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# Shifting Formalization Policies and Recentralizing Power: The Case of Zimbabwe's Artisanal Gold Mining Sector

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*In the 1990s, government authorities in Zimbabwe introduced internationally praised policies to formalize the artisanal and small-scale mining sector, using a combination of district-administered and nationally administered licensing and capacity-building measures. While “decentralization” efforts in the 1990s and early 2000s were hampered by insufficient resource and power transfers, the model was seen by environmental scholars as a source of optimism. However, as economic crisis deepened in the 2000s, national officials (a) revoked the power of Rural District Councils to regulate riverbed alluvial gold panning and (b) increased barriers to formally licensed small-scale primary ore mining. This article examines the recentralization of power in this growing informal sector, exploring how heavy-handed implementation of national reforms contributed to livelihood insecurity. The study emphasizes how national officials invoked “formalization” rationales for mining policy shifts that obscured their underlying political and economic drivers, disempowering local district authorities and deepening the marginalization of informal livelihoods.*

**Keywords** Africa, decentralization, decentralized natural resource management, mining, natural resource governance, policy and politics

Over the last two decades, economic and political crises in Zimbabwe have led to growing constraints on livelihoods in rural areas and shifting patterns of resource access and control (Chimhowu and Woodhouse 2008; Alexander and McGregor 2013; Scoones et al. 2012; Rutherford 2014). As economic instability left limited employment opportunities in the formal sector, informal artisanal and small-scale mining (ASM) became increasingly important as an income source (Zwane et al. 2006; Kamete 2008; Mabhena 2012). As in many other African countries, ASM practices in Zimbabwe include the use of pans, picks, and shovels, as well as simple mechanized equipment (Shoko and Veiga 2004; Mabhena 2012). Zimbabwe is one of

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numerous countries in Africa in which increasing numbers of people have turned to rudimentary gold extraction as a source of income in recent years (Maconachie and Hilson 2011; International Institute for Environment and Development [IIED] 2013). According to Hayes (2008), 26.4% of Zimbabwe's population depended directly on ASM in 2008, making Zimbabwe the country with the fourth highest rate of dependence on ASM in Africa.

Despite growing scholarship on economic crisis and livelihoods struggles (Jones 2010) and politicized land reforms and state-induced displacement in Zimbabwe (Hammar, McGregor, and Landau 2010; Rutherford 2012), limited attention has been given to the roles of national and local government institutions responsible for managing the ASM sector. This article addresses this research gap by examining shifts from a period in which national government agencies officially supported the formalization of artisanal gold mining in the 1990s to a period of nationwide crackdowns against artisanal miners. Drawing on interviews with policymakers and artisanal miners in the districts of Insiza, Shamva, and Kadoma between 2005 and 2013, the analysis scrutinizes how institutional supports that were put in place in the 1990s—including partially “decentralized” governance arrangements—deteriorated in the post-2000 hyperinflationary period when national government agencies recentralized authority over the mining sector and implemented heavy-handed crackdowns targeting ASM. The analysis adds to the work of Mawowa (2013) that describes how patronage networks evolved in the ASM sector before, during, and after the temporary “Government of National Unity” between the ruling party, the Zimbabwe African National Union—Patriotic Front (ZANU-PF)—and the opposition party, the Movement for Democratic Change (MDC), lasting between 2009 and 2013. The approach taken in this study emphasizes that the recentralization of power in mining-sector governance needs to be considered carefully in historical context while critically revisiting technocratic rationales used by state authorities.

The study contributes to debates on how and why governments recentralize authority in rural resource management, even after introducing “decentralization” reforms. Ribot, Agrawal, and Larson (2006) analyze six countries’ “decentralization” policies and how central authorities employed a “variety of strategies to obstruct the democratic decentralization of resource management and, hence, retain central control” (1864). Sunam, Paudel, and Paudel (2013), addressing the context of Nepal’s forestry industry, discuss the importance of unpacking “government attempts to monopolize the policy process by magnifying minor weaknesses in community forestry and by cultivating media rhetoric to justify recentralization, while hiding its own serious shortcomings in governance” (3). Contributing to this discussion of “monopolizing” the policy process, the present study also adds to recent literature on the importance of context-sensitive governance and formalization policy in the ASM sector in Africa (Dondeyne and Ndunguru 2014; Hiron 2014; Jönsson and Fold 2014) and recent debates on “reconfiguring state power” in Zimbabwe. McGregor (2009) uses this term for understanding shifting dimensions of state authority in Zimbabwe’s artisanal fishing sector, arguing that power has been shaped by evolving official as well as nonofficial influences of the ruling political party. The case of Zimbabwe’s ASM sector highlights how, in times of economic instability, “formalization” policies can become important in new ways, used by political elites to consolidate power rather than to distribute “development” opportunities in rural districts.

The first section that follows provides historical context for understanding small-scale gold mining regulation, addressing institutional measures for governing

riverbed gold panning and primary ore gold mining. The analysis suggests that measures established in the 1990s were never a case of “win–win” development in the sense of everyone benefiting equally, but reflected a period in which national government officials, to varying degrees, treated ASM as a poverty alleviation activity and therefore supported partially “decentralized” resource management efforts and local ASM assistance projects. The next section discusses the recentralization and reconfiguration of state authority that led to a nationwide policing operation. Concern over smuggling constituted the initial trigger for the crackdowns in 2006, when the Reserve Bank of Zimbabwe, which had exceptional power in the 2006–2009 hyperinflationary period, played a key role in prompting the formation of police units to halt unlicensed gold mining and trade. Government discourses rationalized this campaign as needed to improve environmental management, stop smuggling, and control a chaotic situation. The analysis emphasises that the crackdowns were part of evolving political developments, with significant roles played by leading figures in government.

