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DOI: 10.1016/j.exis.2014.01.004

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Original Article

Capital interests: A historical analysis of the transformation of small-scale gold mining in Compostela Valley province, Southern Philippines[☆]

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ARTICLE INFO

Article history:

Received 5 November 2013

Received in revised form 28 January 2014

Available online 21 February 2014

Keywords:

Philippines

Mindanao

Artisanal and small-scale mining (ASM)

Gold mining

Livelihood diversification

ABSTRACT

In line with trends observed in several other countries, small-scale gold mining in Compostela Valley (ComVal) province has expanded immensely, and now boasts a high number of more advanced i.e. more capitalized and mechanized operations that push the edge of what is usually considered artisanal and small-scale mining (ASM). A historical, fieldwork-based analysis is presented of the diverse factors underlying the current situation. It is argued that existing accounts of ASM-expansion, by focusing disproportionately on the role of poverty in pushing people into ASM, fail to satisfactorily account for the state of gold mining in ComVal. Whereas this poverty-driven narrative may well explain the constant supply of mining recruits, it risks obscuring how for certain groups, ASM harbors important opportunities for capital accumulation. More specifically, the increased engagement in gold mining on the part of a heterogeneous class of mining financiers enabled ASM to evolve from rudimentary into relatively mechanized operations with highly complex working practices and revenue sharing arrangements. The nascent gold mining elite has entrenched itself in a regulatory environment amenable to the further expansion of gold mining. These observations suggest that more critical attention should be paid to the 'capital interests' driving similar transformations of ASM elsewhere.

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1. Introduction: debating the expansion of artisanal and small-scale mining

In recent decades artisanal and small-scale mining (ASM) has witnessed a spectacular expansion worldwide. Current estimates suggest that 20–30 million people in over 80 countries are now engaged in what is commonly defined as “*labor-intensive, low-tech mineral exploration and processing*” (Hilson, 2011, p. 1032). The sector is currently estimated to produce 15–20 per cent of global

mineral output, particularly but not exclusively in the form of gold and diamonds (Buxton, 2013). Important efforts have been made to understand the factors underlying this dramatic expansion. The literature on rural livelihood diversification has proven highly instrumental for this understanding (Hilson, 2011). In this literature a variety of push- (e.g. risk management, subsistence crisis) and pull factors (opportunities for income accumulation) have been identified that determine diversification behaviour (Barrett et al., 2001). Significantly, attention has also been drawn to the socially segmented character of livelihood diversification. For most diversification is primarily a matter of necessity, with a growing labor reserve condemned to a ‘scramble for income’ (Bryceson, 2002) combining easily accessible and usually low-return livelihood activities. For some, however, particularly for those with the resources necessary to surmount entry barriers to high-yielding activities, diversification harbors significant opportunities for accumulation (Start and Johnson, 2004).

When reviewing existing explanations for increased diversification into ASM, debates have by and large been dominated by two opposing narratives. On the one hand, in policymaking circles and amongst the audience at large, an idea persists that individuals are lured into ASM by the prospect to earn easy money and to ‘get rich quick’ (for an academic illustration see Godoy, 1988). While this particular understanding of ASM-operators as opportunist

[☆] This paper represents the initial output of a 4-year doctoral research project on small-scale mining in Mindanao. It is funded by VLIR-UOS, the Flemish Inter-University Council for Academic Development Cooperation. It should be clearly stated that (by my knowledge) this is the first-ever elaborate research to take place on ASM in the Philippines. For this and other reasons – particularly the challenging research environment (eastern Mindanao remains a conflict-affected area) and the complete lack of existing data – a deliberate choice has been made for flexible qualitative research techniques, particularly the reconstruction of life-course narratives. By no means however is this choice informed by methodological ‘idleness’. Rather, the author is strongly convinced that this methodological choice is by far the most appropriate given the research context, the limited means at my disposal, and the pioneering nature of the research.

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fortune-seekers may duly apply in particular cases (Hilson, 2010), an academic consensus has emerged about the majority of those becoming engaged in ASM being motivated first and foremost by economic (subsistence) needs and a lack of viable livelihood alternatives (Heemskerk, 2001; Hilson, 2010). More specifically, ASM-expansion has been attributed to a range of factors that play out to a varying extent in different contexts. Particularly in sub-Saharan Africa, the detrimental impact of structural adjustment on (peasant) agriculture and on formal sector employment has been a major factor in inciting ASM-growth (Hilson, 2009; Banchirigah, 2007; Hilson, 2010; Hilson and Garforth, 2012). In countries such as Ghana (Hilson, 2010) and Tanzania (Chachage, 1995), liberalization and privatization of the mining sector have also contributed significantly to ASM-growth, as many of those retrenched in large-scale mining have found their way to ASM. At the same time, by limiting land available for agriculture and legal ASM, government support for large-scale mining further boosts informal ASM, often within company concessions (Hilson and Potter, 2005; Banchirigah, 2007). Finally, in countries such as Liberia (Hilson and van Bockstael, 2011) and Sierra Leone (Maconachie, 2011), armed conflict and associated economic breakdown have also been important factors fuelling the expansion of ASM. In any case, the common denominator in all of these accounts is the intimate association between ASM-expansion and poverty.

By no means does this contribution seek to contradict these assertions about the direct relationship between ASM-expansion and poverty. However, drawing back on the literature on livelihood diversification, the one-dimensional focus on poverty as the main push factor underlying the growth of ASM in developing countries risks obscuring the socially segmented nature of diversification into the sector. More specifically, while the majority of those engaged in ASM do so because of subsistence needs, it will be argued in this article that for certain groups, particularly those with the necessary capital to invest in ASM, the sector also harbors important opportunities for capital accumulation. While it has duly been recognized in recent years how ASM – as an activity involving few entry barriers and as a significant source of (cash) income (e.g. Siegel and Veiga, 2009; Cartier and Bürge, 2011) – can act as an agent of social mobility and emancipation (de Boeck, 2001; Bryceson and Jönsson, 2010), there is an urgent need for a more systematic understanding of accumulation practices in the sector, and how these are embedded in a particular socio-political environment.

