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## Formalizing Artisanal and Small-Scale Mining: Insights, Contestations and Clarifications

Gavin Hilson and Roy Maconachie

### Abstract

In recent years, a number of academic analyses have emerged which reflect critically on why most artisanal and small-scale mining (ASM) activities—low tech, labour-intensive, mineral extraction and processing—occur in informal ‘spaces’. This body of scholarship, however, is heavily disconnected from work being carried out by policymakers and donors who, recognizing the growing economic importance of ASM in numerous rural sections of the developing world, are now working to identify ways in which to facilitate the formalization of its activities. It has rather drawn mostly on theories of informality that have been developed around radically different, and in many cases, incomparable, experiences, as well as largely redundant ideas, to contextualize phenomena in the sector. This paper reflects critically on the implications of this widening gulf, with the aim of facilitating a better alignment of scholarly debates on ASM’s informality with overarching policy/donor objectives. The divide must be reconciled if the case for formalizing ASM is to be strengthened, and policy is to be reformulated to reflect more accurately the many dimensions of the sector’s operations.

### Introduction

Over the past decade, several studies (e.g. Geenen, 2012; Spiegel, 2015; Verbrugge, 2015) have drawn attention to how most artisanal and small-scale mining (ASM)—labour-intensive, low-tech mineral extraction and processing—occurs in informal ‘spaces’. This body of literature offers a glimpse of the day-to-day operations of this industry, as well as the livelihoods of the eclectic group of individuals who depend on it. It also reinforces the importance of the sector: how it produces a significant share of the world’s minerals; employs tens of millions of people directly, creates millions of more jobs in the downstream industries it spawns; and has become a driver of economic development in numerous rural economies (Table 1).

The push to formalize ASM has never been greater. Several donors, foremost the World Bank and various departments of the United Nations, are now pressuring governments across Asia, Latin America and sub-Saharan Africa to make the sector more of a centrepiece of their development strategies. This stems largely from growing recognition of ASM’s economic impact, the need to gain greater control of its sprawling activities, and the importance of putting regulators in an improved position to tackle the host of environmental problems and social ‘ills’, including child labour and health

and safety concerns, commonly associated with activities (see e.g. Hentschel et al., 2002; UNEP, 2012). But overhauling a development policy 'machinery' designed, for the most part, with little consideration of the many functions of ASM, promises to be exceedingly challenging. For host governments to be in any position to actively pursue an agenda of ASM formalization, they must acquire the information needed to make effective decisions. This includes data which further legitimize the sector's economic importance and details about why its activities mostly occur in informal 'spaces'.

**Table 1:** Employment estimates for ASM, and minerals extracted, in selected developing countries

Country	Directly Working in ASM	Estimated Number of Dependents	Main minerals mined on a small and artisanal scale
Angola	150,000	900,000	Diamonds
Argentina	5,800	34,800	Gold
Bolivia	72,000	432,000	Gold
Brazil	250,000	1,500,000	Gold, diamonds, gemstones
Burkina Faso	200,000	1,000,000	Gold
Central African Republic	400,000	2,400,000	Gold, diamonds
Chad	100,000	600,000	Gold
Chile	12,000	72,000	Gold, copper, silver
China	15,000,000	90,000,000	Gold, coal, construction materials (sand)
Colombia	200,000	1,200,000	Gold, gemstones
Côte d'Ivoire	100,000	600,000	Gold, diamonds
Democratic Republic of the Congo	200,000	1,200,000	Diamonds, gold, coltan
Ecuador	92,000	552,000	Gold
Eritrea	400,000	2,400,000	Gold
Ethiopia	500,000	3,000,000	Gold
French Guiana	10,000	60,000	Gold
Ghana	1,100,000	4,400,000	Gold, diamonds, sand
Guinea	300,000	1,500,000	Gold, diamonds
Guyana	20,000	120,000	Gold, diamonds
India	500,000	3,000,000	Gold, tin, coal, gemstones
Indonesia	109,000	654,000	Gold,
Liberia	100,000	600,000	Gold, diamonds
Madagascar	500,000	2,500,000	Coloured gemstones, gold
Malawi	40,000	240,000	Coloured gemstones, gold
Mali	400,000	2,400,000	Gold
Mongolia	120,000	720,000	Gold, fluorspar, coal
Mozambique	100,000	1,200,000	Coloured gemstones, gold
Myanmar	14,000	84,000	Gold, tin, jade, coloured gemstones
Niger	450,000	2,700,000	Gold
Nigeria	500,000	2,500,000	Gold
PNG	60,000	360,000	Gold
Peru	30,000	180,000	Gold
Philippines	300,000	1,800,000	Gold
South Africa	20,000	120,000	Gold
Sierra Leone	300,000	1,800,000	Gold, diamonds, coltan
South Sudan	200,000	1,200,000	Gold
Sri Lanka	165,000	990,000	Gold, coloured gemstones
Suriname	20,000	120,000	Gold
Tanzania	1,500,000	9,000,000	Coloured gemstones, gold, diamonds
Uganda	150,000	900,000	Gold
Venezuela	40,000	240,000	Gold, coltan
Zimbabwe	500,000	3,000,000	Gold, diamonds, coloured gemstones

