



MSc Dissertation

***ARTISANAL AND SMALL-SCALE MINING (ASM): THE GREY SPACE OF EXTRA-
LEGALITY IN SOUTH AFRICA***

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DECLARATION

I, **Olebogeng Koatlhai**, declare that this dissertation is my own unaided work except as indicated in the references and acknowledgements. It is submitted for the Degree of Master of Science at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



(Signature of candidate)

__01__ day of __October__ 20__21__

ABSTRACT

The exploration of a Grey Space within the ASM sector allows for the exploration of a niche that operates outside of the formal but still operates within the capital system. Extra-legality sees and constructs a different view of space which is outside of the box of the formal norms. This is a relative perception or lens of understanding socio-economic drivers. This is at the core of the law of relativity and through research we not only interrogate the social notion of one divided by one (Formalisation), but this research furthermore interrogates the notion of zero divided by zero (extra-legality) which at its core finds personified expression in the real word. This dissertation finds relevance in the nuances of formalization and the resultant themes associated with the persistence of informality. This dissertation further maps the impact of ASM through extra-legality and uses this information to map out the unrecognized spaces referred to as the Grey Space. It is the realization of this dissertation that the lived realities of ASM communities differ per commodity and per area, it is thus imperative to deploy strategies that are specific and unique to an area. Furthermore, the ASM space is seeing a paradigm change in its state of reference, moving from a survival strategy towards social entrepreneurship. The ASM space is a reservoir of dead capital as referred to by De Soto, 2001 and with a continued use of alternative strategies as suggested by Ostrom, the ASM sector is coming into its own nuanced version of recognition and capital accumulation. The underlying perception and understanding that this dissertation advocates for is developing ASM strategies and frameworks through Characterizing ASM as a grey space and through adapting various principles as a baseline or benchmark of actualizing the ASM paradigm shift

Key words: ASM; Formalization; Extra-legality; De Soto; Grey Space; Paradigm Shift

DEDICATION

This research is dedicated to my fellow comrades in grassroots communities who are continuously fighting towards recognition and change. It is my hope that this dissertation will be used by all, as conduit to advance this mandate of change.

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This has been a difficult journey, with many hurdles along the way. I would like to thank my supervisors who believed in me in moments that I did not believe in myself.

Table of Contents

DECLARATION.....	ii
ABSTRACT.....	iii
DEDICATION	iv
ACKNOWLEDGEMENTS	v
Chapter One	1
Frames of Reference.....	1
1.1 Background to the study.....	1
1.2 Thematic Considerations.....	2
1.3 Research questions	4
1.3.1 sub questions:	4
1.4 Research aims and objectives.....	5
1.5 Overview of the literature review.....	5
1.6 Overview of the research methodology	8
1.7 Scope of work and delimitations of the dissertation	9
1.8 Ethical Considerations.....	10
Chapter Two	12
Theoretical Considerations and Literature Review	12
2.1 Introduction.....	12
2.2 Towards ASM formalization	13
2.3 Theory of extra-legality	14
2.4 Research Gaps /ASM Developmental Strategies.....	17
2.4.1 The ASM Policy rhetoric	17
2.4.2 Persistence of informality in the ASM sector	19
2.4.3 The social identity of ASM.....	20
2.5 Conclusion.....	22
Chapter Three	23
Methodological Considerations	23
3.1 Introduction.....	23
3.2 Philosophical Position of the research	24
3.3 Research Approach.....	25
3.4 Research design.....	27
3.5 Description of research site	29
3.5.1 Demography and social data	31
3.6 Sampling	32
3.6.1 Sampling Process.....	32
3.7 Data Collection Tools	33
3.8 Data Analysis.....	35
3.9 Validation	36
3.10 Methodological reflections	37
Chapter Four	39
Empirical Evidence	39
4.1 Introduction.....	39
4.2 ASM as a result of informality & formalization.....	40

4.2.1 ASM in relation to formalization.....	40
4.2.2 ASM in relation to informality.....	43
4.3 Mapping ASM Value at a local scale	47
4.4 ASM in relation to social identity.....	49
4.5 Conclusion.....	52
Chapter five	53
Discussions.....	53
5.1 Introduction.....	53
5.2 Understanding the extra-legal space.....	54
5.2.1. <i>Unpacking the notion of informality within extra-legality</i>	54
5.2.2 <i>Intentional Invisibility</i>	56
5.3 Understanding social culture in the ASM space	58
5.3.1 <i>Social Ignorance & The Ignorance-Knowledge Paradox</i>	58
5.3.2 <i>The concept of social regulation</i>	60
5.4 Value determinants in the ASM space	63
5.5 Conceptualizing the Grey Space of extra-legality.....	64
5.6 Characterizing the grey space	66
5.7 Conclusion.....	67
Chapter six	68
Recommendations and Conclusions	68
6.1 Introduction.....	68
1. 6.2 Key Findings and Key Themes	69
6.3 Recommendations	70
6.4 Conclusion.....	71
REFERENCES	73
List of respondents	84
Annex 1.....	86

Table of Figures

<i>1.9Outline of the dissertation-----</i>	<i>10</i>
<i>Figure 3.1: The location map of the West Rand and West Wits Line (Carletonville) goldfields of the Witwatersrand basin in South Africa -----</i>	<i>30</i>
<i>Figure 3.2: Demographic information of Carletonville (Department of statistics South Africa (StatsSA),2011). -----</i>	<i>31</i>
<i>Figure 4.1: Characteristics of formality and informality as explained by experts -----</i>	<i>40</i>
<i>Figure 4.2: Expert perspectives on the classification of ASM-----</i>	<i>41</i>
<i>Figure 4.3: Expert perspectives on the function of ASM outside the formal economy. -----</i>	<i>42</i>
<i>Figure 4.4: The drivers of ASM as listed by ASM Experts-----</i>	<i>43</i>
<i>Figure 4.5: Concerns of formalization as explained by ASM experts -----</i>	<i>45</i>
<i>Figure 4.6: The focal question of change and the centralized answer given by the ASM experts. -----</i>	<i>46</i>
<i>Figure 4.7: The rand value chain of the ASM cycle -----</i>	<i>48</i>
<i>Figure 4.8: Priority challenges that Zama Zamas have highlighted to be prevalent in their activities. --</i>	<i>49</i>
<i>Figure 4.9: The major themes from the need assessment done by Zama Zamas which are important in establishing safe and profitable co-operations.-----</i>	<i>50</i>
<i>Figure 4.10: Class perspectives of the ASM sector by experts and Zama Zamas. -----</i>	<i>51</i>
<i>Figure 5.1: Showing the ASM Chain of value and position-----</i>	<i>57</i>
<i>Figure 5.2: Fraction of IAD framework developed by Ostrom, as adapted by Ouedraogo and Mundler, 2019 -----</i>	<i>62</i>

Chapter One

Frames of Reference

1.1 Background to the study

Artisanal and Small-scale Mining (ASM) is in most instances used interchangeably with terms such as illegal mining or in the South African context as “Zama zama.” There are various definitions of ASM that have been proposed over the years and a generalized definition is yet to be established within the body of knowledge (Hilson, 2016). The definition of ASM varies in different local and intercontinental contexts due to the different socio-economic issues that arise in each country (Hentschel, Hruschka and Priester, 2003). There are a few common characteristics that make up the conditions of ASM within any given space and as denoted by (Hentschel, Hruschka and Priester, 2003) these characteristics are:

- i. A minimal use of technology
- ii. It is labor intensive.
- iii. Associated with the extraction of minerals that are not optimized by large scale mining.
- iv. It is not safe.
- v. It is regarded as “Illegal.”

Hilson (2016) further adds a characteristic that is the most ignored and yet so obvious which is the fact that ASM employs millions of people while supporting 10 times more people indirectly and consequently creating more revenue streams within both the formal and informal markets. That is what drives most people into engaging in ASM activities because they are a form of livelihood and an answer to the socio-economic crisis that arises from the short-term life span of large-scale mining entities (Hilson, 2016).

Perhaps the inability for the establishment of a common definition of ASM is because the indicators and characteristics of the term ASM are not being defined and developed by the people (Ballard, 2012) that partake in this economic activity. Zama Zama is both a name and a definition of ASM in South Africa, which simply means, “trying life” a term that can be denoted to anyone who is partaking and contributing towards the economical build of a society. The context that this research will be focusing on is telling the story of identification, citizenship, and empowerment. In a bid to not be misunderstood it is imperative that this research positions itself within the discourse of ASM. This will not be an account of poverty and how the poor overcome the odds of disadvantage and marginalization in South Africa. It is however a report that marks the changing tides (Mbeki, 2009) in the ASM discourse, expanding the focus from a space of livelihood generation towards a space of economic-social-political belonging, a “Grey” space.

1.2 Thematic Considerations

The environmental and social ills that have been associated with ASM such as environmental degradation (MMSD, 2002) have led to a misguided understanding of ASM by stakeholders and the public alike (Thornton, 2012). This has thus led the ASM sector to be criticized and marginalized into filling an informal space that consists of inaccurately informed policy applications and inadequate implementation of regulatory frameworks (Hilson, 2016). It is therefore important that when trying to establish responsive tools to these issues facing the ASM sector, there needs to be a holistic view of ASM and more importantly putting a lens into the livelihood generation “complex” which is characterized by or rooted in diversity and self-motivation (Hilson, 2016) vis a vis the persistence of extralegal spaces within the sector (Siegel and Veiga, 2009).

This research is interested in engaging with the holistic definition of ASM in South Africa and will thus, be focused on investigating how the ASM sector is characterized by looking closely through three lenses namely, Economic, Social and Political. It is important to note that artisan mining has become an important economic sector in developing countries since the 1970's (Labonne, 1996). It holds the key to economic emancipation and economic independence for previously disadvantaged communities as it triggers a multiplier effect and thus, creating its own global economic niche (Labonne, 1996). The ASM sector gives rise to various income generating strategies and is seen to be an answer to the prayers of the marginalized as this favors them to engage in the economic landscape when alternative livelihood sources have become inaccessible (O'Faircheallaigh and Corbett, 2016). Taking into consideration the current decline in the economic state in Africa (Hilson, 2016), the potential for ASM to generate economic benefit is promising especially when putting into consideration the low mechanization scale and the amount of people working within the ASM sector (O'Faircheallaigh and Corbett, 2016).

National and regional policies regarding ASM seek to generalize ASM issues within broader categories of poverty and unemployment without understanding the fact that ASM is a sector and category and differs per country, per city and per commodity (O'Faircheallaigh and Corbett, 2016). There are gaps between ASM policy, ASM institutional frameworks and policy practices by government officials within the local scale (O'Faircheallaigh and Corbett, 2016). There is a clear misalignment between national ASM policies versus ASM realities and the needs on the ground (O'Faircheallaigh and Corbett, 2016)

The classification of ASM as “illegal/informal” is based on an exclusionary position (Fisher, 2007). An understanding of exclusion brings forth an understanding of the political-economic-social processes that bring forth the topical issue of “formalization” (Fisher, 2007). This then is indirectly connected to issues of citizenship, which is simply the ability for a person to take part and to contribute to the socio-economic stature of the world (Fisher, 2007). Important to note when exploring the nuances of ASM is the ever-changing interactions of the miners themselves as well as their households as they move from “included” to “excluded” and vice versa.

1.3 Research questions

From the above thematic considerations this research will seek to understand the grey space according to the three lenses which have been stated above and which include economic-social-political. The research questions are thus, based on these lenses and they guided the research process. The research questions below further build the notion of extra-legal spaces that consist within the “Grey” spaces found within the ASM sector.

How is the formalization of the ASM sector understood within the context of extra-legality?

1.3.1 sub questions:

- i. Does informality exist within formality?
- ii. What does it mean to be an entrepreneurial miner?
- iii. What is the social identity of ASM??

1.4 Research aims and objectives

The aim of this research was to establish the socio-economic and political impact of ASM as an activity that functions at a local scale and furthermore to map out the “the grey space” within existing formal systems that allow for characteristics of informality to persist within the sector.

In view of the above aims, the objectives of the study were:

- i. To scrutinize the theory of extra-legality and its relation to the ASM discourse.
- ii. To understand the extra-legality of ASM in South Africa
- iii. To map out the characteristics of the grey space through the conceptualization of ASM
- iv. To contribute to the greater knowledge hub on ASM within a regional perspective

1.5 Overview of the literature review

The most suitable path to follow to produce a substantial research report is through establishing a firm foundation. Literature review plays the role of a foundational base within a research study (Baker, 2000). Rowley and Slack (2004) define a literature review as a cumulative network of knowledge that seeks to support the understanding of research topic and its associated research question.

The World and its dynamics can be defined as a division of two characteristics: rich and poor. Now these characteristics come about because of various social-economic-political interactions by people. This study was concerned with concepts of informal-formal and extra-legality and how they affect the socio-economic-political dimensions of society. Looking closely at theoretical considerations, this study has engaged with theories of extra legality that have been associated with the ASM sector

within the literature. Various themes were explored including De Soto's theory of extra legality; the persistence of informality: formalization of the ASM sector; understanding citizenship; The ASM policy Rhetoric and the Grey Space. These themes all contributed towards the unpacking and understanding of the research topic of this study and its associated research objectives.

This study took an adaptation of the concept of extra-legality from Hernando De Soto towards the understanding of concepts that have been formulated around ASM within the past few years in Africa. The interlinking of De Soto's concept of extra-legality (De Soto, 2001) within the ASM space has been outlined by prominent scholars such as (Siegel and Veiga, 2009) and (Hilson, Hilson, Maconachie, McQuilken, and Goumandakoye, 2017). These scholars have contributed significantly to the ASM body of knowledge within the context of Africa and have successfully paved a way for the advancement of ASM knowledge that young and upcoming researchers can learn from.

De Soto (2001) explains capital not only as the ability for assets to multiply and grow but also as their ability to bring forth a means of new production. Simply put, the ability of any asset to take on a formal capital title is dependent on its value capacity (Labour- Labour time) and it must generate production. There must be processes set in place that will be used to elevate the value of that asset for it to be integrated into the formal capital system (De Soto, 2001) better understood as "citizenship".

Assets then become labeled informal when they do not follow the structured systems put in place in the society and the economy by the formal capital system (De Soto, 2001). De Soto (2001) highlights the term "does not fit in", this unnamed and unidentified space is part of a "Grey" space that constitutes social and economic extra-legality. Former president Thabo Mbeki alluded to this concept in his state of nation address speech in 2009 and called it "A structural Fault in our economy". In his speech

he referred to two economies that are dualistic in nature: the formal economy, which is developed, and the informal economy as drenched in poverty (Mbeki, 2009).

The people that occupy the informal economy, a space that is unknown and undefined often finds themselves in an extra-legal state operating between the “plough and the pick” (Lahiri-Dutt, 2018). Informality can be in slums that are occupied by the poor who are labeled unemployed and homeless. These people constitute most of the world’s population and consequently contribute to most of the world’s economy (Lahiri-Dutt, 2018). Informality persists because of the multifaceted nature of the term (Lahiri-Dutt, 2018).

Van Bockstael (2014) notes that informality exists between the informal economy, informal society, and informal governance. He further goes on to add that although informality may originate from the perspectives of the poor, there is also a level of informality that exists within policy frameworks where government’s lack to effectively enforce policy causes a degree of informality at a local scale. Suffice to say money changes hands from the informal to the formal and vice versa (Lahiri-Dutt, 2018). In a bid to seek to understand how power changes hands this research sought out to review the work done by Richard Ballard in his series on the geographies of development as a major contribution to the “informality” body of knowledge looking at perspective of development through the lens of the government and the people (Ballard, 2012).

The only way to look past ASM illegality, informality and formalization is to look at it from another perspective, outside the system and within the grey space perspective. This is the grey space, beyond looking at our assets as they are to actively think about them, as they could be Moving from illegal mining towards formalization and towards the ability to reproduce-paradigm shift.

1.6 Overview of the research methodology

A research methodology is a process that is undertaken by researchers to solve a problem through description, explanation, and measurement (Rajasekar et al, 2006). The research methodology outlines the plans and procedures for research that move systematically from broad concepts of research methods to more detailed considerations of methods (data collection, analysis, and interpretation) that a research undertakes to pursue their research focus or topic (Creswell, 2013).

There are two research approaches that are primarily recognized in the body knowledge, namely quantitative research approach and qualitative research approach. These can be easily and commonly differentiated as the former being description with numbers while the latter being description-using words (Kothari, 2004 and Creswell, 2013). This research adopted the route of a qualitative research approach to inform the research methodology process. Qualitative research allows for flexibility in the research structure, which allows for real-time documentation of complex issues that people experience differently at a certain point in time (Creswell, 2000).

There are 5 different research designs that Creswell (2013) states a researcher can use when conducting a methodology. These are outlined as follows; Narrative research design which is done through chronological story telling; Phenomenological research design which is based on the philosophical worldview of the lived experiences of the participant; Grounded Theory research design which is an inquiry that forms a process based or rooted from the views of participants; ethnographic study considers the shared experiences of a particular group and case studies are a deep analysis of participants lives that are time reliant.

This research sought to obtain to a deeper ethnographic understanding of the ASM communities in South Africa and will be using a case study approach to look further into the theory of grey space within the ASM discourse. This method gives researchers the opportunity to explore interconnectedness of concepts and contexts within the body of knowledge and this allows the researcher to explore links between the study of theory and the real-life issues (Fusch et al., 2018).

The targeted respondents for this study were predominantly the Zama zama communities. Bearing in mind the many stakeholders linked to the research focus, this study reached to experts that included academics and NGO's that specialized in the ASM discourse. Bearing in mind the statistical gap of ASM numbers in South Africa, samples selected were based on a purposeful decision. Purposeful sampling methods include theoretical sampling, maximum variation sampling, time/place-based sampling (Carter and Little, 2007). The data collection tools that were used in this study included structured and semi- structure interviews, observations, focus groups, informant tours, ground truthing, document analysis and visual recording. The qualitative approach to data collection allowed the researcher's role to be more flexible to change from observer to participant observer and thus widening the amount of data that was collected.

