Arguably no activity more strongly embodies the ‘frontier spirit’ than gold mining, with a popular imagery dominated by images of the nineteenth century American gold rush, whereby gold mining areas – much in line with Turner’s frontier thesis – emerge as wild and lawless places full of untapped potential (Isenberg, 2001). This particular understanding is still evident in contemporary notions of artisanal and small-scale mining (ASM), which emphasize its anarchic and clandestine character. Nuanced analysis has demonstrated that in reality, the ASM-sector is poverty-driven, providing an income to an estimated 20-30 million people now involved in ‘low-tech, labor-intensive mining’ (Hilson, 2011). Furthermore, rather than deliberately avoiding government regulation, ASM-operators are often the victim of a highly exclusionary legal order (Hilson, 2013).

A number of scholars have also attempted to improve our understanding of the ASM-phenomenon by means of a critical theoretical-analytical engagement with the frontier concept. These authors emphasize that the speed and transient character of urbanization typically witnessed at the gold mining frontier challenge Turnerian assumptions about a gradual rural-to-urban evolution (Godfrey, 1992). Furthermore, the gold mining frontier is not isolated from the rest of society, but is a ‘point chaud’ (hotspot) for political and economic transformation in surrounding areas (Grätz, 2004). Finally, attention has been drawn to the intricate connections between global market trends and dynamics at the ASM-frontier (Agergaard, Fold & Gough, 2010).

Building on the second and third point in particular, this short research statement aims to shed light on the dramatic expansion of small-scale gold mining (the most prominent type of ASM worldwide) in the Davao region, in the southern Philippines (see figure 1). It does so by means of a critical engagement with the concept ‘commodity frontier’, proposed by Moore (2000) as a conceptual-analytical construct for analyzing the intricate connections between local socio-ecological transformations and contradictions, changes in labor- and production regimes, and long-term trends in the expanding world economy. In the first section I draw attention to how ASM-expansion resulted from the “exhaustion of a given complex of socio-ecological relations” (Moore, 2010) built around large-scale mining. In the second section I complement this analysis of changing mineral production regimes with an analysis of shifting governance arrangements, which seemingly adapt themselves to changing logics of production and accumulation.
Shifting production regimes at the gold commodity frontier

The Philippines have a century-long tradition of small-scale gold mining, particularly in the north of the country. While this traditional mining system emerged largely intact from Spanish colonialism, things changed during the American colonial era, in the first half of the twentieth century. Under the tutelage of colonial authorities, and fueled by an influx of foreign capital, what started out as small-scale prospecting- and mining activities undertaken by adventurous American soldiers—many of whom with prior experience in the American gold rush—gradually evolved into a capitalized and corporate mining sector, which reached its heyday during the early 1930s (Habana, 2008). Yet rather than destroying ASM, scant existing evidence suggests that ASM persisted alongside large-scale mining, and even benefited from its presence, due to the diffusion of modern mining technologies, and large-scale mining waste enriching panning streams (Ibid.). This US-dominated large-scale mining regime came to an abrupt end with the aftermath of the 1930s crisis and the outbreak of World War 2.

The mining sector managed to recover to some extent in the post-war, post-independence (i.e. after 1946) decades, primarily due to increased global demand for metallic minerals for the post-war recovery effort, and the subsequent industrialization of countries like Japan and South Korea (Ofreneo, 2009). Major mining companies, now often co-owned by Filipino, Japanese and/or American capital, initiated big mining projects throughout the country, and the period of the mid-1960s through the early 1980s are often referred to as the golden era of Philippine mining. Uncoincidentally, this period coincided with the Marcos dictatorship, which lasted from 1965 to 1986. As a staunch US ally, Marcos had easy access to international credit, which was subsequently funneled into the economy (including the mining sector) through his personalistic ‘crony’ networks (Hutchcroft, 1998). The Marcos regime also promoted mining as one of the ways to develop remote and resource-rich frontier regions like the Davao region, which witnessed the emergence of several large-scale copper- and gold mining projects (Lopez, 1992). Being capital-intensive, these mining projects relied on a limited number of skilled workers, most of whom were ‘imported’ from the north of the country—although several respondents indicated that these mining projects also provided opportunities for unskilled local labor. Available evidence further suggests that this mining workforce was reportedly among the best-paid in the country (Ibid.).

