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"Remember the Women of Osiri": Women and Gender in Artisanal and Small-Scale

Mining in Migori County, Kenya¹

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Bios:

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ABSTRACT: In this paper, we explore women's livelihoods and the operation of gender norms and structures in the Osiri artisanal gold mining area in western Kenya. While 'women' and 'gender' are seen as increasingly important to policy frameworks for developing mineral resources on the African continent, understandings of women's roles in artisanal and small-scale mining, and the importance of gender in structuring those livelihoods, remains limited. Drawing on field research conducted from 2014-2018, we demonstrate that while gender norms and structures operate to delimit women's mining roles, in daily encounters women and men navigate, resist and sometimes reframe those norms. Further, we explore how gender norms may not impact all women the same and other social variables, such as age, may also influence how women navigate their mining livelihoods.

Introduction

The title for this paper comes from a comment made to two of the authors (Katz-Lavigne and Otieno) while conducting research in an artisanal gold mining site in the Migori area of western Kenya. In the context of interviews, some women small business owners at the busy mine site listed areas of needed improvement on the assumption that the researchers would bring development projects to the area. One woman listening in added that when the 'interventions' come "they should benefit all of Osiri." She then described the

situation in the mine site where women were sweeping up dust or gravel to process for traces of gold, a marginal activity they do because of norms dictating that women "could not" go into the mine shaft themselves to dig for gold. The rejoinder - "remember the women of Osiri" - was a plea for inclusion of marginalized women who pursue livelihoods in the mine sites but are often invisible as 'miners.'

While the comment about the women of Osiri was made in the misunderstanding that our study was a prelude to a development project, it was insightful all the same as interventions may indeed be coming (though possibly not in the form the women of Osiri would like). In the current wave of efforts to revise mining laws and policies on the African continent, both 'women' (and sometimes 'gender') and ASM are seen as increasingly important to developing mining for poverty reduction and as 'best practice' for mining sector governance.²

Despite the rhetorical inclusion of 'gender' – or often just 'women' – in policy discourses on resource governance and the legalization of ASM in particular, the concerns of the women in Osiri - that they will be left out of these processes - are apt. Little is understood about the mining activities of women in ASM in a context where miners are often assumed to be men. Women in mining – to the extent they are referenced at all - are the "always-articulated modification" of the male norm (Salzinger 2004: 14). Policy references to women and/or gender in relation to mining often remain vague and unspecific, with a tendency to construct women as either victimized by mining or as untapped "cheap and available labour" (Lahiri-Dutt 2012: 195).

These concerns are relevant in the context of Kenya as the country has recently introduced new efforts to regulate mining including ASM. While artisanal gold mining in

Kenya dates to precolonial times (and was carried out more intensively between the 1930s and 1950s, see Amutabi and Lutta-Mukhebi 2001, 5-6; Roberts 1986, 551), Kenya has not historically been seen as a mineral-rich country, with mining contributing less than 1% of the country's 2015 GDP (Government of Kenya 2015: 16), for example. The recent discovery of oil in its northern territory, rare earth deposits in the coastal region, and large niobium deposits (Government of Kenya 2015: 19) has sparked interest in its mining and oil potential. In 2016 a new mining policy and act were passed, both with promising provisions on gender mainstreaming and the formalization of ASM (by bringing it into the formal economy through ASM licenses, for example; see discussion below).

In this paper, we explore women's livelihoods, and the operation of gender norms and structures in artisanal and small-scale gold mining in the Osiri area in western Kenya, focusing principally on one mining area³ described in more detail below. Our discussion addresses, first, a gap in research on gender and ASM (Jenkins 2014) and specifically on gold ASM (ASGM) in Kenya, about which little has been published (but see: ICPALD 2013; Amutabi and Lutta-Makhebi 2001; Mitullah et al 2003; Omiti 2013). We draw on field research conducted in regular visits to the Migori area between 2014- 2018 (a scoping visit in 2014 was followed by three and four-week visits each in 2015-2017, and two weeks in 2018), and key informant interviews with policy makers at the ward, county, national and international levels.⁴

We argue that gender, understood as the meaning systems, norms, roles, and performances that constitute and hierarchically order social, including economic relations (Scott 1986; Jackson and Scott 2002; Salzinger 2003), is foundationally important in

structuring artisanal gold mining in Osiri, shaping the kinds of mining livelihoods available to individual women and men and the relationships they navigate in pursuit of those livelihoods. The gendered organization of the mine site, with men found primarily in digging roles and women in processing activities, reproduces a gendered division of labour similar to that found in some other ASM sites (see e.g., Buss et al 2017; papers in this special issue). In mapping this division, our analysis is informed by feminist political economy scholars who argue for the importance of examining the daily practices, norms, and conditions through which economic relations and gendered norms and bodies are constituted (see e.g., Salzinger 2003 and discussion below). Gender, as we explore here, is (re)made and contested in the daily encounters of women and men as they pursue their mining livelihoods. The gendered division of labour found in this ASM site, we argue, is neither inevitable nor static. It is contested and strategically navigated by women in their mining work.

