

**Artisanal and Small-Scale Mining (ASM) in Sub-Saharan Africa: Re-
conceptualizing Formalization and ‘Illegal’ Activity**

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Abstract

This article contributes to the debate on the formalization of artisanal and small-scale mining (ASM) – low-tech, labour-intensive mineral extraction and processing – in developing countries. A unique sector populated by an eclectic group of individuals, ASM has expanded rapidly in all corners of the world in recent years. Most of its activities, however, are informal, scattered across lands which are not officially titled. But growing recognition of the sector's economic importance, particularly in sub-Saharan Africa, has forced donors, and to some extent, policymakers, to 'rethink' development strategies for ASM. As part of broader moves to improve the regulation of, and occasionally intensify the delivery of assistance to, the sector, many are now searching frantically for fresh ideas on how to bring operations into the legal domain, where, it is believed, they can be regulated, monitored and supported more effectively. A challenging exercise, this entails first determining, with some degree of precision, why people choose to operate informally in this sector. Drawing on analysis from the literature and findings from research conducted in Ghana and Niger, it is argued that the legalist school (on informality) in part explains how governments across sub-Saharan Africa are 'creating' bureaucracies which are stifling the formalization of ASM activities in the region. A more nuanced development strategy grounded in local realities is needed if formalization is to have a transformative effect on the livelihoods of those engaged in ASM in the region and elsewhere in the developing world.

1. Introduction

In sub-Saharan Africa, the informal sector reigns. Since Hart (1973) coined the phrase in the early-1970s, countless assessments have emerged which paint a comprehensive picture of the region's fragmented labour markets and structures. The broad consensus is that the informal sector employs an estimated three-quarters of the active working population of sub-Saharan Africa (ILO, 2009). The literature identifies a host of interrelated reasons as to why this is the case, including structural adjustment, which has caused unprecedented retrenchment and unemployment; a sizable gulf between the rich and poor; and disappointing economic growth (Crisp and Kelly, 1999; Pegg, 2003; Verick, 2004; Heintz and Valodia, 2008). If harnessed effectively, however, the knowledge, skills and entrepreneurial spirit found in the region's informal economy could transform the lives of millions of people.

One industry which, if formalized, could make an immediate impact, economically, in the region is artisanal and small-scale mining (ASM): low-tech, labour-intensive mineral extraction and processing. Although estimates vary, in sub-Saharan Africa, there are at least 20 million people employed directly in the sector, and an additional 100 million individuals who depend upon its activities indirectly for their livelihoods. But whilst productive and vibrant, the region's ASM operations are mostly unlicensed and confined to informal 'spaces'. For more than two decades, scholars, donors and policymakers have cited reasons why, in the process building a case for formalizing the sector's activities (Davidson, 1993; ILO, 1999; Maconachie and Hilson, 2011). The discussions put forward mostly focus on the challenges facing individual miners, specifically the difficulties they often encounter when attempting to obtain the requisite permits to operate legally.

The purpose of this article is to further this analysis by drawing attention to how legislation, policy frameworks and donor agendas are impeding the formalization of ASM across sub-Saharan Africa. In doing so, it reengages with and attempts to revive what many believe to be obsolete and/or ambitious ideas put forward by the Peruvian economist Hernando De Soto (De Soto, 2000, 2002), and the legalist school on informality more generally. Knowledge of the dynamics of ASM in sub-Saharan Africa, specifically information on the backgrounds of its participants, the breadth of technology now found at sites and the organization of operations, has enhanced considerably since publication of what is now regarded to be landmark paper on ASM by Siegel and Veiga (2009). Engaging with ideas put forward by De Soto, the authors argued ‘that the key to alleviating poverty and preventing conflict between the dual economies...is to expand property rights systems to absorb the extra-legal economy’ (p. 53). As a recipe for formalizing ASM, the authors’ analysis could quite easily have been dismissed as highly-conceptual and idealistic at a time when, as indicated, the debate focused squarely on individual operators. It is argued here, however, that, in the case of sub-Saharan Africa, where formalization of ASM is now garnering considerable attention in regional development dialogues, plans and programs, the authors’ ideas and more broadly, those of De Soto, are in a position to wield influence in policymaking circles. The heightened attention being paid to formalizing ASM in the region has coincided with greater appreciation of the factors fueling the sector’s rapid, and at times, unpredictable, growth, and the situations in which these apply, as well as generally, a better understanding of the economic importance of its activities and ‘rootedness’ in rural areas, in particular, their links to subsistence agriculture. The expanded ASM agendas of the World Bank, African Development Bank and United Nations Economic Commission for Africa (UNECA) are telling signs of growing donor interest in this subject.

Verbrugge (2015) correctly points out how nuanced ASM informality can be, and how, in many cases, the ‘fiscal, administrative and political barriers’ which legalists such as De Soto would argue prevent operators ‘from obtaining access to mineral-bearing land through existing formalization schemes’ fail to explain fully the sector’s confinement to unregulated spaces in certain countries (p. 1024). But as naïve as it would be to assume that De Soto’s solution to poverty – specifically, believing that the ‘asset-less’ poor’s informal deeds/permits or so-called ‘dead capital’ can be readily converted to collateral which would have immediate currency in the formal economy – is as straightforward as prescribed, it would be equally premature to dismiss the ideas of his legalist camp altogether in the context of ASM. In fact, a revisiting of De Soto could prove timely, given the impoverished state of the ASM development agenda in sub-Saharan Africa at present, in particular, its need for more effective formalization strategies. De Soto’s – at times, largely implicit – ideas on how governments ‘create’ informality have resonance here. A critical unpacking of these ideas could yield strategies capable of bringing ‘order’ to the region’s ASM economy. Experiences from Ghana and Niger, two ASM landscapes in sub-Saharan Africa which receive very different policy treatment, are used to illustrate both the value of adopting, perhaps as a starting point, a legalist ‘lens’ to study and respond to the nuances of the sector’s persistent informality in the region, as well as the limitations of a formalization strategy which solely seeks to transform ‘dead capital’ into assets.

2. Formalizing Artisanal and Small-Scale Mining: Resetting the Agenda

Before examining the case of sub-Saharan Africa specifically, it is instructive to provide a critical overview of the issue in question. As noted, in recent years, interest in formalizing

ASM has risen rapidly. The United Nations and World Bank in particular have embraced the challenge, the former building on a series of disparate policy interventions made across its many divisions over the past four decades and the latter making the subject a main focus of its mining sector reform projects.

Initially, the response of governments to calls for giving greater priority to ASM issues in policy (e.g. Davidson, 1993; Kumar and Amaratunga, 1994; Labonne, 1994) was pedestrian. The recent explosion of informal ASM activity in all corners of the developing world, however, has caught the attention of donors, and in some cases, policymakers. Many are now scrambling for new ideas on how to bring the sector's operations into the legal domain, where, it is believed, they can be regulated, monitored and supported more effectively. There is now a sizable literature on ASM formalization which could provide decision-makers with much-needed guidance. On the one hand, the studies that comprise this intriguing body of analysis are, for the most part, insightful and engaging, sharing, *inter alia*, details about the organizational structures of selected ASM activities and fresh ideas about why operators choose to work in informal spaces. Notable examples include the work of Verbrugge (2015) on the Philippines, Geenen (2012, 2014) on the DR Congo, and Lahiri-Dutt (2012, 2014) on India. But on the other hand, there is surprisingly little engagement here with the overarching policy context.

This section of the paper weighs in on two significant points – 1) the policy context, and 2) the causes of informality – to ensure that scholarly debates on ASM formalization remain aligned with, and are best-positioned to inform, the policy dialogue on the subject moving forward.

2.1 The policy context

The importance of research which explores the formalization of the ASM sector remaining in tune with the overarching policy dialogue, specifically its orientation and objectives, cannot be overstated. The bulk of analysis produced thus far on the subject has not done so, its most glaring shortcoming being a failure to disaggregate ‘mining titling’ from other types of property rights. This is significant, given the unique position ‘mining titling’ occupies in the policy frameworks of many developing countries in which resource extraction is now heavily prioritized. Grouping it together with other property rights in critiques on access and entitlement to land, therefore, could yield a convoluted and unrepresentative picture that is heavily disconnected from the overarching policy dialogue and economic agendas of these countries. A greater appreciation of, and continued focus on, the weight and influence ‘mining titling’ carries in these settings is a key to producing scholarship that is aligned more closely with the central development objectives of mineral-rich economies.