Part of the reason for the rather one-sided focus on poverty as an explanatory variable for ASM-expansion may lie in the literature's geographical bias toward Sub-Saharan Africa, where ASM often does qualify as an artisanal and low-tech undertaking, driven by subsistence needs. However, in some regions and countries ASM has now moved firmly beyond a subsistence level, instead boasting significant levels of capitalization and mechanization. Notable examples include Ghana (Hilson, 2010), Guyana (Clifford, 2011) and Brazil (Graulau, 2001). Significantly, both Clifford (2011) and Graulau (2001) draw (rather cursory) attention to the role of outside capital in the gradual mechanization of ASM. Building on these observations, this article provides evidence from the Southern Philippines, where ASM has not only grown dramatically since the 1980s, but has also evolved from rather rudimentary panning- and tunneling activities into a highly heterogeneous sector involving operations that boast a degree of mechanization and capitalization that no longer fits in with established definitions of ASM. Despite this remarkable transformation, and leaving aside studies on the environmental impact of mercury use in small-scale gold mining (e.g. Appleton et al., 1999), the Philippines have been given virtually no attention in the existing literature on ASM. The following section will briefly sketch the current state of ASM in the Philippines, with particular

attention for the situation in Compostela Valley province, which forms the geographical focus of this contribution. From this initial sketch a picture emerges of ASM as a mostly informal, highly heterogeneous, and increasingly also a fairly capitalized undertaking. The third and main section of the article then seeks to present a historical overview of the various factors underlying the remarkable expansion of small-scale gold mining¹ in Compostela Valley province, both in terms of the number of participants as well as with regards to increased levels of capitalization and mechanization. To an important extent this analysis confirms findings in the existing literature, with a seemingly unrelenting supply of labor rooted in a pervasive crisis in (upland) agriculture, large-scale mining, and ultimately in labor markets at large. At the same time, however, evidence from the field suggests that the current state of gold mining in the province can only be fully understood when accounting for the role of (outside) capital in moving the sector forward in terms of working practices and output levels. More specifically, the transformation of small-scale gold mining has been made possible by the progressive involvement of a heterogeneous class of mining financiers, whom are gradually entrenching themselves in regional politics. This has given rise to a highly complex regulatory environment that is amenable to the further expansion of small-scale gold mining, regardless of whether it is formal or not.

The key questions underpinning this research entail important methodological challenges. Most importantly, there is little knowledge of the socio-political history of eastern Mindanao, let alone of small-scale gold mining in the region. For this reason the research draws disproportionately from primary field research. However, persistent 'illegality' makes ASM-operators extremely wary of outside inquiry, a situation that is further complicated by the presence of a range of armed actors that are of a variable extent involved in gold mining. These include communist- rebels of the New People's Army (NPA), Muslim rebels, soldiers of the Armed Forces of the Philippines (AFP), and a range of indistinct extortionist groups. All of this gives rise to a highly volatile and sensitive political situation wherein data-gathering necessitates a long-term, embedded engagement with the field. Throughout approximately 6 months of field research, the author has relied on a range of qualitative research methods that allow for a high degree of flexibility and trust-building between researcher and respondent – hence the relative absence of references to specific respondents. Around 140 semi-structured interviews (and many more informal discussions) have been conducted, with a prime focus on the life narratives of (former) small-scale miners and other upland settlers. Key informant interviews were also conducted with government officials active in different government agencies,² with local executives, and a broad range of other respondents from various backgrounds (e.g. lawyers, accountants, local state security personnel, journalists, etc.). In order to illustrate, strengthen and liven up the historical analysis provided in this article, several citations and excerpts from these life narratives and key informant interviews will be provided.

2. Small-scale mining: steady growth, persistent informality

Small-scale mining (SSM) in the Philippines is highly heterogeneous, in terms of degrees of formal-legal recognition, working practices and levels of capitalization and mechanization. Output

¹ Small-scale mining, rather than ASM, is the catch-all term for artisanal, small-scale and/or informal mining act in the Philippines. From this reason the activities in question will be referred to as small-scale mining (SSM).

² These include the department of environment and natural resources (DENR) and its subsidiary, the Mines and Geosciences Bureau (MGB), as well as the national commission on indigenous peoples (NCIP).

Table 1
Gold production 1983–1999, in kg.

Year	Total production (kg)	Small-scale mining production (kg)	Large-scale mining production (kg)
1983	25,397	136	25,261
1984	25,727	1254	24,473
1985	33,063	8085	24,978
1986	35,427	11,440	23,987
1987	32,780	8047	24,733
1988	30,492	7292	23,200
1989	30,046	8698	21,346
1990	24,591	5510	19,081
1991	25,952	9204	16,748
1992	25,609	7852	17,757
1993	24,917	9491	15,426
1994	27,307	12,413	14,895
1995	27,023	14,491	12,530
1996	28,214	15,656	12,578
1997	31,199	14,062	17,137
1998	34,018	19,859	14,179
1999	31,050	17,045	14,005

Source: Cabalda et al. (2002).

includes minerals and metals such as chromite, magnesite, silver and copper; but gold is undoubtedly the sector's backbone. While it is impossible to estimate the exact number of people involved in the sector, not least because of persistent informality, estimates put the number of small-scale miners at 500,000 nationwide (Galvez, 2012). Tables 1 and 2 summarize official gold production for large-scale and small-scale mining, as reported by the Mines and Geosciences Bureau (MGB). For SSM, these numbers represent the amount of gold sold to the Philippine central bank or Bangko Sentral. While these numbers are probably a serious underestimation, particularly considering the long history of illegal cross-border trading, they still provide an important indication of trends in small-scale gold mining. Since the mid-1980s the sector has expanded dramatically, and in several years (particularly between 1995 and 2005) SSM-output has exceeded that of large-scale mining. However, after reaching an all-time high of 42.9 billion Philippine Pesos (PHP) (around 1 Billion US\$) in 2010, official output figures dropped dramatically. As was confirmed both by Bangko Sentral officials and by ASM-operators, this dramatic decrease was primarily caused by the imposition of new taxes on gold sales, which have further boosted clandestine gold trading networks that are traditionally dominated by the Sino-Filipino business community (Francisco, 2012).