The nationwide crackdowns negatively affected the livelihoods of more than a million people and led to the arrest of more than 25,000 people between 2006 and 2009 (Internal Displacement Monitoring Centre 2011; Spiegel 2014). Despite the national government’s rhetoric of promoting order and rule of law, in practice these tactics made it increasingly difficult for artisanal miners to become formally licensed. Actions taken by various ministries created a vicious circle: Informal miners were blamed for economic and environmental problems—yet coercive control tactics without any measures to facilitate compliance exacerbated many of these economic and environmental problems, legitimizing further coercive control tactics. Rural district councils were disempowered by the national government, trust was weakened between artisanal miners and national authorities, and some officials were publicly denounced as benefiting from illegality in the sector. The study emphasizes how official “formalization” rationales for mining policy shifts obscured their underlying political and economic drivers.

### **Mineral Governance and ASM Formalization Efforts Prior to 2006**

Historically, partly as a legacy of colonization processes led by Cecil Rhodes, national resource laws and policies prioritized mining companies, which received privileged status in economic planning (Hollaway 1997; McGregor 2009). While the Mines and Minerals Act (1961) was amended more than a dozen times in the 1970s, 1980s, and 1990s, and reintroduced as the Mines and Minerals Act (1996), there is debate on the degree to which postcolonial mining laws, policies, and governance apparatuses provide opportunities for ASM licensing (Murungu et al. 2012). In the 1990s, economic structural adjustment programs implemented by the government of Zimbabwe under the auspices of the World Bank prioritized mining but focused on large mining companies (Kanyenze et al. 2011). Dreschler (2001) reviewed how the Mines and Minerals Act enabled large companies to hold Exclusive Prospecting Orders that covered large land areas, thereby preventing small-scale miners from obtaining prospecting licenses and mining licenses in certain mineral-rich regions. Small-scale mining associations have long criticized the fact that many of the country’s mineral titles remain held by large companies and not small-scale miners. Miners associations have protested that 95% of the Great Dyke is covered by mining licenses held by large companies including Zimasco, Zimalloys, and Zimplats, reflecting the legacy of colonialism (Zimbabwe Miners Federation, 2009).

Nevertheless, in the 1990s, several measures were taken by the government of Zimbabwe to decentralize the control of mining and support local ASM populations. These measures were promoted as attempts to create a win-win situation, by training miners in how to secure access to prospecting and mining licenses as well as mining technologies and microfinancing. This approach was emerging as a pillar of mining programs in the late 1980s and formally promoted in 1993, when national authorities teamed up with the United Nations Department for Economic and Social Development to design a strategic vision for ASM, introducing the 1993 “Harare Guidelines on Small-Scale Mining.” These guidelines were heralded as a useful model globally and referenced in literature on ASM across Africa (Jennings 1999; Sinding 2005). The Harare Guidelines reflected the vision to promote the legalization of ASM, recognizing it as a poverty-alleviation activity. Accordingly, German and Swedish donor agencies funded local development projects to encourage more sustainable ASM activities in the 1990s. These initiatives combined the goals of promoting safer environmental management and developing policies for ASM legalization, focusing on two types of gold mining: alluvial gold panning in riverbeds, and small-scale primary ore extraction on land—discussed respectively in the following sections.

### **Decentralized Policy Approach for Riverbed Gold Panning**

In 1991, responding to growing concerns about environmental risks and gold smuggling, the government of Zimbabwe created a legal mechanism for regulating one of the more rudimentary forms of gold mining—riverbed gold panning. Specifically, the government promulgated Statutory Instrument 275 (1991, Regulations on Alluvial Gold Panning in Public Streams), creating a framework wherein rural district councils (RDCs) would issue licenses to riverbed gold panners independently of the Ministry of Mines. This was understood as the best means of controlling the impacts of panning, with local governments responsible for coordinating training centers that also served as gold-marketing centers for panners (Maponga and Ngorima 2003). According to Statutory Instrument 275, permits could be given directly to individuals and/or cooperatives, as long as panners were residents of the district and at least 18 years of age. When being permitted, panners had to agree to work at a distance from the lowest point of the naturally defined banks of a river stream and avoid disturbing the bank, and no mining was allowed to occur closer than 3 m to either bank. Statutory Instrument 275 also stipulated that trenches and pits that were dug near the rivers had to be backfilled, and it prohibited the use of mechanized equipment while also stipulating that it “does not permit any working to have a vertical depth of more than 1.5 metres unless such working is terraced or sloped at an angle sufficient to ensure the safety of persons or is adequately supported” (Statutory Instrument 275 1991, 1424).

The Ministry of Mines also issued its own gold panning licenses under Section 274 of the 1996 Mines and Minerals Act, which in some cases led to confusion and overlap between central and local government licenses.<sup>1</sup> Nonetheless, the significance of Statutory Instrument 275 was that local government officers in RDCs had unprecedented and autonomous licensing powers in the gold panning sector. Almost all other types of mining licenses were strictly managed through the Ministry of Mines.<sup>2</sup> As well as empowering RDCs to issue licenses for alluvial gold panning, Statutory Instrument 275 created space for new kinds of international development linkages to support ASM livelihoods. Projects funded internationally

and implemented by Intermediate Technology Development Group (ITDG) and the Netherlands Development Organisation SNV<sup>3</sup> became active in providing assistance in Insiza District, with German consultants heading a program focusing on educating panners on ways to reduce ecological impacts.<sup>4</sup>

As a district council member in Insiza District explained, education services for gold panners in Insiza had been promising early on.<sup>5</sup> However, as the President of the Zimbabwe Local Government Association (ZILGA) stressed, other districts did not adopt the same intensity in developing licensing and education programs, and in fact most RDCs failed to license gold panners.<sup>6</sup> A senior official at the Ministry of Mines provided an insider's understanding of challenges with riverbed gold panning policies. He explained that, in part due to uncertainties about the degree to which riverbed panners were responsible in their environment stewardship, civil servants in the Ministry of Mines were divided on the question of whether gold panning should be legalized and how it should be approached, noting that "The old permanent secretary of the Ministry of Mines had envisioned replacing Statutory Instrument 275 [legalizing riverbed panning] with an improved version but then he left the Ministry of Mines."<sup>7</sup> He reflected on how different government officials saw the riverbed panning issue in different ways, noting that some officials in the Ministry of Mines saw the administrative capacity of RDCs as too weak to manage panning. While the points he made highlighted dissensus rather than consensus among senior civil servants in the Ministry of Mines, it could still be said that in the 1990s there was some degree of official government recognition that riverbed panning was important from an economic perspective and that it should be formalized as a pro-poor strategy while promoting the role of local authorities to improve environmental management.