This requires viewing the ‘exploitation/mining title’ as ‘an immovable property right’ which, as Blanc (2015) explains, is ‘dually registered as a mining title and an immovable property title’. Significantly, it ‘overrides rights that the land owner or other third parties may hold in respect of the land surface covered by the mining title, such as farming, hunting, agricultural rights, land occupation or even land ownership rights and easements that also qualify as immovable property rights’ (p. 338). This is reflected very clearly in the legislation of a number of developing countries. For example, the constitutions of both Kenya and Ghana empower officials to exercise ‘the authority to acquire privately-held land in a compulsory manner’ for the ‘purpose of conducting mineral operations’ (Veit et al., 2013, p. 3). Similarly, in Ecuador, where oil extraction has become a focal point, economically, ‘the state retains subsurface mineral rights on all land’, which means that ‘indigenous groups possess

access and withdrawal rights to surface resources, while oil companies can lease subsurface rights from the government' (Bremner and Lu, 2006, p. 508). In declaring the control of minerals a matter of national interest, and establishing mining titles to facilitate extraction and access to the lands which contain economic deposits, these, and other, governments have managed to attract significant foreign investment. When this economic objective is taken into consideration, discussions on formalizing other types of property rights (e.g. Benjaminsen et al., 2008; Sjaastad and Cousins, 2008), although insightful and which no doubt *should* feature much more prominently in decision-making processes affecting mining titles, become redundant.

The formalization of ASM – specifically, its embodiment within a reformed minerals policy and regulatory apparatus, or, as Geenen (2012) puts it, 'a standardized legal framework that is registered in and governed by a central state system' – *should* be integral to any mining titling process. In recent years, there has been attention drawn to how, in some countries, superimposed small-scale mine registration systems overlap with statutory and/or customary land rights. In such cases, explain Freudenberger et al. (2013), there are pre-existing land rights that may affect parcels of land which are 'often exploited by many other resource users like farmers, herders, and fishermen...[or] users [who] possess a "bundle of rights" to the land: complex and overlapping rights to land, trees, and water resources often derived from longheld historical claims' (p. 4). Typically, the authors further note, these systems are so robust that indigenous communities, superseding the law, extract rents and other fees from incoming ASM operators, or 'demand other forms of compensation for the use of the land' (p. 3). It is under such circumstances which, as Geenen (2012) correctly points out, small-scale miners will typically weigh the benefits

against the costs of formalization, on which they base their decision to secure a title. This, however, requires some explanation.

Indeed, as the author further explains, there have been countless situations in which miners have elected not to formalize because of the costs and bureaucracy involved. For these reasons, many choose not to pursue a mining title – in this case, a small-scale mining license or its equivalent – altogether, electing rather to operate under the direction of, and pay taxes to, the indigenous communities which Freudenberger et al. (2013) claim are ‘superseding the law’. But what needs greater consideration here is *why* these situations arise in the first place: specifically, why, despite mining titling trumping all other forms of property rights in ‘reformed’ landscapes, do the rights of indigenous communities seem so robust, and why are their leaders able to wield influence over small-scale mining activities? The answer lies in the policy treatment of ASM, a sector which, despite contributing enormously to social and economic wellbeing in numerous poor areas of the globe, remains unpopular with host governments. Nearly two decades ago, ILO officials hinted at how ‘reformed’ mining economies had, what is referred to here, a large-scale ‘bias’, reporting that ‘If small-scale mining is to be encouraged to operate legally [i.e. if it is to be formalized], legislation must be (at least) even-handed in allowing small-scale miners access to suitable land for prospecting and mining activities...– [that] permits...provide clear security of tenure for a reasonable period so that small-scale mining can become established’ (np).

This has meant that large-scale mining activity, from which rent-seeking governments can extract taxes, royalties and licensing fees with relative ease, has been prioritized. At the same time, failure to acknowledge ASM’s importance and generally, a poor understanding of its dynamics, has given rise to the bureaucratic and costly licensing systems (titles) which

Geenen (2012) and others (e.g. Hilson and Potter, 2005; Tschakert and Sinha, 2007) have argued quite persuasively impede the sector's formalization. Cases in which customary land rights 'clash with those holding sub-surface property rights', therefore, should be viewed less so as conflicts between the individuals found in and representing different systems, and more so as the outcomes of a large-scale 'bias', in this case, an incessant preoccupation with operationalizing a blueprint which emphasizes bringing industrial-scale capital-intensive mining to fruition (see Hilson, 2017).

As a point of departure, it is instructive to revisit Siegel and Veiga (2009), who argue that formalization of ASM should be viewed as 'a process, not a product, and [how] even the most elaborate policies to formalize mining activities fail if a government lacks the will to implement these plans, if miners perceive licensing as a threat, or if miners cannot afford the costs of joining the legal economy' (p. 53). Given its low priority in 'reformed' landscapes, this 'process' is as much about changing a policy 'mind-set' or culture as it is about improving access to the relevant permits in settings in which 'mining titling' trumps all other property rights. This will require overhauling existing formalization frameworks, which, as Verbrugge and Besmanos (2016) correctly point out, tend to make 'assumptions about a homogeneous ASM-sector, thus glossing over the complex organizational arrangements in a sector composed of an entire range of stakeholders' (p. 135). If, indeed, the formalization of ASM is a principal policy objective, then licensing schemes and support structures must be implemented for the sector which adequately speak to the heterogeneity of its workforce, a phenomenon which findings reported by Fisher (2007), Verbrugge (2015), Verbrugge and Besmanos (2016) and others before them (e.g. Hentschel et al., 2002; Jennings, 2003; Hilson and Potter, 2003) capture in detail.

2.2 Informality in ASM: The search for explanations

There is also a need for more nuanced explanations of ASM's persistent informality. In an effort to do so, attempts have been made to engage with the ideas underpinning the various 'schools' of informality which have emerged over the years. Chen et al. (2001), Chen et al., (2004) and Chen (2007, 2012) summarize each: 1) the dualists, who see the informal sector as being comprised of marginal activities that provide a safety net for the poor and are distinct from the formal economy; 2) the structuralists, who see the former as being subordinate to the latter; and 3) the legalists, who view unregistered businesses as a response by individuals to bureaucracy. In their efforts to develop a more comprehensive understanding of ASM's persistent informality, scholars have drawn considerable inspiration from these three schools. Considerable caution must be exercised here, however, given that the ideas underpinning each were informed by sets of circumstances very different to those facing ASM operators today: for the structuralists, the relationships between household assistants and home owners in parts of Latin America (Portes and Shauffler, 1993); for the dualists, people taking on second and third jobs 'off of the books' to supplement their primary income, a phenomenon popularized by Hart (1973) in his seminal paper on Nima, a neighbourhood in Ghana's capital of Accra; and the legalists, such as De Soto (2000, 2002), who focus on the experiences of the marginalized masses in urban Peru.

It would be naïve to assume, therefore, that these ideas are capable, on their own and without refinement, of explaining fully the exceptionally unique and arguably more complex 'brand' of informality that characterizes ASM today. The debates on informality that began to galvanize in the 1980s and 1990s (Roitman, 1990; Rauch, 1991; Gupta, 1993; Loayza, 1996; Chaudhuri, 1989; Tokman, 1989; Hemmer and Mannel, 1989; Feige, 1990) are also

limited in their ability to explain certain phenomena in ASM. This body of analysis was equally restricted in its outlook, focusing mostly on the economic impact of the informal economy; was informed heavily by the experiences of urban dwellers, including their interactions in the markets they frequent and their day-to-day transactions; and was undertaken mainly with a view to determining the amount of tax governments are missing out on. Arguably, the ideas underpinning the three schools and those which are explored in this body of literature are too crude to explain why informal ASM activities persist worldwide.

But at the same time, to simply dismiss the ideas which underpin this body of analysis as irrelevant would be equally premature. Many, with further refinement, could potentially go a long way toward contextualizing phenomena observed in the informal ASM economy which policymakers and donors have struggled to explain and respond to. Given ASM's unique attributes, a more dynamic framework built upon a *range* of ideas – including many that underpin these schools – and which adequately speaks to the sector's heterogeneity, is desperately needed. This exercise becomes more focused and achievable when the grander targets now enshrined in revised mineral legislation are considered. Specifically, and building on points raised earlier, although efforts have been made across the developing world to formalize ASM, the lack of priority the sector has been given in policy has stifled its growth as a legalized entity. Revisiting points raised by Geenen (2012), the bureaucracy that has emerged has, as Hilson (2013) puts it, been heavily responsible for 'creating' and sustaining informality in the sector, or, more precisely, spawning the policy frameworks and spaces which have nurtured its growth.

Scholars who have failed to take stock of the overarching policy context have tended to produce work which is incapable of guiding donors and policymakers through the ASM formalization process. One such example is Lahiri-Dutt (2014). On the one hand, the author rightly argues that the 'absolute ownership of the state over all resources is the primary basis of the concept of *eminent domain*', which means it 'can then allow, based on human right licenses, private entities such as corporations to exercise exclusive rights to access these resources' (p. 10). But on the other hand, and a crucial point which is not mentioned, this titling exercise should also extend to ASM. It is, once again, a powerful large-scale mining 'bias', or, as ILO officials put it, legislation not being 'even-handed', that has been responsible for the entrenchment of ASM in the informal economy. Ironically, the author's decision to use the phrase 'extractive peasants' as opposed to 'small-scale miners' does connote the resulting marginalization. The author, preoccupied with exploring how 'mining by peasants can potentially reconfigure two areas of scholarship, labour studies and peasant studies' (p. 7), consequently implies that those engaged in ASM are exclusively 'former peasants who are incorporated into mineral extractive occupations that can generate cash for subsistence people' (p. 6). At the same time, there is no reference made to the sector's policy treatment, specifically, how, *if* 'even handed', the 'absolute ownership of the state over all resources' would yield mining titles which could *empower* and ultimately safeguard the livelihoods and formalize the activities of these 'extractive peasants'.