1.7 Scope of work and delimitations of the dissertation

The focus of this research was on Artisanal and Small-Scale Mining within the gold sector. Various references to other sectors within ASM were used to understand the topic but the data collected was from gold mining ASM communities in Carletonville in Gauteng. The understanding of formalization and policy related to ASM was used within this context.

This research adopted a qualitative methodology that focused on an ethnographic-cased study research design and implemented emergent sampling method. Tools used to collect data were surveys, focus groups and interviews. Due the different stakeholders, the methods of data recording changed variably from pen and paper in ASM communities to recordings and online surveys with expert respondents.

1.8 Ethical Considerations

This research engaged and studied the lives of people who are marginalized and how they position themselves within the extralegal state and has taken the necessary steps to apply for ethical clearance from the ethics committee of the school of geography at Wits university and has also committed to preserving the identities of participants as anonymous and has kept the data collected within a hard drive that is securely stored.

1.9 Outline of the dissertation

The frames of reference serve as a foundation for understanding the rest of this dissertation and seeks to explain the topic of this research and furthers aids in outlining the rationale of the research questions and complementary aims and objectives. This section validates the purpose of conducting this research and establishes the context of ASM within the three stated lenses (social, economic, and political). The theoretical considerations and literature review set out the contribution of knowledge by other scholars on the development of the ASM sector. It further outlines the identified research gaps within the proposed ASM developmental strategies which has driven this research to focus on the grey space found within the niche of extra legality. The methodological considerations outline how the research questions will answered through the interactions of the methods literature in correlation to the research aims and objectives. It details the methodological standing and chosen research design, as well as the methodological procedure of sampling and data collection. this research was steered towards qualitative action-based research and the data collection methods established were

focused on context based on an ethnographic case study. the method section outlines how the data collected was stored and validated, it also gives a brief understanding of the method review that I underwent. The concluding chapters are guided by the developments of the literature review and methodology sections. The research findings show how the data collected was analyzed and understood. It shows underlying resultant themes that answer the research questions. The discussion section shows the understanding of ASM within the context of grey space and informs how the research gaps found in the literature review through the research objectives could be filled as a contribution to the greater body of knowledge. The concluding section also gives the overall summary from the research discussion with recommendations for future research.

Chapter Two

Theoretical Considerations and Literature Review

2.1 Introduction

A literature review is a unifying process in which a researcher uses the knowledge already provided by other scholars to produce comprehensions that build on top of the already existing literature (Vom Brocke, Simons, Niehaves, Riemer, Plattfaut and Cleven, 2009). Webster and Watson (2002) put emphasis on the vital role that a literature review plays in the contribution of rigor, relevance, and the establishment of thought scholarship. A coherent and firm review constitutes a guiding conceptual framework and a drive towards advancing knowledge through filling in spaces where gaps are found within an overabundance of inquiry that is present in the world (Bem, 1995 and Webster and Watson, 2002). The world and its dynamics can be defined as a division of two characteristics: rich and poor. Now these characteristics are a subject of various social-economic-political interactions by people.

This research was concerned with the diverse ways in which the distinct characteristics of extra-legality can be understood within the concept of ASM. This was achieved through looking at various themes aligned with the focus of this dissertation and will explore the grey-space through the below sections which outline the socio-economic and political spheres of ASM formalization. The first sections outline a brief description of the understanding of formalization within ASM, looking closely at country specific adaptation to the concept of formalization. The second section goes on to identify current gaps within the ASM developmental strategies that have been implemented and flag shipped over the past few years and seeks to understand three key important notions given the above-mentioned strides towards ASM formalization, namely, why ASM still persists as an informal activity, How policy misalignment is aiding this persistence of informality and lastly how informality and policy frameworks define societal identity and citizenship within ASM networks.

From these substantial findings the third section looks at defining the concept of extra-legality within the concept of ASM, with supporting scholar notions regarding concepts of dual economies and of dual legalities. Ultimately Knowledge is like a library in the clouds, it is vast, unending, and continually expanding. This research seeks to contribute the knowledge of ASM into a much vast library of ASM knowledge.

2.2 Towards ASM formalization

Suffice to say the push towards the formalization of ASM has never been more pertinent and relevant today (Hilson, 2017 and Hilson and Maconachie, 2018). One might ask what is it about formalization is that is seen to be a solution to the poverty-money-title trap that many of the world's marginalized have fallen under? (Siegel and Veiga, 2009).

Formalization is about creating a standardized regulatory framework for ASM that is governed by a structural system put in place by government (Geenen, 2012). Formalization is a term concerned with the processes of registering and organizing ASM groups into cooperatives; this usually involves issues of taxation, licensing, land rights and land claims (Siegel and Veiga, 2009 and Verbrugge and Besmanos, 2016). On a global scale formalization is also an attempt by government to introduce ASM regulation to an international policy framework (Siegel and Veiga, 2009). At an individual scale, formalization is pointed towards miners acquiring mining rights and the transitionary shift from illegal to legal titles, this is advantageous, as it allows for an even impactful social economic shift from informal to formal (Siegel and Veiga, 2009).

In the case of South Africa, the classification of ASM as illegal and/or informal is inconsistent and vague. There is still more case specific research that needs to be done first to establishment an understanding of ASM as a sector before establishing ASM formalization strategies. The ASM discourse in South Africa is still at a foundational level as compared to other African countries where ASM formalization

has been established (KASSA, 2018). The mineral ban in the DRC (Democratic Republic of the Congo) is an example of how formalization is understood by government. It is a top-down decision led strategy towards ASM formalization that is radical in its approach and has adverse impacts on the socio-economic stance of a country. It is, for lack of better words a forced legalization of miners that has yielded in increased militarization and insecurity within ASM communities (Geenen, 2012). Artisanal mining in Mozambique is the second most recognized source of income and for many rural communities it is a direct source to livelihood generation (Dondeyne and Ndunguru, 2014). ASM formalization has been geared towards the formal recognition of miners through the establishment of cooperatives. This has yielded benefits in terms of labor and market exploitation as well as the technological advancement of the sector. It is however sufficient to note that there is a direct correlation between ASM and poverty and in South Africa these issues are not adequately directly dealt with.

Many scholars believe that formalization plays an integral part in changing the lives of ASM miners for the better through the accruing of tenure rights (Siegel and Veiga, 2009 and Geenen, 2012). De Soto (2001) alludes to this point in his theory of extra-legality but further points out that extra-legality is a dual input-throughput system whereby formalization by itself is not enough to integrate the informal sector into the formal capital systems. There should be a second input that elevates the value of ASM past its ability to generate livelihoods towards a role of continuous production (De Soto, 2001). Perhaps the biggest flaw of formalization as a concept is in its inability to make use of AMS's "dead capital" (De Soto, 2001 and Siegel and Veiga, 2009).

2.3 Theory of extra-legality

The Economist Hernando De Soto unpacks concepts of formalization and illegality in his writings including the mystery of capital, which adds significantly to the many reviews that make up this literature review. This section is concerned with the

adaptation of the concept of extra-legality from Hernando De Soto towards the understanding of concepts that have been formulated around ASM within the past few years. The interlinking of De Soto's concept of extra-legality (De Soto, 2001) within the ASM space has been outlined by prominent scholars such as (Siegel and Veiga, 2009) and (Hilson, Hilson, Maconachie, McQuilken, and Goumandakoye, 2017) these scholars have contributed significantly to the ASM body of knowledge within the context of Africa and have successfully paved a way for the advancement of ASM knowledge that young and upcoming researchers can learn from. This chapter on theoretical consideration was inspired by the body of knowledge of ASM that has been built thus far and will be used to further advance thoughts of the grey space within ASM. In literal terms the contributions of this chapter by the researcher will be standing atop the shoulders of giants.

De Soto (2001) explains capital not only as the ability for assets to add and grow but also as their ability to bring forth a means of new production. He uses an analogy of a lake and lists its main purpose as an asset which is to add value by appealing to the ecosystem services a lake may provide to society, he further adds that the ability for that lake to be used as a means of hydroelectrical power production elevates the capital value denoted to that lake (De Soto, 2001). Simply put, the ability of any asset to take on a formal capital title it must add value and it must generate production, there must be processes set in in place that will be used to elevate the value of that asset so that the asset can be integrated into the formal capital system (De Soto, 2001). Assets then become labeled informal when they do not follow the structured systems put in place in the society and the economy by the formal capital system (De Soto, 2001).

De Soto (2001) highlights the term “does not fit in”, this unnamed and unidentified space is part of a grey space that constitutes social and economic extra-legality. Former president Thabo Mbeki alluded to this concept in his state of nation address speech in 2009 and called it “a structural Fault in our economy”. In his speech he referred to two economies that are dualistic in nature. The formal economy, which is developed, and the informal economy as drenched in poverty (Mbeki, 2009). Hirsch and Hines (2005) further went to explain the characteristics of these economies as having two sides of one coin where on the one side there is a well-educated and developed society that remains occupied by white people while on the other there is a large population of black people that have been excluded and live-in poverty.

The concept of extra legality consists of two economies that function besides one another, these two economies exist within the rich and poor divide of society. This concept exists within the walls of society, economy, and policy. Mbeki (2009) refers to them as two societies while Siegel and Veiga (2009) calls them dual economies, De Soto, 2001 calls them parallel economies and Hilson et al. (2017) refers to them in the concept of “creating informality”. These ideas are used interchangeably and all point towards the interconnectedness and complimentary relationship that these economies exude (Mbeki, 2009). One does not exist without the other (De Soto, 2001 and Siegel and Veiga, 2009)

The concept of extra legality and formalization in ASM (Siegel and Veiga, 2009 and Hilson et al, 2017) comes into play when the dual economies are understood to be clashing economies (De, Soto, 2001). When the informal extra-legal space is not recognized but is geared towards integration into the formal capital system then the scales of balance are tipped to an uneven level to a point where formalization without economic growth and citizenship is not a full integration of empowerment (Mbeki, 2009). The use of dead capital (De Soto, 2001) and the introduction of defining the process of formalization within the ASM space (Hilson, Hilson and Maconachie, 2018)

in terms of the society, economy and policy is what will lead to the emancipation of a grey space where not only does ASM add value to the economy but is also a means of production while operating within an extra-legal state and that is what this study advocates for. There should be mechanisms put in place that allow ASM economy to produce towards a state of expanded value within the economic market. Siegel and Veiga (2009) call it “*visible and invisible value*”.

2.4 Research Gaps /ASM Developmental Strategies

2.4.1 The ASM Policy rhetoric

The role of government in terms of formalization is problematic in a sense that there is no clear distinction between informal and formal at a local municipal level. Regulatory practices become blurred when national policy does not reflect the lived experiences of the people that it is meant to govern (Geenen, 2012). This is no wonder that although formalisation strategies have been put in place in most African countries over 80% of ASM activities still occur outside the recognition of government (Galvez, 2012).

The assumption that formalization is the creation of laws is mistaken and the law is amended to suit the systems that the people have established over the years (Siegel and Veiga, 2009). The Law and policy for ASM within any country is in fact just words written on paper and mean nothing until the economic and social relations of the sector are proclaimed and given good standing (Marx, 1847) and (Siegel and Veiga, 2009).

The ASM policy rhetoric stems from the misdirection and misunderstanding of who makes and influences policy. Development for the people refers to the people giving the government power to rule with the understanding that the government can implement effective strategies to combat social issues such as poverty (Ballard,

2012). What has become interesting to note is that government uses that power to maintain the expansion and continuous rule of government over the people (Siegel and Veiga, 2009), thus still maintaining the rich-poor divide. This is done through implementing top-down approaches and policy implementation that puts the people as sole influencers of their socio-economic predicaments (Ballard, 2012). Simply put this is a case of displacement of responsibility and not of power.

The South African policy framework began in 1994 (Scott, Rockey, Hudson, and Hazelton, 1998) through the establishment of the RDP (Resource Development Plan) which among many programs advocated towards the economic development of the ASM sector (Ledwaba and Nhlengetwa, 2016). This flagship policy framework was part of the reason for the establishment of the white paper on mining and minerals in 1998 (Dreschler, 2001). The white paper highlighted the benefits of establishing an ASM sub sector towards the economic growth of the country (Hoadley and Limpitlaw, 2004). The development of the Small-Scale Mining framework in 1999 was geared towards the capacitation of the technical aspects of the sector (Mutemeri and Petersen, 2002). To facilitate in enforcing ASM policy, many groups were formed over the years such as the NSC, SSMB which were mandated to endorse ASM activities but have failed timeously due to financial issues related to loan and loan repayments. This has led to the establishment of ASM related policy frameworks such as the ¹MPRDA (Mineral Petroleum Resources Development Act) and ² NEMA (National Environmental Management Act) which are geared towards the formalisation of the sector through giving of mining rights through applications that are costly and inaccessible to many marginalized communities. The same can be said in many other

¹ mineral and petroleum resources development act 28 of 2002

https://cer.org.za/wp-content/uploads/2004/05/28-of-2002-mineral-and-petroleum-resources-development-act_7-dec-2014-to-date-1.pdf

² national environmental management act 107 of 1998

https://cer.org.za/wp-content/uploads/2010/03/107-of-1998-national-environmental-management-act_18-dec-2014-to-date.pdf

African countries such as Ghana, Tanzania and Zimbabwe. As mentioned above, the ASM policy rhetoric can be clearly described as the displacement of responsibility.

2.4.2 Persistence of informality in the ASM sector

Informality or the occurrence of it comes from an analogous understanding on the perspective of formal capital structures (De Soto, 2001). With this said, informality not only denotes a title to ASM activities, but it also defines the social status of ASM miners. To understand the emerging concepts within the ASM body of knowledge it is important to seek to understand informality and to go a step further into understanding the persistence of informality (Van Bockstael, 2014 and Hilson et al., 2017). Lahiri-Dutt (2018) Locates informality in slums that are occupied by the poor who are labeled unemployed and homeless. These people constitute most of the world's population and consequently contribute to most of the world's economy (Lahiri-Dutt, 2018).

In a bid to further understand the various aspects of informality Hilson et al. (2017) goes on to explain the different schools of thought within the ASM body of knowledge that can be associated with the persistence of informality. These are namely the dualist school of thought, the structuralist school of thought and the legalist school of thought (Chen, Vanek, and Heintz, 2006 and Hilson et al., 2017). All these schools of thought highlight a heterogeneous relationship that is displayed by informality. One being informal and formal operating on a parallel scale, the second being the formal being superior to the informal while the third being the informal occurring as the result of the formal (Hilson et al., 2017 and Chen et al., 2017). Hilson et al. (2017) points out cleverly that there should be a further refinement of the understanding of informality within the ASM sector in Africa. This study is of the belief that informality should be understood as an array of overlaid shades of informality (Lahiri-Dutt, 2018) that exist within the grey space of extra legality. The people that occupy the

informal economy, a space that is unknown and undefined often find themselves in an extra-legal state operating between the “plough and the pick” (Lahiri-Dutt, 2018)

Informality persists because of the multifaceted nature of the term (Lahiri-Dutt, 2018). Van Bockstael (2014) notes that informality exists between the informal economy, informal society, and informal governance. He further goes on to add that although informality may originate from the perspectives of the poor, there is also a level of informality that exists within policy frameworks where government’s lack to effectively enforce policy causes a degree of informality at a local scale. Suffice to say money changes hands from the informal to the formal and vice versa (Lahiri-Dutt, 2018). Van Bockstael (2014) further goes on to add that although informality may originate from the perspectives of the poor, there is also a level of informality that exists within policy frameworks where government’s inability to effectively enforce policy causes a degree of informality on a local scale. In the case of Liberia, the majority of ASM miners operate as unlicensed but are not regarded as “deliberately illegal” (Van Bockstael, 2014). they have obtained local formalization through payment of informal taxes, and following informal agreements made with local government officials (Van Bockstael, 2014). It is a form of local legitimacy that exists due to the administrative confusion and the dysfunction of public services (Van Bockstael, 2014 and Lahiri-Dutt, 2018). It is these shades of informality that exists within the ASM sector that this research is concerned with.

2.4.3 The social identity of ASM

The world lives in a landscape that is always politically charged and it is in these landscapes where society is then informed by economic-politico aspects. Artisan miners classified as destructive and criminal (Bryceson, Fisher, Jønsson and Mwaipopo, 2013). Ethnography is both a methodological tool and theoretical tool that best describe the relationship between people and their material worlds and the knowledge surrounding these that give meaning to these worlds. This constitutes

greatly to understanding how social identities are formed and maintained (Bryceson et al., 2013). The mining landscape is politically charged by cultural perceptions towards the value of knowledge in relation to labor. ASM's low social status is contrary to practical value it offers to the economic landscape (Bryceson et al., 2013). It is suggested that complex social perceptions of knowledge and of ignorance of the sectors economic impact has created ontological distinctions between ASM's economic sector to that of other sectors that concurrently contribute to the economy as well but occupy different social identities to that of ASM (Biagetti and Lugli, 2016). The way ASM interlinks or relates with other sectors within the economy creates spaces where these social/class differences are continuously reproduced.

The exploitation of miners has led to some sort of declassification on both a social and an economical context i.e., shifting from employed to unemployed (Eckstein and Merino, 2001). The establishment of ASM throughout the years has shown a revolution against the status quo and has beckoned a new reformed worldview of a declassified people from a marginalized classification towards a "proletariat" that are aware of the market and economy in which they exist and contribute towards (Eckstein and Merino, 2001).