2.1. Regulatory complexities and persistent informality

A plethora of laws and administrative orders have been created in an effort to expand the government's fiscal-regulatory control over small-scale mining.³ In response to the initial expansion of SSM in Mindanao, in 1984 former dictator Ferdinand Marcos promulgated Presidential Decree (PD) 1899, which defined SSM as artisanal and labor-intensive, and authorized the Bureau of Mines and Geosciences to award SSM-permits. In practice, however, local executives (particularly the provincial governor) retained a high degree of control over the issuance of these permits. In 1991, as part of a broader decentralization effort, Republic Act 7076 (RA7076) devolved regulatory authority over SSM to Provincial/City Mining Regulatory Boards authorized to create people's small scale mining areas, and to award 2-year renewable contracts to SSM-cooperatives active in these areas. Overall, the terms and conditions set to qualify for formalization under RA7076 are much more stringent than those

Table 2
Gross production value in mining 2000–2012, in billion pesos (1 billion pesos equals approximately 25 million \$).

YEAR	Small-scale mining	Large-scale mining
2000	8.3	9.2
2001	10	7.8
2002	14.3	6.7
2003	19.9	7.5
2004	21.5	8
2005	24.2	13.2
2006	28.2	27
2007	32.2	49.2
2008	33.9	29.7
2009	36.8	42.8
2010	42.9	69.1
2011	34.1	88
2012*	2.3	98.5

Source: Mines and Geosciences Bureau (2013).

Note that 2012 figures are preliminary (as of November 6 2012) and that MGB has so far failed to update the figures.

under PD1899. Notwithstanding this fairly elaborate regulatory framework, the legal status of most SSM continues to be highly precarious, with recent estimates suggesting that up to 80% of Philippine SSM takes place 'illegally' (Galvez, 2012). While an exhaustive review of the diverse reasons underlying persistent informality is beyond the scope of this paper, some initial insights are nonetheless warranted. The following observations are based on a review of existing legislation, interviews with government officials and ASM-operators, as well as online news sources.

First, the broad range of formal-regulatory efforts has resulted in a highly complex regulatory environment that is marked by various overlaps and inconsistencies. As a result, even where SSM has duly attained some degree of recognition by (local) state institutions, this does not automatically entail full legal recognition by the national government. For example, local government officials have continued to use PD1899 in order to award SSM-permits, whereas the constitutional court has recently ruled out the legality of these permits (Alave, 2011). Furthermore, as will be discussed in more detail later on, local government officials in many mining areas have undertaken fiscal-regulatory efforts in small-scale mining, notwithstanding the fact that most of these activities are considered illegal by the national government.

Secondly, government agencies responsible for monitoring SSM and disseminating information about registration procedures (particularly the DENR) are under-resourced and under-capacitated. As a result, rather than taking a pro-active stance toward the regulation of small-scale mining, those state officials responsible for registering SSM are counting on small-scale miners to pass by to their office, which is often located in the provincial capital, located far away from the mining areas.

Thirdly, there is a long list of formal requirements SSM needs to comply with in order to even qualify for formalization under RA7076. These include the need to submit highly technical mining plans and the need to secure a range of certificates, permits and clearances from different government levels and -agencies. The cost of the various fees associated with these administrative requirements is further inflated by pervasive corruption and rent-seeking. Arguably even more problematic is the requirement to secure landowner consent. While SSM usually takes place in 'public land' that is constitutionally considered state property and therefore devoid of private property rights, the Philippine state has created a variety of mechanisms to regulate land use in public land (for an overview see USAID, 2011). In areas designated as 'protected area', for example, all mining is strictly prohibited. Meanwhile in other areas, priority rights accrue to tribal groups under the 1997 Indigenous Peoples Rights Act. Perhaps most significantly, since the enactment of the 1995 Philippine mining

³ All relevant laws and regulations can be consulted on the website of the Mines and Geosciences Bureau: www.mgb.gov.ph.

act, the government released increasingly large tracts of land as large-scale mining concessions, most of which now refuse to provide legal consent to SSM. In line with observations made in other countries (e.g. Banchirigah, 2007), the national government seems bent on promoting large-scale mining, largely to the detriment of small-scale mining. This increasingly gives rise to conflicts between small-scale- and large-scale miners over access to mineral-yielding land. The national government's aggressive promotion of large-scale mining is also encountering resistance not only from NGOs, but also from local government officials frustrated with the adverse impact and limited (fiscal) benefits from large-scale mining.

Fourthly and finally, even where small-scale mining attains a degree of legal recognition, it is often narrowed down to property-like mineral rights which accrue respectively to the landowner, financier and/or tunnel owner. Meanwhile the labor force at large is left bereft of legal protection (see Fisher, 2007 for a similar observation in the case of Tanzania). While this observation is not the core focus of this article, it nonetheless raises important questions over who actually benefits from informality in labor markets. Ultimately, given these various barriers to formalization, in those rare cases where it does take place it is reserved for those with financial resources and political connections whom are, paradoxically, often those that no longer conform to legal definitions of small-scale mining.

2.2. The current outlook of small-scale gold mining in Compostela Valley province

'ComVal' province is often dubbed the 'golden valley' or the 'gold mining capital of the Philippines'. At the time of the research, the province hosted approximately 40 small-gold mining areas, and according to officials in the provincial agriculturalist office – which, somewhat paradoxically, is responsible for regulating small-scale mining in Comval – only seven of these have some degree of formal-legal recognition. On the basis of working practices and degrees of capitalization/mechanization, three types of small-scale mining can roughly be distinguished.⁴ A first and rather rudimentary type is river panning, which relies on the use of a simple pan or sluice box and gravity to capture gold nuggets. An upsurge in river panning activities can often be observed following the passage of heavy rains, which tend to loosen gold-bearing dirt. A second common form of small-scale gold mining are smaller and self-financed tunneling operations. Whereas credit is sometimes provided by the landowner or by local store-owners, the *corpo* (team of miners) will usually pool their own resources. In these smaller tunneling operations revenue-sharing tends to be based on *equal sharing*, with each *corpo* member retaining one share of the net proceedings (i.e. the money remaining after ballmill/rodmill processing) and selling the gold and deducting all operational expenses. The third and final category, which is the defining feature of small-scale mining in ComVal, comprises the bigger tunneling operations. These operations have varying degrees of capitalization: in some cases outside financiers will merely provide capital for basic tools and equipment (e.g. pick-axes or a small generator), and for food and shelter for the labor force; while in other cases these operations boast a much higher degree of mechanization, relying on the use of heavy machinery such as pneumatic drills, excavators, explosives, 2-MW diesel generators, water pumps, and mine cart. Furthermore, they usually have a higher degree of labor specialization, providing employment not only for portal guards, carpenters, electricians and carpenters; but