Analysis presented by Tschakert (2016), however, perhaps best captures how unfocused scholarship on the formalization of ASM has become. The author synthesizes public perceptions of the thousands of Chinese 'gold seekers' now found in Ghana's informal artisanal mining sector, claiming that these individuals 'have replaced the local diggers as

the vilified group at the bottom of the pecking order that stereotyped the deviant Other' (p. 124). But the far greater concern here, which the author cavalierly dismisses, is *why* these individuals are there in the first place. This development, Hilson et al. (2014) argue, is the latest 'expression' of the sector's informality, the growing masses of Chinese miners result of local operators, struggling to secure licenses and finance for their activities, having reached out to investors in the Far East. Disconnected from the policy dialogue on formalization, Tschakert (2016) seems to have overlooked this, leading to a drawn-out analysis of the vilification of Chinese miners in Ghana, a superfluous issue in virtually all debates on formalization and support of the country's ASM sector. The author also inexplicably accuses Hilson et al. (2014) of providing a 'superficial interpretation of the state's response to dealing with the mushrooming Chinese presence and growing influence in Ghana's ASM sector obscures the power dynamics that made this spectacle performance and enactment of social exclusion possible' (p. 124), despite this not being the objective of their paper. Interestingly and contrary to these claims, in explaining how the Government of Ghana has 'informalized' ASM, Hilson et al. (2014) *do* provide evidence of precisely how 'uneven' policy and legislation has exposed these 'power dynamics that made this spectacle performance and enactment of social exclusion possible'.

To summarize, if, indeed, the goal *is* formalization – that is, to bring operators into the legal domain – then 'mining titling' for ASM must be a flexible and empowering process, responding to the heterogeneity which Verbrugge (2015) and others describe. This will first require systematically unpacking, revisiting and refining debates and ideas on informality in which complex economic sectors such as ASM have not yet featured. Reflecting on the case

of sub-Saharan Africa, the next section of the paper helps to bridge this gap, with the aim of refocusing the debate on the formalization of ASM.

3. Formalizing Artisanal and Small-Scale Mining in Sub-Saharan Africa: Initial Reflections

The literature is replete with assessments of the burgeoning informal economy now rooted in sub-Saharan Africa. Although most of its countries 'either don't collect data on the informal sector or...use different definitions' (Verick, 2004, p. 6), it has not prevented scholars from drawing conclusions from what little information is available. There is broad agreement that the region's endemic poverty and its struggle to generate consistent economic growth has influenced the dynamics of its labour and employment structures dramatically, in the process moulding its informal sector (ILO, 2009). This, according to the literature, has been fueled heavily by the sweeping changes made under structural adjustment, including a devaluation of currencies, removal of tariffs and subsidies, a 'rolling back' of the state, mass privatization and a dismantling of public services, which have been responsible for numerous redundancies and causing the labour force to contract markedly (Crisp and Kelly, 1999; Pegg, 2003). According to data compiled by Chen (2001), in the 1990s, 93 percent of new jobs created in sub-Saharan Africa were in the informal sector. Today, most (>80 percent) of those who are engaged in informal sector activities in the region are self-employed, poverty-driven, have low levels of education and are generally involved in trade-related activities (Verick, 2004; ILO, 2009).

Curiously, although the boundaries of the ASM sector in sub-Saharan Africa also began to take shape under structural adjustment, it has been overlooked in most assessments of the

region's informal sector. Today, only a small number of the small-scale miners operating in sub-Saharan Africa are in possession of the requisite permits, which is why, from Uganda, through DR Congo, to Ghana, the formalization of their operations has become a priority concern for donors and to some extent, the region's policymakers. The rapid proliferation of unlicensed activities has often interfered with the more grandiose plans of host governments to attract foreign investment in large-scale agricultural and resource extraction projects. The problem, however, is that government officials, donors and NGO officers have tended to focus solely upon ASM's environmental and social impacts – namely, the many 'expressions' of the sector's informality – as opposed to asking *why* it is in the state it is and *how* these have come about and more broadly, why the sector is progressing along the development trajectory it is.

Although the enthusiasm over De Soto's ideas has understandably waned, they do help to explain, at least in part, why, across sub-Saharan Africa, most ASM activities are found in informal spaces. It is not, however, the author's core thesis on the activation of 'dead capital' as an empowerment strategy for the poor which the discussion that follows embraces. It is rather the ancillary analysis which appear in his texts and their underpinnings, as well as his implicit – or perhaps even unintentional – criticisms of the state that have application to debates on ASM informality in sub-Saharan Africa. When fused, these ideas provide a framework for understanding why informality persists in the region's ASM economy, and ultimately, which steps must be taken to legalize activities. Three elements in particular have application here, each of which will be briefly examined in turn: 1) how, in line with the ILO (1999), Hilson (2013) and Hilson et al. (2014), policy has 'created' informality in the ASM sector and continues to do so; 2) the lack of political drive

to formalize; and 3) the entrepreneurial spirit of operators. Following this analysis, these issues will be explored in greater depth, drawing on the cases of Ghana and Niger.

3.1 'Creating' Informality

De Soto's thesis is straightforward: that the world's poor hold trillions of dollars in assets, which are not recognized outside of the small, 'extra-legal' circles in which they mostly operate. If this 'dead capital' was formally recognized, he maintains, it could be used as collateral and for trade and therefore, could have a transformative effect on the lives of the marginalized masses. Because of their simplicity and conciseness, De Soto's views have been embraced by development agencies 'across the political spectrum', from the 'neo-liberal USAID and World Bank, to social democrat Nordic governments spearheading a property rights reform agenda in the UN Economic Commission for Europe' (Nyamu-Musembi, 2006, p. 7; see also Kingwill et al., 2006; Nyamu-Musembi, 2008).

But at the same time, the author has had his share of detractors. Criticisms of his work continue to mount: about his property-titling project being flawed; how his argument that the formalization of land ownership facilitates access to credit and improved productivity is untrue; and that his policy recommendations are case-specific. In fact, aside from the 'core' macro development thinkers, including Ronald Coase, Jagdish Bhagwati and Milton Friedman, praise for De Soto's ideas has been virtually non-existent (Ahiakpor, 2008). Even his mining-related example of the 1849 California Gold Rush, despite resonating powerfully with Siegel and Veiga (2009), is difficult to justify. De Soto drew attention to how, following the gold rush, there were 800 separate property systems, each with its own system of governance. For the 1872 *Mining Act* to have 'legitimacy', argue Siegel and Veiga (2009), it

'had to adapt to the social contracts created by these informal property rights systems', taking stock of the dynamics of the 'hundreds of extra-legal local and regional claim associations with elaborate regulations for marking territories, registering claims, and administering justice' (p. 53). But whilst such a 'bottom-up' approach would undoubtedly yield more representative policy and regulatory frameworks for ASM in sub-Saharan Africa, the current political climate and focus of the region's extractive industries agenda make this challenging – a point which will be elaborated on in the next section of the paper.

The bulk of criticism directed at De Soto concerns the efficacy of his recommendations. As his detractors have rightly hinted, the path to wealth creation, particularly for the marginalized, is not straightforward, even in cases where permits and titles are recognized by the state (Kingwell et al., 2006; Nyamu-Musembi, 2006). But when used as a lens for exploring *how* states potentially *create* informality, De Soto's ideas have resonance, at least in the case of ASM in sub-Saharan Africa. In fact, this seemed to be the main point he was making in his own writings about Peru: how, *inter alia*, it took up to 289 days to open a business in Lima; in order to obtain a legal title for a piece of land, completions of 728 administrative steps were needed; and it took seven years, and 297 administrative steps and inputs from 52 government offices to construct a house on state-owned land (De Soto, 2002).

In sub-Saharan Africa, ASM has suffered the same fate. Its first wave of mining sector reformers (Campbell, 2002), headed by Ghana, intentionally 'sidelined' the needs of artisanal and small-scale operators in a bid to create a space for foreign-financed export-led large-scale extraction. The World Bank, the chief architect of mining sector reform,

rationalized this large-scale 'bias' in its landmark report, *A Strategy for African Mining* (World Bank, 1992):

There is no good reason to create differential access to mineral rights for different classes of mining investor. A state mining enterprise should compete on the same terms as a privately-owned company, foreign on the same terms as national, large companies under the same broad rules as small ones. [p. 22]

Most countries in sub-Saharan Africa had, by the mid-1990s, implemented laws and policy frameworks (or were in the process of designing them) for ASM with the aim of formalizing its activities (Fisher, 2007). But without a clear idea about the needs of the individuals being targeted and the changing dynamics of their activities, a policy disconnect was inevitable. Davidson (1993) was one of the first to draw attention to the oversight, stressing the importance of creating a space for a formalized ASM economy to flourish. The author argued that 'Governments must be prepared to move beyond the establishment of legal frameworks, to identify deposits and areas amenable to small-scale development, including the preliminary evaluation of their technical and economic viability at different levels of operation' (p. 317). By the turn of the century, the situation had become quite problematic, so much so that ILO officials declared that ASM was '[now] bedevilled with too many regulations that are mostly designed to constrain it and too few inspectors to ensure that they do' (ILO, 1999, np).