Sources: Data extracted from ILO (1999), Dreschler (2001), Mutemeri and Petterson (2002), and Hinton (2005)

Recent academic analysis has failed to cast much light on this. Heavily disconnected from the policy and donor dialogue, this body of literature typically uses theories of informality—conceived around

very different and in some cases, incomparable, experiences and contexts—to explain phenomena in ASM. Moreover, when discussing ‘access’ to land, it creates the impression that there are pluralist systems in place that must be unravelled, hastily grouping all property rights together. Many recent assessments of informality in ASM, therefore, are little more than ‘snapshots’ of the current state of selected operations. There is, consequently, now a marked difference between how several scholars have interpreted informality in ASM on the one hand, and the way in which the sector’s formalization challenge has been conceptualized in donor and policymaking circles on the other hand.

The purpose of this paper is to reflect critically on the implications of this growing gulf, with the aim of facilitating a better alignment of scholarly debates on ASM’s informality with overarching policy objectives. The next section of the paper unpacks the literature on informality in the ASM sector, in the process highlighting this disconnection. The third section of the paper attempts to bring clarity to the debate by drawing on experiences from Guyana, one of the few ‘successful’ cases of ASM formalization. The paper concludes by providing direction for future research on informality in the ASM sector.

### **Informal Artisanal and Small-Scale Mining ‘Spaces’**

There is growing intrigue surrounding the ways in which informal ASM ‘spaces’ develop. As mentioned, however, despite sharing details about the structures of ASM communities and those who populate them, most recent critiques of the sector’s informality are disconnected from the policy agenda. These analyses, therefore, could misguide donors and governments.

There is a wealth of evidence that points to ASM having long been an integral and embedded component of a host of local livelihood structures and economic systems. Most of this analysis focuses on sub-Saharan Africa, highlighting, in particular, the linkages between subsistence/smallholder agriculture and ASM. The connections between these activities have become even more ‘visible’ in

an era of globalization. This is owed heavily to the changes ushered in during the region's period of protracted structural adjustment (UNECA, 2003; Banchirigah and Hilson, 2010). In several African countries, radical policy changes were made, moves which would diminish the economic viability of smallholder farming considerably. For many millions of affected households, ASM has become the primary income-earning activity.

Similar phenomena have been reported elsewhere in the developing world. For example, near Edie Creek in Mount Kaindi, Papua New Guinea, a country where hundreds of thousands of men and women are engaged in artisanal gold mining, Moretti (2006) observed that 'the area is occupied by over two thousand people scattered in a myriad of settlements of between just one to over forty households, who live from alluvial and hard-rock mining supplemented by small trade and a limited degree of subsistence agriculture' (p. 136). Similarly, in Northwestern Kalimantan, Indonesia, another country rich in gold, Peluso (2016) reports that 'small-scale mining has filled what we might call the "smallholder slot"', and is today a 'smallholder pursuit that has more than filled the subsistence gap for many agrarian households' (p. 37). This mirrors what appears to be taking place in some sections of the Philippines, where, as Almaden (2015) reports, 'Households who are dependent on mining usually find supplementary income through farming, and the families who are engaged in farming also find supplementary income through mining' (p. 355).