### **Policy Approach for Small-Scale Primary Ore Mining**

In addition to reforms for riverbed panning in the 1990s, other early indications that government institutions were willing to work proactively with ASM populations can be seen in how government engineers engaged with small-scale gold reef miners (primary hard rock miners) to support licensing strategies. Dreschler (2001) examined programs that combined technology training with training on how to legalize primary ore small-scale mining. Emphasizing significant national legal barriers to the formalization of primary ore miners, he noted that "There are over eighteen pieces of legislation governing the management of natural resources and environmental protection, and administered by at least seven different government ministries" (148), such that artisanal and small-scale miners—even those involved in education and training projects—often did not understand legal requirements. While RDCs were given no specific role within new ASM strategies for primary ore mining in the early 1990s, international donors and authorities from the Ministry of Mines supported the creation of local mineral processing centers where gold miners could process their ore while paying a fee to the mill owner for the use of the technology, and these centers provided training to promote awareness of legalization procedures.

A well-known donor-funded project that illustrates these processes was the gold processing mill for ASM workers in Shamva. Developed as an idea by ITDG<sup>8</sup> in 1987 and further developed in the 1990s, the Shamva project was widely viewed by small-scale miners as a proactive step toward improving economic efficiency through technology sharing, creating incentives for gold miners to become licensed



(i.e., with primary ore mining licenses issued by the Ministry of Mines), as registered miners could use the milling services. The Shamva project was heralded as a “best practice in small-scale mining” by the United Nations Economic Commission for Africa<sup>9</sup> in its early days; Hentschel, Hruschka, and Priester (2002) describe how incomes of artisanal miners rose by up to 30% in the early phase of Shamva’s operations. Notwithstanding the importance of the project, as with gold panning, there were challenges in the execution of the vision for primary ore mining and milling over the long term. Shamva was abandoned, with some interviewees arguing that donors were too quick to transfer the management of the Shamva milling center to a local association of miners. Emphasizing a different scale, Mugova (2001) blamed the national government for insufficient support, and still others blamed the failure on abuse of executive power in the miners’ association.<sup>10</sup> Regardless of what exactly led to the failure of the Shamva Centre, interviews addressing the microeconomic and social dynamics at other mills confirm that Shamva’s problem was not an isolated case of failed formalization strategy; a European Commission-funded gold milling project in Insiza District suffered a similar fate.<sup>11</sup>

Despite the problems just described, the assistance-oriented intentions behind the government-supported projects still stand out as examples of the hope and enthusiasm behind formalization initiatives in the 1990s and the early 2000s. The programs indicate that the government of Zimbabwe had been considerably more active than many other African governments in assisting artisanal gold miners, many of which have experimented neither with riverbed panning legalization programs at the district level nor with donor-supported gold processing centers. These projects complemented other proactive policy measures to develop sector support systems, and at various points in the early-1990s, the Government of Zimbabwe kept gold prices for small-scale miners at favorable rates to minimize smuggling, which created incentives for miner registration; in fact, the government even had a special “support price” for gold that small-scale miners sold to the Reserve Bank in the 1990s, which was at certain times higher than international market prices—to encourage ASM and increase government gold collection.<sup>12</sup>

These proactive formalization policies gave international agencies the sense that government authorities in Zimbabwe were actively seeking to encourage informal workers to participate in the formal economy, and thus gave donors a sense of confidence in becoming involved in ASM. While this confidence led to various international assistance programs, the last donor capacity-building project—before an eventual cessation of donor support in this sector—came to fruition in 2005, when the United Nations Industrial Development Organization (UNIDO) worked with the Ministry of Mines and the University of Zimbabwe to begin developing a “Train-the-Trainer” program in gold-mining communities in the Kadoma–Chakari area. The program encouraged educational services on issues ranging from pollution-reduction technologies to business and organizational training and proceeded with the hope that it could provide “pilot project” success stories that other districts could replicate. Notably, the government’s ASM-sector microfinance program became profiled at a UNIDO conference in 2005 as one of the most proactive examples of how acquisition of a small-scale miners’ license could lead to benefits such as credit access.<sup>13</sup> Since the Mining Industry Loan Fund (MILF) was housed within the Ministry of Mines, it stood out as a rare example internationally of a loans facility that could integrate sector-specific training and credit delivery to mining communities. Microfinance was also presented as a way of incentivizing



miners to become formalized, with the thinking that obtaining a license will lead to obtaining finance.<sup>14</sup> Positive perspectives on microfinance programs were, however, tempered by perspectives that the MILF program run by the government had negative impacts, amid allegations of corruption and election-motivated disbursement of funds.<sup>15</sup> Even so, the preceding analysis illustrates that in the 1990s and early 2000s, there was some confidence, both internationally and within Zimbabwe, that Zimbabwe was a leader in Africa's gold-mining sector—creating incentives and rewards for artisanal miners to become formalized while inspiring other countries' policy development in the region.