However, by the mid-1980s, different factors triggered an existential crisis in the mining sector. Internationally, the global oil crisis of the 1970s and 1980s and the associated drop in (metallic) mineral demand meant that capital-intensive metallic mining became increasingly unviable (Lopez, 1992; Santos, 2001). Domestically, the outbreak of a severe debt crisis led to rising pressures on the Marcos regime, and civil unrest and armed insurgency were on the rise, particularly in Mindanao, where Muslim and communist rebels were controlling increasingly large tracts of territory (Abinales, 2000). Faced with these uncertain prospects, president Marcos and his entourage became preoccupied with enriching themselves through ‘Crony business failures associated with an unstable environment which discouraged long-term local investment in favor of short-term gains’ (Pinches, 1996: 112). The mining sector saw a proliferation of ‘one-of-kind arrangements and special deals’ (Clad, 1988: 76), whereby the government granted loan guarantees to selected local mining projects, most of which would later default on their debt obligations (Santos, 2001). The situation on the ground became increasingly untenable. APEX mining in Maco municipality is a good example. Starting out as a copper mining project in the early 1970s, in response to peaking gold prices in the early 1980s, APEX pursued an aggressive expansion of its gold mining operations. However, there was a growing rift between the Manila-based company management and

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1 This section is based on Verbrugge, 2014 and Verbrugge, 2015a.
company cadres on the ground, so that by the mid-1980s, the APEX-concession was effectively controlled by a small group of company guards and engineers, who were reneging on their responsibilities vis-à-vis a workforce that ‘received no more salaries, had no cooperative, no canteen and no more supplies’\(^2\). Indeed, the workforce was bearing the brunt of the mining crisis, because ‘The crippling price crisis in the metals market and the recession-depression in the Philippines in the first half of the 1980s forced many mining companies to institute all kinds of cost-saving measures, including ways to reduce labour costs’ (Lopez, 1992: 376). This situation cleared the way for labor activism, spearheaded by the militant Southern Philippines Federation of Labor (SPFL), which was closely aligned with the communist movement. This eventually culminated in a general strike, and repeated stand-offs between the workforce (which maintained indistinct links to the armed left) and (what remained of) the company management. By the early 1990s, APEX was forced to shut down its operations. In addition to these social conflicts, the ecological limits of large-scale mining were also becoming apparent. Furthermore, mining projects throughout the country, including in eastern Mindanao, became embroiled in environmental scandals, galvanizing societal opposition against large-scale mining that persists until today (Holden & Jacobson, 2013). In short, a combination of a global downturn in the mining sector, a national political and economic crisis, and emerging social-ecological contradictions on the ground, spelled the end of the post-war large-scale mining regime.

It was in this context that small-scale gold mining underwent a massive expansion, particularly (but not exclusively) in the Cordillera mountain ranges in the north of the country, and in the eastern mountain ranges of Mindanao. Ever since the end of World War 2 and the subsequent settlement of Mindanao by migrants from overcrowded areas in the north and the center of the Philippines, the uplands of the Davao region had been home to rudimentary gold panning activities. By the 1980s, however, a combination of factors led to a massive expansion of ASM, not just inside the Philippines, but also in a range of other countries (e.g. Brazil, the DRC). Internationally, high inflation (a fallout of the oil crisis) and mounting political

\(^2\) Interview with former APEX-employees, January 2014, Maawab.
instability caused a massive increase in gold prices—which were allowed to float freely since the end of Bretton Woods in 1971. Domestically, political instability and an increasingly depressed economic environment meant that tens of thousands of people were on the lookout for new income opportunities; including many of the (semi-)skilled laborers that were ‘released’ from large-scale mining (Verbrugge, 2014) and started digging tunnels (‘following the veins inside the mountains’) in the gold rush areas that were now mushrooming throughout the region. By the late 1980s, the Diwalwal gold rush area in the municipality of Monkayo alone allegedly housed over 100000 people (see figure 3).

Subsequent trends in the ASM-sector roughly followed the phases described by Moore (2010) in his historical account of silver mining in colonial Peru. In a first phase, ASM-activities targeted easily accessible deposits, which were extracted using labor-intensive and rudimentary tunneling- and processing techniques. This type of mining takes place in small mining groups (corpos) composed of friends and/or family members, who equally split the costs and revenues. While production capacity was limited, these activities also allowed for a genuine degree of social mobility, and at the time several miners truly ‘struck it rich’, joining the ranks of a nascent mining elite.

