

The social and cultural upheavals that mining caused in rural and remote locations did not escape the attention of feminist scholars. Not only did they focus on gender-selective impacts, they also argued that women could not be left behind if mining is to benefit communities. The two books published in this context could not be more different from each other in their approach. Gier and Mercier's (2006) work adopts an historical perspective and largely, but not entirely, focuses on Europe and North America; Lahiri-Dutt and McIntyre's (2006) volume, on the other hand, places gender within the context of mining in Asia, Africa, and Latin America. Together, the books illuminate the hegemonic masculinities in mining workplaces and communities, the strong gendered division of labour, and the absence of gender-sensitive approaches both within the industry and in its external behaviours (e.g., corporate social responsibility (CSR) which focuses on quotas rather than on understanding how processes of masculinity, femininity, and sexuality operate in everyday life, are upheld, and are reproduced). They also highlight the importance of understanding women's diverse lived experiences in and around mines—whether they are working directly or indirectly in mining or excluded from participating altogether.

Arriving at a crucial historical moment, and presenting diverse perspectives, the two publications marked a milestone in the recent development of a feminist field of research that draws its strength from a number of more established areas of inquiry including anthropology, human geography, labour studies, development studies, political economy, feminist political ecology, and gender studies. Into a significant gap, and with an increasing need to make sense of gender in and related to contemporary extractive industries and practices was filled, a body of literature developed into a field. The field of gender and mining, with its diverse approaches, was thus created in and nourished by the feminist spirit of eclecticism in methodologies.

Prior to 2006, scholars had studied race, class, and gender in mining, but 2006 marks a distinct moment of departure in scholarly direction and interdisciplinary orientation in its greater focus on women. Firstly, with the exception of John's (1980) work, for the first time the two books focused scholarly attention exclusively on women rather than on the wider cultural and social dynamics of mining communities, casting only occasional glimpses into women's lives, and then too often as agents of reproduction. Secondly, women's contributions to mining as a diverse assemblage of practices were illuminated in the past and contemporaneously and the gender dynamics produced by their work in extractive practices changed the growing narrative of women's victimhood. The timing of these publications was significant: the incursion of extractive industries had started to inspire activists and international non-governmental organizations (such as Oxfam) to provide evidence of women suffering from the worst impacts of these mining operations. The evidence is irrefutable, and some ways to deal with these changes are presented in Lahiri-Dutt's (2011) edited collection, which highlights the ways in which gender can be mainstreamed in extractive industries.

The field was based on the premise that gender equality in extractive industries can be achieved by empowering women, and characteristically the two terms "women" and "gender" became blurred or used synonymously. I too largely adopt this approach in the present paper, equating the two terms according to Scott's (2010: 10) view that whether or not gender remains a useful category of analysis depends on the critical uses that are made of the terms [italics mine]. Indeed, feminist theorists (such as Gunnarsson, 2011) have risen to defend the category of "women" in recent years, noting that the debate should be located beyond the binary of gender-essentialism and anti-essentialism (Mikkola, 2012). Hekman's *The Feminine Subject* takes up the challenges posed by essentialism and asserts that all people—women and men—are not made but are born. Haslanger (2017: 165) agrees and argues that gender is partly a function of one's role in a social framework of identification in highly variable contexts. The ideas of feminist identity politics are not ignored but are ingrained in this thinking, as Gunnarsson (2011: 34) observes: "The reason why it would be fatal to leave 'women' behind as a feminist category of analysis is that we need it to denote

women's specific relation to a gender structure the properties of which we may only then struggle to define". Therefore, while continuing to deconstruct the deterministic and essentialist notions of what it means to be a man or a woman, one does not need to pretend to be exhaustive of feminist theorizing. This is the reason I use both terms—women and gender—interchangeably in this paper. Moreover, although the term "intersectionality" was not explicitly deployed, this early research can be read in light of what Hekman (2017: 199) calls "new materialism" to understand the transcultural and transhistorical intersectional identities in women living around and engaging with both industrial-scale mining operations and informal ASM.

Since the publication of these texts in 2006, there has been an unprecedented commodity boom, bringing extractive industries to the forefront of discussions on political economy and political ecology. More importantly, this commodity boom and the perceptible expansion of extractive industries in Africa, Asia, and Latin America has also been associated with a remarkable decline in smallholder agriculture (Lahiri-Dutt, 2018), blurring the distinction between "mining workers" and "peasants". Within extractive industries, the most spectacular change in recent years has been the significant attention given to women's labour contributions to informal ASM by feminist scholars. Lahiri-Dutt (2012: 10) notes that the study of "women in ASM is high and on the rise", and Jenkins (2014: 331) observes that "most of the sources on ASM provide rather factual accounts of women's involvement but few develop strong critiques of the gendered dynamics and power relations at work". Since then, feminist research on the presence of women in ASM has expanded rapidly. In recent years a remarkable amount of scholarly effort has investigated gender in ASM, particularly in Africa where the literature is overwhelmingly situated, despite there being significant ASM in parts of Asia and the Americas.<sup>1</sup> It is estimated that women comprise at least 30% of the ASM labour workforce (Buss et al., 2021), yet other estimates suggest that women in ASM vary between 10% and 60% (Lahiri-Dutt, 2015: 529). Moreover, Lahiri-Dutt (2015: 533) observes that this feminization is "redefining the problem of gender in mining", turning it into a field of research in its own right, and bringing gender to the forefront of scholarly attention as women claim their rights to mine as active agents.