### **Recentralization and Reconfiguration of Power: The Turn toward Crackdowns, 2006–2009**

The context for local-district-level decision making in Zimbabwe's mineral economy changed significantly as Zimbabwe's economy began to deteriorate rapidly in the 2000s, particularly when inflation levels ascended dramatically in 2006. Inflation was roughly 150,000% at the end of 2007 (Mugari 2008). By October 2008, more than 200 million percent was the official figure (unofficial inflation estimates ran into the billions thereafter). Grappling with the economic crisis in 2006 and 2007, the government insisted (in accordance with the Gold Trade Act Chapter 21:03) that gold miners sell their gold to the Reserve Bank of Zimbabwe at a fraction of the international gold price, sometimes even as little as one-thirtieth of the true international price when calculated at parallel market rates. Additionally, accusations of corruption within the MILF program intensified at this time, negatively impacting primary ore miners. Furthermore, local authorities were disempowered and riverbed panning was made completely illegal in 2006, when the central government repealed the law (Statutory Instrument 275 of 1991) that allowed RDCs to issue permits for gold panning. In fact, Harare-based officials in the Ministry of Mines did not inform the district government of this legal reform until several weeks after the law had been repealed. In Insiza District, the RDC officer who had been responsible for overseeing gold panning was, in an interview, disappointed to hear of this legal change, even asking: "Does this mean that my job is finished? . . . Is the local government supposed to work with the [gold panners] or not?"<sup>16</sup> Interviews in 2007 and 2009 with officials within the Insiza District Council again confirmed that the district still had no power to manage gold mining, despite widespread desires in the community to engage in panning.

While the move to criminalize riverbed panning occurred officially in June 2006, political tensions intensified later that year. In November 2006, the government launched a nationwide crackdown operation against gold panners, miners, and traders—called *Operation Chikorokoza Chapera* ("No More Illegal Mining")—which escalated during the week before Christmas. By early 2007, the crackdown was in full swing and police units were traveling to different mining sites across the country, arresting hundreds of miners at a time; spokespeople from the Zimbabwe Republic Police were then emphasizing these crackdowns as a way of getting the mining situation "under control."<sup>17</sup> Within its first few months, the crackdown left thousands of people jobless and involved the arrest of tens of thousands of miners. Artisanal and small-scale miners explained how police shackled miners with no food and water, stole miners' equipment, and destroyed homes. Rural economic coping strategies virtually shut down in regional cases where police were heavily active, such as Insiza District. Variations in state policing existed according to factors such as the geographical ease of access, the anticipated

economic value of the different gold-rich areas, and the connections between mine owners and authorities, including police chiefs as well as politicians.

Insiza District's political context is one where different national government agents had considerable interest in ASM. Monitoring and surveillance programs involved police squads as well as Reserve Bank Gold Mobilisation Unit staff members and civil servants working with the Ministry of Mines. Although RDC officials were interested in supporting ASM as a livelihood activity that could support local economic development, debates over ASM policy at the national level were detached from local livelihood concerns. Illustratively, the Parliamentary Portfolio Committee on Mining debated the nature of the response in 2007, after thousands of miners had been arrested, and concluded that government policies needed to be more severe rather than lenient with miners who refused to comply. In parliamentary records, several ZANU-PF politicians are quoted as emphasizing the need for increasing jail sentences to an automatic 5-year penalty for illegal mining and illegal trade in gold, despite opposition from an MDC politician, David Coltart (now an MDC Senator), who was a lone dissenting voice at one of the meetings (Hansard 2007).

### Scrutinizing Power Shifts in the Gold-Mining Sector

The police crackdowns that emerged in 2006 represented a combination of technocratic and repressive authoritarian decision making, with the Reserve Bank's policies for gold selling fueling intense frustration and aggravating smuggling. Although the Reserve Bank created a number of Reserve Bank-run milling centers that sought to facilitate gold sales to the national government, these mills were deliberately avoided by artisanal and small-scale miners due to the economic disincentives to use them. Nonetheless, the governor of the Reserve Bank, Gideon Gono, became exceedingly powerful in 2006 as hyperinflation levels heightened the government's focus on halting illegal gold mining and smuggling. Sachikonye (2012) discusses how the president unilaterally gave Governor Gono "a wide range of decision-making powers from ministries" across almost all sectors. Members of small-scale miners associations interviewed in May 2009 argued that it was Governor Gono who put pressure on the Ministry of Mines to repeal Statutory Instrument 275 and also played a key role in instigating Operation Chikorokoza Chapera. The Reserve Bank worked closely with the Zimbabwe Republic Police, as well as Israeli criminal investigations experts, to conduct campaigns against illegal gold mining and trading (Gono 2006). Senior officials from the Ministry of Mines were also given new jobs as senior members of the Reserve Bank's Gold Collection Units, resulting in a rebalancing of institutional authority.

Shortly before the crackdown was launched, public statements by the Reserve Bank Governor alluded to small-scale gold miners, millers, and traders as a rapidly growing threat to the nation. His discourse in 2006 decried "the rampant illegal dealing in gold by small scale miners and custom millers"—in a report called "Forms of Foreign Currency Leakages in the Economy" (Reserve Bank of Zimbabwe [RBZ] 2006)—creating the rhetorical justifications for a nationwide crackdown. While illegal gold trade was being portrayed as a threat to the nation, by far the most economic activity (i.e., not only in minerals) in Zimbabwe at the time was being conducted outside the formal economy (Jones 2010). More than 80% of the economy was operating in the "informal" economic realm according to Sachikonye (2012). Yet the Reserve Bank focused on miners as a particular problem, as they constituted a convenient

scapegoat, as people who were “bleeding the economy” (The Herald 2007). Meanwhile, problems such as bureaucratic delays in paying producers for gold output, institutional confusion, and conflict damaged relationships between national authorities and miners (Spiegel 2009). Amid these problems, Zimbabwe’s official gold production declined from 11 tonnes in 2006 to just over 7 tonnes in 2007, the lowest level of output in more than 100 years (Central Statistics Office of Zimbabwe 2008). This decline itself is indicative that the Operation Chikorokoza Chapera was a drastic failure—if the policy intent was to increase official gold collections by the government.