in some cases even for chemists and geologists. They invariably have a main portal operated by the tunnel 'management', which often branches out into side tunnels or *destinos*, financed either directly by the management or by an independent financier. Because of this higher degree of capitalization and mechanization, these operations no longer conform to legal- nor to internationally accepted definitions of artisanal and small-scale mining, whose defining feature is precisely the lack of significant capitalization and mechanization. At the same time, particularly when compared to highly mechanized large-scale mining, these tunneling complexes typically continue to rely heavily on the use – and arguably the exploitation – of manual, informal labor. While the modalities of labor organization and -remuneration are subject to a high degree of local variation, the 'management' usually retains between 20 and 70 per cent of the net proceedings (i.e. that what is left after paying the landowner share and deducting all operational expenses), while the laborers share the rest.

Gold processing, meanwhile, typically occurs in two stages. In the first stage ores are granulated in a ball mill and mercury is added in order to capture part of the gold. Whenever this first phase of ball mill processing indicates a high gold content, ball mill tailings are brought to a CIP (carbon-in-pulp) plant, which usually has a capacity of 20 tons. Here, tailings are cooked together with limestone, cyanide and borax; and the residue is cooked using carbon and heating. This method is not only able to capture the majority of the remaining gold, but it also enables financiers to extract the silver.

In what follows, a historical examination will be provided of the various factors that, in combination, have given rise to the current situation (i.e. mostly informal small-scale gold mining operations, a significant number of which boast a level of capitalization, mechanization and output that pushes the edge of established definitions of artisanal and small-scale mining).

3. The transformation of small-scale mining in Compostela Valley

3.1. A brief settlement history of the 'ComVal' uplands

While historical data on the settlement of the Mindanao uplands are scarce, it is clear that present-day Compostela Valley province long remained bereft of substantial human settlement. From the early 20th century onwards the entry of American and Japanese plantation agriculture to the coastal regions surrounding Davao gulf forced existing inhabitants (today's 'indigenous people') further inland (Rodil, 2003; Tiu, 2005; personal communication with Macario Tiu, historian). Following Philippine independence at the end of World War 2, migration to the more remote 'frontier areas' of Mindanao really commenced, predominantly on the part of Christian settlers fleeing overpopulation and social unrest in their home regions, mostly in the north of the country (Wernstedt, 1965; Umehara and Bautista, 2004). In the following decades these migrants increasingly penetrated the remote upland interior, a trend that was greatly facilitated by infrastructural development, not least of all road construction. In the case of Compostela Valley, the construction of a highway between Davao and Agusan in 1938 and the expansion of corporate agriculture have been of paramount importance in inducing Christian settlement. This Christian influx went hand in hand with the further retreat of the 'indigenous' population into the uplands, where they came to rely on a combination of hunting and swidden farming (*kaingin*) (Rodil, 2003). Throughout the 1950s and 1960s the same upland territories witnessed the often aggressive expansion of corporate logging and mining, which brought in its wake more migrant labor from the Visayas and Luzon (although these companies would also rely on unskilled 'indigenous labor').

⁴ A fourth type of mining, *banlas* or hydraulic mining, has become increasingly insignificant over the years, although in other provinces (e.g. South Cotabato) it continues to be rampant.

As will be discussed in more detail below, the downturn in the mining industry (particularly in APEX mining in Maco) in the 1980s would provide further impetus to the expansion and transformation of small-scale mining, through the creation of a skilled labor reserve. At the same time the expansion of extractive industries, in combination with persistent poverty and military aggression, particularly under the martial law regime, would ultimately provide fertile grounds for the growth of the communist New People's Army (NPA) throughout the 1970s and 1980s (Abinales, 2000). Simultaneously the construction of logging roads by these same companies gave further impetus to upland settlement (Wernstedt, 1965). Migrant logging labor increasingly settled in the vicinity of the logging operations and initiated a pattern of 'chain migration' whereby "*relatives, friends and village mates follow in the footsteps of the pioneer settlers*" (Umehara, 2004, p. 65). During the 1970s and 1980s the number of upland settlers increased rapidly, mingling and in some cases displacing existing (indigenous) inhabitants, many of whom retreated further upland. While the narratives of these newcomers differ, all were motivated by a combination of social crisis in their home regions and the prospect of securing a piece of land or a job on the Mindanao frontier.

3.2. The limitations of upland farming and the farming-gold panning cycle

In line with evolutions observed elsewhere in Southeast Asia, rapidly decreasing land availability due to persistent demographic growth, and increased demand for cash crops such as banana, coffee and abaca, induced a gradual intensification and sedentarization of upland agriculture (Cramb et al., 2009). Pretty soon, however, the limitations of upland farming became apparent, with respondents citing diverse problems, prime amongst which:

1. Seasonality and an inability to bridge cash-stripped periods between harvests;
2. Expensive inputs and problems in accessing (affordable) credit;
3. Challenging environmental conditions, including erosion, steep slopes, and bad soil quality;
4. Low and fluctuating prices and dependency on traders because of the distance to markets and -processing facilities;
5. Decreasing land availability and increased landlessness due to demographic growth;
6. Lacking legal tenure, deterring investment in the farm; and
7. The intensification of armed conflict between the government and the communist NPA in the 1980s, with secure access to the farm no longer guaranteed.