This body of analysis has reinforced the view that ASM is largely a 'poverty-driven' activity and has inseparable connections with farming. To move hastily beyond analysis of ASM-agricultural linkages and the 'poverty-driven' narrative, as Fisher et al. (2009) and Verbrugge (2016) suggest must happen, could derail what little momentum there is, at present, in policymaking circles to formalize ASM. Although as indicated, donors and host governments seem genuinely interested in formalizing the sector, most seem reluctant to take immediate action, possibly because they are unsure about how to proceed.

Development strategy is transfixed on agriculture, particularly the view that intensified support for farming can alleviate rural poverty. Whilst this approach has proved popular in sub-Saharan Africa (Banchirigah and Hilson, 2010), there is evidence that it has also shaped policy in a host of other developing countries (Byerlee et al., 2005), including the Philippines (World Bank, 2014), Indonesia (Rosegrant and Hazel, 2000; Armas et al., 2012), Nicaragua, Peru, Colombia and Brazil (World Bank, 2009). It would seem, therefore, that given this focus, one possible way of rapidly legitimizing moves and mobilizing sceptical donors to support efforts to formalize ASM—at least in the short term—would be to build a case around how the sector sustains agriculture. Embracing Verbrugge’s (2016) call for ‘Transcending this narrow focus on farming’ (p. 109) could prevent this from happening.

Verbrugge (2016) also inexplicably declares that ‘The reigning image of ASM is that of a sector composed primarily of poverty-driven miners involved in artisanal and subsistence-oriented mining activities’ (p. 113), when in policymaking and donor circles, it is precisely the opposite. The impetus behind research aimed at articulating more clearly ASM’s linkages with farming and/or validating that many of its activities are ‘poverty-driven’ has been to challenge the prevailing view that the sector is populated *exclusively* by entrepreneurs. Claims made by Fisher (2008), Verbrugge and Besmanos (2016) and others that ASM communities are heterogeneous in their composition, populated by enterprising businessmen and individuals with skills, are by no means a revelation. They reinforce what researchers have been drawing attention to, both implicitly and explicitly, for many years (see e.g. Hilson and Maponga, 2004; Van Bockstael, 2014). Scholars are not arguing that ASM is *solely* poverty-driven and subsistence-oriented, as Verbrugge (2016) implies. They are rather demonstrating that there are many individuals who fall into this category, most of whom work alongside skilled and semi-skilled groups.

An even greater concern is that scholars' disconnection from policy objectives is needlessly complicating debates on ASM's informality. Lahiri-Dutt (2014) argues that 'Informality is the defining condition of the everyday lives of peasants in extractive industries, and intersects with illegality, but the two are not the same' (p. 10). Both the policymaker and donor, however, would argue otherwise. Although not always stated explicitly, as captured by the excerpts below, for most donors and host governments, *formalization* of ASM entails *legalization* and the steps required to put individuals in a position to secure the requisite permits:

- 'As ASM can hardly ever be formalized under the same legal schemes applicable for large scale mining, existing special legal provisions for formalizing ASM should be resumed; also in case that no special provisions exist for ASM, this fact needs to be clearly pointed out'. [World Bank, 2004, p. 40]
- 'Formalization is a process that seeks to integrate ASGM [artisanal and small-scale gold mining] into the formal economy. The process of formalization includes the development or adaptation of mining (and other) laws or policies to address the challenges of ASGM'. [UNEP, 2012, p. 1]
- 'In addition to simplifying registration procedures, the government should encourage small-scale and artisanal miners to formalize their activities by enhancing the advantages of legalization and by using incentives such as training and technical assistance'. [ILO, 1999]

This view began to take shape in the 1990s, when several governments began to implement new—and in some cases, revised—regulatory frameworks for ASM. A more nuanced understanding of the context in which these laws were passed would provide greater clarity on what donors and governments now perceive as 'informal' ASM, and ultimately, the issues scholars *should* be taking stock of in their critiques when prescribing recommendations to policymakers.