Based on desktop research, this paper reviews the emerging literature on gender challenges in both large, industrial-scale mining and informal ASM to draw out the main threads of research and indicate directions for future research. However, to avoid establishing an artificial binary of large and small, if one considers the two kinds of mining as inhabiting two extreme ends of a spectrum of mining practices, there would still remain innumerable variations between them. Therefore, organization of this paper into industrial extractives and ASM is simply a matter of convenience. The paper therefore also includes a section on the emerging questions of women's rights and empowerment, with the concluding section focusing on anticipated areas of future research and the theoretical frameworks they might rely upon.

## 2. Gender in and around industrial mines

Although in recent years there has been a greater focus on agency and the strategies women use to derive benefits from mining, many authors continue to focus on the disproportionate burdens imposed by mining on women, often alongside agency, indicating a nuanced approach. Within this broad change, there are specific trends, which I have categorized according to five themes: a greater attention to differential impacts within the category of "women"; persisting gendered division of labour in industrial mines; intersectional identities and explorations of gendered emotions; masculinities and gender identities in mining; and women's agency in anti-mining activism. The sub-sections

<sup>1</sup> I am not able to offer a clear reason for the greater visibility of gender in ASM in Africa. Perhaps this is an area for further investigation.

below discuss these trends.

### 2.1. Not all women are impacted in the same way

Some authors no longer treat women as a singular category, bringing an intersectional lens to understanding interlocking forms of oppression and how systems of oppression are reproduced. In the Global North context, [Bennett \(2015\)](#) looks at women's paid work in a former coalfield in East Durham, England, where industry closure has resulted in job loss and economic changes shaped by low pay and insecurity. With regard to four generations of women's paid work, as well as their domestic and unpaid work and the impact of the state welfare system on them, the author concludes that "things change but systems adapt so that women remain unequal" (pp. 1298–99). Exploring why the working lives of women in this context have not improved over time despite changes in legislation around equal pay and welfare support, [Aragón and Toews \(2018\)](#) draw upon evidence from the closure of mines across the United Kingdom since 1984 and find that, overall, after closure, men's employment in manufacturing and services increased whereas the demand for women—and thus their employment in these sectors—decreased. They suggest that this is "because extractive industries are heavily male-dominated ... [and although] women may not directly work in mining, their employment opportunities are still affected by mining cycles" (p. 66). This draws attention to the persistent gendered division of labour that is discussed next.

### 2.2. Gendered divisions of labour continue in industrial mines

In the Zambian copperbelt, [Evans \(2015\)](#) turns to history and early ethnographies, specifically between 1900 and 1990. Her study of gendered divisions of labour over time illustrates the ways in which economic interdependence between women and men in pre- and early colonial periods shifted to women's increasing dependence on men, and how mining culture cemented the male breadwinner and female housewife stereotypes (p. 344; see also p. 354). [Musonda's \(2020\)](#) analysis of underground work in the Zambian copperbelt references the fluidity of gender identities, suggesting that, for contemporary families with working wives, "economic security is a more important determinant of a man's or woman's position than gender difference" (p. 32). Thus, in contrast to the past when women's underground work was associated with shame, power that is derived from wealth may now override gendered "good behaviour". Moreover, despite "persistent legal bans against employment of women in underground mines" ([Musonda, 2020: 32](#)), women's employment has increased because changes in the labour market have "contributed to catalyse gender flexibility and to lower gender inequalities in Zambia" (p. 35).

Why does women's employment in mines not necessarily lead to gender equity? Mining workplaces adopt targets, but chasms between the policy of targets and the reality of women's experiences remain, as does sex-based discrimination ([Rolston, 2014](#)). In an exploration of women mineworkers' experiences in South Africa, [Benya \(2017\)](#) shows that although a 2004 Mining Charter introduced a target of 10% women employees, "the assumptions held by workers, the daily practices, and the policies and discourses around mining, are all shaped by male norms" (p. 513). Training occurred within a "protectionist discourse which reinforced female fragility" (p. 514) and, therefore, male workers were "not only drilling the rock, but drilling a particular kind of mining masculinity into each other" (p. 516). Notwithstanding (dysfunctional) formal organizational policies (p. 519), the toxic masculine practices were strengthened by an unwritten code of silence between men, enabling them "to grope women, ejaculate on their backs, rape and murder them underground" (p. 518). A similar picture emerges from [Kansake et al.'s \(2021\)](#) multi-country study which shows that 53% of women employees in industrial mining operations are dissatisfied due to sex-based harassment, income disparities, gender-based discrimination, unclear career paths, and unsupportive work colleagues. This portrayal

is in sharp contrast to [Musonda's \(2020\)](#) account, where Zambian women mineworkers claimed to have never experienced sexual harassment ([Musonda, 2020: 37](#)).

