to draft policy for legislative amendment in the above three areas, there also needs to be policy providing for an 'industry support scheme'.<sup>1189</sup> This will build on past policy efforts, namely the 1998 White Paper,<sup>1190</sup> which despite outlining promising initiatives failed to develop the ASM sector.<sup>1191</sup> In light of this failure, it is necessary to ensure that past short fallings are not repeated.<sup>1192</sup> When comparing the approach of the Department of Minerals and Energy in 1998 to the present approach of the Small-Scale Mining Directorate, the objectives are noticeably similar.<sup>1193</sup>

The similarity between the two approaches could explain why the challenges identified in 1998 are the same as those experienced by miners today. These remain access to legal authorisation to mine, financing, access to markets, and inadequate skills and technology.<sup>1194</sup> The graphic

<sup>1186</sup> For a detailed discussion in this respect, see T Marumo 'Getting to legal grips with illegal mining' (2013) *Without Prejudice* (July Issue: Mining Law) at 50.

<sup>1187</sup> *Ibid.*

<sup>1188</sup> Section 3(1) of the MPRDA supra note 1139 provides that "Mineral and petroleum resources are the common heritage of all the people of South Africa and the State is the custodian thereof for the benefit of all South Africans." In *Meepo v Kotze* (2008 (1) SA104 (NC) para 8.3 the court provided this interpretation of the effect of s3(1) of the MPRDA.

<sup>1189</sup> Wording in Hilson (2009) op cit note 1093 at 4.

<sup>1190</sup> *Minerals and Mining Policy* op cit note 1191.

<sup>1191</sup> See Chapter 5 para 2.4.2.

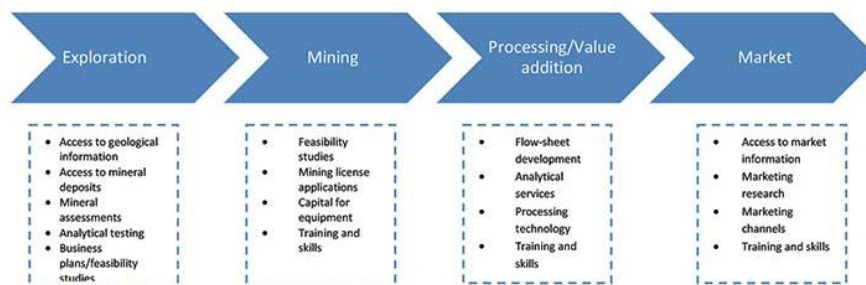
<sup>1192</sup> As the authors argue in Ledwaba & Nhlengetwa op cit note 1079 at 39.

<sup>1193</sup> Following the *Minerals and Mining Policy* (op cit note 1191) the Department of Minerals of Minerals and Energy launched an initiative with the aim of *giving practical support to existing small-scale mining operations*, and nurturing them to become sustainable companies (Maduna's pledge to South Africa's 3000 illegal mines' (26 February 1999) *Mining Weekly* available at <http://www.miningweekly.com/article/madunax2019s-pledge-to-south-africax2019s-3-000-illegal-mines-1999-02> 26/searchString:Maduna%26rsquo%3Bs+pledge+to+South+Africa%26rsquo%3Bs+3+000+illegal+mines.

<sup>1193</sup> Department of Mineral Resources 'Small-Scale Mining' *DMR website* available at [www.dmr.gov.za/small-scale-mining.html](http://www.dmr.gov.za/small-scale-mining.html), accessed 24 April 2017. Similarly, the approach of the Small-Scale Mining Directorate, as stipulated on the DMR's website *ibid.*, is 'working to legalise existing small-scale mining operations that currently exist and help make them economically viable.' (own emphasis).

<sup>1194</sup> Ledwaba & Nhlengetwa op cit note 1079 at 39-40.

below illustrates the five phases of the mining process where small-scale miners experience challenges. These are the exploration phase, mining phase, the phase involving processing/value addition<sup>1195</sup> and in the marketing phase.



**Figure 7.1: The key areas of intervention for small scale miners.**<sup>1196</sup>

There needs to be a change in the approach to policy to prevent futile repetitions of past inadequacies. Since the overarching challenge has been the lack of a structured support framework, focus should be directed to this shortcoming. The recommended industry support strategy to guide future policy fills this gap, and would facilitate the redress of all the other challenges. The recommended approach targets each challenge individually, and delegates roles to the institutions who have the appropriate expertise. It is shown how a key aspect of an improved compliance strategy is the provision of education services and awareness campaigns. It is argued that once artisanal mining is provided for in legislation, the support measures below would equally apply to artisanal operators.

### 3.1.1 Access to mining authorisation

The first step of a strategy that facilitates miners' access to mining permits is educating them on the benefits of operating within the law.<sup>1197</sup> Formalisation can be achieved only if miners have the security that the legalisation of their operations will not threaten their livelihoods.<sup>1198</sup>

<sup>1195</sup> In the South African context, value-added processing, or beneficiation, concerns the transformation of a primary material produced by mining and extraction processes to a product with a higher export sales value. In the context of small-scale mining beneficiation involves labour-intensive processes like jewellery crafting, metal fabrication and creating ceramic pottery. See Department of Mineral Resources 'Beneficiation Economics' *Department of Mineral Resources Website*, accessed on 30 November 2017, available at <http://www.dmr.gov.za/beneficiation-economics.html>.

<sup>1196</sup> P Ledwaba 'The status of artisanal and small-scale mining sector in South Africa: tracking progress' (2017) 117 *The Journal of the Southern African Institute of Mining and Metallurgy* 33 at 39.

<sup>1197</sup> Hoadley & Limpitlaw op cit note 1138 at 8.

<sup>1198</sup> Ibid.

The dynamics of the ‘poverty cycles’ informal miners often find themselves in must be taken into account when designing the educational aspect of the ASM support strategy.<sup>1199</sup> Miners need to be educated on how their incomes are higher if they are not reliant of exploitative intermediaries in the informal sector.<sup>1200</sup> This has already been initiated by the DMR,<sup>1201</sup> however there has yet to be any evidence on the progress of their educational workshops. To have a real effect, education efforts must be widely implemented across all nine provinces, and awareness campaigns should be promoted by government and NGOs.<sup>1202</sup> The DMR cannot expect increased formalisation of ASM operations when the miners have no understanding of the benefits of mining legally.<sup>1203</sup>

The information campaigns initiated in the past by the National Steering Committee of service providers<sup>1204</sup> on environmental responsibility and worker safety need to be reactivated. To ensure their long-term success, the DMR needs to facilitate aspirant ASM operators’ access to the institutions that are well-placed to offer the education<sup>1205</sup> and guidelines<sup>1206</sup> for health and safety and environmental compliance. This accessibility would allow ASM operators to benefit from the available opportunities and programmes, ensuring that the artisanal and small-scale mining activities are not just resource-based, but also knowledge-based.<sup>1207</sup> This knowledge foundation can further be enhanced by health and safety and environmental campaigns in prominent ASM areas.<sup>1208</sup>

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<sup>1199</sup> Hilson (2009) op cit note 1093 at 3-4.

<sup>1200</sup> Cross ref to chapter 5.

<sup>1201</sup> In 2016, the DMR announced that it was “busy with workshops to educate miners on the benefits of working within the law.” See Olalde op cit note 1091.

<sup>1202</sup> Hoadley & Limpitlaw op cit note 1138 at 8.

<sup>1203</sup> Marshall & Veiga op cit note 1077 at 302.

<sup>1204</sup> See ‘Maduna’s pledge’ op cit note 1193.

<sup>1205</sup> Such as the training school established by Mintek’s Small-scale Mining and Beneficiation Division. See ‘SSMB training school’ on Mintek’s website, available at <http://www.mintek.co.za/technical-divisions/small-scale-mining-beneficiation/ssmb-training-school/>.

<sup>1206</sup> Such as the guidelines recommended by South Africa’s Mine Health and Safety Council, see L Zungu ‘Guidelines for the South African Small-Scale Mining to Comply with the Mine Health and Safety Act’ (2016) Mine Health and Safety Council, Project number MHSC/061/14-15 at 3, available at [http://www.claybrick.org/sites/default/files/downloads/Guidelines\\_SSMs\\_MHSC\\_061\\_1415\\_Draft\\_Final\\_Report\\_Jan2016.pdf](http://www.claybrick.org/sites/default/files/downloads/Guidelines_SSMs_MHSC_061_1415_Draft_Final_Report_Jan2016.pdf).

<sup>1207</sup> Hoadley & Limpitlaw op cit note 1138 at 8.

<sup>1208</sup> The SAHRC panel recommended (op cit note 1078 at 65) that such information campaigns include “the impact of mercury usage on human health and the environment; the health and social impacts of infiltrating shafts and holings not only in abandoned mine shafts but also alongside operational mines; and the need for personal protective equipment (PPE) usage in unregulated AM activities.”

The second recommended step of the support strategy is the elimination of permit application bureaucracy. Experience across Africa illustrates how ineffective legislation, combined with the highly bureaucratic process of formalisation, does not lead to the resolution of the ASM sector's challenges.<sup>1209</sup> The DMR intended to reduce the administrative hurdles in the permit application process by introducing the online application process; however, aspirant applicants have found the system to be bureaucratic.<sup>1210</sup> It is recommended that the online application process is redesigned to be less technical, and should include hyperlinked explanations of every aspect of the process. Miners should be able to direct their queries to a delegated member of the Small-Scale Mining Directorate who should respond within a reasonable time period.<sup>1211</sup>

To cater for those who do not have access to computers or internet cafes, it is recommended that more DMR satellite offices in mining regions are opened. These offices should have DMR personnel to help with applications,<sup>1212</sup> as the decentralisation of regulation authorities facilitates formalisation.<sup>1213</sup> These DMR personnel must be equipped to provide applicants with the legal knowledge relevant to their applications. The need for this resource is that the numerous statutes applicable to permit applications<sup>1214</sup> are generally unintelligible to laypersons, and especially so for ASM operators in the South African context who may be semi-literate.<sup>1215</sup> Since difficulties in understanding permit provisions can be compounded by language barriers,<sup>1216</sup> the application documentation should be translated into all eleven official languages.<sup>1217</sup>

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<sup>1209</sup> Marshall & Veiga op cit note 1077 at 301.

<sup>1210</sup> See Chapter 5 para 2.1.2.

<sup>1211</sup> As research has shown, lengthy delays in ASM applications prevents operators from obtaining authorisation to formalise their activities. See Hilson (2016) op cit note 1090 at 17.

<sup>1212</sup> The implication here is that efforts also need to be made to properly train government officials in offering useful assistance. See Marshall & Veiga op cit note 1077 at 302.

<sup>1213</sup> Hilson (2016) op cit note 1090 at 17.