Against allegations of being illegal and dangerous, ASM has transcended into breaking societal norms and the concept of what is socially acceptable (Biagetti and Lugli, 2016.). ASM is introducing a new sense of distributive justice and democracy and it is renaming a declassified space into one that is founded on locally nuanced ideas and characterization (Biagetti and Lugli, 2016.). Rather than corrupting the social order or opposing state formed frameworks, ASM has the potential to uplift local economic development. Hilson (2017) states that ASM contributes to the economy and that the sector potentially feed 10 households indirectly. What is yet to be established is the correlation of the positive impacts of ASM to the local economy within ASM communities. There is no Economic data to support that ASM can be a major

contributor to LED (Local Economic Development) within Africa and SA (South Africa). With the above understanding of social identification this study has noticed a gap in this regard and looks to challenge the notion of ASM classification in relation its economic impact. Are policy makers simply operating at a level of ignorance at giving an illegal classification to a sector that is in fact contributing towards local economic development?

2.5 Conclusion

The theoretical considerations and literature review are a cumulative network of knowledge that seeks to support the understanding of the research topic and its associated research question (Rowley and Slack, 2004). The extralegal space in ASM is one that has become topical and relevant within the ASM body of knowledge, and it has become important to want to understand this concept beyond the understanding of De Soto (2001) but towards a more unconventional approach and more people led establishment of relevant concepts of formalization.

The contributions made above will be used to set the world view in the methods sections that will influence the methodological approach and will subsequently be used as reference towards analyzing the data collected while concurrently also playing a role in the research discussion. Baker (2000) was correct in stating that the literature review plays a foundational base to the rest of the research dissertation.

Chapter Three

Methodological Considerations

3.1 Introduction

The methods used to carry out a research study are termed as research methods, which are the many steps and processes that are scientifically planned to answer the research questions using theoretical and statistical approaches (Rajasekar, Philominathan and Chinnathambi, 2006). The research methodology is thus the process that is undertaken by researchers to solve a problem through description, explanation, and measurement (Rajasekar et al, 2006). The research methodology adds value to the research process in that it calls for evidence-based reasoning.

The research methodology outlines the plans and procedures for research that move systematically from broad concepts of research methods to more detailed considerations of methods (data collection, analysis, and interpretation) that a researcher undertakes to pursue their research focus or topic (Creswell, 2013). This method procedure requires several decision making of the research philosophy. Research designs and research approaches such as these play a crucial role in determining the direction in which this research will go, and these are primarily informed by the research aims and objectives as well as a review in research literature which has been covered by the previous sections (Creswell, 2013)

The purpose of conducting a research study is to fill in gaps in the body of knowledge through the application of scientific procedures. This section consists of ten subsections that will be used to outline the research journey that this research seeks to understand to answer the research questions. These sections include the researcher's philosophy and worldview, which will inform the underlying research approach and design. The researcher will further outline the research site, while drawing on data collection tools using specific methods to sample and record data. Using well-written means of analysis and validation.

3.2 Philosophical Position of the research

The philosophical worldview, which is a term that is used interchangeably with research paradigm is a grounded footing from which a researcher takes a general stance about their world perspectives on the research they want to study (Creswell, 2013). This worldview or paradigm gives an explanation and guides the decisions that a researcher makes in the methodological considerations concerning the type of research approach, research methods, research design and research tools (Creswell, 2013). These are the basic set of beliefs that guide methodological action (Guba, 1990). The idea behind a worldview is to write about how we intend to do research to give other researchers guidance on conducting their own research (Seale, 1999). This signifies a direct contribution to research itself.

The worldviews are based on three ways in which a researcher views the world, which are Ontological, Epistemological, and methodological (Guba, 1990). These views are based on key questions that the researcher can pose and seek to answer through an interrogation of their individual understanding of the world. These questions are:

- i. How do we see the world?
- ii. How do we relate to the world?
- iii. How do we prove that the world is as we see it and as we relate to it?

These questions are based on the mere fact that we are human and with persuasion and demonstrative ability they then become the worldviews that a researcher can adopt in their methodological considerations. Creswell (2013) has addressed four paradigms as the most used and accepted within the body of knowledge and it is from these four worldviews that this research will seek to answer the 3 above questions grounded in formulating a worldview that will further guide the research process of this study.

How it is that we live in one world, but we see it differently, but those different perspectives are all equally accepted as true. The world is made of multiple realities rather than a static state; therefore, all realities are relevant and valid (Heit & Rotello, 2010; Highfield & Bisman, 2012). The constructivist worldview and transformative world view address the research gaps outlined in chapter two of this dissertation and using these worldviews this researcher not only highlights their own perspectives on the grey space in ASM communities but also seeks to understand the worldviews of ASM communities from different perspectives and hence adopting the diverse and multiple nature of the constructivist worldview “transformative intellectual” (Giroux, 1988) to document the different perspectives of these communities. Putting into consideration the epistemological and ontological assumptions of the above worldviews this research is of the belief that aspects of “relative realism” (Giroux, 1988) could add to the validity of the qualitative inquiry that guides this research methodology.

3.3 Research Approach

The research approach sets the tone of the research methodology as it informs the types of research and research design that will be undertaken by the researcher to fulfill the aims and objectives of this research study. There are two research approaches that are primarily recognized in the body of knowledge, namely quantitative research approach and qualitative research approach. These can be easily and commonly differentiated as the former being description with numbers while the latter being description using words. Kothari (2004) has gone in depth in defining these different approaches and explains that the quantitative research approach is an approach that generates data from rigorous analysis. It is further broken into three sub research approaches; inferential, experimental and simulation which all consist of formulating a hypothesis and then carrying out different tests that can be analyzed statistically. The qualitative research approach Kothari (2004) explains as one that operates and is informed by opinions and behaviors observed by

the researcher in the field. In his various editions of research design and methodology Creswell (2013) has also stated the above approaches but has further gone to introduce a mixed methods research approach that incorporates the elements of both quantitative and qualitative research approaches. These approaches are not distinctively different but occupy different niches within a singular research space (Creswell, 2013).

It is from the above stated that this research has taken the route of a qualitative research approach to inform the research methods undertaken in this research. This is not to say that the other approaches that have been discussed are not suitable to be used in conducting research, but the qualitative research approach best answers the research questions of this dissertation. Qualitative research seeks to explore and seeks to understand how people denote and relate to prudent socio-spatial problems (Creswell, 2013). Qualitative research allows for flexibility in the research structure, which allows for the real-time documentation of complex issues that people experience differently at a particular point in time (Creswell, 2000). This research is of the belief that there is only one world but can be seen and experienced from unique perspectives and context.

Over the years, the use of research has been seen as a crucial step to solving anthropogenic problems such as climate change and poverty. Research taps into multidimensional issues to seek correlations and solutions but in all its vast coverage, there will always be space for growth within the body of research itself (Kothari, 2004). There are different research types and methods that are used in research, these include basic research, applied research, Participatory research, empirical research, conceptual research, and analytical research to name a few (Kothari, 2004). These all form a base for the research journey that the researcher wishes to take readers on (Kothari, 2004). Action research and Participatory research is best suited for this research and its associated research questions.

Adelman (1993) explains action research as a process that is understood to put emphasis on the ability for ordinary people to apply their minds to reflect, understand and make concise decisions on solving a common problem within parameters of a collective contribution to research (Berg and Lune, 2004). This methodology encourages interconnectedness within people and allows participants to play a role in shaping the research and is concerned with culture, history, and behaviors of participants and more importantly it is concerned with how participants relate to their community (Berg and Lune, 2004). It works hand in hand with the community that is it focusing on. Although participatory research is similar to action research, it adds greater value to the research experience in that it prioritizes the relationship between the researcher and the community as it moves from action-change to collaborative change (Bergold and Thomas, 2012). This not only offers an increased contribution to research by community members, but it also means that the research is saturated in terms of knowledge (Bergold and Thomas, 2012) and understanding, as it is an in-depth documentation of real-life issues and real-life struggles and real-life solution-based responses.

3.4 Research design

A research design is a strategy of inquiry that stands as a pre-requisite to applying the different research approaches within the methodological section of a research paper (Creswell, 2013). Research design seeks to make a methodological declaration, through the extension of theoretical thought of methods to the practical implementation of research methods to real life scenarios. Janesick (1994) uses the analogy of dance to explain the research design inquiry and likens the interpretative nature of dance to how qualitative research designs are carried out. She tells the research design process through the story of dance, from the steps to the synchronicity, to the uncertainty and the trial by error process.

There are five different research designs that Creswell (2013) states a researcher can use when conducting a methodology. Namely, Narrative research design which is done through chronological story telling; Phenomenological research design which is based on the philosophical worldview of the lived experiences of participant; Grounded Theory research design is an inquiry that forms a process based or rooted from the views of participants; ethnographic study considers the shared experiences of a particular group and Case studies which are a deep analysis of participants that are time reliant. Each of the above stated research designs are influential in proving and sustaining the validity of a qualitative methodological research inquiry, however for the purpose of understanding the grey space of extra-legality within ASM, the case study and ethnographic research were employed to guide the research questions.

Holloway (2010) introduces the concept of duality/pluralism when defining research methods and is of the opinion that a researcher can use two different methods that are set to not oppose the different research methods but effectively complement each other in maintaining an integrated approach to research methods and data collection process. “The tradeoff” of strengths (Cavaye,1996). The blending of research designs allows for the use of the best of each design while mitigating the limitation of each design on the research methodology thus allowing the researcher to probe into concepts of duality within the ASM space where the informal functions in duality with the formal.

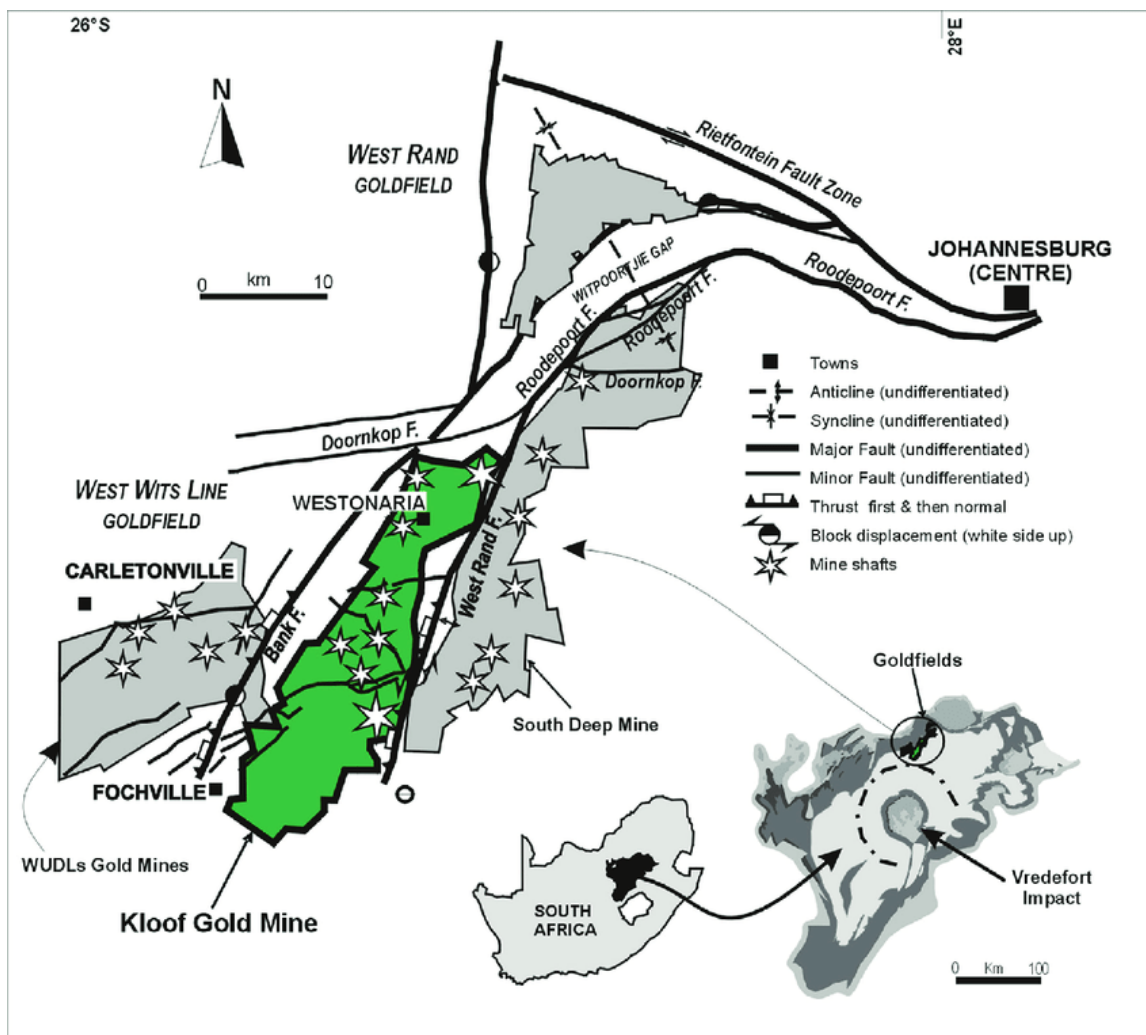
The case study research design aided in the mapping out of ASM impacts and systematically used observation data to characterize the many aspects of ASM that have played a part in its constitution as an informal-formal space. The case study method validated the raw data collected in the field and allowed for concepts and themes discussed in the theoretical considerations to be studied in their natural context (Cavaye, 1996). One of the focuses of this dissertation was to build a level of understanding of how ASM miners view the concept of entrepreneurship, and the ethnographic research method was used to take into consideration the feeling, beliefs, and behaviors of the ASM miners in this context (Fusch, Fusch, and Ness,

2018). This research method was instrumental in designing research questions for experts and academics as it allowed for these participants to highlight the social identities of ASM miners through the understanding of ASM as an everchanging space (Barbour, 2010).

The three lenses which have been a focal point in establishing a base of understanding the grey space namely political, social, and economic. These lenses inspired the researcher to play not only an observing role in the field but also a participatory role, which borders along the lines of understanding the ethnographic perceptions of the participants while also putting into consideration the individual's own perception of the world (Dibley, 2011). The ethnographic research method gave a temporal and spatial understanding of the ASM value chain while exploring theory-data based interconnections between themes of livelihoods and entrepreneurship which have been key themes coming out of the literature review (Fusch et al, 2018). These contribute to the understanding of ASM contexts within the body of knowledge.

3.5 Description of research site

Carletonville is situated in the biggest gold bearing areas in the world. The district of Carletonville covers approximately 400 square kilometers see figure 3.1. To the north-west of Carletonville town is Khutsong township, to the south are the goldmines (Williams, Gilgen, Campbell, Taljaard and MacPhail, 2000). The goldfields extend to great lengths and depths and make up more than 7 mines in the area, with the western Deep mine being the deepest gold mine in the world (Williams, et al., 2000). The now post-mining communities continue to thrive even after mines have closed and sought the use of these closed mines through artisanal mining. Access into Carletonville (**GPS coordinates: 26.3543 S, 27.4088 E**) goes through the N12 road that runs from the Northwest province through the goldfields all the way to the Northern Cape (N12treasureroute., 2015). The Carletonville route is scenic and is a buzz for tourism activities that include wildlife, cultural and eco-friendly activities (N12treasureroute., 2015).



Manzi et al. 2014.

Figure 3.1: The location map of the West Rand and West Wits Line (Carletonville) goldfields of the Witwatersrand basin in South Africa

3.5.1 Demography and social data

Carletonville is a town made up of a population of 23000 people with majority of the demography of the made up of predominantly black people with men being the larger gender group (Department of statistics South Africa (StatsSA, ,2011). 73,1 % of the population is made up of people aged 15 to 61 years. This area has a 40,3% of matriculated youth over the age of 20 years (Department of statistics South Africa (StatsSA, ,2011). With 8006 households consisting of at least 3 dependents. In these households 27,6% of them are female led households (Department of statistics South Africa (StatsSA, ,2011).

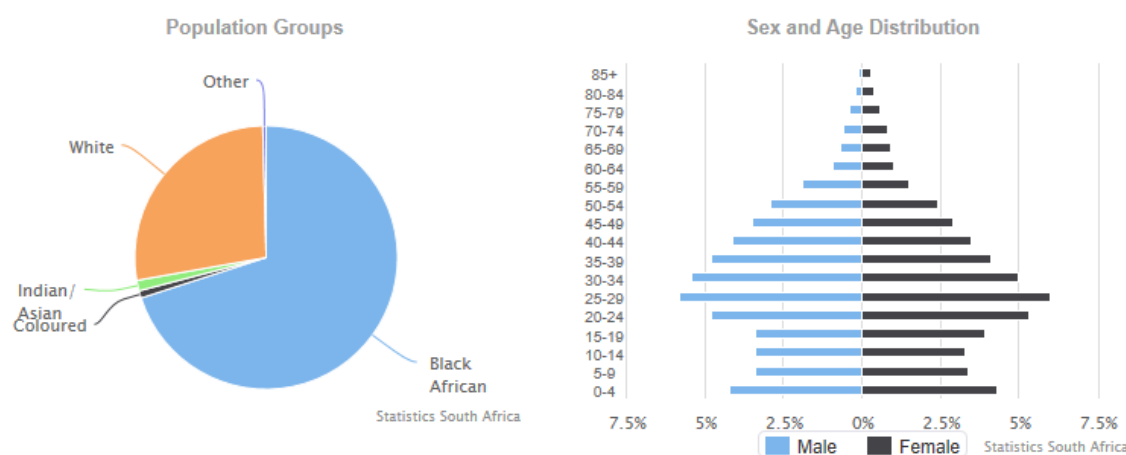


Figure 3.2: Demographic information of Carletonville (Department of statistics South Africa (StatsSA),2011).