The first step is understanding and accepting why so many individuals choose to work in informal ASM 'spaces'. The answer lies in the blueprint followed for mining sector reform. To encourage foreign investment in large-scale mining and mineral exploration, a series of countries, 'initially in Latin America and then in Africa and Asia, implemented processes of mining sector reform along the lines pioneered by Chile [in the early-1980s]' (World Bank, 2003, p. 2). Backed by the World Bank and IMF, host governments have made sweeping changes to mineral policy, including providing generous investment incentives such as tax breaks and guaranteeing investors access to large concessions for lengthy periods, to catalyze inflows of foreign capital. It is well known to most that ASM has not featured prominently in these processes.

Regulatory frameworks have been implemented for ASM but most were designed with the view that those found operating at sites are enterprising businessmen. This is an unsurprising development in light of the advice provided by the World Bank officials who have guided the mining sector reform process over the years. In the Bank's *A Mining Strategy for Latin America and the Caribbean* (World Bank, 1996), for example, it was recommended that 'any policy to help develop a national mining industry must look at ways of integrating artisanal mining into the formal sector, primarily by encouraging the more entrepreneurial among them to move up to become small miners' (p. 50). Similarly, in *A Strategy for African Mining*, Bank officials recommend that 'new policy frameworks should eliminate distinctions between small and large-scale mining so as to encourage all potential interested parties' (p. 22). The result has been predictable: how in most countries, people struggle to comply with specific procedures, including those attached to bureaucratic permitting systems and regulatory processes more suitable for large-scale operators, that must now be followed to obtain small-scale mining licenses. This led officials at the International Labour Organization to declare that ASM is 'bedevilled with too many regulations that are mostly designed to constrain it' (ILO, 1999, np). Several authors (e.g. Geenen, 2012; Van Bockstael, 2014) have since reinforced this claim, drawing

attention to the specific barriers preventing individuals from securing the legal rights to access informal ASM 'spaces' and the host of benefits that comes with legalization.

A growing number of scholars, however, have dismissed the policy context entirely. They have rather formulated their own ideas to explain ASM-specific phenomena but significantly, draw on points which have little relevance when overarching policy objectives are considered. An initial point that requires clarification here has already been raised, namely the belief that there are conflicting land tenure systems. This was a topic which a reviewer of this paper took particular issue with, explaining that 'There is also a large literature on plural tenure regimes and customary rights which the author dismisses in their critique of handful of ASM studies. A much fuller and more robust critique is required. This should clearly elucidates the weaknesses of the studies criticised not simply state them as weak'. This, however, leads to the main objective of the present paper: to clarify how, when the details of the policy context are considered, there is very little need to pay attention to what is increasingly being misdiagnosed as 'plural tenure regimes and customary rights'. The reviewer is correct in implying that there are, indeed, legitimate concerns over subsurface and surface rights in several developing countries. But the purpose of mining sector reform is to facilitate access to, and to further legitimize host government's control of, the former solely for economic gain. As Blanc (2015) explains, drawing on experiences from sub-Saharan Africa, 'the mining title is a special type of superior immovable property right which 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', and that 'In case of such conflict, the mining title must always prevail' (p. 331).

Recent scholarship on the formalization of ASM seems to have lost sight of this. On the one hand, perhaps the reviewer of this paper is justified in stating that 'the papers [critiqued here by the authors]

do not necessarily aim to link practice with policy and should therefore be judged against their stated aims rather than what the author thinks they should be doing'. But on the other hand, this is the purpose of the article, as well as to draw attention to the sizable gulf between how formalization of ASM has been diagnosed by donors and certain academics. The article illustrates very clearly how disconnected the latter are from the former's views and interpretations. A case in point is, once again, Verbrugge (2015), who concludes that his study on 'informal' ASM in the Philippines 'can be read as an invitation for policy makers to think of more inclusive approaches to formalizing ASM, which aim to transcend the currently dominant and rather narrow focus on mineral tenure, by also considering strategies to recognize and protect the interests of the massive workforce' (p. 1043). When the policy position is taken into consideration, however, the author's recommendations become redundant because for developing world governments and donors, once again, formalization is exclusively about mineral tenure, in this case, titling for ASM.