While this type of mining persists until today, by the mid-1980s some mining areas (notably the Diwalwal gold rush area) already reached a second stage, wherein easily accessible deposits were exhausted, and profitability began to hinge on (1) rising capital intensity; and (2) increased labor exploitation (Moore, 2010). The first condition was met by the emergence of a heterogeneous group of ASM-investors, which included members of the established
local elite (e.g. politicians, Sino-Filipino merchant capitalists, state officials), but also self-made small-scale miners and, interestingly, former large-scale mining engineers and -chemists acting upon dwindling opportunities for accumulation in large-scale mining and the emerging prospects in ASM. These investors provided the capital necessary for better mining- and processing equipment like hydraulic pumps, explosives (provided by army personnel and police who were themselves involved in ASM), electric drills, and carbon-in-pulp processing facilities, which enabled the profitable extraction of lower-quality ores. This process of professionalization and capitalization of ASM reached its climax between 2010-2013—the period when I did my field research—when a second major gold rush enveloped the region. While depressed conditions in the countryside continued to guarantee a steady supply of new mining recruits, gold prices seem to have been the major factor fuelling the renewed gold frenzy. While the 2013 gold price peak should be attributed to a complex interplay between a range of factors, increased demand from Asian countries like China and India is arguably the most important one (O’Connor et al., 2015), and was extremely visible on the ground, where networks of Sino-Filipino businessmen are intimately involved in ASM, both as investors and as gold buyers. Throughout the Davao region, not only were older mining areas rehabilitated, ASM-operations could now be found in increasingly remote and rugged upland terrain. Here, they had a profoundly transformative impact on the surrounding areas, providing new sources of wage employment, and incentivizing people to move out of agriculture and into mining. Meanwhile processing facilities were mushrooming in the lowlands, leaving a questionable ecological footprint in the form of tailing ponds containing mercury and cyanide. The persistent expansion and capitalization of ASM also went hand in hand with the emergence of new, complex revenue-sharing mechanisms, which were biased in favor of investors, and against a massive informal ASM-workforce that saw itself confronted with increasingly dangerous working conditions.

The end of my field research coincided more or less with the end of the second major gold rush, and the complex of socio-ecological relations built around ASM is increasingly exhibiting signs of exhaustion—the third phase identified by Moore (2010). Decreasing demand and thus lower gold prices—which are traditionally seen as a barometer for the global economic situation, with gold acting as a hedge against financial risk (O’Connor et al., 2015)—means that fewer people are now willing to invest in ASM. Arguably more importantly, even where they are boasting a degree of capitalization, the limits of labor-intensive mining are becoming apparent, and after decades of deforestation and digging, the ecological environment in many mining areas has deteriorated up to a point where operating becomes next to impossible (see figure 4). Meanwhile many ASM-operators find themselves threatened by large-scale mining interests that have shown a renewed—but hitherto mostly speculative—interest in the region, presenting themselves as ‘responsible miners’, and banking on the support of the national government. However, in what was recently described as the ‘precarious Philippines’ (Ofreneo, 2013), ASM is one of the few livelihood opportunities available that can provide a ready source of cash income, but also harbors the hopes of genuine social mobility, and it is therefore highly unlikely that it will disappear completely anytime soon.
Regulatory transitions at the gold commodity frontier

In this section I draw attention to how the transition from large-scale mining to ASM—and back again?—has been accompanied- and arguably facilitated by regulatory transformations on the ground. In the post-war decades, while large-scale mining clearly benefited from favorable trends in global mineral markets, it also depended on a proactive centralist state that was willing and able to subsidize—in the form of cheap loans— and protect large-scale mining investment. It was no coincidence that the existential crisis in the mining sector in the mid-1980s coincided with the end of the Marcos martial law regime, which was gradually losing control over many of the resource-rich regions where these mining companies operated. This uncertain situation persisted in the transition years after Marcos’ downfall, when democratization efforts at the national level were accompanied by sometimes violent struggles for political control at the local level (Hedman & Sidel, 2000). The uplands of the Davao region were home to a range of armed actors (communist and Muslim rebels, policemen, soldiers, and paramilitary militias), most of whom tried to capitalize on the new opportunities created by ASM by becoming a financier, explosives- or arms dealer, portal guard, or simply an ordinary digger. In places like Diwalwal, the presence of indistinct armed elements led to repeated armed clashes over gold deposits, earning it a reputation as the ‘wild wild west’ of the Philippines.