In rationalizing the criminalization of riverbed panning, the Minister of Environment stated: “As government, we have banned [gold] panning activities because we have collectively come to the conclusion that the environmental costs emanating from the panning activities far outweigh the benefits accruing to the panners” (quoted in Mambondiyani 2008). At the same time, in the remaining part of the ASM sector—primary ore gold mining—opportunities to operate in the legal sphere were still theoretically available, and imperatives to control and “formalize” the legitimate gold economy featured in government discourses in varying ways. While the operation began as an initiative of the Reserve Bank and the Zimbabwe Republic Police to curb smuggling in the most active mining districts (including Insiza District) in 2006, by early 2007 it morphed into a nationwide environmental initiative in which all types of primary ore gold miners—both licensed and unlicensed—were shut down until they complied with environmental regulations. Specifically, the need to enforce national regulations regarding environmental impact assessments (EIAs) was used by the government as a rationale for police intervention for primary ore small-scale mining. Under the Environmental Management Act (2002), all miners had to submit EIA reports. Although EIA policies existed years prior to Operation Chikorokoza Chapera, it was only in 2007 that the government began demanding that this requirement be met before miners resume work (this demand was still in effect as of the end of the study period in 2014).<sup>18</sup> A major theme in interviews with artisanal gold miners was that EIA requirements were prohibitively costly and most miners could not afford to pay the fees. To resume operations, a miner was required to have an EIA carried out by a consultant who was listed on the national roster of qualified EIA consultants. By 2009, EIA costs were above US\$4,000;<sup>19</sup> an emerging discourse in the ASM sector also focused on how this ineffective environmental management system was actually a cause of new economic problems for ASM and created significant formalization barriers. These ever-increasing fee systems constituted a clear form of “rent-seeking” from national government officials.

Some senior officials working in the Ministry of Mines in Harare also envisioned the coercive “formalization” policies and centralized decision making to be necessary as a way of setting the scene for the renewal of the sector and the transformation of ASM. In this sense, police crackdowns were presented as formalization efforts in the ASM sector that could be rationalized on efficiency grounds. In April 2009, a senior director in the Ministry of Mines stressed that unskilled, unqualified artisanal miners were a threat to the mining industry’s productive potential. Citing “equipment” problems and regulatory compliance issues as risks, he argued that artisanal miners were threatening the livelihoods of nonminers through pollution, as well as their own health and safety. His emphasis was on the need for artisanal miners “to grow up and become real miners.”<sup>20</sup> He explained that Operation Chikorokoza Chapera was an effort to send a message to miners in order to turn them into responsible

business people before getting licenses, rationalizing the crackdown as an attempt to “force formalization” and to stop the “chaos” of illegal gold mining.<sup>21</sup> The majority of the 23 national government officers interviewed for this study expressed similar views of the crackdown as an attempt to create a climate for conducting ASM in the “appropriate” way, that is, through a top-down “formalization” approach. Many government officials presented this approach as a necessary—even if imperfect—solution to economic, social, and environmental problems associated with the ASM sector’s illegality.<sup>22</sup>

Yet it is important to emphasize that this sudden policy shift was widely seen as a surprise for small-scale miners, as well as for RDC officials. The government’s emphasis on forcing the formalization of gold mining, rather than being a process for empowerment of the poor, became more clearly visible as a process of control and coercion. As reported in Insiza District, the brutality of the police squads forced miners to work at night and to turn to even more rudimentary and inefficient extraction methods, often abandoning mechanized milling centers (which were highly monitored by government authorities) in favor of manual (nonmechanized) hand milling practices. The operation also had considerably negative environmental and social impacts related to alluvial gold extraction. In Insiza District and Umzingwani District, which share a common water basin, concerns were raised by RDC officials that the unfortunate ramification of recentralizing riverbed mining decision-making power was not only the loss of livelihoods for local panners but also worse environmental degradation. Notably, in 2012, a Chinese company was given a special mining license by the Ministry of Mines to mine Umzingwani River, using bulldozers and heavy machinery directly in the river. The methods used fell far outside what would have been allowed under Statutory Instrument 275 and created significant environmental damage in what used to be a relatively undeveloped stretch of the river.

While this example highlights a particularly negative view of recentralized mining sector authority in the midst of a deepening economic crisis, RDC interviewees also emphasized that it is important to understand the historical context of decentralization and recentralization. In addition to political and economic crises at the national level that were putting growing pressures on the mining sector, the loss of local district licensing power in the mining sector should be contextualized in relation to the deteriorating institutional capacity of RDCs. Some national government officials blamed RDCs for having poorly managed riverbed panning in the past; however, the president of ZILGA attributed the shortcomings of RDC involvement to the fact that national economic policies prevented councils from collecting mineral revenues, noting that RDCs receive less than 0.001% of mining revenues.<sup>23</sup> According to RDC officials interviewed in Insiza District, the RDC had insufficient resources to be able to fulfill local governance functions such as monitoring gold panning and infrastructure development. Far from being just a sudden decision by the central government, the local government’s loss of institutional autonomy (in being allowed to issue gold panning licenses) may thus be contextualized within wider debates about the political history of decentralization and wider debates about the problems of local government disempowerment as part of a long-standing trend in ZANU-PF strategies of securing its power base (McGregor 2002; Hammar 2005).

Finally, interviews with the ZILGA president also indicated that foreign mining companies have vigorously opposed RDC members’ proposals to increase local government tax; interviews with representatives of RDCs in 2009, 2012, and 2013

suggested that an ongoing negotiation process is still underway with companies, with different ad hoc deals reached in different districts.<sup>24</sup> These perspectives reinforce the point that multiple institutions contributed to local government failures, disempowerment, and the delegitimization of livelihoods. Moving beyond the narrow discourses of a centralized approach to “formalization” that focus on failed district-level governance and artisanal miners’ irresponsibility at a local scale, these interviews accentuate the need for a more nuanced approach, one that recognizes an integrated understanding of multiple scales of power relations at play.

## Conclusion

Internationally, a small but emerging body of research is now focusing on the question of how “decentralization” measures impact the processes of “formalizing” the ASM sector (Cote 2012; Dondeyne et al. 2009; Dondeyne and Ndunguru 2014; Hirons 2014; Jönsson and Fold 2014). Simultaneously, the theme of “recentralizing” natural resource governance is now being debated in many countries, including cases where short-lived “decentralization eras” have come to an end (Spiegel 2012). Zimbabwe’s case underscores how attempts at “decentralization” in the 1990s and early 2000s were clearly not brought to their full potential due to complex political factors at play—including changing power dynamics within the ruling party (involving changing roles played by elites in key ministries)—and due to the failure to build the capacity of RDCs, which lacked sufficient resources (human and financial) as well as fully autonomous power. Zimbabwe’s case also highlights how deepening political and economic crises have been contributing to district-level disempowerment in managing resources, and adds to the analysis put forward by Ncube (2011) and Murombo (2010), who both argue that national politics are contributing to a crisis of local governance, weakening the RDCs as well as traditional authorities as conduits for democratic leadership.