<sup>1214</sup> In addition to the section 27 provisions in the MPRDA, aspirant applicants need to familiarise themselves with the National Environmental Management Act 107 of 1998, the Environmental Conservation Act 73 of 1989, the Atmospheric Pollution Prevention Act 45 of 1965, and the Mine Health and Safety Act 26 of 1996, amongst others.

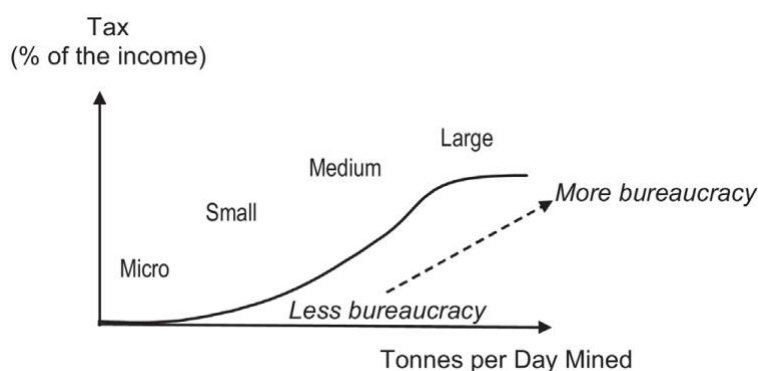
<sup>1215</sup> Hoadley & Limpitlaw op cit note 1138 at 6.

<sup>1216</sup> Ibid. In areas of South Africa where Afrikaans, for example, is widely spoken, the application documents are not provided in this language.

<sup>1217</sup> This further promotes the object of the MPRDA in section 2(c) to 'promote equitable access to the nation's mineral and petroleum resources to all the people of South Africa'.

### 3.1.2 Access to finance

Past practice illustrates how accessing financial services like donor funding and microloans is difficult for individual ASM operators.<sup>1218</sup> Even if funding was obtained, their inability to generate enough profits to repay their loans led to the collapse of numerous government-led support initiatives.<sup>1219</sup> Without banks and microfinance institutions supporting ASM development, operators transitioning from the informal to the formal sector struggle to obtain financial assistance.<sup>1220</sup> They are consequently unable to cover application, rehabilitation and royalties costs,<sup>1221</sup> nor cover the fees of consultants who assist them with their EMP requirements.<sup>1222</sup> Since unsurmountable financial obligations merely encourages small-scale miners to continue to operate illegally,<sup>1223</sup> the formalisation strategy for South Africa's small-scale miners, and future legal artisanal miners, must include an appropriate reduction in taxes and the bureaucracy connected thereto.<sup>1224</sup> For guidance in this respect, the model below proposes a way to adjust costs according to the degree of production involved in mining projects.<sup>1225</sup>



<sup>1218</sup> Cross ref chapter 5.

<sup>1219</sup> Cross ref.

<sup>1220</sup> Hilson (2017) op cit note 1116 at 88.

<sup>1221</sup> F Petersen 'Mining Finance and the Development of the Small Mining Sector in Southern African Countries' (2002) Paper presented at South African Institute of Mining and Metallurgy Colloquium (SAIMM), Johannesburg, 2002.

<sup>1222</sup> See Chapter 5 para 2.2.2.

<sup>1223</sup> Hoadley & Limpitlaw op cit note 1138 at 5.

<sup>1224</sup> Marshall & Veiga op cit note 1077 at 302. Evidence from across sub-Saharan Africa shows that unnecessary costs must be eliminated for successful formalisation. See Hilson (2016) op cit note 1090 at 17.

<sup>1225</sup> This proposition is based on the idea that "who produces more pays more taxes", and the level of bureaucracy involved increases with increases in tonnage mined and taxes owed. See Marshall & Veiga *ibid* at 302.

**Figure 7.2: A conceptual model illustrating the relationship between tonnes of minerals mined per day and the payable taxes.<sup>1226</sup>**

In addition to the elimination of unnecessary application costs, it is recommended that the Small-scale Mining Directorate implements the necessary mechanisms to ensure that ASM operators have access to institutions that can provide the necessary financial assistance.<sup>1227</sup> While the DMR has announced that it will “facilitate access to funding from state-owned financial institutions such as the Industrial Development Corporation,”<sup>1228</sup> the IDC website makes no specific mention of small-scale mining, and expectedly not of artisanal mining either.

For this financing opportunity to be successful, the DMR must ensure that specific financial assistance is made accessible for both types of ASM operators, and that it takes account of their unique financial constraints and needs.<sup>1229</sup> However, for such assistance to be granted to operators in the form of a loan for instance, the precursory necessity is conducting a feasibility study to determine whether operations will be profitable.<sup>1230</sup> Since miners often lack the capacity to conduct such studies,<sup>1231</sup> development agencies like the Eastern Cape Development Corporation<sup>1232</sup> should be replicated in all the provinces in which ASM operations take place.

### 3.1.3 Access to markets

One of the key challenges faced by South African small-scale miners in the past is their lack of business management and marketing skills.<sup>1233</sup> While there are existing institutions that offer related training,<sup>1234</sup> even trained small-scale operators will still be challenged if they are unable

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<sup>1226</sup> Ibid.

<sup>1227</sup> Ledwaba & Nhlengetwa op cit note 1079 at 40.

<sup>1228</sup> ‘DMR promotes small scale mining’ op cit note 1080.

<sup>1229</sup> This funding would be used as start-up capital and for acquiring the necessary equipment machinery. Recent studies show that ASM operators’ financial constraints forces them to obtain second-hand equipment, which prevents them from accessing the high-grade material demanded by markets. See Ledwaba & Mutemeri op cit note 1098 at 25.

<sup>1230</sup> It was in response to the low viability of small-scale projects the DMR withdrew funding (See Ledwaba op cit note 1196 at 37). For financial institutions to agree to give ASM operators loans, or alternatively if the DMR were to reinstate financial assistance, feasibility studies are needed to determine whether such funding provision would be economical.

<sup>1231</sup> See Chapter 5 para 2.2.2.

<sup>1232</sup> One of the services offered by the Eastern Cape Development Corporation is assisting aspirant ASM miners with conducting feasibility studies to source funding.

<sup>1233</sup> See Chapter 5 para 2.3.2.

<sup>1234</sup> See footnote 1248 below for further detail. There is also the Beneficiation Business Development unit, which forms part of the Beneficiation Economics Directorate within the Department of Mineral Resources, provides assistance to small, micro and medium Enterprises (SMME) in the mining industry’s beneficiation sector through

to access the markets themselves.<sup>1235</sup> One proposed solution has been that a central buying agency is established that will buy gold<sup>1236</sup> from small-scale mining projects at market value.<sup>1237</sup> Another suggestion is that formal supply chains can be established between mining companies and small-scale mining projects for the benefit of neighbouring mining communities.<sup>1238</sup> To do so, mining companies can conclude agreements with ASM associations to buy the commodities they mine at market prices.<sup>1239</sup>

Guidelines for the responsible buying of artisanally mined gold have been drafted by the Organisation for Economic Co-operation and Development to assist companies with such endeavours,<sup>1240</sup> and there are numerous benefits of such collaboration. This includes the creation of formal sources of supply, and a reduction in the amount of gold sold to informal operators in organised syndicates.<sup>1241</sup> In this way operators are not at the mercy of intermediaries, making an assured market one way to lift the sector out of its poverty trap.<sup>1242</sup> The demand for artisanally-mined gold can foster broad-based development and sustainable economic development for the mining communities from which ASM operators come.<sup>1243</sup> Community members can also establish and develop small enterprises that supply equipment, food and other necessities to other ASM operators, and could benefit from the free market economy that small-scale mining offers.<sup>1244</sup>

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business development services; business linkages; feasibility and market studies. See Department of Mineral Resources 'Beneficiation Economics' *Department of Mineral Resources Website*, accessed on 30 November 2017, available at <http://www.dmr.gov.za/beneficiation-economics.html>.

<sup>1235</sup> Cross ref Chapter 5.

<sup>1236</sup> It is submitted that this gold would have to be limited to the residual deposits reworked from tailings, as the DMR has explicitly rejected the possibility of artisanal miners working underground (op cit note 1330).

<sup>1237</sup> This suggestion was made to the DMR by the head researcher for the Bench Marks Foundation, David van Wyk. See M Breytenbach 'Small-scale mining has big future but required formalisation, planning' (29 November 2017) accessed on 30 November 2017, available at <http://www.miningweekly.com/article/small-scale-mining-has-big-future-but-requires-formalisation-planning-2017-11-29>.

<sup>1238</sup> Ibid.

<sup>1239</sup> Hoadley & Limpitlaw op cit note 1138 at 8.

<sup>1240</sup> The Organisation for Economic Co-operation and Development (OECD) 'Responsible Supply Chains in Artisanal and Small-Scale Gold Mining: Implementing the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas' (2016) accessed 4 December 2017, available at [http://mneguidelines.oecd.org/FAQ\\_Sourcing-Gold-from-ASM-Miners.pdf](http://mneguidelines.oecd.org/FAQ_Sourcing-Gold-from-ASM-Miners.pdf) (*OECD Guidelines*).

<sup>1241</sup> Ibid at 5.

<sup>1242</sup> Hoadley & Limpitlaw op cit note 1138 at 8.

<sup>1243</sup> OECD Guidelines op cit note 1240 at 5.

<sup>1244</sup> David van Wyk of the Marks Benchmark Foundation argues that South Africa's small-scale mining market economy is not monopolised or concentrated, hence making it the freest market economy in the country. See Breytenbach op cit note 1237.

### 3.1.4 Access to skills and technology

In the past, the lack of skills has resulted in inefficient mining techniques and poor mining practices.<sup>1245</sup> It is essential that unskilled ASM operators have access to the training and equipment that will help them to operate efficiently and sustainably. To curb the negative environmental impacts of inefficient practices,<sup>1246</sup> the DMR must enhance access to existing training programmes.<sup>1247</sup> These include the skills programmes and learnerships offered by the Mining Qualifications Authority,<sup>1248</sup> the Small-Scale Mining Beneficiation Division at Mintek,<sup>1249</sup> Mintek's ASM training school,<sup>1250</sup> and the Zenzele Technology Demonstration Centre.<sup>1251</sup>

It is essential that research into the success of these programmes accompanies the DMR's efforts to promote access to their services. While the programmes have recognisably improved some ASM operations, their impact on the sector is unknown due to lacking analysis of their overall effect.<sup>1252</sup> A comprehensive study of these interventions must be undertaken to assess

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<sup>1245</sup> Ledwaba & Mutemeri op cit note 1098 at 14.

<sup>1246</sup> Marshall & Veiga op cit note 1077.