While our research demonstrates that women are overwhelmingly disadvantaged by the gendered ordering of mining roles, there is also significant variance in women's mining livelihoods and the barriers they encounter. These differences, we suggest, point to a second analytical focus of this paper: the importance of recognizing that the ASM sector is not homogenous but is differentiated by social inequalities and power relations of which gender is one (Fisher 2007, 751). While there is a growing call among some scholars to recognize the segmented nature of the ASM labour force (see e.g., Verbrugge and Besamanos 2016), there has been little attention to how women in ASM are also differently located (Lahiri-Dutt 2015). In this paper, we explore how gender is an important social structure that operates in Osiri-Matanda, but we also consider how

gender norms can have differential impacts and may intersect with other social vectors, such as age.

We begin the paper by drawing on feminist analysis of mining to outline a framework to guide our discussion of women's mining livelihoods in Osiri. In the second part of this paper, we outline the country's new mining regulations that pertain to ASGM. From there, our paper moves to an examination of women's mining activities in the Osiri mining area, and an account of how women structure their mining livelihoods in and through the gender norms that condition relations along the gold value chain.

Towards a Feminist Epistemology of ASGM

There is now growing recognition that women constitute a sizable percentage of the communities that work in ASM, but there is still a gap in research that makes estimates hard to come by (Hilson et al 2018, 318). Jennifer Hinton's influential research (see e.g. Hinton, Veiga, Beinhoff 2003; Hinton 2011) suggests that women can constitute 40-50%, or even higher (60-100%) of the ASM workforce in sub-Saharan Africa depending on the type of mineral and mining, and the location (see discussion 2003, 150-154). Feminist scholars (Jenkins 2014; Lahiri-Dutt 2012; Bashwira, Cuvelier, Hilhorst 2014) have argued that research on ASM needs to explore what women do in their mining work (to resist the tendency to see women only as victimized by mining), and to centre women as "key actors" in mining economies (see also Benya 2015). Crucial here, for Katy Jenkins (2014, 331), is the need to expand research from mapping women's work in ASM to considering the "gender dynamics and power relations at work." Collectively, this task

of gendering ASM and centering women in mining economies constitutes, for Lahiri-Dutt, a "feminist epistemology of mining" (2012, 194, 203), an approach that resonates with Cynthia Enloe's (Enloe 2000) injunction to ask "where are the women," as a methodological shift to explore the structures of dominance revealed by centering women in the analysis.

Maurice Amutabi and Mary Lutta-Mukhebi (2001, 5)'s landmark study of women in gold mining in the Mukabira area of Vihiga District of western Kenya provides one of the few studies of Kenya's ASGM sector while also illuminating some gender dynamics at play. Amutabi and Lutta-Mukhebi trace how ASGM became an increasingly important livelihood in Mukabira as agriculture declined because of "pressure on land and diminished fertility" together with drought and the "high costs of agricultural in-puts" (2001, 7). The authors found that women did "most of" the mining work: "they help in digging pits, panning, washing and selection using mercury. They also do the marketing, as they seem to be preferred by buyers. This is because women are generally more honest than men in rural Kenya ..." (2001, 13). Yet women had the least access to resources, such as land (2001, 4), and both women and men faced ongoing insecurity due in part to their status as 'illegal' miners. For example, while some of the miners were licensed by the government, many were not and hence became vulnerable to both official policemen and "conmen" wearing police uniforms who raided the mine sites (2001, 14-5). This, together with other forms of theft, were not reported because the miners were seen as "illicit" and therefore felt they could not access the protection of the state (2001, 15).

Amutabi and Lutta-Mukhebi's study suggests that gender norms and structural

inequalities are profoundly important in shaping the kinds of livelihoods and challenges facing women in artisanal gold mining in Mukabira. For example, at that time, women did most of the "buying and selling of gold" because they were seen by the miners as honest, with buyers preferring "to deal with women miners than men" (2001, 15). At the same time, institutions – of family, the state (health care, police) – and related agricultural economies were also important in shaping ASGM livelihoods, possibly with very different gendered effects. This study, along with the analyses of Lahiri-Dutt (2012; 2015), Jenkins (2014) and Hinton (2011), underscores the importance of 'placing' women in artisanal mining sites but also of resisting assumptions about gender oppression as always and only binary and operating along a single-direction continuum. Lahiri-Dutt (2015, 533) identifies a significant gap in the research on "how mining impacts not merely all women as a homogenous group but also how gender selectively creates advantages and disadvantages".

Attending to the uneven, varied operation of gender norms and meanings in structuring women's livelihoods and the constitution of economic relations is central to much feminist political economy scholarship (see e.g., Elson and Pearson 1981, and Rai and Waylen 2014 for an overview). Economic structures are defined and given meaning in and through the range of people, all marked by their varying social locations (i.e. gender, race, ethnicity, place of birth), who act and interact in those sites and relations (Salzinger 2016, 2; Hennessy 2000, 11). As Leslie Salzinger (2016, 3) notes, to say that the "economy is gendered cannot demonstrate the contextually specific consequences of this fact and thus do[es] little to illuminate how and why this social fact matters".

practices through which "social processes" unfold, and through which gender meanings are made, remade, contested and sometimes sedimented. "Gendered categories are remarkably rigid and tenacious" she writes. "The content of these categories, however, is highly variable and their importance fluctuates widely across social situations" (2004, 23).