Recent power maneuvers in Zimbabwe’s mining sector can also be understood in relation to other cases in Africa whereby coercive policing tactics have produced undesirable consequences in artisanal mining communities, as documented, for example, in the Democratic Republic of Congo (Geenen 2013) and Ghana (Hilson and Yakovleva 2007; Bush 2009), albeit in vastly different political circumstances. The period discussed in this study constitutes a particularly difficult period for mining populations in Zimbabwe, where increasing numbers of people from diverse backgrounds have become dependent on artisanal mining for income in numerous parts of the country. In light of the analysis, three final conclusions can be drawn. First, the (temporarily and partially) “decentralized” and “assistance-oriented” ASM sector management policies of the 1990s could and should guide future political decision making. Whether rural district councils should regain their previous role in licensing gold panning remains an open debate, and researchers have important roles to play in informing this discussion. Second, while riverbed gold panning was completely criminalized during the study period, primary ore small-scale mining was subjected to ever-more-costly, bureaucratic and inaccessible national licensing requirements; the nature of these “formalization” requirements needs context-specific attention. Third, the political use of “formalization” discourses to justify heavy-handed law enforcement campaigns needs to be critically questioned, as Zimbabwe’s case illustrates how such campaigns have led to intensified livelihood insecurities and a host of negative social and environmental outcomes. In conclusion,

while further research is needed to understand the variation in how “formalization” policies have been interpreted in different regions of the country and by different groups of miners (women and men), the present study indicates that supposed “benefits” of formalization policies have been highly elusive in low-income mining communities, partly because ASM groups and district authorities were ostracized during regulatory reform processes.

## Notes

1. President of Zimbabwe Local Government Association (ZILGA), ZILGA Office, Harare, May 11, 2009.
2. Bhatasara (2013) notes that some RDCs, such as the Mutoko RDC, also had power to manage licenses for black granite mining.
3. Stichting Nederlandse Vrijwilligers—Foundation of Netherlands Volunteers.
4. Council Member, Insiza RDC, April 24, 2009, Filabusi, Insiza District.
5. Council Member, Insiza RDC, April 24, 2009, Filabusi, Insiza District.
6. President of ZILGA, ZILGA Office, Harare, May 11, 2009.
7. Chief Geologist, Ministry of Mines, May 13, 2009, office of interviewee, Harare, Zimbabwe.
8. Support was also given by GTZ (Gesellschaft für Technische Zusammenarbeit—German Technical Cooperation Agency).
9. United Nations Economic Commission for Africa (UNECA) (2002): Compendium in best practices in small-scale mining in Africa. United Nations Economic Commission for Africa, Addis Ababa, Ethiopia, 29.
10. Former Secretary of Shamva District Miners Committee, December 10, 2012, home of interviewee, Shamva.
11. Interview, gold mill owner in Insiza District, May 3, 2009, at a site in the Pangani region of Insiza District; when I asked why nobody was using “the Filabusi Custom Milling Plant,” it was explained that the European Commission-funded project, which initially spent more than US\$60,000 on the project, did not train local people to manage the center.
12. Interview, gold mill owner in Insiza, May 3, 2009.
13. In 2009, I interviewed a government mining policy advisor with whom I attended a conference in May 2005 in Kadoma that brought together government officials and UN trainers from Tanzania, Zimbabwe, and Sudan. The interviewee recalled optimism surrounding a national government fund called the Mining Industry Loan Fund that offered cash loans for developing small-scale mines, equipment loans, and other types of loans for small-scale miners in Zimbabwe.
14. As one interviewee noted, “A few of the small-scale miners in Zimbabwe received loans [from a government-managed microloan program] just before the election. It was actually an election motivated decision, to try to show a good face. . . . In the end I don’t think the loans were used for mining equipment like they were supposed to be. Some people got nice cars with those loans. . . . it was not the people who needed the loans.” This view was articulated both in interviews with a mining engineer, Bulawayo, April 30, 2009, and with the Director of Mining Promotion, Ministry of Mines, Harare, Zimbabwe, April 22, 2009.
15. Group interview with members of a regional small-scale miners association (including a former owner of a gold mining claim near Filabusi, Insiza District), May 3, 2009.
16. Interview with Alluvial Mining Controller, Insiza RDC, Filabusi, April 24, 2006.
17. Xinhua, 2007. “Police seizes 41.6 kilograms illegal gold in Zimbabwe,” March 20. [http://english.peopledaily.com.cn/200703/20/eng20070320\\_359146.html](http://english.peopledaily.com.cn/200703/20/eng20070320_359146.html) (accessed December 2, 2013).
18. Before the Environmental Management Act (Cap 20:27), EIA processes were governed by the 1997 EIA policy, which made EIAs discretionary for most projects. The government later passed the Environmental Management Act of 2002 and Statutory Instrument 7 of 2007 (EIA and Ecosystems Protection) Regulations, which compelled projects listed under EMA Act CAP 20:27 to undergo EIAs.