<sup>1247</sup> For further detail on the full range of skills development possibilities made available in South Africa, see Chamber of Mines 'Skills Development Fact Sheet 2017' Chamber of Mines website, available at [http://www.chamberofmines.org.za/industry-news/publications/fact-sheets/send/3-fact-sheets/382-skills-development\\_](http://www.chamberofmines.org.za/industry-news/publications/fact-sheets/send/3-fact-sheets/382-skills-development_)

<sup>1248</sup> The Mining Qualifications Authority (MQA) is the Sector Education Training Authority (SETA) for South Africa's mining industry, administering and developing learning programmes for the sector. The aim of the MQA is to provide skills and training to address the challenges preventing sustainable ASM operations. (Mining Qualifications Authority 'Sector Skills Plan for the Mining and Minerals Sector Submitted by the Mining Qualifications Authority (MQA) to the Department of Higher Education and Training' (3 August 2015) Update 2015/16 at 23, available at <http://www.mqa.org.za/sites/default/files/MQA%202015-16%20SSP%20Update%20Final%20Submission.pdf>). The annual 2016-2017 report illustrates (at 34) the 'huge' demand for SSM training during this period, with 286 beneficiaries benefiting from training. See Mining Qualifications Authority 'Annual Performance Report: 1 April 2016 – 31 March 2017' available at <http://www.mqa.org.za/sites/default/files/Annual%20Report%202016%20-%202017.pdf> at 34.

<sup>1249</sup> Mintek is a state-owned science council with the mandate to research and develop the mineral industry (SAHRC Report op cit note 1078 at 27 footnote 46). Mintek's Small-Scale Mining and Beneficiation (SSMB) Division assists aspiring and established small-scale operators to become legal miners that can run more efficient, economic and sustainable projects. It was created in 2002 in response to the need for research and skills development in the ASM sector. See <http://www.mintek.co.za/technical-divisions/small-scale-mining-beneficiation/ssmb-training-school/>.

<sup>1250</sup> Mintek's training school provides training to ASM operators with regards to health and safety, geology education, and mining and processing skills. See Ledwaba & Mutemeri op cit note 1098 at 20.

<sup>1251</sup> The non-profit company was established in 2001 as a small-scale mining and mineral value addition mentor for small enterprises. See further [http://154.0.162.41/~zenzelet/WP/?page\\_id=2](http://154.0.162.41/~zenzelet/WP/?page_id=2).

<sup>1252</sup> The centre was established in 2002 with the aim of enhancing research into and providing technical support to ASM and mineral-related enterprises. For further detail see Ledwaba & Mutemeri op cit note 1098 at 20.

their impact, and to learn lessons for future ASM support initiatives.<sup>1253</sup> Research should also be conducted into whether failed projects investigating cleaner processing techniques should be reactivated.<sup>1254</sup>

It is important that all measures are designed to be sustainable in the long-term, with the idea that the trained “ambassadors” will become the trainers of their mining communities in the future.<sup>1255</sup> The appropriate stakeholders that are already well-placed and experienced in co-ordinating training provision are Mintek, the MQA and the South African Chamber of Mines.<sup>1256</sup> However, an increase in the number of ASM operators that benefit from skills acquisition and training may necessitate the allocation of funding to the training institutions to enhance their capacity. This funding could be sourced from the National Skills Fund,<sup>1257</sup> but research into the feasibility and practicality of doing so is needed.

For assistance in the formulation of the support strategy for the ASM sector articulated above, policy drafters can look to international documents for guidance. One guiding instrument that has been proposed<sup>1258</sup> is the African Mining Vision.<sup>1259</sup> Amongst its goals is the aim to harness ASM’s potential in mining sectors in African Countries to advance socio-economic development.<sup>1260</sup> Another tool proposed<sup>1261</sup> is the guidance document formulated by the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, which

<sup>1253</sup> Of importance is the fact that most of the skills development initiatives created in addition to the aforementioned programmes have been disbanded, and no explanations have been given as to why this is the case. This speaks to the need for further research into their dynamics. See Ledwaba & Mutemeri *ibid*.

<sup>1254</sup> In the SAHRC Report (op cit note 1078 at 54) the panel considered Mintek’s past project to investigate more efficient technologies that could be substituted for informal operators mercury usage in processing gold. The use of household chemicals, which is a considerably slower means of extracting gold from mined ore, was not favourable with informal miners who preferred using mercury despite its health and environmental dangers.

<sup>1255</sup> Marshall & Veiga op cit note 1077.

<sup>1256</sup> See Chamber of Mines ‘Skills Development’ *Chamber of Mines website*, accessed 3 December 2017, available at <http://www.chamberofmines.org.za/work/skills-development>.

<sup>1257</sup> The National Skills Authority and Fund is governed by section 27 of the National Skills Development Act 97 of 1998.

<sup>1258</sup> See Ledwaba & Nhlengetwa op cit note 1079 at 27, 39; Ledwaba & Mutemeri op cit note 1098 at 23.

<sup>1259</sup> African Union ‘African Mining Vision’ (2009) United Nations Economic Commissions for Africa (UNECA), available at [http://www.africaminingvision.org/amv\\_resources/AMV/Africa\\_Mining\\_Vision\\_English.pdf](http://www.africaminingvision.org/amv_resources/AMV/Africa_Mining_Vision_English.pdf). This publication, including its action plan, offers guiding principles for the development of ASM across Africa, taking into account its potential and the barriers to formalisation.

<sup>1260</sup> Some of the key actions include developing programmes to advance the skills, knowledge technologies used in ASM sectors, as well as enhancing institutional capacities to support the sectors’ sustainability. See Ledwaba & Mutemeri op cit note 1098 at 23.

<sup>1261</sup> *Ibid* at 22.

provides guidance for governments on how to manage sustainable ASM sectors.<sup>1262</sup> It is argued, however, that for the policy to be tailored to the South African context, research into the reality on the ground must accompany a consideration of international policy guidelines.<sup>1263</sup> Most important for the success of this support strategy, however, is the collaboration of all stakeholders and role-players, as the section below argues.<sup>1264</sup>

### 3 Necessary mechanisms for successful implementation

The drafting of policy alone will not guarantee the formalisation of the ASM sector nor the elimination of illegal mining. There needs to be corresponding mechanisms to ensure that the improvements envisioned by the policy are brought into practice. These are briefly explained below.

#### 3.1 Collaboration between all stakeholders

For South Africa's ASM sector to be formalised, collaboration and cooperation between all the implicated stakeholders and role-players in the mining industry is vital.<sup>1265</sup> This strategy would demand that both regulation and enforcement authorities work together to achieve a balance between the elimination of illegal mining, and the promotion of legitimate mining.<sup>1266</sup> The contradictory and fragmented approaches in the past by these bodies have thwarted the

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<sup>1262</sup> See Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development 'IGF Guidance for Governments: Managing artisanal and small-scale mining' (2017) International Institute for Sustainable Development (IISD) available at <http://igfmining.org/wp-content/uploads/2017/01/igf-guidance-for-governments-asm.pdf>.

<sup>1263</sup> This argument aligns with the motivation of an 'ASM for SA Strategy' that focuses on formalising the ASM sector for the benefit of South Africans specifically. As Buxton argues, "international policy improvements alone will not achieve change 'on the ground'. National level analysis needs to assess ASM policy, how it is devised, and how well it reflects local realities." Buxton op cit note 1092 at 14.

<sup>1264</sup> Chapter 7 para 3.1.

<sup>1265</sup> In its submission to the SAHRC panel (op cit note 1078 at 31) the Chamber of Mines held that "the cooperation of stakeholders (including the State) is necessary to address the issue of south Africa's negative mining legacies". The Chamber of Mines highlights this point on its website. See Chamber of Mines of South Africa 'Illegal mining: fact Sheet 2017' at 1, accessed on 11 October 2017, available at <http://www.chamberofmines.org.za/industry-news/publications/fact-sheets/send/3-fact-sheets/386-illegal-mining>; Chamber of Mines of South Africa 'Illegal Mining' (2017) Chamber of Mines website, accessed on 11 October 2017, available at [http://www.chamberofmines.org.za/work/illegal-mining\\_](http://www.chamberofmines.org.za/work/illegal-mining_)

<sup>1266</sup> See Chapter 6 para 2.2.2.1.

realisation their respective goals,<sup>1267</sup> and a continuation of this asynchronous conduct will result in ineffective and impractical policies.<sup>1268</sup>

Since illegal mining presents multi-dimensional challenges, it needs to be addressed from a range of perspectives and through the implementation of a multi-disciplinary approach.<sup>1269</sup> Different governmental forums have already been established to tackle the range of challenges presented by the ASM sector, including the illegal mining aspect.<sup>1270</sup> These forums need to be strengthened, where necessary, so that efforts are not duplicated and resources are not expended unnecessarily.<sup>1271</sup>

Collaboration is not, however, limited to governmental agencies on a national level, and should extend beyond government to involve all relevant stakeholders in the mining industry.<sup>1272</sup> A distribution of responsibility is essential considering the DMR's capacity constraints, namely the lack of financial and human resources.<sup>1273</sup> Incapacity is further aggravated by the overlapping jurisdictions involved, and the slow decision and implementation processes characteristic of governmental departments.<sup>1274</sup> Since the Small-Scale Mining Directorate has limited capacity to deal with small-scale miners' permit procedures at present, its ability to regulate and evaluate ASM operations throughout the country is unpromising.<sup>1275</sup>

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<sup>1267</sup> Ibid.

<sup>1268</sup> Marshall & Veiga op cit note 1077 at 301.

<sup>1269</sup> Chamber of Mines 'Illegal mining: fact Sheet 2017' op cit note 1265 at 1.

<sup>1270</sup> The Gauteng Illegal Mining Stakeholder Forum (GIMSF) was established by the DMR to facilitate measures to eradicate illegal mining activities. The forum is made up of the DMR, National Prosecuting Authority (NPA), the South African Police Service (SAPS), which includes the Directorate for Priority Crimes and Investigation (DPCI), Visible Policing (VISPOL) and Crime Intelligence (CI), the South African Diamond and Precious Metals Regulator (SADPMR), the Department of Home Affairs (DoH), Council for Geoscience (CGS), Mine Health and Safety Council, the affected municipalities, the affected mining companies and mines organised labour. All stakeholder forum activities are National Co-ordination Strategic Management Team (NCSMT). See Mining Review 'DMR highlights means to deal with illegal mining' mining review website available at <https://www.miningreview.com/news/dmr-highlights-means-to-deal-with-illegal-mining/>.

<sup>1271</sup> Chamber of Mines 'Illegal Mining' op cit note 1265.

<sup>1272</sup> Ledwaba op cit note 1196 at 39. This argument is based on the recognition that the challenges experienced in the ASM sector are interrelated, and thus it is necessary to adopt a holistic problem-solving approach. This includes specialised training institutions, large-scale mining companies, and the institutions involved in rehabilitation procedures such as the Council for Geoscience, established by the Geoscience Act 100 of 1993.