Mining Affected Communities United in Action (MACUA) is an NGO (Non-Governmental Organisation) that deals with communicated organizations across the country. Through prior engagements and community programs they have allowed a space for a researcher to engage with communities but also to inform communities on the process of legalization and obtaining of the license to mine (MACUA,2020). MACUA also operates in Carletonville and agreed to connect local representatives to the fulfillment of the mandate of this dissertation.

Ample research has been done on ASM in gold which made it possible to interrogate the concept of grey space and duality in a commodity that operates formerly at a wider context. And it is more favorable for this study as Gold is a continent-wide studied commodity in the ASM Context and hence it is the hope of this researcher that the findings and recommendations of this dissertation can be adapted at an African scale (KASSA, 2018; Werthmann, 2009; Geenen and Radley, 2014; Yankson, and Gough, 2019; Seccatore et al., 2014; Mawowa, 2013; Hilson, 2013).

3.6 Sampling

The sampling section of a methodology is important in that it determines the impact of the data collected and it also sets a strategy in how the data collected will be analyzed (Ritchie, Lewis, and Elam, 2013). Creswell (2013) states that qualitative research calls for the purposeful selection of participants or research sites. “Qualitative research samples purposely” (Ritchie et al., 2013). Samples are selected to serve an investigative purpose rather than to be statistically representative of a population. Bearing in mind the statistical gap of ASM numbers in South Africa, samples selected were based on a purposeful decision. Purposeful sampling methods include theoretical sampling, maximum variation sampling, time/place-based sampling (Carter and Little, 2007)

3.6.1 Sampling Process

The artisanal miners that were interviewed all lived in Carletonville and their work area ranges from just their backyard to the peripheral goldmine dumps across the Carletonville area. A key informant was identified and selected from the researcher’s previous connections within civil society organizations. The respondents that were interviewed in the field were categorized and chosen through this key informant. The key informant introduced the researcher to the research site and consequently to the people who worked on these sites. These people were then asked to become respondents. The respondents chosen for data collection methods were not only just Zama Zama’s but were people that made up the value chain of the commodity.

Respondents were chosen as per their role within the gold processing journey i.e., Miners, mineral processors, Local buyers, Commodity traders, etc. Overall, fifteen Zama Zama's were interviewed over three working sites across the community. Each site occupied four to five Miners who played distinct roles two processors, two refiners and one observer/supervisor.

Upon the completion of the field work, six experts on ASM and two economic experts were interviewed. These experts were chosen from an existing contact list accrued by the researcher through networking. Due to a refined outlook on data collection during COVID-19, ASM experts went through a blended focus group and baseline survey interviews to collect initial perceptions on ASM that were further guided by the research questions in the in-depth interview. Exceptions to respondent selection was made due to the discovery of gaps within the data collection that were filled through selecting and reaching out to subject specific experts to become respondents such as the two economic experts.

3.7 Data Collection Tools

The qualitative research approach has many data collection tools that a researcher can use in the field, these include structured and semi- structure interviews, observations, focus groups, informant tours, ground truthing, document analysis and visual recording (Creswell, 2013; Amit, 2003; Clifford et al., 2016).

The research tools that were used in collecting the data as this dissertation was unfolding are listed below:

- i. Ground Truthing- It was important to first get an understanding of the chosen research area and to also find out on barriers that may influence the ability to collect data. The ground truthing process occurred over two various trips to Carletonville to align coordination of travel, meet with the key informant to go through the depth of area coverage.

- ii. Informant tour and observations- Once the planning and landscape analysis were completed, the key informant tour commenced. This was a dual process to not only familiarize the researcher with the community but also for the Zama zama community members to get acquainted with the researcher and the research mandate. This was a trust building process and proved to be insightful for the researcher as the observation process allowed for the researcher to record and gather information of issues that occurred in real time giving the researcher access to the lived experiences of participants.
- iii. Group interviews- The Zama zama's processed their minerals in groups of four and hence the community members were interviewed in groups rather than individually. The conversational and informal tone of these interviews were able to make interactions with participants easier and less forced.
- iv. Individual Interviews- These interviews were for respondents who shared their thoughts individually as per their preference which was the buyer as he did not work in groups.
- v. Informant Interviews – Two Key informants were selected to get more in-depth information on the Zama Zama supply chain.
- vi. Baseline Surveys- Digital surveys were dispersed to 8 different experts to gather a general overview of how experts in the field understood issues concerning ASM within this research context.
- vii. In-depth Surveys- Follow in-depth surveys were conducted for expert's who chose to further break down themes that were resultant from the baseline survey.
- viii. Phone call interviews- These interviews came as part of the last sessions of data collection and were focused on talking to specific people in further guiding some of the themes that had come about throughout the data collection process.
- ix. Visual and Audio Recordings- Pictures were taken in the ground truthing process and the phone call interviews were also recorded.

- x. Document Analysis- This process was for establishing a theoretical understanding of the concepts regarding duality and the theory of extra-legality.

3.8 Data Analysis

The data analysis section clarifies how the researcher intended on making sense of the data collected in the field (Creswell, 2013). This research has adopted the steps of qualitative data analysis as demonstrated by Dey, (2003) which highlight data analysis as a series of steps that can be taken by the researcher after collecting data.

Step1: Categorize data – Separate and transcribe data from the field per stakeholder and do the same for data collected from the surveys using an excel sheet

Step 2: Split into themes – Once data is categorized, draw out key themes from the data and arrange in a process flow

Step 3: Link data and themes – Analyze theme flow to data notes

Step 4: Connect the categories – Align themes with key research questions and objectives

Step 5: Corroborate data – en identify gaps, if any and revert back to the data

Step 6: Data validation – Triangulate data from different aspects based on known research, lived experiences and ground truthing data

Step 6: Map out the empirical evidence – Arrange evidence to be put into the data analysis section

3.9 Validation

There are many definitions of validation that have been explored within the literature by scholars (Guba and Lincoln, 1994 and Holloway, 2010). There is a simple and mutual understanding of validation that Creswell (2013) and Miller (2000) refer to as “how accurate is the data to the lived experiences of participants”. The application of ethnographic and case study research designs in this dissertation has sought to uphold the true documentation of the participants’ perceptions of grey space. Taking into consideration considerations from Morgan (1983) who states that there is no singular framework or strategy that can contribute to “valid knowledge” while Emden and Sandal (1999) further add on to say that knowledge in its unending capacity is uncertain regardless of the techniques or approaches applied towards the gathering of that knowledge.

The validation framework that was referred to in this methodology was informed by a tool given by Creswell and Miller (2000), which uses aspects of the methodological considerations namely, the philosophical paradigm and different Lenses of the people involved in this research namely the researcher, the participants, and the reader. Holloway et al., (2010) wrote of the importance of triangulation to ensure reliability and validity of the data and results, the need and prevalence of gatekeepers, the importance of key informants, and the ethical concerns of covert observation.

The above procedure was used as a tool to validate the data collection process and a particular aspect of data analysis was used to validate the data through the process of categorizing data into themes and then going back to look at the data to find anomalies and then readdressing those gaps through further data collection.

3.10 Methodological reflections

Conducting research is the highest level of inquiry. It feeds the curious minds and seeks to fill up gaps in society. Bearing in mind the democratic journey of this country, there are definite gaps within our society that require extensive academic probing. The purpose of research is not only to fulfill the requirements of a degree nor of gaining valor within the field but the fundamental purpose of conducting research is to advocate for inclusivity within spaces and more importantly the purpose of research is to inform change. This dissertation was founded on the mandate of directly informing change within a country whose pillars of freedom are based on systems that are cracked and are consistently playing catch up to the injustice and marginalization of its people. Informality is not a topic of right or wrong and it certainly is not the counter of democracy. It is the lived experiences of a formerly oppressed people; it is the representation of deep and visible scars resulting from a battle. History cannot be mended through policies that are aimed solely to declassify spaces of freedom through economic mis-identity and social stigmatization. The informal space came about to give people voices to speak out against oppression and what an appalling rhetoric that twenty-six democratic years later these spaces have now become symbols of poverty and failure. My interest in ASM stems from a detailed background in working for various civil society organizations and more times than none when doing community service, there comes a point where one reaches a state of helplessness. Unable to change circumstances of real suffering and pain, research as an advocacy tool has been an avenue of help and hope to me and comrades alike.

My Masters journey has been nothing short of challenges and resistance, an odyssey to say the least. From changing places and advancing into adulthood to facing degrees of mis-identity and confusion, this has been a challenging journey and in hindsight these life and academic challenges were the real test of mastery. The COVID-19 pandemic caused a big pause to my research and life alike and having to battle various health and mental health issues within this period has been a tipping point in my growth. The complete lockdown within the country saw a complete uprising of the need within local economies, where ASM communities had been made vulnerable

with little to no income circulating within their spaces. Perhaps this was an indication as to the great contribution that ASM has in building and maintaining local economies or perhaps this was an indication of a great conceptual shift on understanding unnamed spaces and phenomena. An unknown virus that was created in unnamed spaces that pro-creates through its own regulation, put the formal system to such a standstill that laws and policies had to be redesigned to align with this substantial change. What a liberating time to be a researcher and to see unknowingly and unintentionally the underpinning theories of the grey space be applied in real life.

Chapter Four

Empirical Evidence

4.1 Introduction

This section of the dissertation aims to present evidence acquired in the field and it is through this section that the research question and sub-questions that have been posed in the beginning of this dissertation; in the frames of references will be actualized and answered. The empirical evidence contributes immensely towards this dissertation in that it ties in the methodological considerations and theoretical considerations in seeking to answer the question of ASM formalization and the characterizers of extra-legality represented therein. Through this process, the empirical evidence sets a precedence towards achieving the research aims and objectives of this research which will be further discussed in the following chapter of research discussions and data analysis.

The research focus of this study was on the case study of Carletonville but seeks to cover, analyze or interrogate issues that cut across the regional scope of ASM across southern Africa and, it for this reason that this research was interested in the views of all stakeholders not only limited to Zama zamas but also including a community-based organization, ward councilors within the study area and experts in the field of ASM as well as economic experts that contributed towards further filling in the research gaps discussed in the theoretical considerations.

This section consists of three sections that will seek to understand how the formalization of the ASM sector is understood by different stakeholders within the context of extra-legality focusing on three themes namely, ASM because of informality & formalization formality and informality; Mapping ASM Value at a local scale; ASM in relation to social identity. This chapter will also have concluding remarks to

synergize the findings of this research while transitioning to the latter chapters of this dissertation.

4.2 ASM as a result of informality & formalization

4.2.1 ASM in relation to formalization

This section of the empirical evidence highlights key important themes that are critical in answering the research question of this dissertation being ASM as a resultant function of the extra-legal space and as highlighted in the research gaps this dissertation has sought out to understand the nuances of ASM through three focus areas; social, economic, and political and how extra-legality prevails within these lenses to create a space in between the formal and the informal. It is from the above that surveys were dispatched to subject matter experts in a bid to further clarify ASM core concepts. It was thus imperative that this section sets a basis of understanding and referral when looking to understand the Characteristics of ASM as an extra-legal space, the experts provided insight into what informality and formality are labeled as. It is evident from the figure 4.1 that there is a heterogenous understanding between the two concepts.

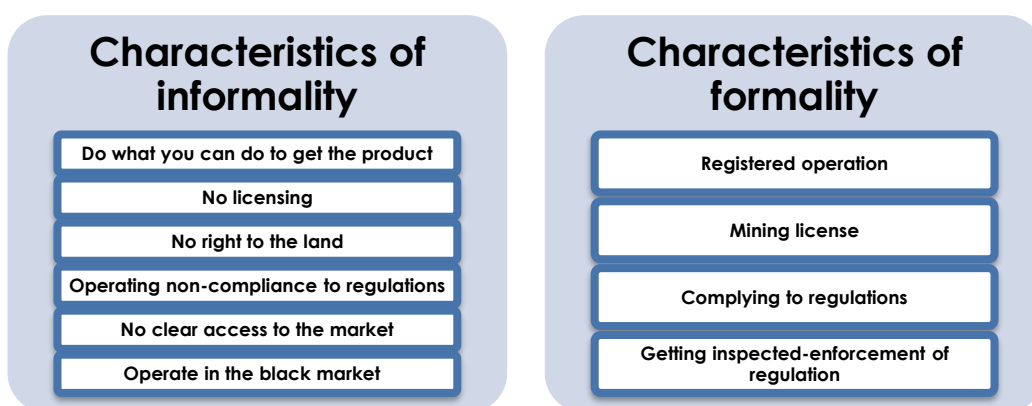


Figure 4.1: Characteristics of formality and informality as explained by experts

This dissertation further probed the above insights from experts and established that there is no consensus on the conceptualization of ASM as either formal or informal/illegal. As depicted from figure 4.2, there is an unequal percentage of experts that have labeled ASM as either/or but the lines of classification are very blurred.

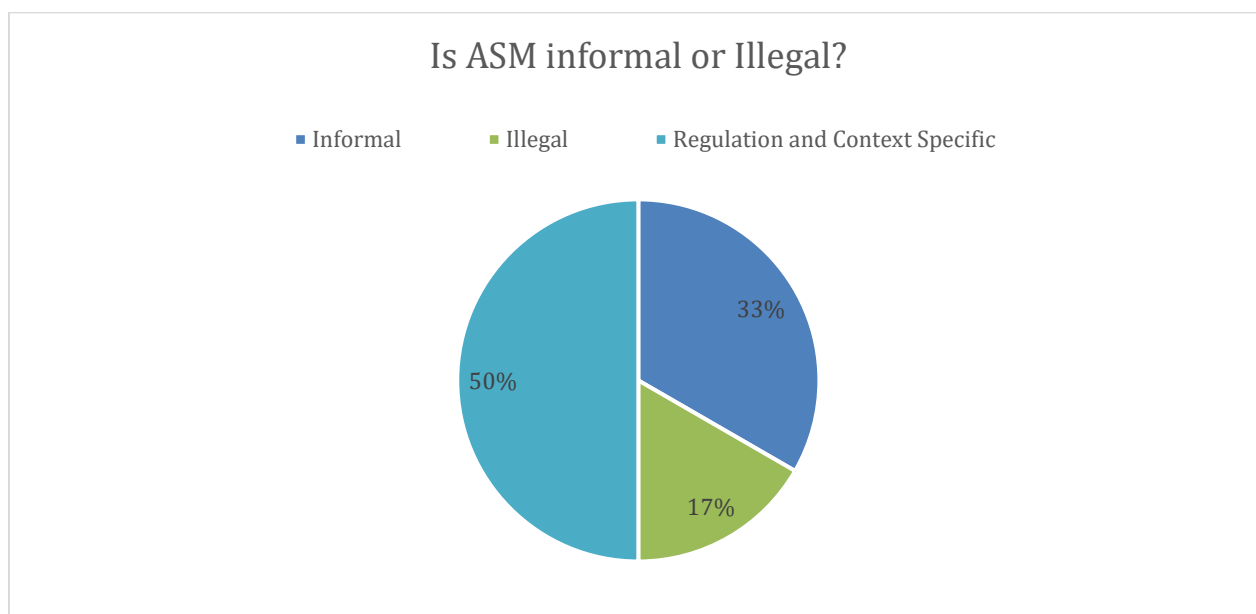


Figure 4.2: Expert perspectives on the classification of ASM

“Lines of classification are harsh and often result in forced Hierarchies and an untrue representation of peoples lived experiences” (Economic expert 1, 2020). There are many reasons as to why people engage in this activity, and it is important to take note of these reasons as they are indicative of the lived experiences of people and goes to explain why it is difficult to label ASM as either formal or informal. ASM is not only policy-oriented, but also an indicator of the socio-economic status of a community or region.

When asked if the informal and formal sectors can function together at a local level, the experts went on to explain, that to engage within the mainstream economy, the sector would have to be formalized. Evident from the baseline survey, there was a 100% consensus from the experts that ASM should indeed be formalized.

What was notable is the proposed interchanging relationship that experts had proposed as to how these sectors could function. “The informal sector is another way for people to enter the labor market” (Economic Expert 2, 2020). “Where there is an interchange of by-products, where one reuses material discarded by large scale mining. and the small-scale miners use that product for a different purpose” (ASM expert 5, 2020). “co-existence begets co-dependence, where the large-scale mining company assists in formalizing the small-scale miners “(ASM expert 6,2020).

When further asked if the informal sector can function outside of the formal economy, over 60 percent of the interviewed experts agreed to that notion, with the remaining 30 percent declining on this concept (see Figure 4.3). The central reason behind the decline of this concept as explained by the experts is that “the reality is that we are working in an already established system with established rules, the capitalist system is cemented and there is no way around it. Anything outside the current system will not work” (ASM expert 1, 2020).

Can ASM function outside the formal economy?

6 responses

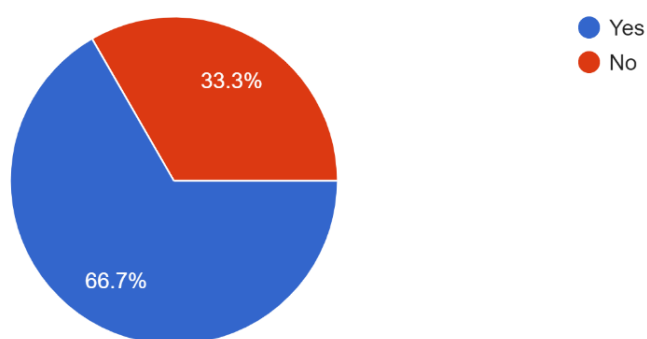


Figure 4.3: Expert perspectives on the function of ASM outside the formal economy.