In this paper, we contribute to a feminist epistemology of mining by providing an account of gender as constituting and constituted by the processes, institutions, and relations within Osiri-Matanda. That is, we espouse an approach in which gender inequalities are explored rather than assumed as flowing from particular economic relations and transactions. We limit our discussion to women's specific mining roles, while recognizing that women are also active in ancillary economies selling food, clothing, sex or domestic services, for example. In focusing on the gold digging and processing chain, we are better able to outline how these contexts are intimately gendered, reflecting and constituting anew gender norms and beliefs.

We argue here that gender norms, relations and institutions often operate to disadvantage women in their ASGM-related livelihoods, but in ways that may be fluid (allowing for change), contested, and giving rise to strategic adaptions by both women and men. These quotidian encounters are sites where gender relations and meanings are more nuanced, and can be produced, reproduced, negotiated, and possibly resisted. They also unfold in changing geological and political contexts. Mining yields in ASGM sites increase and decrease, altering the contexts in which mining relations are navigated and the operation of gender in structuring those arrangements.

Equally important, the political context is also changing with various institutions and

governments, such as Kenya, committing to 'gender mainstreaming' in mining laws and policies (Lahiri-Dutt 2015, 529-30). Exploring the multiple inequalities that women navigate in their mining work is essential in analyzing the conditions in which 'gender mainstreaming' unfolds and in which state policies impact on how "women's labour power is reproduced and made available for employment" (Pearson 2014, 20).

We turn now to this political context. While gold digging and processing in Osiri are, as we describe below, complexly gendered, Kenya's new mining policy suggests a more simplistic reading of gender and mining and women's roles within and experiences of mining.

Mining, Law and Governance in Kenya

With its 2016 Mining Act, the Kenyan government has, for the first time,⁵ specifically included provisions on artisanal and small-scale mining, defined "as traditional and customary mining operations using traditional or customary ways and means" (Government of Kenya 2016a, s. 4). The new Act provides for permits for artisanal miners, the possibility of establishing designated artisanal mining areas, and the establishment of Artisanal Mining Committees in each county to advise the Director of Mines on granting or renewing artisanal mining permits (see Government of Kenya 2016a, ss. 13, 94, 95). The Act was preceded by a new Mining Policy (Government of Kenya 2016b, 15) which calls for the 'mainstreaming' of artisanal mining to "remove barriers that hold back the development of artisanal and small-scale mining particularly

lack of access to finance, recognized mineral rights, inadequate technical capacities and incentives to operate legally".

The Policy also includes references to gender mainstreaming and the importance of diversity and inclusion. Strategy 12 (Government of Kenya 2016b, 15) of the Policy commits the government to "[d]evelop and implement frameworks, structures and mechanisms that ensure equitable participation, ownership and decision-making value chains by women, youth and disadvantaged groups". While the language of 'equity' here is promising, women's relationship with mining throughout the Policy is generally framed in negative terms. 'Women' are consistently linked to 'children' and particularly 'child labour' throughout the policy, and their mining work is described as "exposing them to risk of injury and contact with hazardous materials." The overall effect is to connect 'women' to 'child labour' leading to the presumption that women's ASM roles lead to child labour, with policy calling for "appropriate laws to curb this inhumane and unlawful practice" (Government of Kenya 2016b, 9).

In this language, the Mining Policy reproduces what Lahiri-Dutt (2012, 200) refers to as an over-focus on the 'impacts of mining on women', an approach that tends to position women as primarily passive and negatively impacted by mining. Lahiri-Dutt notes that this often translates into a focus on women in mining-related sex work or prostitution. While this isn't as obviously the case in Kenya's mining policy, the conjoining of women with children (and occasionally youth) defines women in terms of their maternal roles in which they are at risk (of injury and from hazardous substances), exposing their children to risk as well. Thus, the Policy seems to recognize in a limited way that women also engage in mining, but this recognition is then undermined by the

portrayal of the effects of mining on women as unrelentingly negative.

When women are seen as only or primarily impacted *by* mining, there is little consideration of women's varied participation *in* mining, and the complex social, political and economic contexts within which women's mining activities unfold. Further, the negative characterization of women in relation to mining can bolster a larger tendency to see artisanal mining more generally as negative (such as undermining the physical and/or social environment or deterring investment by larger-scale mining interests; for a discussion see Huggins, Buss and Rutherford 2017; Hilson and Gatsinzi 2014). Artisanal mining, when framed in terms of mining's negative effects on women, can lend increased urgency to government policies aimed at, for example, removing artisanal miners from mine sites, subjecting them to more regulation, or preparing artisanal mine sites for development by large-scale interests. While it is too soon to say if any of these possibilities loom on the horizon for artisanal gold mining in Migori, our findings in Osiri indicate that such policies would have considerable impact on the livelihoods and socioeconomic status of men and women alike, and the community as a whole.

Gold mining in Migori County and the Matanda mine site

Migori County is located in southwestern Kenya, with Migori town – the seat of local government – 30 km from the border with Tanzania. Artisanal gold mining takes place in various locations in Migori. Mitullah, Ogola and Omiti's study (2003), for example, found ASGM undertaken on farmland and homesteads in and around Migori town, in districts to the north and in the western areas of Masara and Macalder immediately next to our study site in Osiri. We also visited some homestead sites during our site visits in

2015 and 2016. Mitullah, Ogola and Omiti (2003, 281) estimate that the numbers of people involved in mining in Migori area "fluctuates from 30,000 during peak periods, to 10,000 during low periods". Almost all the mining in the area is artisanal or small –scale, though the Macalder site (a former copper mine) has been licensed to mining companies at various times, and may be poised for larger scale extraction.⁶ Artisanal mining remains, for now, the dominant form of mining in Macalder and Matanda.