<sup>1273</sup> SAHRC Report op cit note 1078 at 64.

<sup>1274</sup> Chamber of Mines 'Illegal Mining' op cit note 1265.

<sup>1275</sup> Ledwaba & Nhlengetwa op cit note 1079 at 41.

To compensate for the lack of enforcement and monitoring capacity, it is recommended that the Small-Scale Mining Directorate forges development partnerships with NGO's,<sup>1276</sup> developmental agencies and local government to allocate formalisation responsibilities.<sup>1277</sup> Presently the majority of institutions supporting the ASM sector are at national, and not grassroots level.<sup>1278</sup> It has been argued that the failure to involve local government in the regulation of the ASM sector and the redress of its challenges has resulted in general uncertainty about the nature of the sector, and about what strategies are needed to develop it.<sup>1279</sup> Considering that local bodies are familiar with the area, the communities and events in their jurisdictions, they are better placed to regulate and monitor ASM operations efficiently.<sup>1280</sup> Hence there is a need to involve local governments and provide them with the skills and resources to regulate the sector within their locality. This would substitute the ad-hoc, top-down formalisation approaches of the past with ground-level support that caters for ASM operators' needs.<sup>1281</sup>

### 3.2 Establishing a novel ASM agency

The envisioned collaboration between public bodies on a national and local level, and with private institutions, can be realised through the creation of an ASM planning body<sup>1282</sup> or separate state ASM agency.<sup>1283</sup> This will ensure that all stakeholder responsibilities forming part of the recommended 'ASM for SA Strategy' are integrated, which will prevent the duplication of efforts and will foster aligned, streamlined decision making.<sup>1284</sup> All members of this ASM agency will fall under the broad categories for the redress of ASM's challenges identified by the DMR. These are policy and legislation, support programmes, roles of institutions and research.<sup>1285</sup>

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<sup>1276</sup> Hoadley and Limpitlaw argue that there are few developmental agencies and NGOs that focus on ASM in South Africa. The services and resources of such organisations needs to be encouraged and disseminated to both artisanal and small-scale miners. See Hoadley & Limpitlaw op cit note 1138 at 4.

<sup>1277</sup> Ibid.

<sup>1278</sup> Ledwaba op cit note 1196 at 39.

<sup>1279</sup> This is particularly so in rural areas. See Hoadley & Limpitlaw op cit note 1138 at 6.

<sup>1280</sup> Ibid at 7. The authors further argue that local government bodies are able to rapidly respond rapidly to the safety or environmental threats that ASM activities pose to surrounding communities.

<sup>1281</sup> Ledwaba op cit note 1196 at 39.

<sup>1282</sup> The suggestion of the Small-Scale Mining Directorate director Pheaga Gad Kwata. See Solomons op cit note 1132.

<sup>1283</sup> The suggestion of the Chamber of Mines in its submission to the SAHRC panel op cit note 1078 at 31.

<sup>1284</sup> Ibid at 23.

<sup>1285</sup> 'DMR promotes small scale mining' op cit note 1080.

The involvement of stakeholders from both the regulation and enforcement<sup>1286</sup> domains will ensure that the efforts of the agency are balanced between the promotion of legitimate ASM and the elimination of illegal mining.<sup>1287</sup> Participants include all governmental departments who play a role in ASM related activities.<sup>1288</sup> Members in the regulation sphere will include the government personnel tasked with drafting the legislation and policy framework,<sup>1289</sup> the Chamber of Mines, the role-players in mine rehabilitation projects,<sup>1290</sup> and the Small-Scale Mining Directorate. Since the incapacity of the latter DMR unit has been recognised, resources need to be allocated for the improved implementation of its duties.<sup>1291</sup> Since the directorate does not specifically cater for the widespread informal ‘survivalist’ artisanal mining,<sup>1292</sup> its duties need to be expanded to include these operators.

An important group of stakeholders are the ASM operators themselves. The organisation of South Africa’s small-scale sector is significantly underdeveloped.<sup>1293</sup> There are a few small-

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<sup>1286</sup> A detailed examination of the role players involved in the enforcement of illegal mining is beyond the scope of this dissertation. In brief, the key members that should collaborate with the proposed ASM planning body are the Multi-Agency National Co-ordination and Strategic Managements Team (NCSMT), the South African Police Services (SAPS), the National Prosecuting Authority (NPA) and the Directorate for Priority Crime Investigation (the DPCI) and the South African Revenue Services, amongst others.

<sup>1287</sup> In recognition of the argument that the formalisation of ASM sectors is an essential part of the solution to addressing illicit financial flows. See M Hunter, A Smith & E Levin-Nally ‘Follow the Money: Financial Flows linked to Artisanal and Small-Scale Mining – A tool for Intervention’ (March 2017) Handbook in collaboration with the Global Initiative against Transnational Organised Crime and Estelle Levin Lt, accessed on 3 December 2017, available at [https://www.commddev.org/wp-content/uploads/2015/05/P\\_Illicit-Financial-Flows-Linked-to-Artisanal.pdf](https://www.commddev.org/wp-content/uploads/2015/05/P_Illicit-Financial-Flows-Linked-to-Artisanal.pdf) at 1.

<sup>1288</sup> SAHRC report op cit note 1078 at 23. This includes representatives and inspectorates from the Department of Environmental Affairs, the Department of Labour, and the Department of Health. In respect to the latter, the SAHRC panel recommended (at 65) that this ASM agency is constituted by appropriate occupational health components.

<sup>1289</sup> Ibid at 24.

<sup>1290</sup> This involves the Council for Geosciences, collaborating with the DMR, in undertaking the Derelict and Ownerless Mines project, as well as further rehabilitation monitoring and maintenance studies. See Council for Geoscience ‘Derelict and Ownerless Mines Project’, available at [http://www.geoscience.org.za/index.php/key-projects/159-derelict-ownerless-mines\\_](http://www.geoscience.org.za/index.php/key-projects/159-derelict-ownerless-mines_)

<sup>1291</sup> The duties of the Small-Scale Mining Directorate include the establishment of legal entities, offering guidance for the identification of mineral deposits, EIA assistance, help with legal and contractual arrangements, mineral rights etc., assisting with reserve estimation of the selected deposits, help with mining feasibility studies, market studies and development of mining equipment. See Department of Mineral Resources ‘Small-Scale Mining’ DMR website available at [www.dmr.gov.za/small-scale-mining.html](http://www.dmr.gov.za/small-scale-mining.html), accessed 24 April 2017.

<sup>1292</sup> See ‘DMR Called to Legitimize Zamazama Mining’ (29 March 2017) Media statement by the Bench Marks Foundation, Johannesburg, accessed on 1 December 2017, available at [http://www.benchmarks.org.za/press/dmr\\_called\\_to\\_legitimise\\_zama\\_zama\\_mining.pdf](http://www.benchmarks.org.za/press/dmr_called_to_legitimise_zama_zama_mining.pdf)

<sup>1293</sup> N Mutemeri, N Sellick, and H Mtegha ‘What is the Status of Small-scale Mining in South Africa?’ Discussion document for the MQA SSM Colloquium (August 2010) Centre for Sustainability in Mining & Industry (CSMI), University of the Witwatersrand at 20.

scale mining associations in existence,<sup>1294</sup> but like ASM associations across Africa, their lack of resources limits the extent of their reach.<sup>1295</sup> It is recommended that operators in the ASM sector are organised into legal cooperatives or organisations, which will be members of the ASM agency. The formation of these cooperatives is essential for numerous reasons. First, it will assist the Small-Scale Mining Directorate and local government officials with the regulation and monitoring of small-scale mining permit holders. Second, it provides the means by which artisanal miners can become legal business entities. Once organised and licensed, artisanal miners can then be employed as independent contractors by larger mining companies that demand their specialised skills.<sup>1296</sup>

Third, it is a necessary vehicle through which the support and training services outlined above can be provided to operators.<sup>1297</sup> Different ASM projects in close geographic proximity can be clustered together, and each group assigned an engineer and a health and safety official to facilitate safe operations.<sup>1298</sup> Fourth, it has been argued that the degree of self-regulation particular to cooperative organisations facilitates improved community relations.<sup>1299</sup> In general, the negative environmental and safety issues associated with ASM activities is not conducive to good community relations.<sup>1300</sup> Since this aspect of regulation is not currently provided for in legislation, cooperatives could insist that members recognise their responsibilities towards neighbouring communities.<sup>1301</sup> This level of self-regulation will lessen the regulation and monitoring burdens overwhelming the DMR.

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<sup>1294</sup> Such as the Small-Scale Mining Chamber and the Northern Cape Small Miners Empowerment Co-op. See Mutemeri, Sellick, and Mtegha *ibid* at 11.

<sup>1295</sup> Hilson (2016) *op cit* note 1090 at 17.

<sup>1296</sup> This has been done by Birrel Mining International as a means to address the illegal mining activity in its Klipwal underground workings. It now employs former illegal miners, who have subsequently formed cooperatives, to complete tramming and hand-lashing within portions of the underground shafts that have been made safe by the company. See M Creamer 'Gold Mine reopens using ex-illegal zama-zamas as workforce' (5 June 2017) *Mining Weekly*, accessed on 4 December 2017, available at <http://www.polity.org.za/article/gold-mine-reopens-using-ex-illegal-zama-zamas-as-workforce-2017-06-05>.

<sup>1297</sup> Fleury & Wall *op cit* note 1297.

<sup>1298</sup> This was one of the suggestions proposed by the Bench Marks Foundation to the DMR to formalise the ASM sector. See 'DMR Called to Legitimize Zamazama Mining' *op cit* note 1292.

<sup>1299</sup> Hoadley & Limpitlaw *op cit* note 1138 at 4.

<sup>1300</sup> *Ibid* at 8.

<sup>1301</sup> *Ibid* at 4.

The remaining stakeholders that should be members of the recommended planning body are the specialized education and training institutions in existence,<sup>1302</sup> the institutions involved in providing ASM operators with financial assistance,<sup>1303</sup> and large-scale mining companies. The involvement of the latter companies is important not only from the perspective of support provision, but also with respect to the possibility of collaborating with ASM operators.<sup>1304</sup> In terms of support provision, it is recommended that ‘private sector policy’<sup>1305</sup> is drafted, which is needed in addition to public sector policy to affect ground-up change. This type of policy concerns the values, methods, approaches and guidelines adopted by companies and NGOs involved in support provision.<sup>1306</sup>

The joint ventures aspect of the collaboration concerns the possibility of mining companies designating the unused surface outcrops on their mining right sites and/or tailings for ASM projects.<sup>1307</sup> The World Bank Communities, Artisanal and Small-Scale Mining (CASM) initiative provides guidelines for the education of mining companies on how to work more effectively with artisanal miners in their licensed areas.<sup>1308</sup> However these guidelines do not mention the role of government action or partnerships between industry and lawmakers.<sup>1309</sup> This collaboration needs to be fostered, which will require the DMR’s engagement on the creation of the structured mechanisms needed to operationalise joint ventures between large-scale companies and ASM operators.<sup>1310</sup>

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<sup>1302</sup> Including Mintek, the MQA and the Emerging Miners Desk, established by the Chamber of Mines. In respect to the latter see Chamber of Mines ‘Fact sheet: Emerging Miners’ desk’ (2017) *Chamber of Mines website* available at <http://www.chamberofmines.org.za/work/supporting-emerging-miners> accessed on 20 November 2017.