In sub-Saharan Africa, there have since been countless examples cited which point to how governments are 'creating' informality in the sector through bureaucracy and costs, similar to the way in which De Soto described what was happening in Peru and how its policy

apparatus was fueling the growth of the country's 'extra-legal' economy. In Ghana, for example, as numerous scholars (e.g. Hilson and Potter, 2005; Tschakert and Singha, 2007) have highlighted over the past 15 years, miners have repeatedly complained to government officials about the fees for a license and an environmental permit, which most maintain have kept them in the informal economy. The same applies to Zimbabwe, where a costly environmental impact assessment, reportedly in the range of US\$4000 in 2009, is also impeding the formalization of ASM (Spiegel, 2015), and in the Central African Republic, where 'artisanal miners still face barriers in purchasing an annual license (*patente*) for \$100' and 'likely also face even more difficulties due to additional taxes, royalties, rents, and bureaucracy' (Hinton et al., 2010). Even in the most desperate of situations, such as Liberia, the government continues to charge fees for licenses and permits that are well beyond the financial means of most operators (Van Bockstael, 2014).

In these, and other, African countries, in response to complaints about costs and the bureaucracy, governments have tended to make it even *more* difficult for prospective licensees. As is explained in the next section of the paper, this is chiefly a result of there being no incentive for governments to respond to miners' criticisms in a systematic manner. For legalists such as De Soto, individuals will continue to operate in informal spaces as long as government procedures remain cumbersome and costly (Chen et al., 2004). This seems to apply to ASM across sub-Saharan Africa.

3.2 Political Drive

The 'transition to formality', explain ILO officials, 'calls for the development of a comprehensive and integrated strategy cutting across a range of policy areas that eliminates

the negative aspects of informality while preserving the significant job-creation and income-generation potential of the informal economy, and at the same time promotes the protection and incorporation of informal economy workers and economic units into the mainstream economy' (ILO, 2009, p. iii). As noted at the outset of this article, for decades, the case made for formalizing ASM tended to focus on the welfare of the operator, which, unsurprisingly, has had little effect.

The analysis put forward by Siegel and Veiga (2009) also focuses on the operator. They argue that:

In theory, formalization provides miners two forms of stability. First, it allows them to predict their taxation rather than having to pay the hidden cost of bribes; and second, it reduces stress over the cost of rebuilding after military actions taken against them.

[p. 52]

Without the full commitment of politicians, however, widespread ASM formalization will never be achieved, even where 'mining titling' is identified as a priority. Whilst the rhetoric of donors and, to some extent, host African governments, may suggest otherwise, overall, the interventions made to date to bring ASM operators into the legal domain have been *ad hoc*, lacking the necessary 'buy in' to make a noticeable impact in landscapes where again, the expansion of export-led large-scale resource extraction has been prioritized. For the Government of Peru, the turning point proved to be the president's recognition of the threat posed by the terrorist organization, Sendero Luminoso, specifically, fears of its growing influence over the excluded poor masses. De Soto later reflected on the events leading up to the decision to take action:

I explained to the president [Fernando Terry] that if the majority of Peruvians worked outside the law—in the extra-legal sector—the inescapable conclusion was that the nation’s people viewed the law, and the government that was trying to enforce it, as hostile to their interests. If he wanted Peruvians to avoid the temptations of the terrorists, he would have to show the people that working within the law was in their interest...due to bad law, the poor were facing huge entry and operational costs and were missing some of the crucial institutions needed to create prosperity. [De Soto, 2002, p. xxii]

This prompted a systematic review of the bureaucracy inhibiting the formalization of poor entrepreneurs; a revision of laws and policies, their redesign informed heavily by the dynamics of the extant ‘extra-legal’ economy; and the installation of an ombudsman to ‘connect’ with the impoverished masses. The aim was to activate the poor’s ‘dead capital’, arming them with the assets needed to legitimize themselves and grow as entrepreneurs.

Although an equivalent policy overhaul has yet to take place for ASM in sub-Saharan Africa, the case for formalizing the sector in the region, though at times unfocused, is gathering momentum, largely because it is no longer seen as an issue which only affects a small group of individuals. The subject is rather increasingly being viewed and approached as a multifaceted development challenge, one which will require the commitment of, and inputs from, a range of institutional actors if it is to be addressed effectively. There are three obvious reasons why ASM formalization is rapidly gaining traction on the region’s development agenda, the first being recognition that the sector is an integral component of the rural economy, in particular, and as indicated, that it has inseparable linkages with agriculture. As countless studies have shown (see e.g. Maconachie and Binns, 2007;

Dondeyne and Ndunguru, 2014; Kelly, 2014), throughout sub-Saharan Africa, millions of families engage seasonally or simultaneously in both economic activities. In many cases, it is the money generated from ASM that is being used to finance smallholder activities, which, under structural adjustment, have become less viable economically due to the removal of subsidies on crucial farm inputs such as fertilizers and the dismantling of government support services (Banchirigah and Hilson, 2010). Given this interconnectedness, a 'siloining' and individual treatment of each sector in policy is no longer an option: with individuals engaging in both activities, the strategy moving forward must be a more comprehensive treatment of 'rural livelihoods' and/or 'rural household needs'.

The second reason is growing recognition of the link between ASM's growth and structural adjustment. For decades, ASM has been labelled a 'poverty-driven activity', undertaken by people who have few, if any, employment alternatives. It was following the World Bank-hosted *International Roundtable on Artisanal Mining* in 1995, where attendees agreed that 'to a large extent, informal mining is a poverty-driven activity' and there was some 'discussion about some operators potentially being trapped in a vicious cycle of poverty', that the idea began to be explored in donor and policymaking circles (Barry, 1996, p. 1). The dialogue which followed, explains Jennings (2003), would prove significant because 'Until the link between small-scale mining and poverty was highlighted in the late-1990s', the ASM sector 'was just not high enough on the agendas of governments and international donors to attract widespread, and sustained, attention' (p. 146). The link between structural adjustment, poverty and the growth of informal ASM activity in sub-Saharan Africa soon became clear.

Officials at UNECA were quick to popularize this, highlighting, in a landmark report, how ‘Increasing numbers of people have turned to SSM [small-scale mining] to seek alternative livelihoods’, which, ‘In many cases...was impelled by growing economic crises, the effects of structural adjustment, particularly in sub-Saharan Africa, which increased unemployment, mine redundancies in large mine companies due to crumbling mineral prices, and decreasing rural livelihood choices, chiefly in areas affected by natural (mainly droughts and floods) and man-made disasters’ (UNECA, 2003, p. 2). Banchirigah (2006) pulled together case study analysis from several countries to reinforce these points further. This, and complementary, analysis has sought to draw the attention of policymakers to the growing economic importance of ASM in a landscape devoid of employment alternatives (e.g. Maconachie and Binns, 2007; Kelly, 2014). Studies conducted over the past decade have repeatedly shown that large numbers of people from all segments of African society are, indeed, moving into the sector because of poverty (UNECA, 2003; Banchirigah and Hilson, 2010). The region’s policymakers appear to be slowly recognizing the value of ASM in poverty-stricken landscapes, in particular how it is alleviating the hardships of many people, and engaging potentially-volatile groups such as the youth (Hilson and Osei, 2014).

This leads to the third and final reason, which is the growing realization in donor and policymaking circles that it is no longer viable for ASM to take a ‘back seat’ under reform. After taking stock of experiences of Ghana and Tanzania, two of the more ‘mature’ mining economies in sub-Saharan Africa, some of the region’s governments now seem more aware of the shortcomings of a large-scale ‘bias’. Such has been the case in Malawi, one of the region’s newest reformers. It is a country long dependent upon the export of tobacco, but where plans have been hatched, with the assistance of the World Bank, to revive and expand mining activity, including small-scale operations. An ASM symposium was held in

the Malawian capital of Lilongwe on 11-12 November 2014, the aim of which was to create a space for the sector early on in the reform process. Significantly, at this symposium, there was considerable discussion about fostering a people-centered approach for ASM, a sector long neglected by government, which culminated in the Minister of Natural Resources, Energy and Mining conceding that 'It is my considered view that if we are to overcome these challenges, we need to transform the ASM subsector from an informal to a formal footing'.¹

To summarize, on the one hand, in sub-Saharan Africa, at the policymaking level, there is discussion beginning to take shape that highlights the merits of ASM formalization, which suggests that change is inevitable. But on the other hand, unlike in Peru, where there was political imperative to make such change, in sub-Saharan Africa, the momentum has proved insufficient to overhaul the policy structures and institutional framework which stifle, rather than encourage, the formalization of ASM. As will be highlighted in the next section of the paper, this is largely due to policymakers and donors not being able to discard completely the idea that ASM is populated heavily by rogue entrepreneurs.