Osiri is on designated trust land, a form of land tenure that includes former 'native' reserve' lands established under British colonial rule, or other 'native' land not included within government land or made alienable through private ownership (Aggarwal and Thouless 2009, 3). After colonialism, 'trust land' was managed by local authorities - county councils and the Commissioner of Lands - ostensibly in consultation with local communities (Wakhunu, Huggins and Nyukuri 2008: 3; Aggarawal and Thouless 2009, 3), but in practice, such consultations were minimal and more often trust lands were managed "to the detriment of local livelihoods" (Wakhunu, Huggins and Nyukuri 2008, 3). While most of the women and men we talked with told us that Osiri was on trust land, they also spoke of individuals and families who owned different sections of land in Osiri. Many of the shop and other business owners paid some form of rent to these individuals and families whose claim to land ownership appears to have originated from a single man who farmed the area after the colonial operators of the Macalder mine left following Kenya's independence.

While many of the miners and vendors working in Osiri we encountered grew up in Migori County, a considerable number came from other parts of Kenya or neighbouring Tanzania. The Matanda site in Osiri has the feel of a settlement camp with

a permanent core that is surrounded by temporary shops and dwellings that expand and contract depending on the quality of the ore; when good ore is to be found, it attracts miners from other sites. In many respects, the mining activities in Osiri are an integral part of the local community. The Chief of Mikei (an appointed position within the national government for a geographical area that includes Osiri), for example, also mines and said he is an 'ex officio' member of the Management Committee that oversees the Matanda site. In contrast, the County Secretary for Migori referred to the miners at Matanda as 'squatters', suggesting they have no legitimate status on the land. These varied institutional responses to miners in Matanda were reflected in other interviews we conducted and point to the contradictory position of ASGM in Kenya: some of the mining activities are, or are perceived as 'illegal' by some government and civil society actors, who also tend to disparage artisanal mining as socially and morally harmful. Yet, the community around the Matanda mine site in Osiri see mining as an essential livelihood from which the community has benefitted. As one woman land-owner and miner told us in June 2018, "Matanda has helped people. Women have built houses, paid school fees. People will get wild if Matanda is threatened. ... Matanda makes a difference. You would have to walk a distance to see a thatched roof here".8

Mining in Osiri unfolds in this varied and sometimes contradictory context; it is seemingly 'open' to incomers and it is legally 'un' or 'under' regulated because of the vacuum created by inadequate mining (and land) regulatory systems; yet it is enmeshed within the local community, including local government and authority structures. While Osiri, and Matanda in particular, appears as a large, sprawling, chaotic space, it is also organized and structured with its own institutions (i.e. a mining committee that oversees

the site) and, as we discuss below, mining practices and customs which, while not static, constitute a dynamic, gendered milieu in which women navigate their mining livelihoods.

Locating Women Miners in Osiri

Walking through the busy mine site of Matanda in Osiri, women are noticeably present, working in the shops, restaurants and bars in one section; at the places for crushing ore in another; and at the ponds where people come to wash ore. One area where women are less commonly found is the mine shafts themselves, where ore is dug out of the ground by groups of men using rudimentary tools: chisels and hammers for the most part, but sometimes also blasting equipment. Digging in the shafts, we were told repeatedly and by a wide array of women and men in the area, is for men only. We were given many explanations for why this is the case. One male respondent, whose father was a shaft owner, said that "women are very weak" and could not extract ore with a chisel and hammer. However, he did note that with better equipment (a machine) women could also do that work. Others said that miners (meaning the men in the shafts) are "rough", so whoever manages them has to be able to talk to them properly, something only men, and really only a limited number of men, could do. Still others referred to the longstanding belief in the area that if women go into the shaft, the amount of gold in the ore will diminish.

Working the shafts is hard and dangerous work; shafts collapse or flood, killing the diggers within. While numerous women indicated they would not want to go into the

shafts, the gendered exclusion of women from the shaft sets in motion a system in which women generally can only secure access to ore through negotiations or relationships with men. To illustrate how this happens, we set out below some of the main mining activities on the site and the ways in which these tend to be organized along gendered lines.

The men who work the mine shafts are paid in ore based on the amount of production. The shaft owners, or other investors, will also take a share of the ore, generally about 2/3 of the amount dug. However, we were told, with the decline in production workers have negotiated a 50% share. The shaft owners are also usually, but not exclusively, men. Owning a shaft means investing a significant amount of money in a range of tasks to make the shaft operational, including paying someone to build a ladder and to reinforce the shaft with timber (timbering) to ensure that it's safe for workers to descend. Shaft owners must also ensure the water is pumped out of their shaft so the ore can be extracted; this usually requires renting or owning a water pump and generator, as well as blasting equipment if needed to excavate and deepen the shaft. Generally, shafts are developed by a group of people who pool the money needed to construct and operate the shaft.

The individual male diggers will either process their share of the ore or will sell it, for cash, to others who will do the processing work. These buyers of unprocessed ore are often women who are taking a financial risk in making this purchase, as they must pay for the ore in cash. If the ore has no gold in it, the women lose the money spent on buying the ore, as well costs incurred for processing. If the ore has some good mineral content, the buyer likely will make money if she is able to negotiate a good price when purchasing the ore.