As a result of these trends, upland farming was increasingly inadequate to sustain entire families. In response upland settlers were increasingly on the lookout for alternative sources of income. However, a mounting debt crisis had plunged the Philippines into "*a period of financial and economic crises, stagnation, and political turbulence*" (Umehara and Bautista, 2004, p. 18), and in tandem with the escalation of conflict and the structural crisis in (upland) agriculture, commercial logging and mining also suffered amidst a deteriorating investment environment. In these increasingly depressed socio-economic conditions, upland inhabitants increasingly found recourse in small-scale gold mining. Already in the 1960s and 1970s, some of the migrant labor with prior experience in gold mining in their home region had started panning for gold in the rivers and creeks of the ComVal uplands. Initially these panning activities targeted *free gold* (gold that does not require processing), which was brought to Sino-Filipino gold buyers in Tagum city, using public transport. Pretty soon other upland settlers joined in on these panning efforts, which were increasingly supplemented

by hydraulic mining (locally known as *banlas* or *flusher panning*). These embryonic small-scale mining activities were seen as a sideline to upland farming, and were practiced when there was little work in the farm or when income was too low to cover subsistence needs. At the same time, as was repeatedly alluded to in fieldwork interviews, the income from gold panning was also used to support the development of the farm:

"Gold panning started as a communal activity. (...) The money was used to pay farm labor and to invest in farm tools and animals, and sometimes also in cash crops." (interview with landowner, Maco).

"The farm was our main concern, panning was the sideline (...) If we had no more work in the farm, we went panning (...) It helped us in developing the farm and hiring laborers." (interview with landowner, Nabunturan)

"The first time I went flusher panning was with my neighbor. I bought tools for 1000 pesos, but after a week I already recovered, despite low gold prices. The panning was for additional income, it allowed us to maintain consumption and we could buy fish. (...) Sometimes when there was high income I invested in the farm, mainly in tools. But farming remained the priority." (interview with landowner and purok chairman, Nabunturan)

The initial expansion of small-scale gold mining provided room for the development of gold buying and ball mill processing. Whereas these activities were increasingly performed locally, gold buying networks were dominated by Sino-Filipino merchant networks operating from Tagum City. The example of Alberto is illustrative of this process: a landowner and barangay official in an upland barangay of Nabunturan municipality, the increase in gold panning in the 1970s convinced Alberto to purchase a ball mill. He was supported by a Chinese merchant from a nearby village, who provided Alberto with start-up capital and bought his gold.

3.3. The transition from corporate mining to small-scale tunneling operations

Booming global mineral markets in the 1970s had induced a corporate mining boom throughout the Philippines, and Compostela Valley (which back then was still part of Davao del Norte province) witnessed the entry of corporate large-scale mining in the municipalities of Maco (APEX mining) and New Bataan (SABENA mines). While initially focused on copper mining, by the end of the 1970s decreasing demand for copper and skyrocketing gold prices compelled these companies to shift their attention to gold mining (Lopez, 1992).

The gold boom was short-lived, however, and by the mid-1980s corporate mining was mired in a deep crisis. The investment climate suffered amidst profound political and economic crises, with debt-driven growth under the Marcos dictatorship coming to an end, and political opposition mounting, not in the least by a virulent communist insurgency that was particularly active in eastern Mindanao (Abinales, 2000; ICG, 2011). Arguably even more important were sector-specific factors, which included a highly volatile legal environment; corrupted management structures and debt accumulation in the sector (many mining companies had links with the increasingly predatory Marcos regime); and above all negative trends in global mineral markets, which made large-scale, capital-intensive mining increasingly unprofitable (Clad, 1988; Lopez, 1992). Mining companies in ComVal managed to stave off the crisis for some time, at least in part, respondents suggested, by skimming the cost of labor. For example, one

respondent recalled hauling ores for SABENA mines (in New Bataan) over a distance of several kilometers for as little as 50 centavos (a few cents) per kilo. Another respondent recalled earning a constant 130 pesos (a few dollars) per day for APEX mining (in Maco) between 1979 and 1990, despite persistently high levels of inflation. In response to the increasingly unfavorable employment conditions in large-scale mining in the early 1980s, an exodus – both forced and voluntary – of (semi-)skilled mining labor commenced. It was these laborers who swarmed out over Compostela Valley⁵ and initiated the first tunneling activities. Initially this embryonic tunneling targeted gold veins close to the surface, which were still readily available at the time, and therefore required limited capital input. Hence, operations were often self-financed, and after the gold was processed and sold and all expenses deducted, the net income was divided equally amongst *corpo* members, who were usually friends or relatives. Furthermore, from the start tunneling operations were undertaken in close coordination with local, mostly informal landowners, who not only received a share of the proceedings, but also came to act as middlemen recruiting local labor. As indicated in the preceding section, this labor was in plenty supply due to a pervasive upland subsistence crisis. This reciprocity between migrant miners and local landowning families is nicely captured by the following quote from a landowner near APEX mining in Maco municipality:

“APEX-workers were the ones who started tunneling here (...) We received 1 share as landowner, but most of the laborers are also my family, so eventually we got 4 out of 7 shares.” (interview with landowner, Maco)

3.4. The capitalization of small-scale gold mining and the nascent gold mining elite

Whereas these more rudimentary and self-financed small-scale mining operations continued to proliferate throughout the following decades, their limitations soon became apparent. As miners followed gold veins deeper inside the mountain, the risk for flooding or even tunnel collapse increased hand over hand. Furthermore, because they were self-financed, these operations tend to be discontinuous, hinging on the availability of cash for basic supplies and equipment. These obstacles were overcome by an incremental process of capitalization, with outside financiers providing the financial resources necessary not merely for timber reinforcements and equipment such as generators and water pumps but also for food and shelter for the labor force. For the miners in question this meant that they no longer had to worry about subsistence needs, so that they could focus on mining full-time. Meanwhile increased levels of capitalization also went hand in hand with (potentially) bigger profit margins for the financier. Under a scheme that became popularly known as *back-financing*, after deducting operational expenses and the landowner's share, the financier would retain two or three shares of the ore proceedings, while the rest of the ores would be divided equally amongst *corpo* members. Aside from shifting part of the risk burden to the workforce, this revenue sharing arrangement also guaranteed a highly motivated workforce (Godoy, 1988). Control over labor (recruitment) and the day-to-day management of the operations was increasingly outsourced to ‘trusted’ team leaders – often experienced miners – and to local landowners, who are assumed to be able to guarantee peace and order due to their position in local authority structures. Meanwhile within the *corpo*, an embryonic system of labor division emerged between diggers (*abanteros* or “those who move forward”) and unskilled haulers

(*atraseros* or “those who retreat”). While in some cases these *atraseros* are included in the revenue sharing, in other cases they are paid on a ‘per sack’ basis.