3.3 Entrepreneurial Spirit

De Soto seemed enamored with the energy on display in Peru's 'extra-legal' economy. He described its participants as 'plucky micro-entrepreneurs', the movement of whom, to the formal economy, would, in his view, generate for the state a valuable stream of tax revenue. If harnessed properly, this entrepreneurial spirit, hinted De Soto, would facilitate economic growth whilst simultaneously raising the living standards of the excluded.

¹ 'New policy raises hope for Malawian small-scale miners', *Mining Review*, December 2014 <https://mininginmalawi.files.wordpress.com/2014/12/mining-review-no-20-december-2014.pdf> (accessed 12 October 2015).

This view has attracted criticism, largely because ‘extra-legals’ were projected as a homogenous group. Specifically, despite recognition at the time that the informal economy is heterogeneous in its composition, De Soto, it is often argued, ‘equates every informal-sector worker with a potential entrepreneur’ and thus ‘the entire informal sector is seen as formed by entrepreneurs, or would-be entrepreneurs, coerced by state regulation’ (Itzigsohn, 2000, p. 8). As noted, similar views have been voiced about ASM: how, up until the 1990s, the general belief was that the sector was populated by mostly enterprising businessmen, a perception that would inform landmark policy documents such as *A Strategy for African Mining* (World Bank, 1992).

As explained and as numerous studies have shown, however, a sizable share of those engaged in ASM in sub-Saharan Africa have done so because of hardship (see e.g. Banchirigah, 2006; Kelly, 2014). There is certainly some entrepreneurial energy present in the region’s ‘rush-type’ environments but as Hilson (2010) explains, the common theme in the region has been that, once established, sites seem to gradually transform into destinations for poverty-stricken people. In the Philippines, where as Verbrugge (2015) reports, ‘ASM has reached a more advanced stage, and is characterized by differentiation between a dominant stratum of ASM entrepreneurs, and a massive workforce’, existing causal explanations cannot account for the persistence of informality in the sector (p. 1024). But whilst such heterogeneity persists in a host of ASM sites across sub-Saharan Africa, here, it is more of a case of the *type* of entrepreneurship being unique altogether (Hilson, 2010).

Specifically, the situation facing many people here tends to be reminiscent of ‘necessity entrepreneurship’, or the idea that endemic poverty and a lack of economic opportunities

have driven – in this instance – scores of Africans to become entrepreneurs purely out of need. Such activities are ‘high particularly at low levels of economic development...[but as] an economy develops, the level of necessity-driven entrepreneurial activity gradually declines as productive sectors grow and supply more employment opportunities’ (Bosma et al., 2008, p. 7). Given the rich diversity of people now engaged in ASM, therefore, it is unclear how De Soto’s recipe for activating ‘dead capital’ would yield immediate economic returns in the way he predicts. There is also the issue of a significant number of people across the region who take up work in the sector having non-mining backgrounds: students looking to generate income to pay their tuition fees, subsistence farmers seeking to accumulate earnings to purchase agricultural inputs, people with university degrees and work experience in different fields, and redundant large-scale mine workers. Presumably, many of these people engage in ASM temporarily, and would abandon their work should alternative employment more closely aligned with their backgrounds were to become available, a change which would surely materialize following the activation of their ‘dead capital’.

The next section of the paper elaborates on these ideas, drawing on findings from research conducted in Ghana and Niger. In both cases, the De Soto framework goes a long way toward explaining why ASM is mostly informal in both countries but does not offer a lasting solution for empowering those engaged in the sector.

4. Formalizing Informal Small-Scale Mining Activity: Experiences from Ghana and Niger

To recapitulate, for De Soto, the informal economy is a product of the burdens imposed by state regulations on the entrepreneurial activities of the poor (Itzigsohn, 2008). For his legalist camp, the removal of bureaucracy and the conversion of informally-held assets would facilitate economic freedom and entrepreneurship among poor working people (Chen, 2007). In the case of ASM, formalization, suggest Siegel and Veiga (2009), could improve markedly if governments consider the dynamics of the extra-legal economy when overhauling policy. With the formalization of ASM rising quickly on the agendas of major donors and NGOs, now would be an ideal time to engage critically with such ideas.

Focusing on the cases of Ghana and Niger, the locations of two dynamic – and very different – ASM economies in sub-Saharan Africa, this section of the paper interrogates these ideas further. For the former, the analysis draws on findings from interviews conducted with a combined 31 operators (the point at which saturation was reached) in two of the country's largest informal gold mining communities: Japa (Western Region) and Pukukrum (Ashanti Region). Interviews were also conducted in the country capital of Accra with 10 government officials based at the main institutions which regulate and support ASM; officials from five microfinance/banking institutions encouraged to provide financial assistance to ASM; and representatives from five NGOs which also provide support to the sector. This research was conducted over two periods: February-August 2014, and May-September 2015. In Niger, complementary fieldwork was undertaken, during the period May-June 2015, in the two gold mining communities of Koma Bangou and M'Banga, where combined, 12 in-depth life histories were conducted with resident miners. Semi-structured interviews were also conducted with five government officials in the country capital of Niamey.

Drawing on findings from these interviews, the analysis that follows reaffirms points raised in the previous section of the paper: that whilst De Soto's ideas help to explain how, in both cases, informal ASM has been 'created', at the same time, they fall short in contextualizing why it persists and more importantly, how it can be addressed.

4.1 'Creating' Informality and Political Drive

As in Peru, in both Niger and Ghana, all signs point to state bureaucracies 'creating' an informal economy. It is apparent that neither country has implemented effective ASM formalization strategies. Both states are largely responsible for perpetuating the growth of their informal ASM economies.

In Niger, the authorities lack the capacity to adequately manage the estimated 450,000 people engaged in ASM in the country (BNIC/SCP, 2013). One government official admitted as much in an interview, explaining that 'Thus far, all attempts to control small-scale mining activities have failed [and] therefore, miners are left to their own devices and operate under unrecorded customary laws'.² This has certainly not escaped donors, particularly the World Bank, which has consistently produced documents highlighting the woeful inadequacies of the regulatory and support apparatus for ASM in Niger. World Bank officials have called on donors and the government to administer support to the country's small-scale miners, in particular, equipment; organize artisans into groups or cooperatives to put them in a position to benefit from different types of support in formal settings (lines of credit, etc.); train small-scale enterprises to fabricate processing units for crushing, grinding, and washing

² Interview, government official, Niamey.

ores, especially gold, to increase recovery rates; and encourage the adaptation of existing laws or passing of new regulations for the artisanal mining sector which guarantee some security of tenure (World Bank, 2010). It has been argued that, in order to fulfil these objectives, the administrative framework and institutional capacity must be strengthened, mine staff must be trained, a computerized mining register must be established, and relevant mine data must be collected (IMF, 2013).

It appears, however, that little progress has been made toward fulfilling either task, despite the efforts of the European Union to make available a substantial share of monies locked into the 35 million Euro *Projet d'Assistance aux Petites Entreprises et Artisans Miniers* (PAPEAM) for ASM support. Funds were used to train 200 government officers in various geological issues and GIS, collect crucial geological data, and equip high-ranking officials with know-how and advice on ASM policy.³ According to one miner, however, these moves have had little impact because, in his view, 'ministry officials only operate to take taxes and do no educational work related to the mineral treatment and transformation'.⁴ Another added that 'At the ministry level, that's where we find the biggest problems [because] we put down requests for permits since 2012, we even paid and till now we have no response from the ministry'.⁵ Moreover, formalizing activities – that is, what must be done in order to operate in accordance with the requirements of Niger's *Mining Code* – costs up to nine times a miner's yearly income, as it incurs a range of fees, including payments for road usage, on mule carts, gold value and royalties. In the opinion of these miners, the costs and the bureaucracy attached to paying them are stifling formalization.

³ See 'A geological and mining information system for Niger', <http://www.brgm.eu/projects/geological-mining-information-system-niger> (Accessed 12 October 2015).

⁴ Interview, miner, Komabangou.

⁵ Interview, miner, Komabangou.

In Ghana, this is an old story. Here, Hilson and Potter (2003) first identified cost and bureaucracy as major impediments to ASM formalization over a decade ago. The issue was revisited recently by Hilson et al. (2014), who reported that registration costs for the prospective licensee now exceed US\$1000. Rather inexplicably, in response to complaints voiced by miners, the government has elected to *increase* the fee, most recently, the cost of a mandatory Environmental Protection Agency (EPA) Permit, which has risen from approximately US\$300 to US\$3500. The decision has attracted even more criticism.⁶ When asked about why the move was made, a former government official explained in an interview that ‘they [government officials] have to generate enough revenue to pay themselves... [because the] government does not have money, so they need to pay themselves’.⁷

Why, then, despite the galvanizing interest in ASM formalization on the development agenda, have the governments of both Niger and Ghana failed to embrace the challenge proactively? Unlike in Peru, and a point raised in the previous section of this paper, there does not appear to be any political imperative to do so. In Ghana, despite rhetoric which may suggest otherwise, calls to streamline the regulations for ASM have led to institutional changes that have *impeded* as opposed to *facilitated* formalization. Notably, the Minerals Commission, the chief government agency in charge of regulating and licensing ASM, recently dismantled its ‘Small-Scale Mining’ division. Officials with specific administrative duties in the sector now find themselves reporting to different managers, which, in turn, has led to further delays on licensing decisions. Moreover, the administrative setup has

⁶ ‘Small Scale Miners complain of delays in obtaining licenses’, <https://www.ghanabusinessnews.com/2015/10/26/small-scale-miners-complain-of-delays-in-obtaining-licenses/> (Accessed 31 October 2015).