A woman, having bought ore, will then begin the different stages of processing. For example, parata, the Dholuo word for "breaking off", refers to the practice of using a makeshift hammer to break the mined ore into small and manageable pieces for drying. A woman with purchased ore may do this work herself or pay others - women or men (particularly older men who cannot go into the mine shaft) – an amount ranging from 50-100 Ksh/sack, roughly CAN \$ 0.6 - \$1.18/sack. *Parata* is physically demanding, repetitive work, but is also a low-cost, accessible activity for those seeking to enter mining (one respondent estimated his startup costs as 600 KSh – about CAN \$7.00 – for a hammer). The small bits of stone are then taken to the area of the mine where the ball mills (or crushers) are running (usually powered by diesel generators), where the stone is crushed into a fine powder at a fee of 300 KSh to crush a big bag of ore, 200 KSh for smaller sizes. The powder is washed into sludge and then mixed with mercury to isolate the gold. The washing is done in ponds called *odawo*, many of which are owned by women. In the process, some of the 'sludge' (tailings) remains in the pond with traces of gold, which becomes the property of the *odawo* owner. The sludge is then removed from the *odawo* about every four months and stored in mounds nearby. The tailings are locally known as "cyanide" or sainet, and are subsequently sold (for an estimated 150,000 Ksh or CAN \$1,769) to other dealers for elution or cyanide leaching for further gold recovery.

Many *odawo* owners also own ball mills (crushers), as the businesses are closely linked, and *odawo* owners generally are able to earn daily, regular income (though there is a few months lag time between starting an *odawo* and selling the tailings, during which the owner will have to cover all costs with no income). Owners of *odawo* and the ball mills are viewed as reasonably successful (though this work is not without its challenges),

and has become one way for women to invest in and improve their livelihoods. An *odawo* represents a significant financial investment, and only those women (or men) with some access to capital can open one. One woman said she pays the 'land owner' 40,000 KSh (CAN \$472) annually to secure access to the spot on which her *odawo* is built, and she paid another 310,000 KSh (CAN \$3,657) to build the *odawo*. In one year, she estimates she has recouped about half of her investment. A female *odawo*/crusher owner said that women frequently own these installations because women cannot go down into the shaft, so they need other economic opportunities to invest in.

Once processed, the gold is sold to the numerous dealers who have buying shacks in Matanda. The dealers either buy on their own behalf or for a larger buying agent (based in Migori town or Nairobi, for example). Some of these gold buyers or "dealers" are women, but most are men. We were told larger buyers prefer hiring young men as their agents in the mine site because of the chances of fraud and theft. Yet we were also told that women used to be hired as buyers, a finding echoing what Amutabi and Lutta-Mukhebi's research demonstrated in Mukabira (2001), but that this had started to change in Migori area. At this stage in our research it was not clear why. Some buyers advance money to the men who dig ore in the shafts, to cover expenses such as food, and which is to be paid back when the miners sell their gold to those buyers. While beyond the scope of this paper, gender norms also structure these relationships.

Those who do not have access to cash to buy ore or start a shop/business can enter the gold value chain by doing *oyweyo*: "sweeping". These are usually elderly women and men, but generally women, who collect stones and earth around Matanda's paths and mining areas. Others do the same along river banks and other areas where processing of

that may contain gold). There is (almost) no capital involved in securing this raw ore, which the collectors then "wash" in the river or at ponds as described above.

These various mining roles are neither mutually exclusive nor static. A miner can do one or more of these activities depending on resources, time, physical mobility, health and need. Economic mobility – as individual miners are able to accumulate capital allowing them to invest in other, relating mining activities - is not only possible, but is a theme that came up in a number of interviews. Several women in more lucrative occupational categories, like *odawo* and crusher owners, said they had started out with another livelihood activity, like ore buying. It is conceivable that a woman who began doing *oyweyo* (sweeping) could move to other, more remunerative processing activities such as *odawo* or the processor ponds.

Without direct access to the shafts as diggers or as shaft owners, women's mining activities are limited to processing activities for which they require access to ore coming out of the shafts. Their access is always conditioned by their relationship with the male diggers (and shaft owners, who also sometimes sell or give away ore). For some women, this relationship may be familial, or through a longtime acquaintance/friendship, or even a sexual relationship or exchange. For other women without these relationships, accessing ore requires negotiating with a digger (or shaft owner) to purchase the ore for processing. Men selling ore largely determine the price and the condition of sale. As one woman buyer observed to us:

"When mining is good here, women benefit a lot, but the men get much more because the men go down, and can come with this good ore and process it. Men will keep the best ore. When your husband is the one doing the mining, if the ore is good he brings it, you process it, and it becomes family money. You can use it to pay school fees, buy household items, buy land, invest."

Buying ore is itself in enmeshed in gender structures. In this quote, the woman is pointing to several dynamics. One is about marriage, and the negotiations that take place within the family; another is about the practice of men who hold onto 'good' ore and sell only lesser-quality ore. Within the limits of this paper, it is this latter practice and debate that interest us.