“There are no parallel lines where the informal functions out of the informal and vice versa “(Economic expert 1, 2020). “The two economies have to eventually meet and join each other for ASM to be sustainable in the long term. One cannot work in isolation from the formal economy. In the days of President Mbeki, there was a term called "second economy". “This is where ASM and SMME's play a role. They however have to eventually be integrated into to the "first economy" or formal economy” (ASM experts 5 and 4, 2020).

4.2.2 ASM in relation to informality

The theme of informality and the persistence thereof is very topical within the context of ASM and forms a key part in answering the research questions of this dissertation. Figure 4.4 shows some of the drivers of ASM in communities, with poverty and unemployment being the top factors and more notable is that profit potential of this sector is a highly ranked as a driver of ASM.

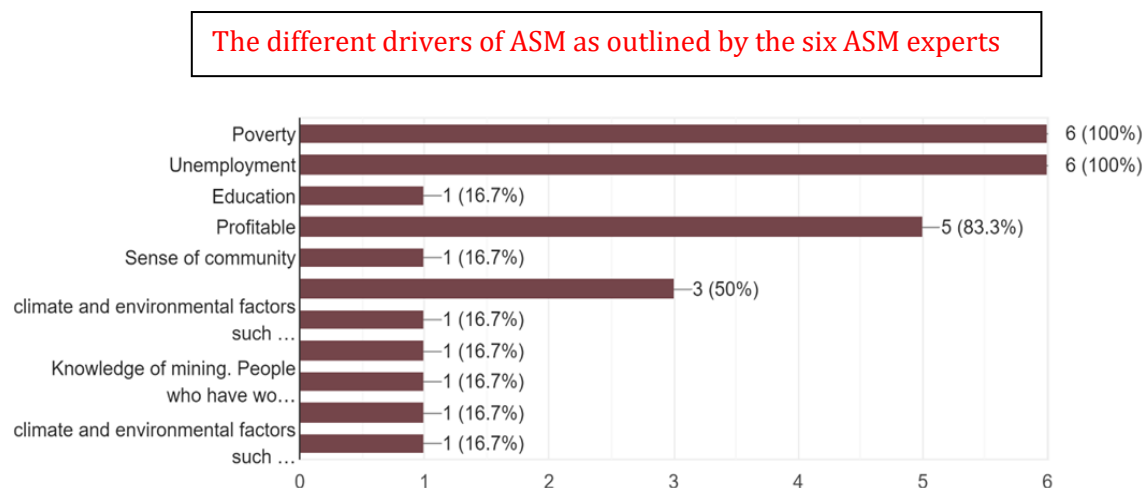


Figure 4.4: The drivers of ASM as listed by ASM Experts

The consensus behind the persistence of informality within the ASM sector is reasoned to be the cost associated with the formalization process. “Most operations remain informal due to the amount of red tape and cost of becoming formal both from a legal and business perspective. They prefer to earn a living without having to comply with the rigorous demands of a proper mining operation or business” (ASM expert 1, 2020).

It is significant to note however that with the above being stated, the profitability of the sector is one big reason to persist within the informal sphere. “I have a car, I have everything that I want and that I did not have before I started being a Zama Zama (ASM respondent 12, 2020). This benefit of financial stability for the Zama Zama alludes to the concept of “intentional invisibility,” where people persist in the informal sectors, not because of government or policy but because they chose within their social landscape to remain in the sector. “Many people don’t want to be taxed and harassed. The idea of informality, in this case does, not resonate from the state not recognizing but rather it’s the individual that does not want to be seen” (Economic expert 1, 2020).

The research gaps highlighted in the theoretical considerations have shown concerns regarding formalization processes and the implementation thereof and it was the focus of this chapter to understand these gaps and characterize the lived experiences that make up extra-legal spaces. Two themes that needed to be highlighted from these surveys were the labeling of ASM hierarchies and ASM as an elitist venture, these are topical issues that experts shared concerns on with regards to the ASM-formalization discourse see figure 4.5.

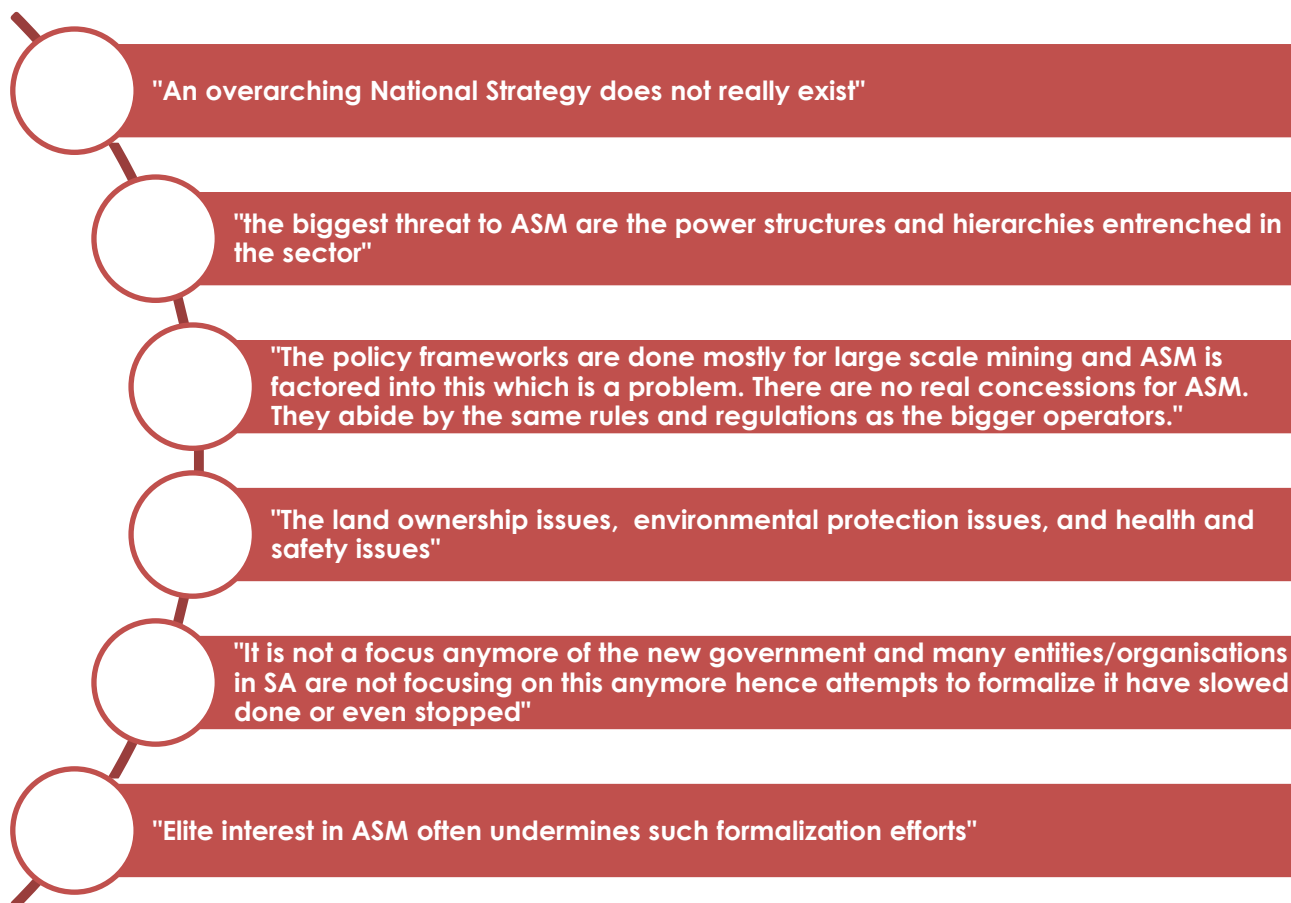


Figure 4.5: Concerns of formalization as explained by ASM experts

It is a mandatory value of this dissertation to not only look at challenges and concerns to an issue but to also seek strategies of reform and change. One central question was asked to experts on how to address the concerns and it was interesting to note that from figure 4.6, all experts shared a similar answer. It is notable that tackling issues regarding formalization requires a wholistic multi-stakeholder effort.

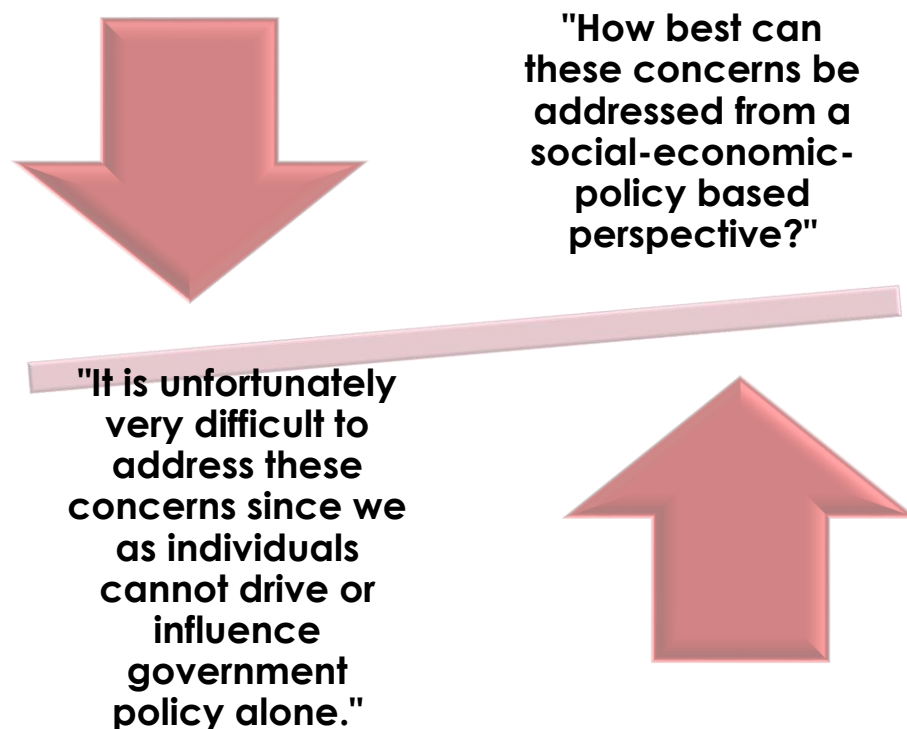


Figure 4.6: The focal question of change and the centralized answer given by the ASM experts.

In support of the above, experts further give real-life examples of the regulation of formalisation that takes place at a local and community level. These examples included “decentralized mining regimes with licenses being issued at local/municipal level as opposed to issues at a national level” (ASM expert 1,2020). “We have also seen the promotion of organization in the sector i.e., formation of cooperatives as a way to organize the sector and bridge the gap between ASM operators and governments” (ASM expert 4, 2020). “There has also been the role of traditional leaders or village chiefs in managing the sector” (ASM Expert 6, 2020). There is a clear gap in formalization as an idea versus formalization as a practical solution to ASM concerns. It is evident from the above that the solutions to the cracks found within ASM formalization strategies are reliant on various methodologies and approaches, all of which are niched to context and needs of communities. The above insights from ASM experts show some level of unmapped and unrecognized strategies that function

outside of the formal approaches but could potentially fill the gaps identified in the ASM space.

Further probing on formalization strategies revealed that these strategies should occur at a local level and should be more inclusive as suggested by ASM (expert 4,2020) “Through Community based approaches such as training and education, working with different local partners”.

“There needs to be "synergy" between government policy and regulation, DMR (Department Mineral Resources) as the custodian, provinces, districts and then communities. It needs to cascade downwards rather than upwards which is the current problem. We cannot succeed if we cannot measure and report progress. We need data” (ASM Expert 3). “At the district level this is very problematic. There are also no proper strategies or plans in place” (ASM Expert 5). At a national lens, the concept of formalisation is deemed successful and effective because it has been put on paper and yet the reality is that “Proper formalization strategies do not exist” (ASM expert 1,2020). “There is a discrepancy within the correlation between policy and economic impact of the informal sector” (Economic expert1, 2020). “I am still trying to find other strands to the concept of formalization that we can explore because mainstream formalization has not worked” (ASM Expert 1, 2020).

4.3 Mapping ASM Value at a local scale

“The majority of the labor market in South Africa is filled with hard skills or trade skills” (Economic expert 2, 2020). When the formal sector cannot employ the vast majority of these skills, the informal sector becomes another way for people to enter into the labor market. figure 4.7 depicts the value created within the informal sector, showing the gain and losses of the community within the ASM sector in Rand value over the average labor period that most people have contributed to in this sector. The

ward councilors interviewed offered insights from a distinct perspective from Zama zamas and lamented on the presence of Zama zama's in communities as a hindrance towards effective service delivery. Although subjective and could call for more subject-specific data collection, it is evident that there is an upward trajectory in the economic standing and influence of Zama zamas at a local level (see annex 1 for the gold panning process).

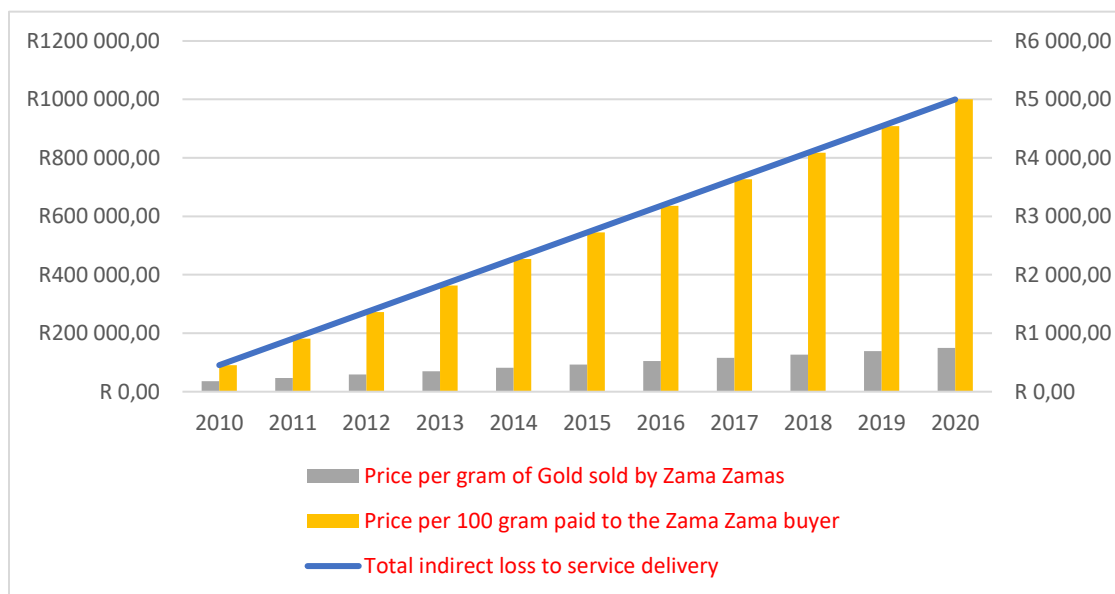


Figure 4.7: The rand value chain of the ASM cycle

In highlighting the research question of entrepreneurial mining, it is sufficient to note that there are an economy and people work in diverse ways through the economy, with much of it being incredibly hybridized. People who are in the informal economy get things from the formal economy and trade them back into the informal economy. These concepts can be used interchangeably to understand the nuances of the informal space. “It does not make sense to me to take Informality, erase it and rewriting it into something else and then redoing it. It is better to take what is already existing within the space and then strive to make it better” (Economic expert,1,2020). The concept of hybridized local economies is a nuanced approach to understanding local economic development and more research is required to further unpack this concept and its functions across different countries but for the purpose of this

dissertation, such a concept is more realistic and may work especially for "Grey" areas that current policies and strategies do not address.

4.4 ASM in relation to social identity

Engagements with the Zama Zama groups indicated that there were many challenges that they faced. Figure 4.8 shows some of the top challenges that the majority identified with. These challenges interweave their socio-economic status, as well as their political labels. "The police think that our work is criminal in nature but in fact we also are victims of criminal behavior within the community" (Respondent 3, 2020). There is a clear distinction between three areas where they mine. The back yard, the Periphery and the deep. For data collection, the scope for this dissertation focused only on the two former areas (See annex 1 for a picture of the focus area). "In the deep, there you have to be accompanied by police, as there are lots of criminal activities happening there" (respondent 1,2020).