By the mid-1980s Compostela Valley hosted several mining areas, including those in places like Ngan (Compostela municipality), Boringot (Pantukan), Mainit (Nabunturan) and Masara (inside the APEX-concession in Maco). However, the transformation of small-scale mining into the capitalized and mechanized operations that arguably distinguish Philippine ASM from that which occurs in most other countries was most pronounced in the Diwalwal area in Monkayo (for a journalistic account of the Diwalwal gold rush see Gonzales and Conde, 2002; Bagayaua, 2008). Following the gradual involvement of Sino-Filipino merchant capital from nearby Tagum City, what started out as smaller tunneling operations similar to those found elsewhere throughout Compostela Valley gradually evolved into big tunnel portals owned and maintained by corporate-like ‘management’ structures. While some of these mining ‘companies’ eventually registered with the Bureau of Internal Revenue, the operations in question were never fully formalized. Competing for underground ore bodies, these mining groups ‘oligopolized’ access to an intricate underground web of tunnels and *destinos* (side-tunnels) financed either directly by the management or by ‘independent’ financiers.

In tandem with this nascent ‘corporatization’ of small-scale mining, more complex systems of labor division ensued, with labor in the main (management-owned) tunnel (e.g. electricians, haulers, explosives experts, drillers) increasingly paid a fixed wage. *Corpo* members inside the *destino* continued to work under the revenue sharing scheme which made gold mining so appealing in the first place. However, the revenue sharing did become increasingly skewed in favor of the financier. After the landowner is given a 10 per cent share and the financier has been recompensed for all operational expenses, net proceedings are divided between the management of the main tunnel portal and (in case there is one) the *destino*. Within these *destinos* there is a second sharing between the *destino* owner (financier) and the *corpo*. The precise allocation of revenues between capital and labor hinges on a variety of factors, including not only the degree of capitalization, but also the reputation of the tunnel owner, the proven gold content of the tunnel, and the size of the management. The management share usually lies anywhere between 20 and 70 percent, while that of the *destino* will (obviously) vary from 30 to 80 per cent. Leaving aside this revenue sharing as such, financiers also developed a variety of strategies to appropriate a bigger share of the surplus, which we will not discuss in depth here. Still, even the more capitalized operations continue to rely heavily on manual labor both for digging, hauling and processing of the ores. By the end of the 1980s it was estimated that approximately 100,000 miners were living and working in Diwalwal alone (Crimmins, 2007). Hence, higher degrees of capitalization expanded rather than reduced the ability of small-scale mining to absorb surplus labor.

At the same time it cannot be overstated how the gradual capitalization of SSM engendered opportunities for accumulation for a nascent and highly heterogeneous ‘mining elite’. As regional political and economic elites felt the pinch of economic crisis, they were looking for ways to invest and accumulate financial capital. Small-scale mining provided for an exciting and potentially highly profitable investment opportunity. Xavier, a member of a small-scale mining association and the owner of several tunnels and a processing plant, is a good illustration. His family owned a 6 hectare vegetable farm and a lumberyard. However, during the 1980s the logging industry was facing severe problems and the lumberyard went broke. While the farm could sustain the family's consumption needs, it failed to provide opportunities for social mobility for the children. For this reason, Xavier's father heeded

⁵ But also to other places throughout Mindanao, including T'Boli in South Cotabato province and Buga in Bukidnon.

the call of his friends to venture into gold mining. As he grew older, Xavier gradually became engaged in mining himself.

This increased involvement of outside financiers did not prevent a degree of social mobility within the labor force. Several of the landowners and miners who ‘got lucky’ by hitting ‘high-grade’ – a highly arbitrary term which basically means high income-earning over a short period of time – started their own tunneling and processing operations. One example is Jun, who started working as an abantero in Nabunturan in 1985. Back in those days operations were still basic and based on equal sharing. After working in several tunnels he hit ‘high-grade’, and he used the income to finance several of his own tunnels in different areas. He also bought a ball mill to process his ores, allowing him to save money that would otherwise be spent on a ball mill operator.

Another important segment of the nascent mining elite was Sino-Filipino merchant capital. From the start, Sino-Filipino merchants were in firm control of gold buying, processing and the trade in mining supplies. In the wake of the Diwalwal gold rush these merchants increasingly became directly engaged in financing SSM. Finally, by the end of the 1980s the transition from corporate large-scale mining to informal ‘small-scale’ mining described in the preceding section came full circle. In tandem with the (semi-)skilled labor force, many of those (formerly) employed in the higher echelons of large-scale mining also became engaged in the now booming ‘small-scale’ mining sector. Aside from financing operations, they would also bring along machinery, mining expertise and in some cases entire teams of skilled miners. Consider the story of Romeo, who started working in APEX mining as an assistant-miner in 1981. Because the risks associated with the job were out of line with low wages, many of his colleagues left the company in the 1980s. By 1990 APEX was no longer in a position to pay the salaries, leading to increased social unrest and eventually the end of the mining operations. He then decided to join some of his colleagues, who had been invited by one of the APEX-engineers to join him in the nearby province of Agusan, where he worked in an operation he claimed was “very similar” to that of APEX.