In the course of our visits, we encountered repeated contention around the practice of (or views about) men keeping the best ore to process themselves, selling only poorer ore to women. Some women and men said this did not happen, and that 'negotiation skill' explained why some women paid different prices and/or accessed better quality ore. "Some women are better than others at bargaining", a young male miner told us, and some women expressed the same sentiment. Yet, others, both women and men, said the opposite: that men were in the habit of processing the best ore themselves (therefore keeping it out of women's hands), selling only the poor-quality ore to women buyers and particularly so when production is low. One respondent even expressed the view that miners would *never* sell good ore.

The negotiations that take place between male sellers and women buyers are also complicated by differences between men who work in the mine shafts. Male diggers, we were told, are differentiated by experience and access to good-quality ore. Some diggers are said to occupy an elite status as skilled miners known as '*jo-ponj*' (singular: *ja-ponj*).

The *ponj* is the steel chisel used to dig ore from the reef-bearing rocks. The ore collected by the *jo-ponj* miners tends to have better mineral content since it is drilled from the underground gold reef. *Jo-ponj* are viewed by many – and themselves – as expert miners. Another category of digger is '*jo-ojowo*' (*ojowo* meaning to collect), which refers particularly to less-experienced miners who gather the remnant of rocks broken during the use of explosives inside the mining tunnels (wherever the mineral content declines to low levels, the miners use explosives to blast the tunnels). These rock fragments may contain low-grade ore that the miners can sell to ore buyers (often women) for further processing. The low quality of this ore should, in theory, result in a lower price, but this may not always be the case.

While it was not clear whether and how individual men claim or contest these categories of skilled and less skilled miners, the categories themselves seemed to have semiotic and material consequences. The difference between someone seen as, or who claims to be, *ja-ponj* and *ja-ojowo* can impact the negotiation process. A woman hair salon owner in Matanda who also buys ore occasionally explained it to us this way in 2016:

When you have a lot of money, you could get stone from the *ja-ponj*. But sometimes even the *ja-ponj* ore is not really good. *Ja-ojowo* won't tell you that they are *ja-ojowo*. It is attractive to be *ja-ponj*. They won't tell you because they want to sell for a good price. And whether or not they will sell is not a foolproof way to tell if someone is *ja-ponj* or *ja-ojowo*, because *ja-ponj* sometimes sell too. The bargain is on how you negotiate the price. As you are bargaining, somebody else also wants the ore. You will lose the ore if your price is bad.

Men who dig in the shafts, whether *ja-ponj* or *ja-ojowo*, possess another valuable asset: knowledge that comes from working directly on the gold seam which translates into both experience (from which they learn to assess ore in terms of its gold bearing potential) and immediate knowledge of what is coming out of the shaft. Some men, we were told, strive to keep important information about the value/gold content of the ore they were selling to themselves.

A woman could therefore spend several thousand Kenyan shillings buying ore and still come out at a loss if the value of the gold extracted was less than what she paid (including processing costs). One woman, a widow, told us that buying ore was hard work and that it was possible to lose all your money doing it. She noted that the skilled miners – the *jo-ponj* – can take all your money, but give you bad stones. It had happened to her, forcing her to start all over again. She explained that once she was able to make the money she sought, she got out of ore buying. She would still do it on occasion, however, if she heard that there was profit to be made at a given shaft.

A common complaint over the research period was declining gold production overall in Matanda, with less good quality ore in circulation. While the operation of gender norms – in excluding women from digging in the shafts – tended overwhelmingly to disadvantage women, the gendered effects were also intersectional. Younger, less knowledgeable men, for example, do not necessarily have the same access to higher value ore as other men, while older women, with potentially more experience, may not be able access ore precisely because they are (or are perceived as) experienced and older. As one male digger explained to us in 2016, "Both men and women can benefit [from ore

buying]. For example, if you sell to a woman, she can do better than you. Women have the persuasive words." Later, the digger explained further:

men can know the quality of the gold because they process it. So it can help them to negotiate price. But sometimes the men think the ore is of poor quality, so the buyer wins. The women try their luck. Some women can determine the level of the stone, having worked for a long time. ... men with low integrity would hide away from women who can tell the quality of their ores.

The lack of direct access and control over ore was said to expose some women to the need to offer sexual services in addition to other types of services in the ore-processing chain. Several times in interviews, respondents told us that women would not be able to secure the best ore with money alone; in some cases sexual services will be exchanged as part of the negotiation. The sexualization of women's mining roles was found in other parts of the processing chain. Women are said to be popular choices as employees at the ore crushing machines and *odawo*, and (sometimes) as gold buyers because men prefer to deal with women, not only purchasing services from them but also engaging in flirtation that may lead to sexual relations or a relationship. In addition to including sexual obligations (which may or may not be welcome), this system potentially disadvantages those who are seen as having less to offer in sexual terms. One older woman who earned a small livelihood by collecting *changa* (loose rocks) to process told us that she didn't process ore for other people because male miners would not be able to set up a side arrangement with her as they would with a younger, more attractive woman.

The foundational gendered division of labour in the mine site – with women prohibited from digging in the shafts and working primarily in processing activities —is thus crucially important in contributing to the gendered organization of the mine site and the activities within it. But the full effect of this gendered exclusion on individual women and men needs to be seen within the different components of the gold processing chain where gender norms and institutions also operate, but in ways that may be uneven or where women have developed their own strategies. Women's exclusion from the mine shafts, for example, seems to have resulted in a significant number of women as owners of *odawo* (ponds) and crushers, suggesting that while they may have been excluded from some livelihoods, they have carved out others. These other roles like owning an *odawo* were spoken about in gendered terms. For example, a group of women working at an odawo (owned by another woman), said that "odawo ownership is easier for women because they understand this activity better than men. It's easier for women to persuade men to come work at their *odawo* after crushing the ore, because of their appearance and the men's emotional attachment to them. Men like seeing women. A man would have to use very technical means to get another man to frequent his *odawo*".