As early as 1991, congress enacted Republic Act 7076, or the people’s small-scale mining act, in an attempt to regulate the ASM-sector. So far, however, RA 7076 and subsequent efforts to formalize ASM have largely failed to materialize, due to (amongst others) overly expensive and bureaucratic licensing procedures and the expansion of large-scale mining, which limits mineral-bearing land available for ASM. While the national government therefore continues to treat ASM as ‘illegal’, realities on the ground are more complex.

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3 This section is based on Verbrugge, 2015b and Verbrugge, 2015c.
Ever since the enactment of the local government code of 1991, decentralization has been a defining characteristic of the political system in the Philippines. Throughout the country, local politicians came to fulfill key roles as frontier stabilizers, relying on the coercive strength of the state to uphold the normative and military supremacy of the state (Wong, 2008). This is no different in many of the mining areas in the Davao uplands where, particularly at the level of the barangay (village), local elected politicians have started to capitalize on their expanded mandate under decentralization, not merely to protect their personal political and economic interests, but also to establish a degree of regulatory stability – the two are clearly not incompatible. For example, local authorities in many upland barangays have started registering inhabitants and their (mostly informal) land claims, are mediating in conflicts between land- and/or tunnel owners, handing out environmental permits to owners of processing plants, and in some areas they are even administratively sanctioning royalty agreements between (informal) ASM-financiers and local landowners. This regulatory push became even more pronounced during the second gold rush in the early 2010s, when provincial authorities in Compostela Valley erected a series of checkpoints on the main roads in and out of the province’s numerous gold rush areas, in an attempt to tax ore transport. Finally, local politicians fulfill important counterinsurgency roles, negotiating with armed actors, with whom they often have personal connections either through kinship or through shared economic interests in the ASM-sector (Verbrugge & Adam, forthcoming). While not amounting to full-blown formalization – the national government still brands most ASM as ‘illegal’ – this entire range of fiscal-regulatory interventions does generate an important degree of regulatory stability, which bodes well for the survival and arguably even for the further expansion of ASM.

Just as the anatomy of future production regimes in the mining sector remains in the balance, it is equally unclear how regulatory arrangements at the mineral commodity frontier will respond to these changing production regimes (and vice versa). What is clear is that as large-scale mining companies are trying to expand their influence, they are inevitably targeting local politicians, who have become key gatekeepers in the mining sector. As a result the Davao region is now witnessing a complex series of conflicts and negotiations involving local politicians, national government officials, large-scale mining companies, small-scale miners, NGOs, indigenous tribal associations, armed actors, etc.; all of whom are trying to influence who has (the authority to sanction) access to mineral resources.

Some concluding thoughts

In this short note I have attempted to assess the theoretical-analytical value of the concept of the commodity frontier (Moore, 2000) for understanding dynamics in the mining sector in the Davao region, in the southern Philippines. I have drawn attention to how an intricate interplay between local socio-ecological processes, national political-economic dynamics, and global market trends have led to (1) the emergence and demise of a mining regime built around capital-intensive large-scale mining (1950-1985); and (2) a subsequent transition towards a mining regime built around labor-intensive small-scale gold mining (1985-), that came to exhibit rising degrees of capitalization and labor exploitation. There are now initial indications that this ASM-centered mining regime is in turn reaching its socio-ecological limits, casting uncertainty over the future of production- and associated labor- and accumulation regimes in the mining sector.
In addition— and I guess this is where my political-anthropological background becomes apparent— I have provided insights into how these shifts in mineral production regimes are accompanied by regulatory transformations at the local level. In particular, it can be argued that the state, as a multi-layered institutional field, adapts itself to shifting logics of production and accumulation in the mining sector: whereas the large-scale mining regime relied on a centralist state; the more flexible ASM-regime benefits from a decentralized state that is more adaptive to local circumstances. In addition to further qualifying popular images of an anarchic gold mining frontier populated by clandestine fortune-seekers, this note can thus be read as a plea for politicizing the commodity frontier.

References