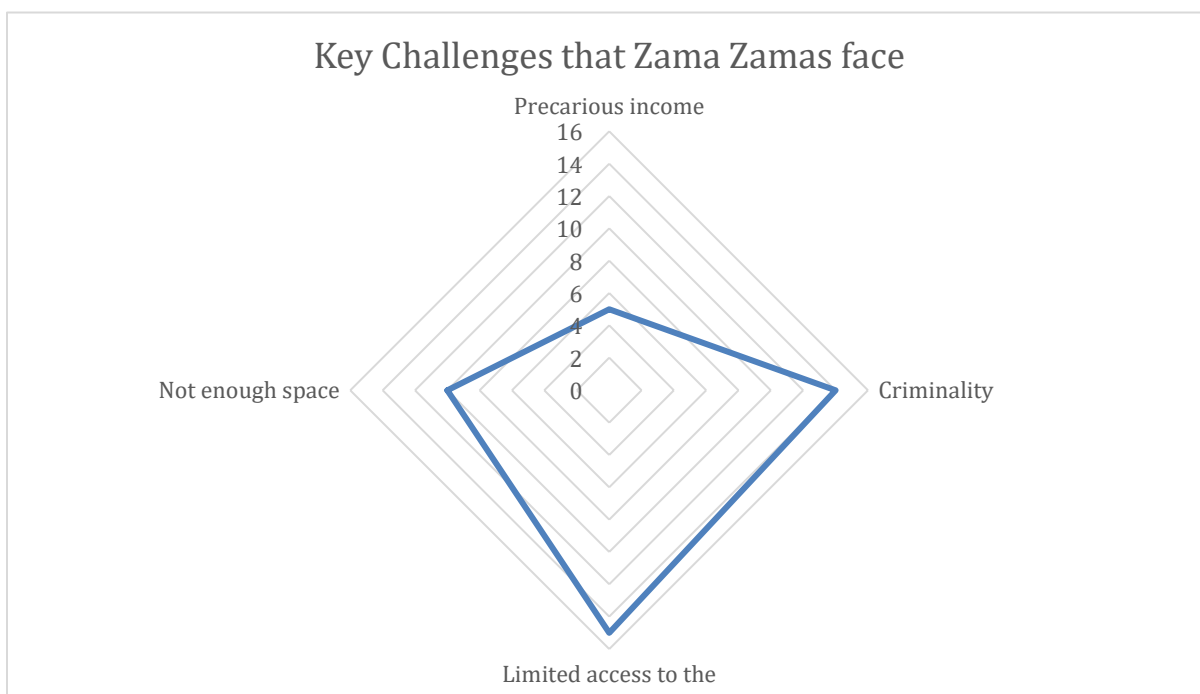
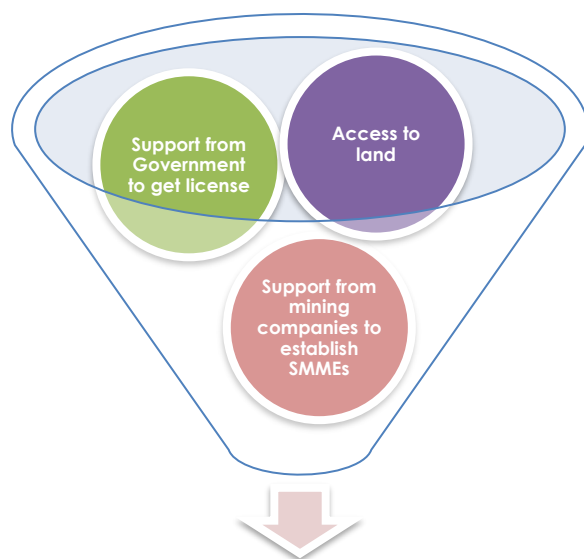


Figure 4.8: Priority challenges that Zama Zamas have highlighted to be prevalent in their activities.

There are many suggestions from the Zama Zamas that were geared towards eradicating the above challenges towards reform and positive change. The themes that were at the center of these discussions all circulated around the core issue of land as outlined in the Figure 4.9. “The first thing we need is in order to moved forward as formalized co-operations is land, our own land” (Respondent 5,2020)



The right to Mine + The right to own Land

Figure 4.9: The major themes from the need assessment done by Zama Zamas which are important in establishing safe and profitable co-operations.

There is a stigmatization of the informal sector that has contributed towards its marginalization and exclusion in the politico-socio-economic perspective. “There is that misconception of seeing the informal sector as second class, not modern enough and not as good as something that is formal” (Economic expert 1, 2020). The importance of the informal sector is something that is overlooked and not recognized. “There is the rule of law and those in power to enforce the law see informality as challenging their authority and see the informal sector as unregulated because it is not formally regulated” (Economic Expert 1,2020). “The role of Zama Zamas in this

community is counter to what our role is as a municipality which is service delivery. They are not supposed to be within the communities because they are unlawful” (ASM Respondent 13, 2020).

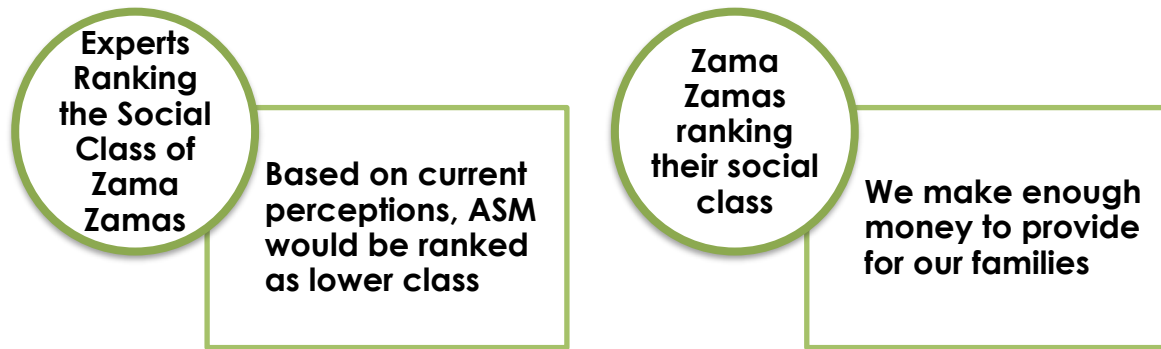


Figure 4.10: Class perspectives of the ASM sector by experts and Zama Zamas.

This dissertation is of the anticipation that there will be an inspired change in the way ASM is perceived across various classes and organisations. It was important to note how experts viewed Zama zamas socio-economic class and to correlate that with the view that Zama zamas have on themselves. The above figure 4.10 shows central perceptions on the social stance of Zama zamas as understood from different viewpoints. The objective of this was to highlight the importance of positionality and interconnectedness of the social and economic lenses. It was of importance to get an understanding of how Zama Zamas are perceived in terms of class by third party observers such as ASM experts and by the Zama Zamas themselves. It was notable that although the classing was the same, the perceptions and reasons behind each categorization were different. Experts categorized Zama Zamas as lower class due to driving factors such as poverty and unemployment, whereas the miners’ reasoning was the impact this activity has had on sustaining their livelihoods. The understanding of social identity in this regard is multifaceted and resonates from a purpose versus impact perspective.

4.5 Conclusion

This chapter presented findings from the data collection process that was informed by the methodological considerations of this dissertation. The focus areas of this chapter were in relation to the research questions of this dissertation as well the gaps in research that were established in the theoretical considerations. This chapter addressed various themes in relation to ASM as a function of the grey space of extra-legality namely, ASM in relation to formalisation; ASM in relation to informality; ASM in relation to economic impact and ASM in relation to social identity. This entailed a thorough interrogation of multi-stakeholder perceptions and views with regards to issues relating to ASM formalisation and ASM informality and the persistence thereof. It was interesting to note the consistent blurred insights regarding the ASM sector and it is significant to note that through these blurred considerations, the empirical evidence of this dissertation was able to uncover a more nuanced understandings of the impact of ASM at an economic perspective and a social perspective. Undoubtedly representing findings through this chapter has led to more questions underpinning various themes circulating around ASM extra legality. The aim for this chapter was to not only answer the research questions posed in this dissertation but to also spark inspiration towards the pursuit of inquiry in the function of ASM as a grey space and the following chapters will pave this inquiry with foundational concepts and key characteristics of understanding the grey space of extra-legality to further enlarge the body of knowledge in the recommendations section of concluding chapter.

Chapter five

Discussions

5.1 Introduction

The Discussions in this dissertation allow for a platform to breakdown themes identified in chapter four of the empirical evidence while also referring to the latter chapters of the methodology and literature review. The research objectives of this dissertation as stated in the frames of reference are to understand aspects of ASM through the perspective of the concept of “Grey space.” Using the theory of extra-legality and a perspective analysis based on three focal lenses of political, economic, and social. This Chapter will highlight key themes that talk to further understanding concepts of ASM to fulfil the objectives of this dissertation. These will be unpacked in the four sections below namely, Understanding the extra-legal space; Understanding social culture in the ASM space; Value determinants in the ASM space; Conceptualizing the Grey Space of extra-legality and, Characterizing the grey space. This chapter seeks to challenge perspectives on the ASM sector and to introduce key concepts of understanding the lived realities of ASM communities at a local scale.

5.2 Understanding the extra-legal space

5.2.1. Unpacking the notion of informality within extra-legality

For as many concepts as there are in the understanding of formalization, there is in turn a corresponding number of understandings of informality (Devas, 1999). In their outline of ASM formalization and extra legality Siegel and Veiga (2009) make a very distinguished point of noting the nuances of the persistence of informality that has since seen a conceptual shift in the ASM body of knowledge from the static characterization of informality to viewing informality as a context specific organizing logic or approach to existing and prevailing inequalities that are prevalent in our communities (Roy, 2005 and McFarlane, 2012)

In response to the everchanging modern socio-economic and political landscapes, hybrid regimes have emerged to create a holistic analytical understanding of the processes of change that happen in our landscapes (d'Alençon et al., 2018). As such the understanding of the grey space calls for a multi-scalar analytical understanding of informality as a space, a state and driver of change. The dimensions of informality can be understood as flexible, adaptive, and resilient. Doing away with the notion that informality is a survival strategy, Informality as a conceptual state creates spaces that are fast paced and constantly morphing into resilient entities of meaningful and much more realistic version of citizenship (d'Alençon, et al., 2018).

In this regard interview and survey respondents shared a notable view of informality. Whereas formalization offers red tape advantages, it however does not offer a great deal of change within society. The formalization process does not take away the banner of social stigmatization and exclusion of Zama Zama's and neither does it guarantee for socio-economic emancipation in post mining communities. Informality is not just a word or a legal status, it is a way of life, and it is in retrospect the definition of Zama Zama and an enactment of what reality is which is a spectrum and varying degree of informality. It is the deliberate intention of this dissertation to

want to understand informality within the ASM space outside of the current context of marrying informality to poverty and this dissertation further seeks to divorce the function and role of informal spaces to the preconceived notion and beliefs of legacy social ills, although concepts of poverty and injustice play an important role within informal spaces, they do not however define processes of informality nor the resultant impact of informality within society.

This dissertation identifies Informality as more than a symptom of social marginalization, it is a characteristic of the grey space of extra-legality and in this context, Informality refers to spaces where:

- i. informal operations do not deviate neither anti nor counter formalization (Michael, Uwe). Formalisation is not a deviation from the standard but formally is the exception (Waibel, 2016)
- ii. Informal Frameworks within various institutions replace formal frameworks where they do not work properly (Waibel, 2016)
- iii. Social processes occur concurrently to economic legalization to shape the informal space (Asan and Ozsoy, 2018)
- iv. “if formality operates through the fixing of value, Informality operates through the constant negotiability of value” (Lejano and Del Bianco, 2018)
- v. involve decisions made in place and in the moment
- vi. other forms of capital social and cultural capital found in place (Bourdieu, 1986)

5.2.2 Intentional Invisibility

The ASM space is a visual space filled with multiple perceptions of what is seen and what is unseen. It is a lived experience where daily processes of social and economic interactions take place, as people use this space to make a living on a daily and as cultural norms are interwoven to global issues of development and production (Shields, 2004). Our views on the informal and the informal is because of how we view the ASM space and often it is but a small adaptation of the whole from one singular lens. Our understanding of the informal space is because of an assortment of views of what is formed within the mind than what is seen (Shields, 2004). This brings about the conceptualization of intentional visibility as a defining notion of the grey space of extra-legality. Within the confines of what is referred to be informal, the perception of the grey space of extra-legality is defined by what people see or do not see from an outside lens. There is however a more nuanced understanding of visible-invisibility centered around informality that resonates from an intentional decision made by people that live within these spaces on how they are viewed by the world. This notion of intentional invisibility within this context is understood as contingent where communities are writing their own narrative of informality that does away with the view of being invisible as a symptom of social and economic marginalization (Newton, 2016).

Within spaces of marginalization are pockets of invisibility where people strategically choose to remain unseen and unrecognized. This intentional invisibility comes as a strategic response to harsh or oppressive environments (Lollar, 2015). It is a form of societal awareness and a form of resilient adaptation to lived experiences in informal spaces (Lollar, 2015). Although intentional indivisibility is mechanism to build resilience in inhospitable environments, it can also be a strategy used towards the exploitation of labor within the informal sector. The buyer has a greater advantage over the miners and acts as an entry point to the markets but the relationship between the seen and unseen is one that is of more concern, where the informal lender gives money to the buyer in return for the Gold, creating some form of co-

dependency of the buyer to the informal lender while also exploiting the miners to buy product at a lower price and in the while not being visible means that the environmental and social damages to the community are not blamed on them. The invisible intermediaries facilitating the ASM mineral trade within the community are understood to be the main drivers of the ASM economic sector. These intermediaries play a bilateral role of shield and sword, where they buffer the entrepreneurial experience within the ASM miners and allows for the effective bottom-up flow of trade and up-bottom flow of money. This created dependency on the intermediaries for trade allows concurrently for the intermediaries also play a pivotal role in the exploitation of labor of ASM miners and these intermediaries further exploit ASM communities by using their informality as buffers to enhance their intentional/strategic invisibility.

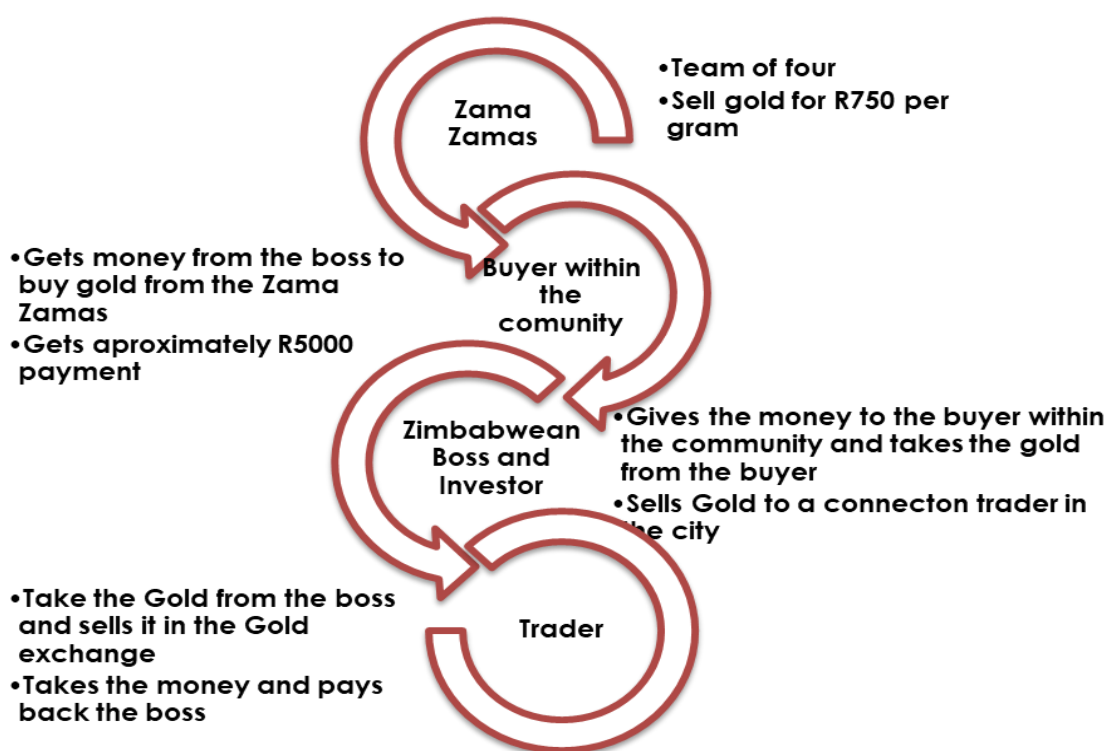


Figure 5.1: Showing the ASM Chain of value and position

5.3 Understanding social culture in the ASM space

5.3.1 Social Ignorance & The Ignorance-Knowledge Paradox

“Cognitive ignorance is the lack of knowledge of fact” – (Rescher, 2009)

Ignorance can be explained as a matter of an error of omission (Rescher, 2009) and is viewed to be a factor that negates stability and orderly progress (Moore and Tumin, 1949). It is however not an all or nothing matter but it is a concept of perspective and context (Rescher, 2009). As much as knowledge is understood it is important to note that ignorance is a result of social construction and social negotiation (Smithson, 1985). One clear indicator of ignorance is being unable to answer a topical question in a manner that is convincing to all parties concerned. In this context one clear topical question within the ASM sector has been “what is formalization?” over the years many scholars (Hilson, 2017; Hilson and Maconachie, 2018; Siegel and Veiga, 2009 and Verbrugge and Besmanos, 2016) have attempted to characterize this concept but as stated in the frames of reference, there has not been one agreed understanding and definition of ASM as a core concept of formalisation. It is however significant to note, the great contributions that these very same authors have contributed towards the greater body of ASM knowledge as depicted by Ledwaba (2017) who tracked progress of the sector over the past 20 years. Rescher (2009) puts emphasis on the fact that knowledge begets ignorance and vice versa. That is to say that the social influences that affect the nature and construct of knowledge are also applied to the social construct of ignorance (Smithson, 1985). It is thus as difficult to catalogue ASM knowledge, as it is difficult to catalogue gaps within the ASM body of knowledge. This dissertation is focused on gaps within the ASM body of knowledge that contribute towards the understanding of the grey space. One characteristic of the grey space is ignorance towards aspects within ASM that are as real as the thoughts and lived experiences of Zama Zamas that vanish without a trace under the blanketed clouds of injustice and marginalization.

The socio-political legacy issues of South Africa are so multifaceted and consist of a vast ignorance-knowledge paradox that it poses a limit to fully interrogating the ignorance-knowledge within the undefined spaces of informality. This “uncomfortable knowledge” is one contributing factor for the inherent policy rhetoric that exists within this sector where formalization strategies are rooted behind inferences of denial, dismissal, diversion, and displacement. On the other hand, it could be that policy necessitates a level of ignorance with the rationale of how things work in the world, where the occurrence of knowledge itself leads towards a self-introductory ignorance. Institutions and policy makers fall privy to the latter where, simplified versions of reality are created to offer a sense of consistency and structure (Rayner, 2012). This need to box, and label phenomena often leads to the exclusion of knowledge that is contradictory to these simplified versions or that might create unfavorable tension for the authorities (Rayner, S., 2012). Ballard (2012) Ballard (2013) and Ballard (2015) refers to this through his works of mapping geographies of power. Experts in the data analysis section suggested an informal-formal reform of policy and ASM strategy, where regulation is formed according to the social nomenclature of the area or sector. Perhaps “clumsy arrangements” such as social regulations are characteristic of the extra-legal grey space within the ASM sector.