In other contexts, the normalized exclusion of women from the shafts intersect with other institutions and structures with differing impacts on some women. We suggest here that age is one of those intersecting variables in structuring gendered disadvantage, but there could be others such as place of birth, citizenship, ethnicity, or other social attachments through kin or socio-economic networks. Finally, as we argue below, while gender disadvantage appears enduring, gender norms and their effects are changing and changeable.

Change and resistance in gender norms

During the 2016 field visit, we interviewed an older man (known as a *mzee* in Swahili), who is an owner of an *odawo*, along with several other younger men. The following exchange took place:

The mzee: The way mining is done here is Africanised: they are in a hurry, are under-resourced. The white man takes his time, develops the steps properly; they are mechanised. Here, shafts are not developed properly [for women]. I doubt if women can do the physical work. If there is more machine equipment, women can just do it.

Younger man: It's a taboo. Women who are in their menstrual period, if they enter the shaft, the gold would disappear. That's my opinion; it might just be a belief.

The mzee: But you can't know if a woman or other has her period, and in those times, they just work.

Younger man: The work will not favour women. They are less energetic. They may suffocate in the tunnels. In certain areas, the miners crawl on their bellies. A stone can hit him on the head.

In this exchange, the male miners were speaking about the widely held view that women cannot go into the mine shafts. While the generalized ban on women in the shafts seemed mostly in effect, we also found some women who were either shaft owners, had purchased access to shafts (known as 'shifts'), and/or descended into the shafts, clearly against the dominant norm.

Women who have access to sufficient capital can more directly access ore in the shaft by buying 'shifts': a length of time (from 24 hours to several days or even a week) during which the shift purchaser works the shaft with their own crew of diggers, taking the proceeds with an agreed cut for the shaft owners. The injunction against women going into a shaft poses a particular challenge as these women then have to hire and trust a manager (or family member) to oversee the diggers in the shafts. Buying a shift is a significant investment and hence outside the means of many of the women we encountered in Matanda. A multiple-day shift, for example, could cost as much as 700,000 or 800,000 KSh (CAN \$ 8257 - \$9437). While shifts can be financially risky, particularly for women, they may also be a workaround to prevailing gender norms that prevent women from entering the shafts, thus offering them one way to earn significant profit. By joing with other women or men, the risk of being cheated can be reduced, as is the financial burden.

Some women are also shaft owners. During our 2017 visit, we met two women who are part owners of shafts within Matanda. We also met other women shaft owners, usually located on land owned by themselves or their families in the broader Osiri area. Even these women shaft owners are seen as bound by the prohibition on going into the shafts. One of the women shaft owners we met in the Matanda site, however, did not

abide by this rule and she habitually went into the shaft when she needed to check on the activities underground. Her example, and another we discuss below, suggest that not only are some women circumventing the ban on women in the shafts (by buying shifts, for example), they are more directly pushing back against it.

Also in 2017, we visited a shaft outside the Osiri area, co-owned by a woman who we are calling Patience, and who employed other women as diggers in the shaft.

Patience, aged about 30 years, had been working for approximately eight months to open the shaft, which is located on her husband's family land. Her husband is a skilled miner, a *ja-ponj*, who works at different mining sites. Patience said she started mining by collecting easily available gold on a hillside at a once highly-productive site. She had also traveled to Tanzania and other areas in western Kenya in search of work, where she gained mining experience.

Patience said she employs more than 17 women, all found through word of mouth: ten as permanent workers, seven casual. The women hired on a permanent basis receive 500 KSh per day, as well as a small portion of ore. A casual worker who works the entire day will receive 500 KSh. About half of those 17 women said they go down into the shaft, which we observed. Some of the women who went into the shaft had already done so in the past, at a nearby shaft on the other side of the road, while for others it was a new activity. While the shaft was not yielding much gold –bearing ore at the time of our visit, Patience was adamant that she intended to keep all her female workers on and use men as casual labour only, even when the shaft began to produce. She prefers working with women over men, she said, because men are stubborn and difficult to work with, particularly when the employer is a woman. When we visited her

in 2018, the shaft was developed and she was now employing men, not women, to dig the shaft. "When they hit hard rock women do not have the energy for this. They are okay to work in the shaft when the ore is softer," she explained. While Patience herself continues to go into the shaft "to check", she hires "twelve ladies to help her do the processing". These women make less money processing then they did as diggers, she told us.

Patience was able to invest in mining in part because of her access to land and capital through her husband, and because she has a male sponsor, yet she continued to experience problems accessing sufficient capital to develop the shaft and access the heavy equipment she needed. But her mining operation is also challenging gender norms in the mine site that operate to exclude women from direct control of the ore. The conduct of miners like Patience and her all-woman crew, suggests that the "rules" in place that constrain women's livelihood options are not inevitable or non-negotiable. Further research will be needed to see how such situations evolve over time and the extent to which the actions of Patience and others create inroads for other women, particularly those who do not have the same social and economic capital.