19. This included a US\$4,000 fee paid to consultants plus a government EIA registration fee of US\$100 in addition to 1.5% of the project cost (paid to the Ministry of Environment and Tourism). Interviews reinforced the sense that the bureaucratic EIA-writing process had little to do with the on-the-ground realities of environmental management.
20. Interview, senior official (director level), Ministry of Mines, Harare, Zimbabwe, April 22, 2009.
21. Interview, senior official, Ministry of Mines, Harare, Zimbabwe, April 22, 2009.
22. Interview, senior official, Ministry of Mines, Harare, Zimbabwe, May 12, 2009.
23. Some district councillors in Insiza also argued that revenues from future mining projects ought to be directly invested in community programs, adapting revenue models from the much-researched CAMPFIRE (Communal Areas Management Programme for Indigenous Resources) model (Balint and Mashinya 2008). As discussed by Alexander and McGregor (2000) and Murombedzi (1999), the CAMPFIRE model also had significant shortcomings, partly as it was never a truly “devolved” governance system (as it did not empower local community governance structures below the RDC level) and partly because it continued to be shaped by highly political interests, generating considerable public discontent and protest in some districts.
24. Mining companies and the government have been discussing and partially implementing “Community Share Ownership Trusts” since 2012.

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## References

- Alexander, J., and J. McGregor. 2000. Wildlife and politics: CAMPFIRE in Zimbabwe. *Development and Change* 31:605–27.
- Alexander, J., and J. McGregor. 2013. Introduction: Politics, patronage and violence in Zimbabwe. *Journal of Southern African Studies* 39:749–63.
- Balint, P. J., and J. Mashinya. 2008. Campfire during Zimbabwe’s national crisis: Local impacts and broader implications for community-based wildlife management. *Society & Natural Resources* 21:783–96.
- Bhatasara, S. 2013. Black granite mining and the implications for the development of sustainability in Zimbabwe: The case of Mutoko communities. *Environment, Development and Sustainability*, 15:1527–41.
- Bush, R. 2009. ‘Soon there will be no-one left to take the corpses to the morgue’: Accumulation and abjection in Ghana’s mining communities. *Resources Policy* 34:57–63.
- Central Statistics Office of Zimbabwe. 2008. Information on Mining Production for the Year 2007, Harare, Zimbabwe.

- Chimhowu, A., and P. Woodhouse. 2008. Communal tenure and rural poverty: land transactions in Svosve Communal Area, Zimbabwe. *Development and Change* 39:285–308.
- Cote, M. 2011. What's in a right? Gold mining, decentralisation and neoliberalisation in Burkina Faso. International Conference on Global Land Grabbing, October 17–19, Cornell University, Ithaca, NY.
- Dondeyne, S., and E. Ndunguru. 2014. Artisanal gold mining and rural development policies in Mozambique: Perspectives for the future. *Futures* 62:120–27.
- Dondeyne, S., E. Ndunguru, P. Rafael, and J. Bannerman. 2009. Artisanal mining in central Mozambique: policy and environmental issues of concern. *Resources Policy* 34:45–50.
- Dreschler, B. 2001. *Small-scale mining and sustainable development within the SADC region*. London: International Institute of Environment and Development and World Business Council for Sustainable Development.
- Greenen, S. 2013. Dispossession, displacement and resistance: Artisanal miners in a gold concession in South-Kivu, Democratic Republic of Congo. *Resources Policy* 40:90–99.
- Gono, G. 2006. Monetary policy statement—Reserve Bank of Zimbabwe. <http://www.rbz.co.zw/inc/publications/legaldept/rbzpdfs/Monetary%20Policy%202006.pdf> (accessed March 2, 2014).
- Hammar, A. 2005. Disrupting democracy? Altering landscapes of local government in post-2000 Zimbabwe. Crisis States Research Centre discussion papers. London, UK: London School of Economics and Political Science.
- Hammar, A., J. McGregor, and L. Landau. 2010. Introduction: Displacing Zimbabwe: Crisis and construction in Southern Africa. *Journal of Southern African Studies* 36: 263–83.
- Hansard, 2007. Fourth Report of the Portfolio Committee on Mines, Energy Environment, and Tourism on Gold, and Diamond Mining. Vol. 34, no. 6. September 5, Harare, Zimbabwe.
- Hayes, K. 2008. *Small-scale mining in Africa—A case for sustainable livelihood*. Amsterdam, the Netherlands: Common Fund for Commodities.
- Hentschel, T., F. Hruschka, and M. Priester. 2002. Global report on artisanal and small scale mining. Mining, Minerals and Sustainable Development of the International Institute for Environment and Development. [https://www.commdev.org/userfiles/files/804\\_file\\_global\\_report\\_on\\_artisanal.pdf](https://www.commdev.org/userfiles/files/804_file_global_report_on_artisanal.pdf) (accessed April 7, 2015).
- Hilson, G., and N. Yakovleva. 2007. Strained relations: A critical analysis of the mining conflict in Prestea, Ghana. *Political Geography* 26:98–119.
- Hirons, M. 2014. Decentralising natural resource governance in Ghana: Critical reflections on the artisanal and small-scale mining sector. *Futures* 62:21–31.
- Hollaway, J. 1997. Mineral policy in Zimbabwe: Its evolution, achievements and challenges. *Resources Policy* 23:27–32.
- IED. 2013. *Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help?* London: International Institute for Environment and Development.
- Internal Displacement Monitoring Centre. 2011. Evictions from mining areas including Operation Chikorokoza Chapera and Operation Hakudzokwi. <http://www.internal-displacement.org/> (accessed March 8, 2014).
- Jennings, N. 1999. *Social and labour issues in small-scale mines*. Geneva, Switzerland: International Labour Organization.
- Jones, J. L. 2010. Nothing is straight in Zimbabwe: The rise of the Kukiya-Kiya economy, 2000–2008. *Journal of Southern African Studies* 36:285–99.
- Jønsson, J., and N. Fold. 2014. Dealing with ambiguity. In *Mining and social transformation in Africa*, ed. D. Bryceson et al., 113–130. London, UK: Routledge.
- Kamete, A. Y. 2008. When livelihoods take a battering... Mapping the 'new gold rush' in Zimbabwe's Angwa-Pote Basin. *Transformation: Critical Perspectives on Southern Africa* 65:36–67.