A second point concerns the effectiveness of the ASM formalization process altogether. It is hardly a revelation that, to date, efforts to bring operators into the legal domain have been noticeably lacklustre, and that many who have made this transition claim to have not realized tangible benefits from their move. But rather than ask why this is the case for ASM, scholars have elected to focus their analysis on what Geenen (2012) labels the limitations of 'the formalization discourse', or the idea that formalization 'assumes that everyone will eventually benefit from strong property rights' (p. 323), a point reinforced by Verbrugge and Besmanos (2016). A likely reason why, 'despite their lack of formal titles they [small-scale miners] may have customary titles, which are just as strong in their eyes, and even more legitimate' (Geenen, 2012, p. 326), is that these property rights are *not* 'strong'. With large-scale extraction, which again, has the full backing of politicians in most areas of the developing world, mining titles are illustrative examples of what Blanc (2015) would consider 'unique' and 'superior'. As ASM is not prioritized in reform, however, it is unsurprising that corresponding efforts have failed to produce comparative 'unique' and 'superior' titles and ultimately transform the informal

'spaces' its activities are confined to. The 'many other resource users' observed to possess 'a "bundle of rights" to the land' (Freudenberger et al., 2011, p. 3), therefore, should be seen as products of ASM's low level of policy treatment as opposed to a genuine 'overlapping' of claims. With a similar level of political commitment to that afforded to large-scale mining, would these outcomes even arise?

A final point concerns the cavalier way in which recent scholarship reflects on theories of informality to explain phenomena in ASM. The three main schools of thought are as follows: the dualists, who argue that informal activities have few (if any) linkages to the formal economy; the structuralists, who see the informal and formal economies as connected, the latter at times exploiting the former; and the legalists, who believe that micro-entrepreneurs choose to operate informally in order to avoid excessive bureaucracy and costs, and need property rights to legitimize their assets (Chen, 2007). These explanations, however, emerged at very different periods in history, developed around subsistence commodities, and drew mostly on experiences from urban as opposed to rural settings to explain specific phenomena. Moreover, neither was formulated with a view to contextualizing the dynamics of a sector as unique and complex as ASM. But this has not stopped scholars from hastily applying these ideas to this sector, and at times prematurely drawing conclusions about their appropriateness and reliability. These theories unquestionably broach some ideas that *could* help to contextualize ASM. But given the very different supply chains, highly-valuable commodities, specific governance frameworks and sets of actors associated with this sector, each must be critically unpacked and adapted appropriately.

### **The Case of Guyana**

Having established that for donors and policymakers, 'formalization' in the context of ASM is seen as 'legalization' and the steps that must be taken for this to happen, this section of the paper builds on key points raised thus far by drawing on experiences from Guyana. One of few countries that openly

supports small-scale miners, Guyana demonstrates how, with the requisite levels of assistance, formalization can be effective. It furthermore illustrates the power that mining titles—in this case, Small-Scale Mining Permits and Medium-Scale Mining Licenses—wield, and how, when prioritized, formalization establishes or in this case, fortifies, a legalized and supported sector.

Guyana's bureaucratic structures have always been organized around promoting and supporting ASM. Like most gold-rich developing countries, it has a lengthy history of ASM, which began in the 1880s. It was at this point when bands of artisanal operators, called *pork-knockers*,<sup>1</sup> produced most of the then colony's gold using basic tools. The legal framework for formalized ASM 'spaces' was established a century later, following passage of the new *Mining Act, 1989*. It established procedures for a Small-Scale Mining Claim (1500ft X 800ft) and a Medium Scale Mining Permit, both of which are reserved for Guyanese nationals, and can only be secured by those in possession of a Prospecting License. Moreover, as Bridge (2007) explains, the Act also liberalized the Guyana Gold Board (the state gold buying agency), and provided a wealth of investment incentives for miners of all types, a move that would catalyze the opening of the US\$300 million Omai mine in 1993. Whilst Guyana would play host to countless Junior exploration companies up until the mid-1990s, a precipitous decline in the gold price would effectively bring this activity to a grinding halt. As the only operational gold mine in the country at the time, Omai would be allowed to run its course, closing officially in 2005.