Finally, attention should be drawn to the relationship between armed groups and small-scale mining. Without wanting to fall prey to wild-west like clichés, in the 1980s and early 1990s eastern Mindanao was a highly volatile and militarized region. Despite attempts on the part of the (post-)martial law regime to expand state control over Mindanao’s resources (presidential decree 1899, the first law on small-scale mining, is but one example), particularly in the uplands the state’s regulatory reach was virtually non-existent. Instead a range of armed outfits – ranging from army battalions over communist rebels of the New People’s Army (NPA) to Muslim rebels of the Moro Islamic Liberation Front (MILF) – were roaming eastern Mindanao. In those areas where some degree of stability was attained, it typically hinged on ‘gentlemen’s agreements’ between financiers and armed actors providing ‘protection’ services. Consider the following interview excerpts:

“The situation was very insecure, many groups were clashing. Some were Muslims, NPAs and the army. Their relationship with the mining was very close. They were all asking for a share, and in return they say “we will protect you”, but in reality everybody pays because everybody is a threat.” (interview with former miner, Maawab)

“In the 1980s the NPA maintained peace and order in the area. (...) Financiers could operate as long as they paid their contribution. The NPA would ask for ‘shifting’ in the good tunnels. (...) Even today the NPA monitors the area and asks money from those with ‘high-grade’. (...) In 1986 the army

entered the area and we had to evacuate to Nabunturan. After a week we returned and the operations resumed. The army detachment stayed until 1992 and also did shifting. (...)” (interview with landowner and barangay official, Nabunturan).

While the rank-and-file of these groups were often directly engaged in mining (usually as portal guards), several of their commanders also started financing tunnels. The volatile security situation resulted in armed actors having a comparative advantage over their ‘civilian’ peers. Many of those (formerly) affiliated with armed groups became authoritative figures in mining areas, and it is not uncommon for today’s big financiers to have a history either in the state security sector or in the rebel movement. Over time highly heterogeneous commercial-military networks emerged that would come to preside over the gold mining economy. As will be illustrated below, throughout the following decades these networks became increasingly entangled with local politics.

3.5. *The 1990s: gradual SSM-expansion and regulatory stabilization*

Throughout the 1990s SSM continued to expand at a gradual albeit persistent pace, despite relatively low gold prices. In line with dynamics observed elsewhere (Bryceson and Jönsson, 2010), the sector witnessed an increasing degree of labor mobility, with miners moving between different mining areas in search of good mining opportunities. In tandem with increased mobility in the labor force financiers also began to diversify geographically. Capitalizing on a network of informants throughout the region, whenever an area was reported to be ‘high-grade’ the big financiers tried to work their way in. Usually this entailed absorbing existing tunnel operators and the landowner in the new tunnel management and associated revenue sharing mechanisms. In other cases financiers start new, bigger tunneling operation, aimed at ‘undermining’ the others. In still other cases financiers would simply revert to the use of force to monopolize access to gold-bearing land.

The further expansion of tunneling went hand in hand with the increased availability of processing facilities at the local level. Landowners – many of whom gradually started to neglect farming – and financiers increasingly invested in their own ball mills, which meant not only that ores could now be more readily converted into gold locally, but also that people had a greater sense of control over the commodity chain, further adding to SSM’s appeal and accessibility. The late 1980s also saw the introduction of carbon-in-pulp (CIP) processing. Although it would take years before CIP-processing became accessible for the smaller SSM-operators, the higher degree of recovery associated with CIP-processing dramatically improved the profitability of gold mining, also because silver could now be extracted. When taken together, these different trends – increased capital- and labor mobility and better and more accessible processing – created several ‘multiplier effects’, with mining skills and technology gradually finding their way throughout ComVal. As a result, throughout the 1990s tunneling operations of varying sizes and various degrees of capitalization were mushrooming throughout the region.

A final factor that should be taken into consideration is the political environment, which became increasingly amenable toward the further expansion of small-scale gold mining. Slowly but surely, local state institutions emboldened by decentralization (in the form of the 1991 local government code, see Yilmaz and Venugopal, 2013) were spearheading a process of state penetration in the uplands. The *barangay* (the lowest political-administrative unit in the Philippines) in particular became an important source of fiscal-regulatory authority, as barangay politics in mining areas

were increasingly dominated by local miner-landowners that had a stake in maintaining a degree of regulatory stability. Many barangays therefore began registering informal land markets and started intervening in local land disputes (see also [Gulane, 2013](#)). This regulatory capacity also hinged on a degree of coercive capacity. As confirmed by several respondents, peace and order was increasingly centered around the Civilian Volunteer Organization (CVO) or *barangay tanod*, which is organized under the direct authority of the barangay captain:

“If there is a conflict in mining that cannot be resolved by the landowner then the barangay will mediate (...) The CVO is in control of the mining area (...) Some of the CVOs are former NPAs, and some of them are also the relatives of landowners or barangay officials, and they are all locals” (interview with former barangay captain, Nabunturan)

3.6. The post-2000 gold frenzy

Particularly in recent years, and partly as a result of skyrocketing gold prices, small-scale gold mining underwent a renewed, dramatic expansion. Several new gold rush sites have emerged (notably in Nabunturan and Maragusan), while areas deemed exhausted were rehabilitated or have even become ‘high-grade’. This process was galvanized by the further ‘democratization’ of processing, with the municipality of Nabunturan in particular (due to its location along the national highway) seeing a proliferation of CIP-plantas. For many mining financiers, higher gold prices had made it worthwhile to invest in a processing plant, as illustrated by the following interview excerpt.

“We started with our progressive operation in the 1990s. We started with a ball mill but some years ago we realized that it is best to own your own planta, otherwise you lose lots of money. For outsiders we charge 65,000 pesos plus additional expenses per 20 tons.” (interview with financier, Nabunturan)

In addition, Compostela Valley now boasts several ‘assay laboratories’ that employ professional chemists. In combination with better processing methods, the assay (mineral content) readings provided by these laboratories significantly reduced the ‘geological risk’ in gold mining, enabling gold to be detected even in those areas where gold veins are not visible. Consider the following account given by a landowner-miner in Nabunturan:

“We started exploring in our area because there is now a CIP in Nabunturan. It is easier to extract gold, even when the assay is not very high or the veins are not big (...) When we find a vein, we bring some rocks to the laboratory, and when there is a high assay we look for a financier (...) We need to be quick in order to access the high-grade, before others do.” (interview with landowner, Nabunturan)