<sup>1303</sup> Such as the Industrial Development Corporation note 1035.

<sup>1304</sup> See Chapter 6 para 2.2.2.4.

<sup>1305</sup> Buxton op cit note 1092 at 11.

<sup>1306</sup> Ibid.

<sup>1307</sup> See Chapter 6 para 2.2.2.4.

<sup>1308</sup> Community and Artisanal and Small-Scale Mining (CASM) and The World Bank ‘Mining Together: Large-Scale Mining Meets Artisanal Mining, A Guide for Action’ (2009) at 52, available at <http://documents.worldbank.org/curated/en/148081468163163514/pdf/686190ESW0P1120ng0Together0HD0final.pdf>.

<sup>1309</sup> Marshall & Veiga op cit note 1077 at 303.

<sup>1310</sup> S Mondlane Jr. ‘ASM and LSM Relationship’ (2010) Meeting document presented at the Global Forum on Artisanal and Small Scale Mining, held in Manila, Philippines (7 December 2010) at 11, available at <http://wedocs.unep.org/handle/20.500.11822/12829>. One proposed mechanism in this respect is the creation of an independent fund that communities can use to employ their own environmental experts, health and safety officers and geologists. With the knowledge and information provided by these experts, ASM operators will be able to negotiate and strategize with large-scale mining companies. This was argued by Bench Marks Foundation South Africa lead researcher David van Wyk, addressing delegates at the Science Business Society Dialogue Conference on Linking

## 4 Areas for future research

Across the globe institutions and researchers have recognized the need for data that accurately captures the status of ASM sectors.<sup>1311</sup> To address the knowledge gap, projects to capture<sup>1312</sup> and organise<sup>1313</sup> data have been initiated, affirming that research is one of the key components of strategies to formalise and address the challenges of ASM sectors.<sup>1314</sup> These efforts need to be mirrored in the South African context, where there is a discernible lack of data on the sector.<sup>1315</sup> This has made it difficult, if not impossible, to measure the progress and success of past efforts to support and develop the sector.<sup>1316</sup>

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Science, Society, Business and Policy for the Sustainable Use of Abandoned Mines in the Southern African Development Community Region. See Breytenbach op cit note 1237.

<sup>1311</sup> See Buxton op cit note 1092 at 11; Jaques et al Jaques et al op cit note 1127 at 143.

<sup>1312</sup> The World Bank, partnering with Pact (a non-profit international development organization) initiated the DELVE project in 2017. DELVE will be a platform for artisanal and small-scale mining data and will focus on selected high-impact data sets to illustrate the positive impact of ASM on sustainable development. Available at <http://www.delve.pactworld.org>.

<sup>1313</sup> See the Artisanal and Small-Scale Mining Knowledge Sharing Archive produced by artisanalmining.org, available at <http://www.artisanalmining.org>.

<sup>1314</sup> Buxton op cit note 1092 at 14.

<sup>1315</sup> With respect to the precise number of formal, informal and illegal operators, the contribution to the country's economy on a micro and macro level, and the types of ASM activities taking place. See Ledwaba & Mutemeri op cit note 1098 at 10, 13; SAHRC Report op cit note 1078 at 6.

<sup>1316</sup> Ledwaba op cit note 1196 at 39.

#### 4.1 Policy and legislation development

The first recommendation of the SAHRC panel was the need for future studies to identify the size, shape, and scope of artisanal mining in South Africa.<sup>1317</sup> It submitted that there is a need to build the evidence base around the largely unregulated subsector, in recognition that the profile of artisanal miners is poorly understood,<sup>1318</sup> and that research can help address the challenges plaguing the sector.<sup>1319</sup> In light of the fact that many of the past government-led initiatives to develop ASM failed,<sup>1320</sup> it is vital that research is conducted into the impact of these past efforts to draw lessons for future support programmes.<sup>1321</sup> This support-related research includes environmental and health and safety monitoring, so that government can identify and monitor the impact the impact of ASM activities and allocate the necessary resources.<sup>1322</sup>

Research is needed for the amendment of current legislative provisions, which in addition to support provision was the second prong of the strategy recommended in this chapter.<sup>1323</sup> In recognition that the legislation regulating artisanal mining in Burkina Faso is not ideal,<sup>1324</sup> the enabling legislation in alternative jurisdictions needs to be explored. While this research is beyond the scope of this dissertation, it is recommended that guidance from Ghana<sup>1325</sup> and Kenya<sup>1326</sup> is sought.

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<sup>1317</sup> SAHRC Report op cit note 1078 at 63.

<sup>1318</sup> Ibid at 6.

<sup>1319</sup> For the full list of ways that research will improve the ASM sector, as proposed by the SAHRC panel, see page 64 (ibid).

<sup>1320</sup> See Chapter 5 para 1.

<sup>1321</sup> Ledwaba & Mutemeri op cit note 1098 at 20.

<sup>1322</sup> Proposal made by the SAHRC panel at 12.

<sup>1323</sup> Hilson argued that countries need to improve the understanding of ASM sector's dynamics before designing legislation and implementing support schemes. See Hilson (2009) op cit note 1093 at 4.

<sup>1324</sup> See Chapter 7 para 2.1.1.

<sup>1325</sup> The total mineral production that ASM increasingly contributes to Ghana's GDP is significant compared to the sectors in other African countries (M Wilson et al 'Integrated Assessment of Artisanal and Small-Scale Gold Mining in Ghana — Part 3: Social Sciences and Economics' (2015) 12 *International Journal of Environmental Research and Public Health* 8133 at 8134). Efforts to develop the sector, as an important source of employment, include the establishment of buying facilities to act as markets for ASM operators (Ledwaba & Mutemeri op cit note 1098) at 13). Since a lack of market access is one of the key challenges preventing the development of South Africa's ASM sector (Ledwaba & Mutemeri 2017 ibid at 14) further research on Ghana's legal framework regulating ASM should be conducted to determine whether it could inform future ASM policy in South Africa.

<sup>1326</sup> Kenya's Ministry of Mining has recently made a commitment to develop artisanal mining by drafting the 'Kenya National Artisanal Mining Strategy (KAMS) 2017-19' Draft V0.1 (11 August 2017) (unpublished, on file with author). In recognition of the government of Kenya's objective to legalize and formalize the ASM sector, KAMS extends beyond existing policy and legislation to "pursue a progressive and continuous formalisation of the ASM sector to maximize the micro- and macro-economic benefits of the sector, and improve its social and

## 4.2 Collaboration between mining companies and ASM operators

The next area for future research is the possibility of collaboration between large-scale mining companies and artisanal or small-scale miners. The first option is that artisanal miners, which may include individuals who used to mine illegally, be contracted by gold mining companies to work in portions of companies' underground shafts.<sup>1327</sup> Since safety must be prioritised, the DMR would need to investigate where and how this possibility could take place, in a way that it safe and beneficial to both parties.<sup>1328</sup> Existing operations indicate that it is possible, and can be successful, if mining companies take responsibility for the artisanal miners' safety.<sup>1329</sup>

The DMR has, however, explicitly rejected this type of underground artisanal mining as a legal possibility.<sup>1330</sup> In recognition that there could be severe safety threats for miners,<sup>1331</sup> it has limited future artisanal mining projects to surface operations only.<sup>1332</sup> Further research should be conducted to investigate whether the DMR's position is preventing significant employment opportunities and supressing a practical solution to reduce the number of illegal operators. Also for consideration is the possibility of a moratorium being granted to illegal miners when they decide to work as legal artisanal contractors.<sup>1333</sup> This would require the involvement of SAPS, the Department of Home Affairs, and other implicated government bodies.<sup>1334</sup> Finally, future research must be conducted as to how these artisanal miners working as contractors will be protected by South Africa's labour legislation.<sup>1335</sup> Since no employer-employee relationship

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environmental impact.” (at 5) This progressive approach that highlights the socio-economic potential of ASM should be investigated to guide South Africa's ASM formalisation strategy.

<sup>1327</sup> See Chapter 6 para 2.2.2.4.

<sup>1328</sup> This was the suggestion of the Department of Labour to the SAHRC panel op cit note 1078 at 50.

<sup>1329</sup> See Creamer op cit note 1296

<sup>1330</sup> 'DMR highlights means to deal with illegal mining' (20 September 2017) *Mining Review Africa* available at <https://www.miningreview.com/news/dmr-highlights-means-to-deal-with-illegal-mining/> accessed on 19 November 2017.

<sup>1331</sup> Submission of the DMR to the SAHRC Panel op cit note 1078 at 52.

<sup>1332</sup> Department of Mineral Resources 'Briefing to the Joint Portfolio Committees' op cit not 1332.

<sup>1333</sup> At the workshop of Illegal Mining in South Africa (27 March 2017) various proposals were made by government personnel and stakeholders with respect to the solutions needed to address illegal mining and promote artisanal mining. This was one such proposal. See 'DMR promotes small scale mining' op cit note 1080. This possibility has, however, been rejected by the Mine Rescue Services (Mine Rescue Services 'Submission by the Mine Rescue Services' op cit note 1145 at 30.

<sup>1334</sup> 'DMR promotes small scale mining' *ibid*.

<sup>1335</sup> This was a query posed by the Department of Labour to the SAHRC panel. See SAHRC report op cit note 1078 at 60.

exists,<sup>1336</sup> the welfare of these miners is not the responsibility of the Department of Labour, but rather the responsibility of the DMR.<sup>1337</sup> Collaboration between the Department of Labour and the DMR must follow to determine how this will be managed.<sup>1338</sup>

The second option for collaboration is if mining companies dedicate surface deposits in their mining right areas that they cannot exploit optimally.<sup>1339</sup> The SAHRC panel highlighted that there is a need to investigate the creation of a framework for partnerships between artisanal *Zamazama* miners and large-scale mining companies in the parts of the mining right area that are not being used.<sup>1340</sup> If this option is found to be possible, there needs to be explicit guidance by the DMR that supports such partnerships,<sup>1341</sup> in light of the obligations that they present for mining companies. The first obligation is that official, written agreements between the companies and the ASM operators that include non-conflict clauses would have to be drafted.<sup>1342</sup> Not only would companies have to dedicate time and resources for this, but practice across Africa indicates that the success of such agreements is rare.<sup>1343</sup> Hence, research is needed into the feasibility of this option.