In the 1980s, Guyana found itself in a similar position as the Philippines, where, as Verbrugge (2015) explains, the large-scale mining sector broke down following the collapse of the Marcos regime, which supported multinationals such as Atlas and Lepanto. Verbrugge and Besmanos (2016) reflect on how several 'seemingly uncoordinated efforts', including implementation of the *People's Small-Scale Mining Act (RA 7076)*, have since been made to 'formalize' ASM in areas of the Philippines, including

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<sup>1</sup> Guyana's alluvial gold miners earned the name *pork-knockers* in reference to their diet of pickled pork, often consumed at the end of a day's work.

(presumably) the territories vacated by large-scale operators. But whereas the Government of Guyana was unwilling to cede mining territories to foreign multinationals following implementation of the *Mining Act, 1989*, the Philippines did not abandon the idea, even during times of depressed gold prices when large-scale extraction was not particularly viable. This could explain the ‘seemingly uncoordinated efforts’ to formalize ASM which Verbrugge and Besmanos (2016) refer to. The authors’ accounts of the recent conflicts that have unfolded in the T’boli municipality of the country between ASM operators (and suspension of their activities in 2010) and the large-scale miner, Tribal Mining Corporation, could be interpreted as failure of government to prioritize the needs of the former during this lag period. As Verbrugge (2015) himself concedes, referencing Camba (2015), ‘RA 7076 and related efforts to regulate the sector have largely failed to materialize, so that most ASM takes place informally...One of the key reasons for the persistence of informality [being]...the shift towards a “neoliberal mining regime” that prioritizes the expansion of large-scale, capital intensive mining’ (p. 111).

This leads to the first reason why the Government of Guyana has been able to prevent the proliferation of informal ASM ‘spaces’. Unlike the Philippines, it has, since the mid-1990s, made the formalization of ASM a centrepiece of its development strategy. To be clear, however, the motivation for doing so was that, under the circumstances, it seemed to be the most effective strategy for a rent-seeking government. This contrasts sharply with the Philippines, where it seems that the ‘seemingly uncoordinated efforts’ to formalize ASM enabled elites to continue rent-seeking during periods of depressed gold prices whilst keeping the door open for large-scale mining.

Given Guyana’s long history of indigenous, family-financed and connected gold mining activity, much of it spanning many generations, the authorities elected to appease local elites. The Guyana Geological and Mines Commission (GGMC) and its regional offices, therefore, have expended considerable energy over the past two decades helping these individuals acquire plots. Additional

guidance is provided by the sector's powerful and influential mouthpiece, the Guyana Gold and Diamond Miners Association (GGDMA). Established in 1982, the GGDMA has an extensive membership, which collectively produces 90 percent of Guyana's minerals and features 20 of the country's top 25 gold producers of the past decade.<sup>2</sup> The aforementioned Guyana Gold Board is ever-present, offering purchasing services to miners, levying a 2 percent tax and 5 percent royalty on all gold collected. It manages to collect an estimated 75 percent of all gold mined in the country.

This lead to the second reason: the effectiveness of the policy framework for ASM. Unlike other countries, Guyana has not made cost or bureaucracy impediments to formalizing. The permitting process is fairly streamlined, beginning with the Prospecting License, the application for which costs US\$100; preparation of a Work Program; submission of a cartographic description of the area; and preparation of a map on a Terra Survey sheet. If there are no objections following a brief 'gazetting' period, the application is then forwarded to the country capital, Georgetown, for ministerial approval, and takes effect once payment of a series of rather negligible rental fees are made.<sup>3</sup> Following a mineral discovery, the application for a Small-Scale Mining Claim or Medium-Scale Mining License can be initiated. This entire process is supported by the GGMC, initially through its local offices, and the GGDMA throughout. To keep this cycle going, the GGMC even periodically auctions 'available' gold-mineralized territories in the country's vast interior. All licenses can be renewed annually but perhaps more importantly, indefinitely, providing security of tenure at a level enjoyed by few other ASM operators worldwide.