⁷ Interview, government official, Accra.

changed radically since the government launched the Small-Scale Mining Project (SSMP), a four-pronged institutional setup established to support ASM, in the early-1990s (Hilson and Potter, 2003). One institutional prong, the Geological Survey Department, which was initially tasked with prospecting and demarcating areas suitable for small-scale mining, has – for reasons that are still unclear – abandoned its duties. Another institutional prong, the Mines Department, which was initially commissioned to address all health and safety concerns, became the Inspectorate Division of the Minerals Commission in 2006.

It is no secret that formalization of ASM has taken a back seat to the Government of Ghana's efforts to promote foreign investment in its large-scale gold mining economy, which could in part explain the above-mentioned moves. Here, an estimated 25 percent of the country has been demarcated for reconnaissance, mineral exploration and mining purposes (Cuba et al., 2014): at the time of writing, there were 11 operating mines and at least 230 active prospecting licenses in the country. Although there is a system of transferable mineral rights in place, the government must now rely on the goodwill of managers of individual mining companies to release unused sections of their concessions to small-scale operators. Similar phenomena (see Hilson, 2017 for details) have been observed in Tanzania (Lissu, 2004; Lange, 2006), Liberia (Wallace and Lepol, 2008) and DR Congo (World Bank, 2008). Officials at the World Bank seem concerned that the same could happen in Niger, cautioning that, 'Small-scale mining should not be overlooked in the excitement over industrial mining' (World Bank, 2010, p. ix).

In summary, when examined through a legalist 'lens', in both Ghana and Niger, it becomes quite clear how the policy frameworks in place for ASM are stifling formalization, in turn,

fueling the growth of ‘extra-legal’ activity. Unlike in Peru, there seems to be little incentive for either government at this point to review its ASM formalization strategies.

4.2 Formalizing Small-Scale Mining: A Legalist Perspective

To recapitulate, according to De Soto, if the deeds, titles and permits only recognized in the extra-legal space were formalized, it would provide the poor with the asset base needed to improve their livelihoods. Siegel and Veiga (2009) lobbied strongly for this, and, similar to the way in which the US 1872 *Mining Act* was drafted, for scholars to study the dynamics of the ‘extra-legal’ economy and to use these data to inform the design and redrafting of policies and regulations for ASM. But whilst valuable insight would no doubt be gained through such a grassroots approach, the view here is that, should the recommendations put forward by the legalist camp be adopted in Ghana and Niger, they would yield very little change, even if the formalization of ASM suddenly became a priority for the governments of these countries. There are several reasons why.

First, the assumption being made by legalists is that the activation of ‘dead capital’ in the ‘extra-legal’ economy will lead to the empowerment of the excluded – in this case, unlicensed small-scale miners. It is unclear, however, whether a move to legitimize licenses would provide the path needed for miners to transition away from the informal economy, which, in the absence of regulation and monitoring from government, has become deeply entrenched. In Ghana, as mentioned earlier, over the past five years, the informal ASM economy has rapidly become populated by Chinese ‘gold seekers’ who have partnered with local miners (Hilson et al., 2014). A local miner and executive member of a grassroots mining association reflected on this unexpected development in an interview:

[The Chinese] went straight to villages...some are sponsoring, and those who originally partnered with Chinese were licensed and they made them sign an agreement to reclaim the [mined-out] land. But then they started partnering with the chiefs and landlords...⁸

Across Ghana, informal ASM spaces have come under the control of chiefs and landlords (landowners), who are also rent-seeking, charging exorbitant fees to access land, which has proved to be a major barrier to 'kick-starting' the licensing process. The concern, explained one miner in an interview, is that 'no chief has helped us' with licensing and formalization because 'When they go for the money (collect their share of profits), they spend it themselves'.⁹ Costs in the informal ASM economy have risen sharply since the arrival of the Chinese. Another operator offered a detailed explanation during an interview:

As for the farmers if you do not see them before you start they are a huge hindrance to our work...what we do is that before we enter your farm, we come to your home and tell you that this particular farm is our concession and we will be bringing a machine to work in it next week so...he'll say no way but then we also explain the mineral law to him and say this is our license...the government has given us the authority to take out the minerals in the ground although your number is also on it, only 6 feet of ground is yours beyond that you the farmer have no control so no matter what you do, we'll destroy it...but we should compensate you depending upon the crop type on it. If it's cocoa, we pay as much as 10,000 Ghana [cedis] per acre. If it's cocoyam, mixed farm we pay 4000...if it's free land with nothing on it we pay

⁸ Interview, miner, Pukukrom.

⁹ Interview, miner, Pukukrom.

3000...With economic trees, normally it depends...the cocoa is 10,000, palm oil tree is 7000 per acre, free land is 3000 and mixed crop farms are 4500 per acre...¹⁰

Similar dynamics were observed in Niger, particularly in M'Banga, where it was explained that landowners request many additional payments, including a 20,000 CFA fee for accessing a pit, 2000 CFA for an ID card and a share of ore mined.¹¹ Interestingly, De Soto himself acknowledged the dynamic character of the extra-legal economy, explaining that 'Any attempt to create a unified property system that does not take into account the collective contracts that underpin existing property arrangements will crash into the very roots of the rights most people rely on for holding onto their assets' (De Soto, 2000, p. 171). But as opposed to viewing this as a potential barrier to informality, he rather saw it as justification to formalize.

A second reason concerns the 'mind-set' and priorities of those engaged in what legalists, foremost De Soto (2000), refer to as the 'extra-legal' ASM economy in sub-Saharan Africa. As explained in the previous section of the paper, ASM sites are home to an eclectic group of people, each with very different backgrounds but who mostly pursue such work for the same reason: namely, because of personal hardship. For De Soto, 'formalizing' the titles of these individuals would – in this particular case – mean legitimizing them as miners. But this rather naïvely assumes that *if* empowered, these individuals would continue mining. There are certainly examples cited in the literature of individuals using ASM as a platform for wealth creation, generating money for agricultural projects, financing the construction of better housing, and funding side businesses such as hotels and chemical dispensaries (Werthmann, 2009; Hilson and Garforth, 2013).

¹⁰ Interview, miner, Japa. US\$1 = 3.8 Ghana cedis.

¹¹ Interview, miner, M'Banga.

Similar developments were observed at the study sites. In Ghana, there were reports of miners, despite their struggles with landowners and chiefs, having used remaining profits to finance new business ventures, the most popular being petrol stations; to pay for children's school fees and university tuition; and to revitalize agriculture, particularly cocoa farms. One miner was quick to point out in an interview that despite not having a license, he provides 'furniture to support the school children', that the 'road from Dunkwa to town was constructed by this dozer and we shaped it nicely for them so we really help them', and that 'at times we give them [the school teachers] a 100 bags of cement for renovation of the school building'.¹² Moreover, the miners interviewed in Ghana were, for the most part, appreciative that they had a steady income. One miner went as far as to reflect on the wider impact ASM was having on youth, pointing out – and reinforcing claims made earlier – that 'All I will say is that the work has been beneficial [because] the young men who were previously unemployed have all got jobs now and this has reduced stealing in the community'.¹³ But despite embracing ASM, it is unclear whether a move to formalize would further galvanize the entrepreneurial spirit at the study sites. Most of the people interviewed could be considered 'necessity entrepreneurs', do not have mining backgrounds, and gave the impression that they would likely pursue another line of work, including farming, if they were empowered.

In Niger, identifying the equivalent of the 'extra-legal entrepreneur' proved equally challenging. Those interviewed in M'Banga and Koma Bangou shared similar stories to those told in Ghana. The 'permanent' miners consulted were mostly born in these towns, are elderly and have families, and have reinvested their monies locally, purchasing

¹² Interview, miner, Pukukrom.

¹³ Interview, miner, Pokukrum. See Hilson and Osei (2014).

equipment, making use of ancillary mine services and building houses. But these operators are vastly outnumbered by temporary migrants from surrounding countries, most of whom send their earnings to their hometowns and after generating enough profit, acquire luxury items such as cars and appliances before departing. As one permanent miner pointed out in an interview, 'most of the mining activities have thus far benefited expatriates...there's people from everywhere [...] from Burkina Faso, Chad, Mali even Ghana...the place is now full of foreigners'.¹⁴ This has come about because of the peripheral position ASM occupies on the development agenda of Niger. What De Soto would likely consider to be the 'dead capital' of permanent miners, therefore, cannot be activated unless the government acts to create a much larger space for these operators. This would ultimately fuel the exodus of many foreign operators who currently control the country's informal ASM economy. Without a plan in place to manage this transition, the dynamics of the entrepreneurial spirit that the legalists recommend be harnessed could dissipate altogether.