- Kanyenze, G., T. Kondo, P. Chitambar, and J. Martens. 2011. *Beyond the enclave: Towards a pro-poor and inclusive development strategy for Zimbabwe*. Harare, Zimbabwe: Weaver Press.
- Mabhena, C. 2012. Mining with a 'Vuvuzela': Reconfiguring artisanal mining in Southern Zimbabwe and its implications to rural livelihoods. *Journal of Contemporary African Studies* 30:219–33.
- Maconachie, R., and G. Hilson. 2011. Safeguarding livelihoods or exacerbating poverty? Artisanal mining and formalization in West Africa. *Natural Resource Forum* 35:293–303.
- Mambondiyani, A., 2008. Zimbabwe's desperate miners ravage the land. Yale Environment 360, November 3. [http://e360.yale.edu/feature/zimbabwes\\_desperate\\_miners\\_ravage\\_the\\_land/2078/](http://e360.yale.edu/feature/zimbabwes_desperate_miners_ravage_the_land/2078/) (accessed April 7, 2015).
- Maponga, O., and C. F. Ngorima. 2003. Overcoming environmental problems in the gold panning sector through legislation and education: The Zimbabwean experience. *Journal of Cleaner Production* 11:147–57.
- Mawowa, S. 2013. The political economy of artisanal and small-scale gold mining in central Zimbabwe. *Journal of Southern African Studies* 39:921–36.
- McGregor, J. 2002. The politics of disruption: War veterans and the local state in Zimbabwe. *African Affairs* 101:9–37.
- McGregor, J. 2009. *Crossing the Zambezi: The politics of landscape on a Central African frontier*. Harare: Weaver Press.
- Mugari, S. 2008. "Zimbabwe: IMF Estimates Inflation at 150,00 Percent." *Zimbabwe Independent*, January 18.
- Mugova, A. 2001. Presentation: The Shamva Mining Centre Project. MMSD Workshop on Artisanal Small-Scale Mining, November 19–20, London.
- Murombo, T. 2010. Law and the indigenisation of mineral resources in Zimbabwe: Any equity for local communities? *South African Public Law* 25:568–89.
- Murombedzi, J. C. 1999. Devolution and stewardship in Zimbabwe's CAMPFIRE programme. *Journal of International Development* 11:287–93.
- Murungu, G., D. Makaza, S. Chirawu, et al. 2012. Creating a conducive legal and policy environment for women in mining in Zimbabwe. Women and Law in Southern Africa Research and Education Trust Zimbabwe. <http://www.wlsazim.co.zw/Wlsa%20Docs/revise.pdf> (accessed February 10, 2014).
- Ncube, G. 2011. Crisis of communal leadership: Postcolonial local government reform and administrative conflict with traditional authorities in the communal areas of Zimbabwe, 1980–2008. *African Journal of History and Culture* 3:89–95.
- Reserve Bank of Zimbabwe. 2006. Forms of foreign currency leakages in the economy: Supplement to the first half 2006 monetary policy review statement. July, Harare, Zimbabwe. <http://www.rbz.co.zw/inc/publications/legaldept/rbzipdfs/formsofforeigncurrency.pdf> (accessed April 7, 2015).
- Ribot, J. C., A. Agrawal, and A. M. Larson. 2006. Recentralizing while decentralizing: How national governments reappropriate forest resources. *World Development* 34:1864–86.
- Rutherford, B. 2012. Shifting the debate on land reform, poverty and inequality in Zimbabwe, an engagement with Zimbabwe's land reform: Myths and realities. *Journal of Contemporary African Studies* 30:147–58.
- Rutherford, B. 2014. Organization and (de)mobilization of farmworkers in Zimbabwe: Reflections on trade unions, NGOs and political parties. *Journal of Agrarian Change* 14:214–39.
- Sachikonye, L. 2012. *Zimbabwe's lost decade: Politics, development and society*. Harare, Zimbabwe: Weaver Press.
- Scoones, I., J. Chaumba, B. Mavedzenge, and W. Wolmer. 2012. The new politics of Zimbabwe's lowveld: struggles over land at the margins. *African Affairs* 111:527–50.
- Shoko, D., and M. Veiga. 2004. Information about project sites in Zimbabwe—Global Mercury Project, *United Nations Industrial Development Organization*. <http://www.>

- [unites.uqam.ca/gmf/intranet/gmp/files/doc/gmp/zimbabwe/Information%20about%20ASM%20in%20Zimbabwe%20Shoko%20and%20Veiga.pdf](http://unites.uqam.ca/gmf/intranet/gmp/files/doc/gmp/zimbabwe/Information%20about%20ASM%20in%20Zimbabwe%20Shoko%20and%20Veiga.pdf) (accessed March 1, 2014).
- Sinding, K. 2005. The dynamics of artisanal and small-scale mining reform. *Natural Resources Forum* 29:243–52.
- Spiegel, S. J. 2009. Resource policies and small-scale gold mining in Zimbabwe. *Resources Policy* 34:39–44.
- Spiegel, S. J. 2012. Governance institutions, resource rights regimes, and the informal mining sector: Regulatory complexities in Indonesia. *World Development* 40:189–205.
- Spiegel, S. J. 2014. Legacies of a nationwide crackdown in Zimbabwe: Operation Chikorokoza Chapera in gold mining communities. *The Journal of Modern African Studies* 52:541–70.
- Statutory Instrument 275. 1991. Regulations on Alluvial Gold Panning in Public Streams, Government of Zimbabwe..
- Sunam, R. K., N. S. Paudel, and G. Paudel. 2013. Community forestry and the threat of recentralization in Nepal: Contesting the bureaucratic hegemony in policy process. *Society & Natural Resources* 26:1407–21.
- The Herald. 2007. Operation must be applauded. The Herald, January 27.
- Zimbabwe Miners Federation. 2009. *Small-scale mining: Backbone of the Zimbabwe economy*. Report to Zimbabwe Parliament, Harare, Zimbabwe.
- Zwane, N., D. Love, Z. Hoko, and D. Shoko. 2006. Managing the impact of gold panning activities within the context of integrated water resources management planning in the Lower Manyame Sub-Catchment, Zambezi Basin, Zimbabwe. *Physics and Chemistry of the Earth* 31:848–56.