Further obligations for mining companies include the health and safety responsibilities over the ASM operators, which is a significant disincentive to collaborate.<sup>1344</sup> Companies would have to assume responsibility for any environmental liabilities caused by ASM activities, which could be accompanied by unattractive reputational damage.<sup>1345</sup> The previous chapter considers the possibility of mining companies assisting ASM operators fulfil their environmental and

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<sup>1336</sup> The definition of ‘employee’ in the Labour Relations Act 66 of 1995 means ‘any person, excluding an independent contractor, who works for another person or for the State and who receives, or is entitled to receive, any remuneration.’

<sup>1337</sup> SAHRC report at op cit note 1078 at 60.

<sup>1338</sup> While provisions exist in the Occupational Health and Safety Act 85 of 1993 for self-employed individuals, the scope of the legislation does not extend to those working in the mining industry. See section 3(a) which excludes a mining area from the scope of the Act.

<sup>1339</sup> See Chapter 6 para 2.2.2.4.

<sup>1340</sup> SAHRC Report op cit note 1078 at 68. The SAHRC panel also recommended (at 68) that investigations need to be undertaken into the development of a framework that facilitates access for artisanal miners to historically mined sites (now abandoned sites) under the control of the DMR.

<sup>1341</sup> See Hooley & Limpitlaw op cit note 1138 at 8.

<sup>1342</sup> OECD Guidelines op cit note 1240 at 5.

<sup>1343</sup> *Ibid.* Conflict can arise when artisanal and small-scale operators find the quality of the allocated surface deposits unattractive.

<sup>1344</sup> Submission of the DMR to the SAHRC panel op cit note 1078 at 52.

<sup>1345</sup> World Gold Council ‘Artisanal and Small-Scale Mining’ *World Gold Council website*, accessed 25 April 2017, available at <http://www.gold.org/gold-mining/responsible-mining/artisanal-and-small-scale-mining>.

health and safety obligations, and one way to administer this would be to make this assistance part of companies' social responsibility obligations.<sup>1346</sup>

Research must be conducted to determine how this responsibility could be included in the legislation and policy documents regulating the transformative aims of South Africa's mining law.<sup>1347</sup> Already mining companies have specific obligations that accompany a successful mining right application with respect to the Social Plan,<sup>1348</sup> the Mining Charter<sup>1349</sup>, Integrated Development Plans and/or Local Economic Development strategies.<sup>1350</sup> Since mining companies must align their social plans with IDPs and LED strategies, and given that they have experience and expertise that ASM operators lack, there is significant potential for them to support small-scale mining projects for the development of the ASM sector.<sup>1351</sup> This possibility demands significant further research, which is beyond the scope of this dissertation.

The third possible way ASM and large-scale mining collaboration can occur is companies' dedication or sale of their tailings for artisanal exploitation.<sup>1352</sup> Research must be conducted into the feasibility of this proposition, as it might be challenged by the increase in the retreatment of tailings by large-scale companies themselves.<sup>1353</sup> In response to a struggling economy, which makes resource-heavy industrial exploitation less appealing, companies are beginning to downscale their operations.<sup>1354</sup> More companies may begin reworking their own tailings themselves, which eliminates this possibility for artisanal miners.

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<sup>1346</sup> See Chapter 6 para 2.2.2.4.

<sup>1347</sup> See section 2(d) and (f) of the MPRDA.

<sup>1348</sup> *Ibid* section 23(3).

<sup>1349</sup> Reviewed Broad Based Black-Economic Empowerment Charter for the South African Mining and Minerals Industry, 2016 (GN 450 in GG no. 39933 15 April 2016).

<sup>1350</sup> Hoadley & Limpitlaw op cit note 1138 at 7.

<sup>1351</sup> *Ibid* at 7.

<sup>1352</sup> See Chapter 6 para 2.2.2.4.

<sup>1353</sup> Illustrated in *Ekapa Minerals (Pty) Ltd and Others v Seekoei and Others* (2057/2016) [2017] ZANCHC 5 (13 January 2017).

<sup>1354</sup> See Breytenbach op cit note 1237.

### 4.3 Alternatives to artisanal and small-scale gold mining

The mining of gold on an artisanal and small scale is challenged by numerous factors. Most notably these are the depletion of surface-level alluvial gold deposits,<sup>1355</sup> and the possibility that a declining economy will incentivize large-scale mining companies to retreat surface tailings, hence eliminating this opportunity for artisanal miners. A more pressing factor is that the majority of South Africa's organised crime syndicates plaguing the mining industry are fuelled by illegal gold mining.<sup>1356</sup> This means that the regulation of artisanal gold mining in underground shafts will demand a significant degree of coordination, resource allocation and monitoring by numerous governmental departments, many of which lack the capacity to do so.<sup>1357</sup>

In light of these challenges, it is necessary to conduct further research into the regulation of the ASM of other mineral commodities.<sup>1358</sup> The potential for the artisanal and small-scale mining of precious and semi-precious stones has already been exposed with respect to tigers eye,<sup>1359</sup> and diamonds.<sup>1360</sup> Further research needs to be conducted to investigate whether the regulation of artisanal mining of these and other stones would require specific legislative provisions.<sup>1361</sup> Even greater potential is presented by the artisanal and small-scale mining of industrial commodities.<sup>1362</sup> Since the majority of regulated ASM activities exploit industrial minerals,<sup>1363</sup>

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<sup>1355</sup> Mining Africa 'Greenstone Revival' (2017) *Mining Africa Online* available at <http://www.miningafricaonline.co.za/index.php/mining-features/mining-in-africa/3129-greenstone-revival>, accessed on 15 December 2017.

<sup>1356</sup> Department of Mineral Resources 'Briefing to the Joint Portfolio Committees' op cit not 1332.

<sup>1357</sup> See Chapter 5 para 2.3.2.

<sup>1358</sup> A study of the distribution and nature of ASM activities in South Africa was recently released in November 2017 (See Ledwaba & Mutemeri op cit note 1098). While the research is immensely valuable as the first comprehensive study of the sector, the authors themselves argue that further data needs to be collected (at 26).

<sup>1359</sup> P Ledwaba 'Tiger's eye in the Northern Cape Province – potential for employment creation and poverty alleviation' (2014) 114(11) *The Journal of The Southern African Institute of Mining and Metallurgy* 881.

<sup>1360</sup> In the SAHRC report (op cit note 1078 at 12) the panel considered how the artisanal mining of diamonds is significantly less harmful to the environment and operators than the extraction of gold, which demands to use of chemicals. It was in recognition of this, and the fact that artisanal diamond mining could be a source of income for miners and their families and could contribute to rehabilitation projects, that the Parliamentary Portfolio Committee on Mineral Resources was informed and advised to consider the possibility of regulating this activity.

<sup>1361</sup> This is particularly necessary for the mining of diamonds considering the involvement of the South African Diamond and Precious Metals Regulator (SADPMR), and the relevance of the Diamond Second Amendment Act 30 of 2005.

<sup>1362</sup> See Chapter 6 para 2.2.2.2.

<sup>1363</sup> The percentage of ASM projects that exploit industrial minerals in South Africa has been estimated to be 90%. See Mining Qualifications Authority (MQA) 'Sector skills plan for the mining and minerals sector submitted by the Mining Qualifications Authority (MQA) to the Department of Higher Education and Training' (2014) Update 2015-2020 at 27; N Mutemeri, N Sellick & H Mtegha 'What is the status of small-scale mining in South Africa?'

the industrial minerals sector has the potential to be the target of South Africa's ASM development strategies. Often these minerals are found close to the surface, which makes their exploitation relatively uncomplicated and simplistic.<sup>1364</sup> There is a significant percentage of industrial minerals in the country that have not been exploited, mostly due to their low economic value compared to gold.<sup>1365</sup> They present an appealing alternative in the current economic climate as they are not influenced by fluctuating commodity prices.<sup>1366</sup> It is therefore necessary to investigate how the artisanal mining of industrial commodities can be supported and developed, so that its potential to strategically position ASM in the mining industry can be harnessed.<sup>1367</sup>

#### 4.4 Rehabilitation opportunities

The final area that demands research is the opportunities for artisanal miners' involvement in rehabilitation activities.<sup>1368</sup> There have been numerous proposals for the integration of informal artisanal miners in mine waste rehabilitation projects,<sup>1369</sup> and efforts involving communities have begun in some areas.<sup>1370</sup> Research into this possibility and the means to regulate it needs to be conducted, which will demand the collaboration between multiple industry stakeholders, including the DMR.<sup>1371</sup> In addition to offering employment opportunities, successful rehabilitation efforts have had a perceivable effect by obstructing the preponderance of illegal mining activities.<sup>1372</sup> However success is undermined by the temporary cessation, partial closure, and 'warehousing' of companies mining shafts, which is conducive to illegal

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(2010) Discussion document for the Mining Qualifications Authority, Small-Scale Mining Colloquium (August 2010).

<sup>1364</sup> Ledwaba & Nhlengetwa op cit note 1079 at 40; Ledwaba & Mutemeri op cit note 1098 at 11.

<sup>1365</sup> P Malatsi, P Ledwaba & M Mavuso 'Industrial minerals database: Internal Report' (No. 52012) Mintek, South Africa.

<sup>1366</sup> Ledwaba op cit note 1196 at 35; Ledwaba & Mutemeri op cit note 1098 at 11.

<sup>1367</sup> Ledwaba & Nhlengetwa op cit note 1079 at 40.

<sup>1368</sup> In the SAHRC Report op cit note 1078 at 28 the panel held that the absence of applicable policy indicates a missed opportunity to introduce systems that enable integration of artisanal miners into rehabilitation projects.

<sup>1369</sup> See Fleury & Wall op cit note 1297.; L Ledwaba 'Zama zamas unite in bid for state to formalise small-scale mining' (23 August 2017) *Business Day* available at <https://www.businesslive.co.za/bd/companies/mining/2017-08-23-zama-zamas-unite-in-bid-for-state-to-formalise-small-scale-mining/>; SAHRC Report op cit note 1078 at 28, 61.

<sup>1370</sup> Ibid at 62.

<sup>1371</sup> Ibid at 61.