The third and final point concerns the power these mining titles wield. With the backing of the government, both types of permit trump all other property rights, including indigenous Amerindian

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<sup>2</sup> 'Guyana Gold & Diamond Miners Association, History & Purpose' <http://guyanaminers.com/site-page/history-purpose> (Accessed 12 September 2016).

<sup>3</sup> 'Guyana Geology and Mines Commission', <http://www.ggmc.gov.gy/main/?q=divisions/land-management#apml> (Accessed 12 August 2016).

entitlements. The *Amerindian Act 2006* has made it mandatory for holders of new claims located within Amerindian titled lands to dialogue with the corresponding ‘captain’ (chief) and to pay a royalty (generally 7-10 percent) on production but those who secured their permits before 2006 are not obliged to do so. The Government of Guyana’s handling of Amerindian affairs has, indeed, been questionable and perhaps unethical. Yet, at the same time, the case of Guyana illustrates how, in line with Blanc (2015), an ASM license can also be a ‘superior immovable property right which overrides rights that the land owner or other third parties may hold in respect of the land surface covered by the mining title’ (p. 331).

Guyana’s formalized ASM ‘spaces’ today produce 91 percent of the country’s gold. The *pork-knocking* activity once widespread still exists but mostly in these ‘spaces’, made possible by deals forged with the concession holder. The government’s ongoing efforts to formalize ASM has catalyzed gold production: between 2005 and 2006, following the closure of Omai, output dropped from 262,528 to 204,970 oz but has since nearly doubled, reaching 450,873 oz in 2015 (Thomas, 2009; Bank of Guyana, 2015). The case of Guyana casts light on what—in this case, for policymakers—formalization means in the context of ASM, and what can be accomplished, developmentally, if it is viewed as a priority national objective.

### **Concluding Remarks**

This paper has weighed in on emerging debates on informality in ASM. Specifically, it drew attention to the sizable gulf between how a recent wave of scholarly analysis has defined ‘informality’ in the context of ASM on the one hand, and how ‘formalization’ of the sector has been interpreted in policymaking and donor circles on the other hand. This is owed to the former being heavily disconnected from the latter, a gap that can only be bridged with greater alignment of academic research with the policy context.



The paper has highlighted two significant points. The first concerns the abovementioned disconnect. In addition to failing to recognize that, in the context of ASM, policymakers and donors interpret *formalization as legalization*, scholars have not explored why the ASM space itself is informal or how to legitimize, in the eyes of the law, associated mineral rights. Such research would inevitably connect with the host of analysis carried out in recent decades which explains why individuals in the sector choose to operate without the requisite permits. The analysis put forward by these scholars, however, tends to focus on the labour and structures of the 'space' itself, drawing on theories of informality, wholesale, to contextualize unrelated phenomena. When taking into account the policy and donor context, this analysis offers very little guidance on how to tackle the sector's many development challenges.

The second point concerns theories of informality in view of how policymakers and donors interpret the ASM formalization exercise. Informality in this sector, it would seem, aligns most closely to the legalist school on informality, more specifically, the ideas of Hernando De Soto (De Soto, 2000, 2002). The formalization blueprint prescribed by De Soto is nowhere close to being an exact science. But many of his—largely implicit—views, in particular, how bureaucracy 'creates' informality and with the requisite political backing, unlicensed economic activities can be legalized, have bearing here. Referring back to the Guyana case, is the titling now promoted by the government, which has facilitated holders' access to bank loans, equipment and technical support, the 'strong' ASM rights that Geenen (2012) suggests is missing in so many countries and which Verbrugge (2015) claims to be so elusive?

More research is needed which casts light on the formalization challenge in the ASM sector. But if it is to have any traction in policy, scholars must align their work with what host governments and donors are trying to achieve.

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