Conclusion

While there is now a small but growing body of research on women's work in ASM that addresses a significant gap in the literature, the "gender dynamics" at play in the ASM sector is still under-examined, as Katy-Jenkins notes (2014). In this paper, we have provided a close reading of the production of gendered meanings and practices in one gold ASM site in Western Kenya to explore the ways in which gender shapes women's mining roles. While this paper is necessarily limited in its analysis – setting aside for the

moment questions about gender and social reproduction and intra-household dynamics — it explores the ways in which gender norms and relations are clearly central to the organization of mining activities in Matanda site in Osiri. The gendered norms that prohibit (most) women from even entering the mine shaft, let alone digging for ore, means that women must negotiate with men for control over and access to ore.

While demonstrating the importance of gender in structuring women and men's mining livelihoods, we have also argued that gender norms and structures are varied and changing. In this analysis, we follow the lead of scholars like Leslie Salzinger, to explore (rather than assume) the processes through which gender meanings correlate to categories of work (2003, 13). The gendered division of labour in Matanda, with men doing most of the digging and women most of the processing roles, is mapped here but as a starting place for an analysis of how this division is actively produced and navigated.

This analysis underscores the importance of Lahiri-Dutt's argument (2015, 533) that gender in mining operates in ways that are uneven and variable, not necessarily impacting all women equally. As we demonstrate here, some women have been able to carve out numerous and diverse livelihoods. A number of women have thrived economically by investing in mining, including by combining different mining-related businesses. Other women, particularly those who have significant home and child-care responsibilities and/or do not have support networks, are not able to accrue capital or take the risks needed to invest in mining ventures. For these women, their mining incomes are still essential for feeding and clothing themselves and their families.

Gender, thus, shapes women and men's mining livelihoods, but so too do other social vectors. In this paper, we suggest that age is one such axis that intersects with

gender in ways that impact women differently, sometimes opening up, other times foreclosing possibilities in their ASGM livelihoods.

Our research points to the importance of nuanced analyses of gender in structuring livelihoods in this sector, particularly relevant with changing regulation by the Government of Kenya. ASM populations are not homogenous (Fisher 2007), and this is true also of the women who engage in mining activities. In Osiri-Matanda women occupy varied positions and socio-economic status; some are land owners, others are shaft or business owners, while others still work in the most marginal roles. Recognizing that women are arrayed across the mining value chains means that women are also not equally positioned to benefit from efforts to formalize the ASM sector in Kenya. In a context where government policy now requires 'gender mainstreaming' in the mining sector, our argument in this paper urges more attention to how gender operates within mining contexts in uneven and changing ways.

This paper has focused only on women's mining livelihoods, leaving unaddressed for now the many women who own and operate the extensive ventures – shops, hotels, restaurants, services – within Matanda itself (though some also do mining work). Many of these women - more so than the men we met - are involved with 'merry go round' savings groups for 'table-top' banking, which, together with more formal financial relationships, have played a role in allowing them to diversify their livelihood options. The gendered impacts of ASGM on the surrounding communities also needs to be examined, to explore how gender shapes the practices of women and men's organizing and access to capital in ways that may have different implications for how they experience changing government regulation of the sector.

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² The idea of 'waves' of mining law reforms is taken from Bonnie Campbell (2004) who suggests there has been three generations of mining law reform on the African continent from the 1990s to the 2000s.

³ The focus of our field research was on a site called 'Matanda' which is part of a small community called 'Osiri', or 'Osiri Junction'. In practice, many people within and outside the community refer to the specific mine site of Matanda by the slightly more expansive term 'Osiri'. We use 'Matanda' when referring to the central and most active part of the mine site.

⁴ The field research was completed by the authors, with Katz-Lavigne and Otieno doing most of the research in Migori county, supported by Buss and Alma. The study was approved by Carleton University's Research Ethics Board and was conducted with approval of Kenya's National Council for Science and Technology. Funding for this research was provided by the Social Sciences and Humanities Research Council of Canada, "Women's Livelihoods in Artisanal Mining Sectors: Rethinking State-building", #435-2014-1630.

⁵ Prior to its new Act, Kenya's 1940 colonial-era Mining Law (Cap-36) did not include provision for artisanal and small-scale mining, emphasizing prospecting and large-scale extraction of the resources ⁶ This includes Mid Migori Mining Company in 2009, owned by British and Canadian corporations which secured a special prospecting license with a plan to exploit the tailings at Macalder, among other things (Krasenberg, 2012; Gachiri, 2014)

⁷ See also United Nations Food and Agriculture Association, "Kenya" Gender and Land Rights Database, online, http://www.fao.org/gender-landrights-database/country-profiles/countries-list/land-tenure-and-related-institutions/prevailing-systems-of-land-tenure/en/?country_iso3=KEN (accessed 12 September 2017). How Osiri came to be designated 'trust land' is beyond the scope of this paper.

⁸ The reference to 'thatched roof' is a comparison to the use of more expensive roofing materials, such as tin or tiles, which are ubiquitous in the area surrounding Osiri, and where the overall size and quality of the houses suggests wealth compared to other non-mining areas in the vicinity.

⁹ Nothing that the research team was told about this phenomenon suggested that it was non-consensual. There may be a sexual harassment/sexual violence component, but further research is needed into this phenomenon.