<sup>1372</sup> Mine Rescue Services 'Submission by the Mine Rescue Services' op cit note 1145 at 22.

activities.<sup>1373</sup> To address this issue the DMR needs to improve the monitoring and punishment of mining companies who fail to satisfy their mine closure obligations.<sup>1374</sup>

## 5 Conclusion

Formalisation of South African's ASM sector, through the provision of legislative and policy support, is essential to diminish the negative impacts of mining activities on the environment, on surrounding communities and for the miners themselves. It is necessary to assist miners in overcoming the barriers to legal operations, which could diminish the extent of illegal mining activities. This final chapter offered the recommendations as to how this formalisation could be achieved, in the form of an 'ASM for SA Strategy'. This strategy outlined a two-prong approach that should be followed by policy drafters, combining proposed legislative amendments with a comprehensive support framework. The approach considered efforts for both regulation and enforcement to the elimination of illegal mining with the promotion of legitimate ASM.

The recommended legislative amendments included the formulation of a specific artisanal mining provision in the MPRDA, the amendment of the mining permit provisions in the MPRDA, and the formulation of an offence that criminalises the act of mining illegally without authorisation. The recommended support strategy to improve compliance articulated the improvements needed in the application process, and those needed to enhance operators' access to finance, markets and technology. It was argued that education in each of these areas is essential to surpass the barriers blocking entry into the formal sector. It was further argued that, for these recommendations to be implemented successfully, there should be several additional mechanisms in place.

First there needs to be collaboration between all relevant stakeholders, which is particularly necessary to overcome the DMR's capacity constraints. Second, this cooperation can be facilitated by the establishment of a state ASM agency. The agency's members need to represent both regulation and enforcement spheres of the formalisation strategy, and should include the representation of ASM operators themselves. It was recommended that this

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<sup>1373</sup> For further detail see SAHRC Report op cit note 61-66.

<sup>1374</sup> The SAHRC panel (ibid) at 62 submitted that the DMR's response to penalising mining companies for not fulfilling their mine closure obligations was "completely inadequate". Until companies are issued with a mine closure certificate, they have environmental and mine management responsibilities to fulfil. See section 43(1) of the MPRDA.

organisation should take the form of ASM cooperatives. The justification was that without proper education, training and organisation of ASM operators into cooperatives, their rudimentary and harmful practices cannot be transformed into safe and environmentally sustainable methods.<sup>1375</sup>

The chapter concluded by highlighting the areas for future research that fall beyond the scope of this dissertation. It highlighted how there is a need for general statistical data to determine the nature and size of South Africa's ASM sector. There is also need to investigate the legislative frameworks of alternative African jurisdictions to guide the recommended legislative amendments. It was recommended that research is conducted into the feasibility of joint partnerships between industrial companies and artisanal operators, particularly with respect to artisanal mining underground. Finally, it was suggested that investigations are conducted to explore the country's industrial mineral potential, and possible rehabilitation opportunities for artisanal miners.

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<sup>1375</sup> Marshall & Veiga op cit note 1077 at 301.

## CHAPTER EIGHT: CONCLUDING COMMENTS

### 1 Summary of problems and opportunities

Many illegal miners have lost their lives in fatal underground rock falls, gas explosions and fires,<sup>1376</sup> or were killed in factional rivalry.<sup>1377</sup> Despite these daily threats, they continue to risk their lives and the lives of others, because ‘they would rather take their chances than starve’.<sup>1378</sup> They can make lucrative high financial returns compared to routine lawful employment, as their activities feed into South Africa’s illegal precious metals and diamonds trade.<sup>1379</sup> These illegal mining syndicates are accessible for any individual with the knowledge, stamina or desperation to head deep into shuttered mines,<sup>1380</sup> and has led to the creation of a lucrative secondary informal market.<sup>1381</sup> As long as *Zamazamas* rely on illegal mining to alleviate their socioeconomic problems, their practices are not likely to end.<sup>1382</sup>

This reality is not a standalone case when considering ASM sectors across the continent. ASM’s potential to be an ‘employment engine’<sup>1383</sup> in national development processes has been recognised by African governments, donor institutions and researchers.<sup>1384</sup> Millions of operators have turned to these mining activities to sustain their lives<sup>1385</sup> with the poorest individuals undertaking artisanal mining particularly,<sup>1386</sup> the most basic form of mining within ASM sectors. Owing to the simplicity of operations and lack of high start-up costs, the number

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<sup>1376</sup> See Chapter 4 para 2.2.2.

<sup>1377</sup> See Prologue.

<sup>1378</sup> L Ledwaba ‘Zama-zamas take their chances rather than starve’ (9 August 2017) *Mail & Guardian* accessed on 17 October 2017, available at <https://mg.co.za/article/2017-08-09-zama-zamas-take-their-chances-rather-than-starve>.

<sup>1379</sup> See Chapter 4 para 2.3.2.

<sup>1380</sup> C Johnson ‘Lethal toll of informal gold mining’ (17 August 2016), available at <http://www.groundup.org.za/article/lethal-toll-informal-gold-mining>.

<sup>1381</sup> See Prologue.

<sup>1382</sup> See Chapter 1 para 1.

<sup>1383</sup> G Hilson ‘Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: a critical overview’ (2016) IIED Issue Paper (March 2016) at 5.

<sup>1384</sup> See Chapter 3 para 1.

<sup>1385</sup> *Ibid* para 3.1.

<sup>1386</sup> M Hoadley and D Limpitlaw ‘The Artisanal and Small-Scale Mining Sector & Sustainable Livelihoods’ (2004) A paper presented at the Mintek Small Scale Mining Conference, 2004, 9 September, Nasrec, Johannesburg, Book of Proceedings at 6.

of employment opportunities presented by artisanal mining is significant.<sup>1387</sup> Arguably, if it is the poorest individuals who sustain their lives through artisanal mining, it is this activity in the ASM sector which has the most potential to drive socio-economic development.

Despite its widely-recognized potential, however, the efforts to promote artisanal mining have not been effective.<sup>1388</sup> Rather, the negative consequences of artisanal and small-scale mining activities on the environment, and the health and safety of communities and miners are the focus of debates. Inadequate attention has been given to the possibility of formalising ASM sectors to harness their potential.<sup>1389</sup> The result is that many ASM sectors across Africa remain informal,<sup>1390</sup> including South Africa and Burkina Faso. It is the case in both countries that, when miners continue to operate outside of the regulatory framework, the negative consequences of their activities are exacerbated.<sup>1391</sup>

## 2 Formalisation and legality

In South Africa, there is no explicit provision in the enabling mining legislation, the MPRDA, that recognizes artisanal mining as a legal activity. The only mining title that regulates activities on a sub-industrial scale is a mining permit,<sup>1392</sup> which is intended to accommodate small-scale miners.<sup>1393</sup> In reality, however, the inappropriate provisions do not even encourage small-scale mining activity. Miners' inability to comply with the legislative provisions is further compounded by the lack of adequate institutional support.<sup>1394</sup>

By contrast, Burkina Faso's Mining Code contains specific artisanal mining provisions,<sup>1395</sup> which promoted the consideration of this jurisdiction. This choice was premised on the belief that guidance could be sought for the formulation of an artisanal mining provision in the MPRDA. Research revealed, however, that the Mining Code's provisions would not be an ideal

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<sup>1387</sup> See Chapter 3 para 3.1.

<sup>1388</sup> Hilson (2016) op cit note 1383 at 4.

<sup>1389</sup> A Buxton 'Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help?' (2013) International Institute for Environment and Development (IIED) at v.

<sup>1390</sup> Hilson et al 'Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Reconceptualising formalization and 'illegal' activity' (2017) 83 *Geoforum* 80.

<sup>1391</sup> See Chapter 4 para 3.

<sup>1392</sup> Section 27 of the Mineral and Petroleum Development Act 28 of 2002.

<sup>1393</sup> See Chapter 2 para 2.1.

<sup>1394</sup> See Chapter 5 para 2.4.2.

<sup>1395</sup> Loi No. 0362015/CNT Portant Code Minier du Burkina Faso JO N°44 Du 29 Octobre 2015.

framework to replicate in the MPRDA. The legislation does not confer a legal title to artisanal miners themselves, rather bestowing it upon entrepreneurs who oversee miners' activities. Without tenure security and governmental assistance, miners find themselves in exploitative arrangements, obliged to sell their gold at a price lower than its worth.<sup>1396</sup> To avoid this exploitation, they choose to operate outside of the regulated ASM sector, hence perpetuating its informality. This illustrates the possibility that formalisation, through increased regulation, can have the undesirable effect of simply perpetuating the informality it was designed to diminish.<sup>1397</sup>

This possibility of aggravated informality can, in part, explain the perceptible hesitancy by the Department of Mineral Resources (DMR) to create a comprehensive legislative framework for ASM. While the ASM sub-sector's potential to encourage socio-economic development is generally accepted, the limited research is insufficient to substantiate the contribution of ASM to socioeconomic indicators like rural development and national GDP.<sup>1398</sup> This absence of necessary data, and the need for further research, has been the department's justification for why there has not been a commitment to formalise the sector through the drafting of legal entitlements

Research of this nature is undoubtedly required. In the interim, however, it is worthy to note that without accompanying legislative amendment, government's implementation of support programmes and policies in the past has not helped aspirant small-scale miners cope with the obstacles that prevent them from entering the formal mining sector. It has further denied artisanal miners a legal identity in the formal ASM sector. While the DMR has insisted that artisanal mining falls within the scope of a mining title, the fact that better capacitated small-scale miners cannot meet the permit's obligations makes it seemingly impossible that the average artisanal miner could obtain this authorization to mine legally.

This dissertation argues that once an artisanal mining provision is drafted, once mining permits are amended to become easier for small-scale operators to obtain, and once both artisanal and small-scale miners are provided with better support, an emerging group of formalised ASM

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<sup>1396</sup> See Chapter 5 para 3.

<sup>1397</sup> See Chapter 7 para 2.1.1. See further R Maconachie & G Hilson 'Safeguarding livelihoods or exacerbating poverty? Artisanal mining and formalization in West Africa' (2011) 35 (4) *Natural Resources Forum* 293.