A final reason concerns miners' levels of success in a more legalized setup, which few can predict. The assumption made is that securing permits will improve miners' exposure to the services they are unable to access in the informal economy, in turn, putting them in an improved position to accumulate wealth. In Ghana and Niger, however, based on the data collected, this would not necessarily be the case. Apart from the geological services of both countries being unable to equip licensees with reliable information about deposits, there continues to be a shortage of finance in the system for licensed operators. One officer interviewed from a microfinance institution in Ghana explained in an interview that 'he used to advance credit to ASM but no longer'. The officer claimed he had advanced – admittedly, blindly – hundreds of thousands of US dollars to two holders of a Small-Scale Gold Mining

¹⁴ Interview, miner, M'Banga.

Licenses. Both licensees, however, failed to repay their loans, which carried a monthly interest rate of six percent. It was explained that not enough information had been gathered about the activities beforehand, and that the institution, along with many other banks in Ghana, no longer provide loans to ASM, simply because they do not have the geological and technical expertise in-house. Unless this changes, miners will continue to rely on local moneylenders and family members for sponsorship. It is exclusively these groups of people who finance activities at the sites visited in Niger. Until local banks and microfinance institutions become more actively involved in supporting ASM, most operators who transition to the formal economy will struggle to secure reliable sources of finance.

In summary, this discussion has elaborated on points raised in the previous section of the paper, drawing on experiences from Ghana and Niger. The formalization of ASM certainly merits priority attention on the development agenda in sub-Saharan Africa. But solutions which are grounded in legalist ideologies have obvious limitations in this context. The extra-legal space in which countless miners now operate in sub-Saharan Africa has nurtured an entrepreneurial spirit, a unique energy which would not necessarily carry over into the formal economy should 'dead capital' be activated. As the literature and the case study analysis presented here illustrate, the region's ASM sites are populated by a dynamic group of individuals, many of whom would probably abandon their work in the sector if alternative employment was available. De Soto's ideas and the legalist camp more broadly, however, do help to explain why, in sub-Saharan Africa, informal ASM is so widespread, specifically, how host governments have 'created' and ultimately preserved what could be considered the equivalent of the sector's extra-legal segment. Understanding the dynamics of this extra-legal economy should be the starting point of any exercise aimed at facilitating formalization.

5. Concluding Remarks

In a review of a previous draft of this paper, a colleague advised the authors to ‘move beyond an engagement with De Soto, by including some of his more vocal critics – or at least those whose criticism is based on field research and empirical reality’. But how can this be done if, in the case of ASM, the ideas of De Soto and his followers – and those which other schools of informality have engaged with for that matter – have not yet *arrived*? Given the unique characteristics of ASM, before accepting, or as the colleague suggests, discarding, any ideas on informality, each must be revisited, unpacked, dissected very carefully and, if necessary, refined for use in this specific context. The ideas themselves may be old; but they have yet to be interrogated in the context of ASM, a sector with a unique ‘informal’ dimension.

This was precisely why this paper was written: to provide fresh insights on the ASM formalization challenge, through a case study of sub-Saharan Africa. It accomplished this by reviving the much-maligned arguments of De Soto, who championed the legitimization of titles and deeds in the extra-legal economy as a route out of poverty for the poor excluded masses. As the formalization of ASM is rapidly gaining traction on the development agenda of sub-Saharan Africa, a revisiting of De Soto’s ideas, it is believed, could be worthwhile. With the agenda already heavily prioritizing ‘mining titling’, there should be considerable flexibility to maneuver.

Through extensive analysis of the literature and supplementary findings from recent research conducted in Ghana and Niger, the article has argued that the ideas put forward by De Soto and the legalist camp more broadly are unlikely to have a transformative effect on

ASM in sub-Saharan Africa. It appears that the informal spaces which most of the region's operators are confined to nurture a unique behavior akin to 'necessity entrepreneurship', energy which would not necessarily carry over to more formalized settings. De Soto's ideas do, however, help to explain *why* ASM in sub-Saharan Africa is mostly extra-legal in character, a detailed understanding of which is an essential starting point for any formalization exercise.

Whilst the ideas of the legalist camp have some mileage in conceptualizing the dynamics of ASM informality in sub-Saharan Africa, a more nuanced approach is clearly needed if the sector's operators are to be fully empowered. Additional analysis which engages with the ideas of the legalists and those of other schools on informality will be needed if more robust and dynamic formalization strategies for ASM, which speak to the heterogeneity of its activities, are to be designed in sub-Saharan Africa and elsewhere.

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References

- Ahiakpor, J.C.W. 2008. Mystifying the Concept of Capital: Hernando de Soto's Misdiagnosis of the Hindrance to Economic Development in the Third World. *The Independent Review* 13(1): 57-79.
- Banchirigah, S.M. 2006, How have Reforms Fuelled the Expansion of Artisanal Mining? Evidence from Sub-Saharan Africa. *Resources Policy* 31(3): 165–71.
- Banchirigah, S.M., Hilson, G. 2010. De-Agrarianization, Re-Agrarianization and Local Economic Development: Re-Orientating Livelihoods in African Artisanal Mining Communities. *Policy Sciences* 43(2): 157-180.
- Barry, M. (Ed.), (1996) *Regularizing Informal Mining. A Summary of the Proceedings of the International Roundtable on Artisanal Mining*. Organized by the World Bank, 17–19, May 1995, Industry and Energy Department Occasional Paper No. 6, Washington, DC.
- Benjaminsen, T.A., Holden, S., Lund, C., Sjaastad, E. 2008. Formalisation of land rights: Some empirical evidence from Mali, Niger and South Africa. *Land Use Policy* 26: 28-35.
- Blanc, G.P. 2015. The Granting of Security Interests Over Mineral Titles in OHADA African Countries. *Journal of International Banking Law and Regulation* 30(6): 330-340.
- BNIC/SCP. 2013. *Etude sur les impacts socio-environnementaux de l'exploitation artisanale de l'or au Niger, Rapport provisoire du Projet Exploitation artisanale de l'or: maitrise des enjeux et sensibilisation des populations*. EXOR, Niamey.
- Bosma, N., Acs, Z., Autio, E., Coduras, A., and Levie, J. 2008. *Global Entrepreneurship Monitor 2008*. Global Entrepreneurship Research Association, London.
- Bremmer, J. Lu, F. 2006. Common Property among Indigenous Peoples of the Ecuadorian Amazon. *Conservation and Society* 4(4): 499-521.
- Campbell, B. 2002. Factoring in governance is not enough: Mining codes in Africa, policy reform and corporate responsibility. *Minerals and Energy* 18(3): 2-13.
- Chaudhuri, T.D. 1989. A Theoretical Analysis of the Informal sector. *World Development* 17(1): 351-355.
- Chen, M.A. 2001. Women in the informal sector: a global picture, the global movement. *SAIS Review* 21(1): 71-82.
- Chen, M.A., Vanek, J., Carr, M. 2004. *Mainstreaming Informal Employment and Gender in Poverty Reduction*. Commonwealth Secretariat, London.

- Chen, M.A. 2007. *Rethinking the Informal Economy: Linkages with the Formal Economy and the Formal Regulatory Environment*. DESA Working Paper 46, Department of Social and Economic Affairs, United Nations, New York.
- Chen, M.A. 2012. The Informal Economy: Definitions, Theories and Policies. Women in Informal Employment Globalizing and Organizing. Working Paper No. 1, Harvard University, Cambridge.
- Crisp, B., Kelly, M. 1999. The socioeconomic impacts of structural adjustment. *International Studies Quarterly* 43: 533-552.
- Cuba, N., Bebbington, A., Rogan, J., Millones, M. 2014. Extractive industries, livelihoods and natural resource competition: Mapping overlapping claims in Peru and Ghana. *Applied Geography* 54: 250-261.
- Davidson, J. 1993. The transformation and successful development of small-scale mining enterprises in developing countries. *Natural Resources Forum* 17(4): 315-326.
- De Soto, H. 2000. *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*. Basic Books, New York.
- De Soto, H. 2002. *The Other Path: The Economic Answer to Terrorism*. Basic Books, New York.
- Dondeyne, S., Ndunguru, E. 2014. Artisanal gold mining and rural development policies in Mozambique: Perspectives for the future. *Futures* 62A: 120-127.
- Feige, E.L. 1990. Defining and Estimating Underground and Informal Economies: The New Institutional Economics Approach. *World Development* 18(7): 989-1002.
- Fisher, E. 2007. Occupying the Margins: Labour Integration and Social Exclusion in Artisanal Mining in Tanzania. *Development and Change* 38(4): 735-760.
- Freudenberger, M. S., Ali, S., Fella, T., Pennes, S. 2013. *Property Rights and Artisanal Mining: Clarifying and Strengthening Rights: Options for Policymakers*. USAID Policy Brief, Washington DC.
- Geenen, S. 2012. A dangerous bet: the challenges of formalizing artisanal mining in the Democratic Republic of Congo. *Resources Policy* 37(3): 322-330.
- Geenen, S. 2014. Dispossession, displacement and resistance: artisanal miners in a gold concession in South-Kivu, Democratic Republic of Congo. *Resources Policy* 40: 90-99.
- Gupta, M.R. 1993. Rural-urban migration, informal sector and development policies: A theoretical analysis. *Journal of Development Economics* 41: 137-151.