One of the topical outcomes of ASM research throughout the years as explained by Van Bockstael (2014) and Hilson et al. (2017) is that there has been an uprising trend towards informality within Africa and many scholars have noted this persistence of informality within the ASM sector. A knowledge gap within the Zama Zama community on the real reasons why informality continues was one topical issue overarching the views of respondents both experts and Zama Zamas alike. Where there is a deficit in knowledge within a space, where one group is aware of one fact, while the other is aware of another fact, then at the end no one will really know why there is persistence of informality within the sector. If F1 is a fact that Zama Zama 1 does not know and F2 is a fact that Expert1 does not know then there will be a fact (F1 and F2) that neither Zama Zama’s nor Experts know. This cyclical nature of the

unknown will persist; hence you find nuances of unknowns that constitute a space to be undefined and not understood (Rescher, 2009). One thing is for sure is that there is persistence of informality within the ASM space, the contribution of ignorance within the sector remains unrecognized since it is not a topical issue within the research discipline (Ungar, 2008). The reasons behind that are a matter of a vast void in the knowledge-ignorance gap. We can however map our knowledge based on a comparative overview of different facts known across subject matter groups (Rescher, 2009). It is therefore imperative to consider the fact that answers towards the persistence of informality is by enlarge a conceptual analysis that surpasses the amount of knowledge available at this present time (Rescher, 2009).

5.3.2 The concept of social regulation

One key aspect of social change is towards the alignment of social development and social geographies, where multiple social spheres exist in one singular geographical sphere with stacked socio-cultural processes occurring simultaneously in one space over time (Pries, 2013). The grey space in this regard should be understood not as an absolutist term but a space that consists of its own qualities and stands as a homogenous entity where socio-spatial relations occur in relation to each other (Pries, 2013). The ASM space is in a constant motion of change over time and what constitutes it as an informal space will change over time as well. The fluidity or cultural flow of the grey space makes for everchanging relations between people and their space. Suffice to say a networked society characterizes the grey space of extra legality (Leander et al, 2010).

It is easy to view ASM as a disorganized space that is prone to chaos and disfunction but the increasing rate of ASM within Southern Africa depicts a different kind of narrative (Ouedraogo and Mundler, 2019). The informal space is characterized by governance processes that have little to no inclination to policy but are socially inclined and socially transmitted. These are rules set by people who live and work

within the same space, they work to enforce and monitor these regulations. some of which is more recognized than the other, some of which is more regulated than the other which is more socially regulated.

There are three systems in which ASM spaces govern and regulate themselves. The first form of governance is one that consists of a collective form of power whereby miners agree to rules together and can appoint a committee of sort to help in the monitoring of activities (Ouedraogo and Mundler, 2019). The second system is one whereby a cooperation is established and governs the allocation of spaces between the miners and monitors payment across the miners (Ouedraogo and Mundler, 2019). The third system is where mining companies collaborate with local artisan miners forming an agreement of land and resource beneficiation (Ouedraogo and Mundler, 2019).

This study adopts the IAD framework in understanding the nuances of social regulation in ASM communities. The IAD framework is a tool that is indicative of the interlinkages in socio-cultural contexts and is geared towards analyzing the nuances associated with the use of natural resources and management of natural resources through the active implementation of informal and formal rules (McGinnis, 2011). In this regard the IAD Framework is used as a key supporting tool to better understand the grey space of extra-legality.

The IAD Framework refers to three focal governance systems that operate within a space namely, operational where regulation is determined by daily lived experiences, collective where regulation is set by a group forming a collective form of rules that resemble faux-policy and constitutional regulation where overarching rules are set for both operational and collective governance (Yakovleva and Vazquez-Brust, 2018).

The purpose of this section which was to understand the positionality and understanding of the how ASM sector persistence in the activity and the nuances of the grey space in which it situates itself in. this study used a fraction of the IAD framework to understand the regulatory rules of ASM in Carletonville. Using the approach from the work done to (Ouedraogo and Mundler, 2019) on the gold ASM in Burkina Faso, this study focuses on the working rules sections which comprise of the below depicted.

Working rules: formal/informal	Boundary rules: physical limit of the resource Position rules: change from one position to another within the organizational setting Scope rules: terms of use for the resource Choice rules: monitoring procedures Aggregation rules: permission and prevention Information rules: shared and hidden information Payoff rules: rules related to sanctions
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Figure 5.2: Fraction of IAD framework developed by Ostrom, as adapted by Ouedraogo and Mundler, 2019

In accordance with the above, this study found that ASM regulation was directed towards building a cooperative/collective form of governance. A collective agrees on the use of the space for gold panning as the processing sites and groups would find deposits elsewhere and then bring the material to the site for gold processing. These are led by a group ownership and through a group decision would then lease the site to other groups for certain periods of time for a small stipend. There is an overarching member who is more experienced and thus automatically becomes the leader ensuring that no conflict occurs. The ASM miners work in groups of 4 or 5 and each member does a different job at the site but do not consider position or role but view themselves collectively as Zama zamas. The general rule behind money is that money is split equally across four or five. Within this regard, information flows freely within the community and many of the respondents have played parts in training other groups of Zama zamas and spreading this socio-cultural regulation across the area. One rule that stood out was “no criminality,” it was interesting to find that ASM

miners are aware of the general misconception of their activities and strive then to ensure that this is rectified within community perspectives.

5.4 Value determinants in the ASM space

The work of (Ouedraogo and Mundler, 2019) has outlined some key focus areas that determine the value/impact of ASM which are related to productivity, poverty reduction and sustainability. The sustainability of ASM can be analyzed through 3 key focus areas being social, economic, and environmental (Ouedraogo and Mundler, 2019). Hoadley and Limpitlaw (2004) puts emphasis on ASM being a short-term coping mechanism that does not promote sustainable livelihoods, conversely many scholars have established a clear positive upward trajectory in terms of levels of production in correlation to the levels of poverty reduction (Hilson et al., 2020 and Roy et al., 2018). Gathering from the above, it is sufficed to state that ASM sustainability is based purely on perception and on context. With the above established, it is the mandate of this dissertation to outline the key aspects of the ASM that distinguishes it as a grey space and one key observation that this dissertation has made is the correlation of ASM value and impact in relation to sustainability, sustainability as a national topic guides policy and decision making and as stated by (Hoadley and Limpitlaw, 2004). ASM characteristics are not considered to be sustainable, which is correct but has not been properly conceptualized as the source of such activities emanates from inequality of which itself is a generational concept same as sustainability. In hindsight mining at its core is an unsustainable activity and the history of the gold mining sector in South Africa has left a legacy of undesirable environmental, social, and economic injustices which give rise to reactive informal activities such as ASM. It is a wonder to this dissertation how then is ASM deemed and required to be a sustainable sector when it is a subject of residual instability. The grey space of extra-legality is characterized by instability, where alternative frameworks

play a key role in defining and including aspects of positive chaos bearing in mind the reactive nature of informal spaces.

5.5 Conceptualizing the Grey Space of extra-legality

At the forefront of formalization is a systematic approach of capitalism which defines markets, economies, policies, and even societal norms. At the center of this is a known fact of the rich and poor divide but what is uncertain is why the rich get richer and the poor get poorer. De Soto (2001) reveals an unlikely comparison of capital to energy and its associated “laws” and representative of unused value. For us to be able to put this sort of energy to use, there needs to be a dynamic shift of current states and future state perceptions. The function of capital simultaneously establishes the tangible nature of assets and its potential to generate surplus value. (Smith, 1976) further alludes to this by adding that the future state of capital should be one that is realized over time after the labor has been done and reciprocal new production develops, the accumulation of capital must abide under the laws of physics and rooted under the understandings and strategies of sustainability. In the formal sphere, this takes a form of a set of legal rules that are used as entry points into the capitalist system and how that looks like in the informal-extralegal space is a road filled with conspiracies and misconceptions of formalization. This dissertation seeks to pave a way towards a conceptual thought process of mapping the grey space through the application of De Soto’s principles on the accumulation of capital.

1. Capital must be discovered.
2. “Capital must be fixed in a tangible form before it can be released.”
-referenced from the understanding of the laws of physics regarding energy³
3. “Capital must assume a state of accumulation over time.”
-Sustainability⁴

³ Einstein, A. and Davis, F.A., 2013. *The principle of relativity*. Courier Corporation.

⁴ Adam Smith, *The Wealth of Nations* (1776; reprint, London: Everyman's Library, 1977)

The alternative framework model as defined by Ostrom⁵ is a development strategy that further substantiates the core principles of De Soto (2001) and seeks to converge towards a singular embedding of the nuances of micro-structures with a key emphasis on conceptualizing extra-legality according to context. Putting into consideration aspects of human behavior and socio-spatial characteristics in developing strategies within an extra-legal aspect gives opportunity for efficient management of resources, space, regulation of common pool resources and space (Perez, 2011).

Cooperation and unity within spaces has emerged as a necessity in the face of marginalization and socio-economic exclusion. Communities have consequently created regulatory systems that take place within the spaces they occupy; these systems stem from a survivalist landscape but have once transformed into social systems that are geared towards economic stability and the accumulation of generational wealth.

The grey space seeks to do away with the misconception or misappropriation of the concept of individual power and the associated misapprehension of the inability for people to structure and change the systems that operate and govern their communities. Ballard (2012) builds a conceptual understanding of what development means when it is powered and geared by individuals. Ostrom (1990) further puts emphases on this by pointing out an obvious blind spot that many economists have ignored which is the emergence of trust relationships within communities which allows for change in basic assumptions of regulatory frameworks from a top-bottom approach to a more nuanced bottom-up approach. This paradigm shift questions the rigid and structured characteristic of institutional frameworks surrounding development and regulation, which has led to a surprising and yet so obvious conclusion that “institutions and rights” are like energy, fluid in nature and

⁵ Ostrom, E., 1990. *Governing the commons: The evolution of institutions for collective action*. Cambridge university press.

determined and actualized by social constructs and phenomena. The presence and/or absence of institutional regulation within the ASM space is not a pre-requisite of socio-economic recognition and inclusion, it is rather the inverse that is inferred (Jessop, 1982). Systems and institutions are only deemed as capitalist or formal based on their extent of their effects on society and its perpetuation therein (Jessop,1982).

5.6 Characterizing the grey space

The Grey Space of extra-legality is characterized by:

- i. Ignorance is multifaceted, and its role in social life often is not the opposite of knowledge
- ii. wicked problems and clumsy solutions
- iii. Hybrid Informal-Formal governance reform
- iv. Social regulation as a form of governance
- v. Positive chaos as a framework for sustainability
- vi. Grey space is a reservoir of latent/dead capital
- vii. Expresses dual states, that is strategies need to be dual in nature moving from bottom up towards a present future process flow of what ASM is and What it could be.
- viii. The social space gives rise to a system of recognition or formalization and validates the principles that operate within it.

The grey space can be understood by looking at ASM-as-Container. Through an approach of an ethnographic case study to seek to understand the hybrid processes that occur within informal spaces by looking at socio-economic and political perspectives. The characteristics provided here are not definitive but suggests some fundamental scaffolding on which to support a theoretical framework of the grey space of extra-legality within the ASM context.

5.7 Conclusion

The first chapter of this dissertation set a foundational understanding of ASM and through the empirical evidence the research questions of this dissertation were to unpack ASM as an extra-legal space through a deep dive into understanding concepts of informality and intentional invisibility. To also understand the importance of context and social belonging as influencers of strategy and developmental plans in the sector. Perception is a key indicator of how policies are designed and regulated, one of the key objectives of this research was to influence perceptions through a conceptual mapping of the grey space, recognizing ASM nuances without masking it behind global concepts associated with global challenges such as world hunger or poverty. The above objectives and key themes discussed were all commissioned to further add to the body of knowledge and to highlight key focus areas that were already existing within the space of ASM but existed beyond the lines of what is perceived as formal and informal.

Chapter six

Recommendations and Conclusions

6.1 Introduction

This chapter serves as a closure to the dissertation and the thoughts captured therein. This chapter will seek to emphasis on the key points that have been established in the discussion chapter while interlinking them to the core research questions and research objectives of this dissertation. The thoughts and contributions made throughout this dissertation are aimed to serve as reference points and benchmarking for future research that will be done on ASM and extra-legality within the south African context. The outlined characteristics of The Grey space are point of reference and an indicator of concepts underpinning the Extra-legal school of thought, this dissertation does not however position itself as the pinnacle of understanding ASM, but it is an awkwardly shaped puzzle piece that is meant to fit into an equally awkwardly shaped puzzle of the unmapped spaces that fall through the cracks of the formal system. The recommendations section alludes to this by suggesting future research that can be conducted on the grey space of extra-legality within the ASM space. It is the aim of this research to be a compass for future researchers to want to endeavor to further breakdown the different paradigms that exist within spaces that are unrecognized and to further seek to solve the big mystery of the 99% by applying relevant specific principles for each context.

6.2 Key Findings and Key Themes

A society that finds itself in such an economic morass of informality should want to find out how the system they find themselves in works and should aspire to work towards fragmenting the ASM discourse in a bid to analyze each aspect of it. This dissertation set out to examine the theory of extra-legality in relation to the ASM discourse and the various nuances such as visibility and social regulation were explored. These were applied and understood within the South African context by unpacking the extent of grey within this space. The inquiry into the grey space of extra-legality in ASM resulted in identifying the wicked characteristics of ASM that constitute it to be a grey space. The extralegal space in ASM is one that has become topical and relevant within the ASM body of knowledge, and it has become important to want to understand this concept beyond the understanding of (De Soto, 2001) but towards a more relevant concept of informality within the state. Creating a discourse of ASM within the grey space allows for the radical expansion of understanding themes underpinning the sector.

The poor hold wealth in abundance of assets that operate within an extralegal state, but this wealth is not used, as it exists outside the boundaries of formal economic systems this is referred to by De Soto (2001) as dead capital. The recognition of this capital within an extralegal frame poses a prospect of transformation for marginalized communities. The road to emancipation is not always a s black and white as pointed by two papers written on this issue within an ASM context Siegel and Veiga (2009) and Hilson et al., (2017). This research is of the opinion that the path to ASM liberation is not through formalization or policy re-work but through the development and understanding of a grey space that takes the work done on ASM within an African context and use it to form ideals and strategies that are informed by miners themselves made for miners themselves just as Ballard (2012) alludes. An institution of grey made by the people and is governed by the people.

The only way to look past ASM illegality, informality and formalization is to look at it from another perspective, outside the system and within the grey space perspective. This is the grey space, beyond looking at our assets as they are, to actively be thinking about them, as they could be. Moving from illegal mining towards entrepreneurial mining and towards a sustainable socio-economic paradigm shift within the sector.

6.3 Recommendations

The grey space of extra-legality is a vision that allows for the freedom of context specific understanding of the informal and unrecognized spaces and seeks to make room for all frameworks and strategies, be it orthodox or unorthodox. This dissertation is cognizant of failures in policies and failures in grass roots initiatives and is of the general believe that the only way the mystery of the ninety-nine percent poor can be solved is to disaggregate the “developmental rule of thumb” from one singular strategy into one that is better suited to cater for each percentage in accordance with its context specific developmental principles and theories that are analyzed with awareness (wokeness) of its circumstances.

This dissertation suggests that there are alternative viable paths of understanding and breaking down the ASM sector, However the conditions of impact of each path are complex and often contradictory. It is therefore imperative that any future research on the analysis of the ASM sector be unique in its approach and in its specific principles of understanding. Taking note of the above fore mentioned characteristics of the grey space, the balance of ignorance and knowledge serves as a basis for social creativity. Bringing diverse viewpoints together and trying to create a shared understanding among all stakeholders can lead to new insights, innovative ideas, and new regulatory approaches that fit criteria of grey spaces such as the ASM space. artifacts. Through this approach owners of problems can act as designers of new mediums that will contribute to framing and solving these challenges within the ASM sector.

It is with reference from the above that this dissertation highlights a few key themes that can be explored in future research by NGOs and Academic institutions that share a similar mandate on changing policy for the benefit of communities. To further add into the multi-faceted nature of the ASM school of thought, mining bodies in their pursuit of sustainable mining should also on further studies to create a nexus of social impact and sustainable livelihoods within mining communities.

1. There is a need for mapping of ASM socio-economic data. In order to build core and compelling arguments towards the development of the sector within developmental plans and policy as well.
2. Using the different alternative strategies and frameworks to further expand on the notion on extra-legality, where approaches to ASM are tailored according to context and socio-economic landscapes of ASM communities.
3. A correlative data study of how ASM contributes to LED (Local Economic Development) and what that means for IDP (Integrated Development Plan) processes
4. A benchmarking study on the regulation of ASM across the country in different commodities, to highlight the gaps found within regulatory systems.

6.4 Conclusion

The capitalist system is one that favors a minority of people and those that belong into this club form a peripheral view to the outside and this has been the source of many social disruption. This capitalist apartheid will continue to persist until there comes a conceptual revolution of what it means to be in an extra-legal state. There needs to be a push towards an understanding of what change really is and, in this regard, change is coming to terms with the fact that our perception of systems and regulations are a subset of social formation and at the core people do have the power to change how we relate to capital.