Meanwhile the supply of new labor recruits shows no sign of abating. Rather there is now an apparent oversupply of labor in many mining areas, as illustrated by the hordes of people engaged in river panning or in reworking the tailings (*mocking*) of bigger tunneling operations. During one field visit the author spent several hours talking to people in what they called the ‘unemployment shelter’. What all of them had in common was the fact that they were mainly young migrants coming from a rural background. Being non-local usually implies being bereft of a connection to local landowners and barangay officials, who are usually prime gatekeepers in local labor markets. While the livelihood trajectories of today’s miners exhibit a significant degree of variation, there are also important similarities, not least with regards to persistently high levels of mobility both in spatial and sectoral terms. For many miners small-scale gold mining fits in with a much longer and seldom progressive

trajectory of livelihood diversification, which usually involves job-hopping between inferior and temporary jobs straddling the formal-informal divide. Two brief examples can illustrate these observations. The first one is that of Jorito, who started his labor career as a fisherman in Zamboanga in the early 1980s. While his income was decent, the job was very dangerous, so he moved on to become a ‘truckboy’ (truck assistant) for several months. He then became an employee in his aunt’s rice store free of charge, before finding a job in a banana plantation in Panabo City. Here he met his girlfriend, who was from Nabunturan. In 1989 they moved to Nabunturan, where Jorito became engaged in mining, first as a ‘sacker’ filling ore bags; then as an abantero moving between different tunneling operations while maintaining the coffee farm of his parents-in-law. In 2010 he started a self-financed tunnel together with his neighbours, but due to small and discontinuous he is now on the lookout for abantero work. However, competition is tough these days. The second example is that of Raymond, who was born in Davao del Sur, where his parents worked as farm laborers in a DOLE plantation. When he was 13 years old he started working night shifts in a bakery to contribute to the family income. After he met his girlfriend he decided to look for a better job, ending up working intermittently in construction and farming. 2001 was a dramatic year, as his partner died and both of his parents lost their jobs in the plantation. Together with his parents he moves to Kapalong, but a lack of income soon lures him to Nabunturan, where his brother-in-law works as a miner. Soon however his brother-in-law heads leaves for Manila, leaving him stuck with no contacts. He tries to make ends meet by combining a range of jobs, including tire repair and logging. In 2012 his brother-in-law returns and helps him to access a corpo. Today he works as an abantero, and for the first time ever he manages to earn a decent living.

While this is not the right place to discuss the various structural problems facing the Philippine economy, these examples nonetheless suggest that a profound crisis in (rural) labor markets is a critical factor underlying the persistent supply of labor in small-scale gold mining. Seasoned observers have suggested that economic crisis and underdevelopment in the Philippines (and in Mindanao in particular) have now assumed a (quasi-)permanent character ([Bello et al., 2005](#)). Despite impressive growth rates, economic development continues to be highly uneven, and labor markets have proven fundamentally incapable of absorbing a growing labor surplus ([Ofreneo, 2013](#)).

Finally, the heterogeneous class of mining financiers have gradually joined and to some extent transformed the political elite of Compostela Valley. The governor, provincial board members, municipal mayors and countless barangay captains in Compostela Valley are known to have a stake in small-scale gold mining. On an institutional level, barangay authorities in several mining areas included in the research are currently facilitating and sanctioning agreements between financiers and landowners, usually in exchange for ‘fees’ and ‘donations’. The provincial government is constructing roads connecting the mining areas to the lowland areas, and has put in place a sophisticated checkpoint system to tax the transport of ores out of mining areas, essentially regardless of whether or not these areas are officially recognized as small-scale mining areas. While falling short of providing the sector with full legal rights, this seemingly chaotic plethora of regulatory interventions nonetheless imbues small-scale mining with a degree of regulatory predictability that is highly conducive for its further expansion.

4. Conclusion

Over the course of the past few decades small-scale gold mining has emerged as an increasingly important livelihood for tens if not hundreds of thousands of people throughout Compostela Valley. In

line with the existing literature on artisanal and small-scale mining, the expansion of small-scale mining in Comval province is primarily rooted in persistent (agricultural) poverty and a pervasive crisis in labor markets. However, while this poverty-driven narrative can duly account for the seemingly unremitting supply of new mining recruits; it is blatantly inadequate in accounting for the profound transformation that the sector has underwent since it first emerged in the 1970s–1980s. More specifically, over the following decades rudimentary panning and tunneling activities that are in line with the vast majority of ASM worldwide would increasingly be accompanied and replaced by more capitalized and mechanized tunneling operations that push the edge of what is usually encapsulated by definitions of artisanal and small-scale mining. Perhaps somewhat paradoxically, these more capitalized operations and the more complex working practices associated with it have significantly improved the sector's capacity to absorb surplus labor. Underlying this remarkable transformation has been the increased involvement of a heterogeneous group of mining financiers. Whether having worked their way up the mining hierarchy, or becoming engaged in ASM from the outside, their engagement in small-scale mining is not so much driven by subsistence needs as by a drive to accumulate income. More than has hitherto been the case in the existing literature (arguably with the notable exceptions of Macmillan, 1995, Graulau, 2001 and to a lesser extent Clifford, 2011), this article has attempted to come to terms with the composition of this mining elite, and how it stands in interaction with the broader sociopolitical environment. More specifically, attention has been drawn to how the 'capital interests' in small-scale mining have gradually entrenched themselves at the commanding realms of the political economy; and how this has in turn given rise to a regulatory environment that is permissive if not highly amenable toward the further expansion of small-scale gold mining.

The relevance of these findings transcends the southern Philippines. While in many countries and regions (particularly in sub-Saharan Africa), ASM persists as a rudimentary subsistence activity; in countries such as Suriname (Heemskerk, 2004), Brazil (Graulau, 2001), Guyana (Clifford, 2011), but also Ghana (Hilson, 2011) and Tanzania (Fisher, 2007), a somewhat similar – albeit perhaps less outspoken – transformation has taken place. In line with the situation in Compostela Valley, these countries now have an increased incidence of more complex ASM-arrangements that boast higher degrees of capitalization and mechanization. It would be a very interesting and rewarding exercise to come to terms with the processes underlying this expansion whereby, in line with the analysis provided in this contribution, critical efforts should be made to identify those groups that profit from the expansion and transformation of ASM, and how these groups take shape in- and interact with a given socio-political environment.

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