- Hart, K. 1973. Informal Income Opportunities and Urban Employment in Ghana. *The Journal of Modern African Studies* 11(1): 61-89.
- Hemmer, H.R., Mannel, C. 1989. On the Economic Analysis of the Urban Informal Sector. *World Development* 17(10): 1543-1552.
- Heintz, J., Valodia, I. 2008. *Informality in Africa: A Review*. Working Paper 3, WIEGO, Manchester.
- Hentschel, T., Hruschka, F., Priester, M. 2002. *Global Report on Artisanal and Small-Scale Mining*, Minerals Mining and Sustainable Development (MMSD) Project. International Institute for Environmental Development, London.
- Hilson, G. 2010. 'Once a Miner, Always a Miner': Poverty and Livelihood Diversification in Akwatia, Ghana. *Journal of Rural Studies* 26(3): 296-307.
- Hilson, G. 2013. "Creating" Rural Informality: The Case of Artisanal Gold Mining in Sub-Saharan Africa. *SAIS Review* 33(1): 51-64.
- Hilson, G. 2017. Why is there a large-scale mining 'bias' in sub-Saharan Africa? *Land Use Policy* (accepted for publication).
- Hilson, G., Potter, C. 2003. Why is illegal gold mining activity so ubiquitous in rural Ghana? *African Development Review* 15(2): 237-270.
- Hilson, G., Potter, C. 2005. Structural Adjustment and Subsistence Industry: Artisanal Gold Mining in Ghana. *Development and Change* 36(1): 103-131.
- Hilson, G., and Garforth, C.J. 2013. 'Everyone now is concentrating on the mining': Drivers and Implications of Changing Agrarian Patterns in the Eastern Region of Ghana. *The Journal of Development Studies*, 49(3), 348-362.
- Hilson, G., Osei, L. 2014. Tackling Youth Unemployment in Sub-Saharan Africa: Is there a role for Artisanal and Small-Scale Mining. *Futures* 62 Part A: 83-94.
- Hilson, G., Hilson, A., Adu-Darko, E. 2014. Chinese Participation in Ghana's Informal Gold Mining Economy: Drivers, Implications and Clarifications. *Journal of Rural Studies* 34: 292-302.
- Hinton, J., Levin, E., Okedi, J.P., Surma, A., Villegas, C. 2010. *Comparative Study: Legal and Fiscal Regimes for Artisanal Diamond Mining*. Prepared by Tetra Tech for USAID, Burlington.
- International Labour Office (ILO). 1999. *Social and labour issues in small-scale mines*. Report for discussion at the Tripartite Meeting on Social and Labour Issues in Small-scale Mine, International Labour Office, Geneva.
- International Labour Office (ILO). 2009. *The informal economy in Africa: Promoting transition to formality: Challenges and strategies*. International Labour Office, Geneva.

International Monetary Fund (IMF). 2013. *Niger: Poverty Reduction Strategy Paper*. International Monetary Fund, Washington DC.

Itzigsohn, J. 2000. *Developing Poverty: The State, Labor Market Deregulation and the Informal Economy in Costa Rica and the Dominican Republic*. The Pennsylvania State University Press, Pennsylvania.

Jennings, N.S. 2003. Addressing labour and social issues in small-scale mining, p. 151-160, in *The Socio-Economic Impacts of Artisanal and Small-Scale Mining in Developing Countries* (ed. G.M. Hilson). A.A. Balkema, The Netherlands.

Kelly, J. 2014. "This mine has become our farmland": Critical perspectives on the coevolution of artisanal mining and conflict in the Democratic Republic of the Congo. *Resources Policy* 40: 100-108

Kingwill, R., Cousins, B., Cousins, T., Hornby, D. Royston, L., Smit, W. 2006. *Mysteries and Myths: De Soto, Property and Poverty in South Africa*. IIED Gatekeeper Series 124, Institute for Environment and Development, London

Kumar, R., Amaratunga, D. 1994. Government policies towards small-scale mining. *Resources Policy* 20(1): 15-22.

Labonne, B. 1994. Small- and medium-scale mining: The Harare seminar and guidelines. *Natural Resources Forum* 18(1): 13-16.

Lahiri-Dutt, K. 2012. Digging women: towards a new agenda for feminist critiques of mining. *Gender, Place and Culture* 19(2): 193-212.

Lahiri-Dutt, K. 2014. *Extracting Peasants from the Fields: Rushing for a Livelihood?* Asia Research Institute Working Paper Series No. 216, Asia Research Institute, National University of Singapore, Singapore.

Lange, S. 2006. *Benefit Streams from Mining in Tanzania: Case Studies from Geita and Mererani*. CMI Report 11, Chr. Michelsen Institute, Bergen.

Lissu, T. 2004. 'Conducive environment' for development? *Globalisation and the politics of plunder in Tanzania's mining sector*. Lawyers' Environmental Action Team, Dar es Salaam.

Loayza, N.V. 1996. The economies of the informal sector: a simple model and some empirical evidence from Latin America. *Carnegie-Rochester Conference Series on Public Policy* 45: 129-162.

Maconachie, R., Binns, T. 2007. 'Farming miners' or 'mining farmers'? Diamond mining and rural development in post-conflict Sierra Leone. *Journal of Rural Studies* 23(3): 367-380.

Maconachie, R., and Hilson, G. 2011. Safeguarding livelihoods or exacerbating poverty? Artisanal mining and formalization in West Africa. *Natural Resources Forum* 35 (4): 293-303.

Nyamu-Musembi, C. 2006. *Breathing Life into Dead Theories about Property Rights: de Soto and Land Relations in Rural Africa*. Institute of Development Studies Working Paper 272, Brighton.

Nyamu-Musembi, C. 2008. Breathing Life into Dead Theories about Property Rights in Rural Africa: Lessons from Kenya, in *Women's Land Rights & Privatization in Eastern Africa* (ed. B. Englert and E. Daley), James Currey, Oxford.

Pegg, S. 2003. *Poverty Reduction or Poverty Exacerbation? World Bank Group Support for Extractive Industries in Africa*. Oxfam America, Washington DC.

Portes, A., Schauffler, R. 1993. Competing Perspectives on the Latin American Informal Sector. *Population and Development Review* 19(1): 33-60.

Rauch, J.E. 1991. Modelling the informal sector formally. *Journal of Development Economics* 35: 33-47.

Roitman, J.L. 1990. The Politics of Informal Markets in Sub-Saharan Africa. *The Journal of Modern African studies* 28(4): 671-696.

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

Sjjaastad, E., Cousins, B. 2008. Formalisation of land rights in the South: An overview. *Land Use Policy* 26: 1-9.

Spiegel, S. 2015. Shifting Formalization Policies and Recentralizing Power: The Case of Zimbabwe's Artisanal Gold Mining Sector. *Society & Natural Resources* 28(5): 543-558.

Tokman, V.E. Policies for a Heterogeneous Informal Sector in Latin America. *World Development* 17(7): 1067-1076.

Tschakert, P. 2016. Shifting Discourses of Vilification and the Taming of Unruly Mining Landscapes in Ghana. *World Development* 86: 123-132.

Tschakert, P., Singha, K. 2007. Contaminated identities: Mercury and marginalization in Ghana's artisanal mining sector. *Geoforum* 38(6): 1304-1321.

United Nations Economic Commission for Africa (UNECA), 2003. *Reports on Selected Themes in Natural Resources Development in Africa: Artisanal and Small-Scale Mining and Technology Challenges in Africa*. United Nations Economic Commission for Africa (UNECA), Addis Ababa.

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

Verbrugge, B. 2015. The Economic Logic of Persistent Informality: Artisanal and Small-Scale Mining in the Southern Philippines. *Development and Change* 46(5): 1023-1046, p. 1024.

Verbrugge, B., Besmanos, B. Formalizing artisanal and small-scale mining: Whither the workforce? *Resources Policy* 47(1): 134-141.

Veit, P.G., Easton, C. 2013. Overlapping Property Rights: When Rights to Natural Resources Conflict with Rights to Land. USAID, Washington DC.

Verick, S. 2004. *The Impact of Globalization in the Informal Sector Africa*. United Nations Economic Commission for Africa, Addis Ababa.

Wallace, C.G., Lepol, R.J. 2008. *Poverty and Social Impact Assessment and Strategy Formulation on Artisanal Diamond Mining Reform in Liberia*. United Nations Development Program, New York.

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

World Bank. 1992. *A Strategy for African Mining*. World Bank, Washington DC.

World Bank. 2008. *Democratic Republic of Congo Growth with Governance in the Mining Sector*. Report 43402-Z, World Bank, Washington DC.

World Bank. 2010. *Niger: Modernizing Trade During a Mining Boom*. Report No. 59968-NE, World Bank, Washington DC.