<sup>1398</sup> P Ledwaba & K Nhlengetwa 'When policy is not enough: prospects and challenges of artisanal and small-scale mining in South Africa' (2016) 7(1) *Journal of Sustainable Development Law and Policy* 25 at 29.

operators could be created.<sup>1399</sup> Formalisation is vital. The only way ASM operators can benefit from state-led support initiatives is if they are regulated by a legal framework.<sup>1400</sup> This support is essential to mitigate the negative environmental and health consequences of informal ASM activities, and equally important to harness ASM's potential to drive socioeconomic change.<sup>1401</sup>

The motivation for formalisation is predicated on the argument that specific legislative recognition and accompanying support will encourage informal artisanal mining operators to operate within the formal mining sector.<sup>1402</sup> It will also assist in differentiating informal subsistence artisanal miners from the illegal operators working in criminal syndicates. The illegal artisanal mining problem in South Africa has reached the level of national threat, which has demanded the implementation of an approach to eliminate activities involving numerous enforcement agencies.<sup>1403</sup> Combined with the high retrenchment rate and few alternative employment opportunities,<sup>1404</sup> miners are willing to risk their lives for a steady income that is provided by the organized crime bosses managing transnational illicit gold syndicates.<sup>1405</sup>

The approach to addressing the proliferation of illegal mining has not, however, been recognizably successful, with illegal activity in operational mines on the rise.<sup>1406</sup> Furthermore, the lack of a legislative distinction for artisanal mining has resulted in a misunderstanding of this activity, which is often seen as synonymous with illegal *Zamazama* mining.<sup>1407</sup> As the SAHRC panel highlighted in its findings on an investigation into South Africa's unregulated artisanal mining sector, not all artisanal miners are members of organized crime syndicates, and not all operators conduct activities with the intention of committing a crime.<sup>1408</sup> Since the MPRDA does not legalise artisanal mining, artisanal operators are deemed a criminals merely

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<sup>1399</sup> F Moosa 'The case for giving zama zamas mining rights' *Mail & Guardian* accessed on 26 October 2017, available at <https://mg.co.za/article/2017-09-05-the-case-for-giving-zama-zamas-mining-rights>.

<sup>1400</sup> See Chapter 7 para 3.1.

<sup>1401</sup> See Chapter 6 para 2.2.2.2.

<sup>1402</sup> *Ibid* para 2.2.2.1.1.

<sup>1403</sup> See Chapter 7 footnote 1270.

<sup>1404</sup> J Love 'Report of the SAHRC Investigative Hearing: Issues and Challenges in relation to Unregulated Artisanal Underground and Surface Mining Activities in South Africa' (2015) available at <https://www.sahrc.org.za/home/21/files/Unregulated%20Artisanal%20Underground%20and%20Surface%20Mining%20Activities%20electronic%20version.pdf> (the SAHRC Report) at 59.

<sup>1405</sup> See Prologue.

<sup>1406</sup> See Chapter 1 para 1.

<sup>1407</sup> SAHRC report op cit note 1404 at 6, 59.

<sup>1408</sup> *Ibid* at 59.

for mining at a rudimentary level. Their activities are equated with those of a member of an illicit syndicate, and a livelihood opportunity is reduced to a crime.

The formulation of an artisanal mining provision is needed to separate individuals who wish to operate formally in the ASM sector, from syndicate members who intentionally commit crimes on a daily basis. The formulation of an offence for illegal mining would equally assist in creating this distinction. There is currently no provision in the Criminal Procedure Act<sup>1409</sup> that criminalises the activity of illegal mining specifically. Hence arrested *Zamazamas* are convicted of lesser offences such as trespassing which are not accompanied by heavy sentencing or penalties.<sup>1410</sup>

These two suggested legislative amendments form a much-needed balance between the formalisation of the ASM sector on the one hand, and the redress of illegal mining on the other. The strictly punitive approach has been ineffectual thus far.<sup>1411</sup> It is also contradictory, since the treatment of artisanal mining as a criminal activity does not accord with the National Coordinating Strategic Management Team for illegal mining's aim to promote legitimate mining.<sup>1412</sup> If artisanal mining is explicitly catered for, and operators are educated on the benefits of operating formally, illegal operators could be incentivized to substitute illegal activities for a legal livelihood opportunity.

The same possibility exists for informal small-scale operators, if the mining permit provisions are amended to cater for their needs and capabilities. In its present format, the two-year time period and 1.5 hectare area limitation is not conducive to sustainable or profitable industrial mineral mining operations.<sup>1413</sup> In South Africa, the majority of formalised small-scale mining operations exploit industrial miners.<sup>1414</sup> They are easily exploitable mineral commodities for both artisanal and small-scale miners as little mechanization is required, deposits are found on the surface, and because they are not affected by fluctuating commodity prices.<sup>1415</sup>

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<sup>1409</sup> 51 of 1977.

<sup>1410</sup> Chapter 4 para 2.3.2.

<sup>1411</sup> SAHRC Report op cit note 1404 at 59.

<sup>1412</sup> See Chapter 6 para 2.2.2.1.2.

<sup>1413</sup> See Chapter 5 para 2.1.2.

<sup>1414</sup> See Chapter 6 para 2.2.2.2

<sup>1415</sup> Ibid.

The artisanal mining of gold is contentious. The DMR has indicated that it does not believe that the underground artisanal mining of gold can be regulated.<sup>1416</sup> Additionally, the feasibility of small-scale miners reworking of tailings bearing gold is uncertain, given that large-scale companies have begun to exploit their tailings in response to diminishing mineral deposits and high operational costs.<sup>1417</sup> Although further research is needed in both respects, the artisanal or small-scale exploitation of industrial minerals appears to be preferable to the that of gold. This is particularly evident from a health and safety perspective, as surface-level mining avoids the potentially fatal hazards that accompany operations in underground shafts.<sup>1418</sup>

The MPRDA should be amended so that the potential is available for both small-scale and artisanal operators. This amendment would constitute a ground-up, as opposed to top-down, approach to formalizing the sector,<sup>1419</sup> as it caters specifically for the reality of South African miners. Hence, the name ‘ASM for SA Strategy’ was chosen to describe the recommended approach for the sector.

### 3 Institutional Support

Legislative amendments were not, however, the only part of the strategy for the formalisation of the ASM sector. It is essential that adequate support is provided to both artisanal and small scale miners that is appropriate for their unique requirements.<sup>1420</sup> The need for support is vital when considering the consequences that inadequate support brings: environmental degradation, health and safety threats to neighboring mining communities and criminality are major issues that flow from ASM activities, not only in South Africa and Burkina Faso but across the continent.<sup>1421</sup>

Government-led support is required to help ASM operators meet their legislative obligations with respect to health and safety and the environment.<sup>1422</sup> This is not only in the form of training and equipment provision that assists operations to be cleaner and safer, but also education as to

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<sup>1416</sup> See Chapter 7 para 4.3.

<sup>1417</sup> Ibid.

<sup>1418</sup> See Chapter 7 para 2.1.1.

<sup>1419</sup> Ibid para 2.

<sup>1420</sup> Ibid para 3.1.

<sup>1421</sup> See Chapter 4.

<sup>1422</sup> See Chapter 7 para 3.1.1.

why such precautions are necessary.<sup>1423</sup> The state also needs to facilitate access to financial institutions so that the capital and equipment necessary for profitable operations can be obtained.<sup>1424</sup> In doing so, it will help ASM operators to overcome the barriers that prevent them from entering the formal sector.<sup>1425</sup>

It has been argued that the DMR lacks the capacity to implement the necessary support for the development of the ASM sector.<sup>1426</sup> This is in respect to both financial and human resources needed to assist aspiring ASM operators who find the application process costly, bureaucratic and complicated.<sup>1427</sup> While it is argued that a collaborative approach between all relevant stakeholders is necessary to formalise the ASM sector, this should not result in the delegation of government's responsibilities to NGO's or private actors. In the Minerals and Mining Policy for South Africa<sup>1428</sup> the DMR made a commitment to encouraging and facilitating the sustainable development of small-scale mining to enable the sector to positively contribute to South Africa's economy.<sup>1429</sup> It further endeavoured to establish a sustainable institutional support mechanism for small-scale mining.<sup>1430</sup> How the DMR has abided by these commitments in the past is not clear. There is also lacking evidence of an effort by the department to translate these promises into practice for the future.

While the Directorate of Small-Scale Mining has committed to providing essential services to the ASM sector, these services must be provided to an increased number of operators compared to the unimpressive number of benefactors in the past.<sup>1431</sup> Once the DMR's key obligations are undertaken, the remaining mining industry stakeholders can assist by offering their specialised services for the development of the ASM sector. To facilitate this collaboration, an ASM state agency needs to be established.<sup>1432</sup> This will ensure that responsibilities are not duplicated, and will enhance organisation and transparency. Included stakeholders are ASM operators

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<sup>1423</sup> Ibid.

<sup>1424</sup> Ibid para 3.1.4.

<sup>1425</sup> Namely, the barriers outlined in Chapter 5.

<sup>1426</sup> See Chapter 7 para 3.1.

<sup>1427</sup> See Chapter 5.

<sup>1428</sup> *White Paper: A Minerals and Mining Policy for South Africa* (GN 2359, 20 October 1998).

<sup>1429</sup> Ibid section 1.4.2 'Intent'.

<sup>1430</sup> Ibid 1.4.4.2.

<sup>1431</sup> See Chapter 6 para 2.1.

<sup>1432</sup> See Chapter 7 para 3.2.

themselves, who must be organised into cooperatives. Once organised in this manner, support services can be offered to them directly and efficiently.<sup>1433</sup>

Whether large scale-mining companies can provide the support ASM operators' needs, as private actors alongside the state, is uncertain. In such arrangements the mining companies are likely to bear the costs of miners' environmental damage and safety, which they would be unwilling to do unless they are benefiting in some way.<sup>1434</sup> One way of incentivising companies to offer such assistance is translating their conduct into the fulfilment of corporate social responsibility obligations.<sup>1435</sup> However the feasibility of the inclusion of this responsibility in the present legislation and policy documents regulating transformation of the mining industry needs further research. Another area of research beyond the scope of this dissertation is the consideration of African jurisdictions, as alternatives to Burkina Faso, for policy guidance.<sup>1436</sup> The existing literature needs to be explored further to fill South Africa's ASM knowledge gap.<sup>1437</sup>

What exactly further research will reveal cannot be determined precisely; but what *is* certain is the potential of formalised ASM, and particularly of artisanal mining, to generate employment opportunities and state revenues.<sup>1438</sup> Once the necessary legislative amendments are made, the artisanal mining provision and tailored mining permit provisions will fulfil the objects of the MPRDA, as the primary legislation governing the mining industry in a democratic landscape.<sup>1439</sup> Then the MPRDA will truly promote equitable access to mineral resources for all South Africans,<sup>1440</sup> and meaningfully and substantially expand opportunities for historically disadvantaged persons to access and benefit from these resources.<sup>1441</sup> An artisanal mining title places mineral wealth into the hands of those who need it most. The time has come for the legislation to reflect its value.

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<sup>1433</sup> Ibid.

<sup>1434</sup> See Chapter 7 para 4.2 for an example of how artisanal miners are contracted by a large-scale mining company to provide key services.

<sup>1435</sup> See Chapter 6 para 2.2.2.4.

<sup>1436</sup> See Chapter 7 para 2.1.1.

<sup>1437</sup> SAHRC Report op cit note 1404 at 59.

<sup>1438</sup> See Chapter 6 para 2.2.2.2.

<sup>1439</sup> Ibid para 2.2.2.6.

<sup>1440</sup> Section 2(c) of the Mineral and Petroleum Development Act 28 of 2002.

<sup>1441</sup> Ibid section 2(d).

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