When you are shut out of decisions and the ability to influence your environment, it is something that transcends more than being poor or not having money. Inequality cuts deep and provokes outrage and rebellion fueled by a violation of the basic human rights. As researchers we play a huge role in the societal landscape of the world, with our work we can deduce and give privy to the constant aggravation of inequality in our society and similarly we can advocate for positive change of all whilst eliminating the misuse of power and exploitation of the world's most vulnerable groups. Through sound research and evidence-based analysis not only do we have the power to change how people conceptualize the world, but we also have the power to influence change in systems and policies for the better of the poor majority. There are a numerous range of factors that play a role in the exacerbated notion of marginalization and injustice, the grey space seeks to define and outline these factors so we can properly begin to understand our context and our influence in realigning concepts and perceptions on the ASM sector. Conceptualizing lived realities forces us to develop theoretical and empirical research that is focused on frameworks that are centered on socio-spatial experiences, significantly noting the diversity of socio-economic and political nuances that give rise to a grey space that is fluid across local contexts.

There is a space where ASM belongs, and it is in the not so black and not so white parts of society and economy. Nonetheless with all the above considered it is sufficed to state that “the tide of change has turned” (Mbeki, 2009) and the role of scholars must be to take this tide in inundation to further progress towards reaching the future that many have foregone.

REFERENCES

Adelman, C., 1993. Kurt Lewin and the origins of action research. *Educational action research*, 1(1), pp.7-24.

Allaboutgemstones.com, 2009. Diamond Mines/South Africa

http://www.allaboutgemstones.com/diamond_mines_south-africa.html

Accessed (10/07/2018)

Amit, V. ed., 2003. *Constructing the field: Ethnographic fieldwork in the contemporary world*. Routledge.

Asan, H.S. and Ozsoy, A., 2018. The Enduring Influence of Informality in Istanbul: Legalization of Informal Settlements and Urban Transformation. *Berkeley Planning Journal*, 30(1).

Baker, J.D., 2016. The purpose, process, and methods of writing a literature review. *AORN journal*, 103(3), pp.265-269.

Ballard, R., 2012. Geographies of development: Without the poor. *Progress in Human Geography*, 36(5), pp.563-572.

Ballard, R., 2013. Geographies of development II: cash transfers and the reinvention of development for the poor. *Progress in Human Geography*, 37(6), pp.811-821.

Ballard, R., 2015. Geographies of development III: Militancy, insurgency, encroachment, and development by the poor. *Progress in Human Geography*, 39(2), pp.214-224.

Barbour, R., 2013. *Introducing qualitative research: a student's guide*. Sage.

Bem, D.J., 1995. Writing a review article for Psychological Bulletin. *Psychological Bulletin*, 118(2), p.172.

Berg, B.L., Lune, H. and Lune, H., 2004. *Qualitative research methods for the social sciences* (Vol. 5). Boston, MA: Pearson.

Bergold, J. and Thomas, S., 2012. Participatory research methods: A methodological approach in motion. *Historical Social Research/Historische Sozialforschung*, pp.191-222.

Biagetti, S. and Lugli, F. eds., 2016. *The intangible elements of culture in ethnoarchaeological research*. Springer.

Bryceson, D.F., Fisher, E., Jønsson, J.B. and Mwaipopo, R. eds., 2013. *Mining and social transformation in Africa: Mineralizing and democratizing trends in artisanal production*. Routledge.

Carter, S.M. and Little, M., 2007. Justifying knowledge, justifying method, taking action: Epistemologies, methodologies, and methods in qualitative research. *Qualitative health research*, 17(10), pp.1316-1328.

Cavaye, A.L., 1996. Case study research: a multi-faceted research approach for IS. *Information systems journal*, 6(3), pp.227-242.

Chen, M., Vanek, J. and Heintz, J., 2006. Informality, gender and poverty: A global picture. *Economic and Political Weekly*, pp.2131-2139.

Clifford, N., Cope, M., Gillespie, T. and French, S. eds., 2016. *Key methods in geography*. Sage.

Cock, J., 2014. The 'green economy': a just and sustainable development path or a 'wolf in sheep's clothing'? *Global Labour Journal*, 5(1).

Creswell, J.W. and Miller, D.L., 2000. Determining validity in qualitative inquiry. *Theory into practice*, 39(3), pp.124-130.

Creswell, J.W., 2013. *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

d'Alençon, P.A., Smith, H., de Andrés, E.Á., Cabrera, C., Fokdal, J., Lombard, M., Mazzolini, A., Michelutti, E., Moretto, L. and Spire, A., 2018. Interrogating informality: Conceptualisations, practices and policies in the light of the New Urban Agenda. *Habitat International*, 75, pp.59-66.

De Soto, H., 2001. The mystery of capital. *Finance and Development*, 38(1), pp.29-33.

Department of statistics South Africa (StatsSA), 2011. Statistics by place: Carletonville.

http://www.statssa.gov.za/?page_id=4286&id=11235

Accessed (05/06/2020)

Devas, N., 2001. The connections between urban governance and poverty. *Journal of International Development*, 13(7), p.989.

Dey, I., 2003. *Qualitative data analysis: A user friendly guide for social scientists*. Routledge.

Dibley, L., 2011. Analysing narrative data using McCormack's Lenses. *Nurse Researcher*, 18(3).

Dondeyne, S. and Ndunguru, E., 2014. Artisanal gold mining and rural development policies in Mozambique: Perspectives for the future. *Futures*, 62, pp.120-127.

Dreschler, B., 2001. Small-scale mining and sustainable development within the SADC region. *Mining, Minerals and Sustainable Development*, 84.

Eckstein, S. and Merino, M.A.G. eds., 2001. *Power and popular protest: Latin American social movements*. Univ of California Press.

Emden, C. and Sandelowski, M., 1998. The good, the bad and the relative, part one: Conceptions of goodness in qualitative research. *International Journal of nursing practice*, 4(4), pp.206-212.

Fisher, E., 2007. Occupying the margins: labour integration and social exclusion in artisanal mining in Tanzania. *Development and change*, 38(4), pp.735-760.

Fusch, P., Fusch, G.E. and Ness, L.R., 2018. Denzin's Paradigm Shift: Revisiting Triangulation in Qualitative Research. *Journal of Social Change*, 10(1), p.2.

Geenen, S. and Radley, B., 2014. In the face of reform: What future for ASM in the eastern DRC? *Futures*, 62, pp.58-66.

Geenen, S., 2012. A dangerous bet: The challenges of formalizing artisanal mining in the Democratic Republic of Congo. *Resources Policy*, 37(3), pp.322-330.

Giroux, H.A., 1988. *Teachers as intellectuals: Toward a critical pedagogy of learning*. Greenwood Publishing Group.

Guba, E.G. and Lincoln, Y.S., 1994. Competing paradigms in qualitative research. *Handbook of qualitative research*, 2(163-194), p.105.

Hentschel, T., Hruschka, F. and Priester, M., 2003. Small-Scale Mining Challenges and Opportunities.

Hilson, G., 2013. "Creating" rural informality: the case of artisanal gold mining in Sub-Saharan Africa. *SALS Review of International Affairs*, 33(1), pp.51-64.

Hilson, G., 2016. Farming, small-scale mining and rural livelihoods in Sub-Saharan Africa: A critical overview. *The Extractive Industries and Society*, 3(2), pp.547-563.

Hilson, G., Hilson, A. and Maconachie, R., 2018. Opportunity or necessity? Conceptualizing entrepreneurship at African small-scale mines. *Technological Forecasting and Social Change*, 131, pp.286-302.

Hilson, G., Hilson, A., Maconachie, R., McQuilken, J. and Goumandakoye, H., 2017. Artisanal and small-scale mining (ASM) in sub-Saharan Africa: Re-conceptualizing formalization and 'illegal' activity. *Geoforum*, 83, pp.80-90.

Hirsch, A. and Hines, S., 2005. Season of hope: Economic reform under Mandela and Mbeki. IDRC.

Hoadley, M. and Limpitlaw, D., 2004, September. The artisanal and small scale mining sector and sustainable livelihoods. In *Mintek Small Scale Mining Conference, Book of Proceedings* (Vol. 9, pp. 1-9).

Holloway, I., Brown, L. and Shipway, R., 2010. Meaning not measurement: Using ethnography to bring a deeper understanding to the participant experience of festivals and events. *International Journal of Event and Festival Management*, 1(1), pp.74-85.

Janesick, V.J., 1994. The dance of qualitative research design: Metaphor, methodolatry, and meaning.

KASSA, H., 2018. Formalising artisanal and small-scale mining. *The Future of Mining in South Africa: Sunset or Sunrise?* p.179.

Kothari, C.R., 2004. *Research methodology: Methods and techniques*. New Age International.

Labonne, B., 1996, May. Artisanal mining: an economic steppingstone for women. In *Natural Resources Forum* (Vol. 20, No. 2, pp. 117-122). Oxford, UK: Blackwell Publishing Ltd.

Lahiri-Dutt, K., 2018. Between the Plough and the Pick: War, Crime and Peacebuilding Across South Asia.

Leander, K.M., Phillips, N.C., and Taylor, K.H., 2010. The changing social spaces of learning: Mapping new mobilities. *Review of research in education*, 34(1), pp.329-394.

Ledwaba, P. and Nhlengetwa, K., 2016. When policy is not enough: prospects and challenges of artisanal and small-scale mining in South Africa. *Journal of Sustainable Development Law and Policy (The)*, 7(1), pp.25-42.

Ledwaba, P.F., 2017. The status of artisanal and small-scale mining sector in South Africa: tracking progress. *Journal of the Southern African Institute of Mining and Metallurgy*, 117(1), pp.33-40.

Lejano, R.P. and Del Bianco, C., 2018. The logic of informality: Pattern and process in a São Paulo favela. *Geoforum*, 91, pp.195-205.

Lincoln, Y.S., 1991, April. The detached observer and the passionate participant: Discourses in inquiry and science. In *annual meeting of the American Educational Research Association, Chicago*.

Lollar, K., 2015. Strategic invisibility: Resisting the inhospitable dwelling place. *Review of Communication*, 15(4), pp.298-315.

MACUA,2020. Artisanal Mining in South Africa.

<https://macua.org.za/artisanal-mining/> Accessed (05/06/2020)

Mawowa, S., 2013. The political economy of artisanal and small-scale gold mining in central Zimbabwe. *Journal of Southern African Studies*, 39(4), pp.921-936.

Mbeki, T., 2003. State of nation address 2003.

<https://www.gov.za/state-nation-address-president-south-africa-thabo-mbeki-houses-parliament-cape-town-14-february-2003> accessed (10/09/2018)

McFarlane, C., 2012. Rethinking informality: Politics, crisis, and the city. *Planning Theory & Practice*, 13(1), pp.89-108.

McGinnis, M.D., 2011. An introduction to IAD and the language of the Ostrom workshop: a simple guide to a complex framework. *Policy Studies Journal*, 39(1), pp.169-183.

MMSD, 2002. *Breaking New Ground: Mining, Mineral and Sustainable Development*. IIED, London.

<http://pubs.iied.org/pdfs/G00905.pdf> Accessed (14/06/18)

Moore, W.E. and Tumin, M.M., 1949. Some social functions of ignorance. *American Sociological Review*, 14(6), pp.787-795.

Morgan, G. ed., 1983. *Beyond method: Strategies for social research*. Sage.

Mutemeri, N. and Petersen, F.W., 2002, November. Small-scale mining in South Africa: past, present and future. In *Natural resources forum* (Vol. 26, No. 4, pp. 286-292). Oxford, UK and Boston, USA: Blackwell Publishing Ltd.

N12treasureroute,2015. Welcome to Gateway Carletonville.

<http://www.carletonville.co.za/> Accessed (03/04/2020)

Newton, N., 2016. Contingent invisibility: space, community, and invisibility for Les in Saigon. *GLQ: A Journal of Lesbian and Gay Studies*, 22(1), pp.109-136.

O'Faircheallaigh, C. and Corbett, T., 2016. Understanding and improving policy and regulatory responses to artisanal and small scale mining. *The Extractive Industries and Society*, 3(4), pp.961-971.

Koatlhai O.P., 2019. Pictures taken in the fi

Ouedraogo, L.S. and Mundler, P., 2019. Local governance and labor organizations on artisanal gold mining sites in Burkina Faso. *Sustainability*, 11(3), p.616.

Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N. and Hoagwood, K., 2015. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), pp.533-544.

Perez, A., 2011. Yet Another Path: Another Path: Expanding De Soto's Framework Using Ostrom's Insights. *The Annual Proceedings of the Wealth and Well-Being of Nations*, 2012.

Pries, L. ed., 2013. New transnational social spaces: international migration and transnational companies in the early twenty-first century. Routledge.

Prudham, S., 2009. Pimping climate change: Richard Branson, global warming, and the performance of green capitalism. *Environment and planning A*, 41(7), pp.1594-1613.

Rajasekar, S., Philominathan, P. and Chinnathambi, V., 2006. Research methodology. *arXiv preprint physics/0601009*.

Rayner, S., 2012. Uncomfortable knowledge: the social construction of ignorance in science and environmental policy discourses. *Economy and Society*, 41(1), pp.107-125.

Rescher, N., 2009. Ignorance:(On the wider implications of deficient knowledge). University of Pittsburgh Pre.

Ritchie, J., Lewis, J. and Elam, R.G., 2013. Selecting samples. *Qualitative research practice: A guide for social science students and researchers*, 111.

Rogers, H., 2009. Garbage capitalism's green commerce. *Socialist Register*, 43(43).

Rowley, J. and Slack, F., 2004. Conducting a literature review. *Management research news*, 27(6), pp.31-39.

Roy, A., 2005. Urban informality: toward an epistemology of planning. *Journal of the american planning association*, 71(2), pp.147-158.

Scott, R., Rockey, N., Hudson, R. and Hazelton, M., 1998. *The status of small-scale mining in South Africa: A preliminary study*. Minerals and Energy Policy Centre and the Marketing Shop.

Seale, C., 1999. Quality in qualitative research. *Qualitative inquiry*, 5(4), pp.465-478.

Seccatore, J., Veiga, M., Origliasso, C., Marin, T. and De Tomi, G., 2014. An estimation of the artisanal small-scale production of gold in the world. *Science of the Total Environment*, 496, pp.662-667.

Shields, R., 2004. Visualicity: on urban visibility and invisibility. *Visual Culture in Britain*, 15(1), pp.23-36.

Siegel, S. and Veiga, M.M., 2009. Artisanal and small-scale mining as an extralegal economy: De Soto and the redefinition of “formalization.” *Resources Policy*, 34(1-2), pp.51-56.

Simon, M.K and Goes, j., 2013. Dissertations and Scholarly research: Recipes for success. Seattle,WA: Dissertation success LLC.

Smithson, M., 1985. Toward a social theory of ignorance. *Journal for the theory of social behaviour*, 15(2), pp.151-172.

Thornton, R., 2014 Zama zama, “illegal” artisanal miners, severely misrepresented by Press and Government

Ungar, S., 2008. Ignorance as an under-identified social problem 1. *The British Journal of Sociology*, 59(2), pp.301-326.

Van Bockstael, S., 2014. The persistence of informality: Perspectives on the future of artisanal mining in Liberia. *Futures*, 62, pp.10-20.

Verbrugge, B. and Besmanos, B., 2016. Formalizing artisanal and small-scale mining: Whither the workforce? *Resources Policy*, 47, pp.134-141.

Vom Brocke, J., Simons, A., Niehaves, B., Riemer, K., Plattfaut, R. and Cleven, A., 2009, June. Reconstructing the giant: On the importance of rigour in documenting the literature search process. In *Ecis* (Vol. 9, pp. 2206-2217).

Waibel, M., 2016. Urban informalities: reflections on the formal and informal. Routledge.

Webster, J., and Watson, R.T., 2002. Analyzing the past to prepare for the future: Writing a literature review. *MIS quarterly*, pp.xiii-xxiii.

Werthmann, K., 2009. Working in a boom-town: Female perspectives on gold-mining in Burkina Faso. *Resources policy*, 34(1-2), pp.18-23.

Williams, B., Gilgen, D., Campbell, C., Taljaard, D. and MacPhail, C., 2000. The natural history of HIV/AIDS in South Africa: A biomedical and social survey in Carletonville.

Yakovleva, N. and Vazquez-Brust, D.A., 2018. Multinational mining enterprises and artisanal small-scale miners: From confrontation to cooperation. *Journal of World Business*, 53(1), pp.52-62.

Yankson, P.W. and Gough, K.V., 2019. Gold in Ghana: The effects of changes in large-scale mining on artisanal and small-scale mining (ASM). *The Extractive Industries and Society*, 6(1), pp.120-128.

List of respondents

Respondent 1, 2019. Interview with Key Informant on 12 September 2019

Respondent 2, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 3, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 4, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 5, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 6, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 7, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 8, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 9, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 10, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 11, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 12, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 13, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 14, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

Respondent 15, 2020. Interview with ASM miner at Carletonville on 18 – 24 January 2020

ASM Expert 1, 2020. Virtual Interview with ASM Expert, April 2020

ASM Expert 2, 2020. Virtual Interview with ASM Expert, April 2020

ASM Expert 3, 2020. Virtual Interview with ASM Expert, April 2020

ASM Expert 4, 2020. Virtual Interview with ASM Expert, April 2020

ASM Expert 5, 2020. Virtual Interview with ASM Expert, April 2020

ASM Expert 6, 2020. Virtual Interview with ASM Expert, April 2020

Economic Expert 1, 2020. Telephonic Interview, June 2020.

Economic Expert 2, 2020. Telephonic Interview, June 2020.

Annex 1



Picture taken at the backyard of one of the respondents (O.P. Koathai,2020)



Picture of the gold panning site at the periphery of the community (O.P. Koatlhai, 2020)



Stages of gold panning. Pictures by (O.P. Koatlhai, 2020)