Historically, mining has created an archetype of male labour, erasing women's labour contributions, puzzling researchers as to why. [Lahiri-Dutt \(2019a\)](#) blames the 1842 British Mines Act as the earliest legal instrument to have shaped later protective legislation by the International Labour Organization. [Romano and Papastefanaki \(2020\)](#) detail how the process of "masculinization and mechanization" has resulted in the "de-labourization" of women's work and has entrenched unequal relationships between men and women and restricted the majority of women's work to the household and informal spheres.

Mines continue to be reproduced as masculine despite gender mainstreaming efforts and gender equality programmes, policies, and practices. Even when women are employed, they may be excluded from higher remunerative or powerful positions at the core of the mining business due to socialized gender ideologies. [Pugliese \(2020\)](#) shows that when new investors enter the field, even if they bring good gender equality, they cannot easily implement it, instead having to confront paternalistic social policies of past mining companies that have entrenched a certain gender hegemony. The culture of gender equity instigated by mining companies results in genuine job creation for some women, whereas "equality" is generally understood only as a Western-imposed concept (p. 7).

An important emerging area of research relates to the roles of company-led gender mainstreaming in CSR projects that target women in mining communities, rather than those working directly in mining. In the context of the Lihir gold mine in Papua New Guinea (PNG), [Hemer \(2017\)](#) studies the social and cultural nuances of women's strategies to advance their position, specifically through two women's associations that take different approaches. One organization draws upon international understanding of and conventions on gender and development with a focus on greater political representation and decision-making (leading the PNG Government to develop a Women in Mining National Action Plan in 2007), while the other has a more local focus and is supported by the mining companies (with activities such as sewing training). In the context of engagement with mining companies [Erdiaw-Kwasie et al. \(2017\)](#) observe the role played by gender in CSR, but [Measham and Zhang's quantitative \(2019\)](#) female participants were more likely to work against an imagined mining company due to their moral convictions and different levels of perceived personal or family risks associated with the industry. In Guatemala, [Macleod \(2016\)](#) similarly shows that indigenous women activists hold up a vision that is "relational, collective and life centred" (p. 96)—a lifeworld that contrasts with the contents of the mining company's CSR efforts (p. 95).

Not only in CSR but also internally have large extractive companies continued to remain male-dominated. Reviewing data on women's representation on corporate boards and in senior management of Canadian mining companies, [McMaster and Seck \(2020\)](#) note the lack of diversity. They argue that the definition of "firm performance" must account for respect for the rights of women and girls.

### 2.3. Gendered emotions and intersectional identities

While the gender and mining literature has mostly moved away from naturalizing men as mine workers and women as "miners' wives" or as primarily inhabiting the domestic sphere, some studies continue to use this approach. Authors such as [Silva-Segovia and Salinas-Meruane \(2016: 1685\)](#) focus on how "gender constructions of 'the paid miner' and 'female partner'" and "emotional adjustments and imbalances experienced by female partners" are a result of dissimilar work schedules and prolonged absences of one partner due to shift work. Yet, this growing body of literature is increasingly aligning with developments in feminist theory. For example, [Hernández Reyes \(2019\)](#) adopts a black, decolonial, and intersectional feminist lens to explore Afro-Colombian women's experiences and resistance in the face of encroaching

neo-colonial extractivism, illustrating how black women's "emotions and collective affections were driving forces that exhibited both their exclusions and their resistance" (p. 217). The distinction is made between neo-colonial extractivism and the "ancestral mode of mining [that] is a traditional activity and source of subsistence for Afro-descendant families, and ... does not destroy the landscape" (Hernández Reyes, 2019: 221). In contrast to neo-colonial extractivism, ancestral mining contributes to communal living and mutual aid, and is under threat from large-scale mining.

The intersectional frame for examining gendered impacts and resistance has helped researchers to avoid essentializing women (and men), and made visible both gendered emotions and indigenous identities. In New Caledonia, Horowitz (2017) explores indigenous Kanak women's complex and intersectional social positionings, which are informed by culture, post-colonial politics, gender, ethnicity, age, socioeconomic status, and social hierarchies. She argues that while women have greater agency in engaging with development initiatives and external factors such as those present in mining projects, mining companies exploit women's subjugated social status to marginalize their concerns. Retrogradation—the marginalization of young rural and poor women which limits their options—is seen as a form of cultural violence that produces "an anachronistic narrative that ignores social transformations, reinforces pre-existing forms of oppression, and places the blame squarely with the other culture" (p. 1423). Interestingly, the local resistance movement only empowers senior men, while women feel excluded and disempowered in negotiation processes (Horowitz, 2017: 1434). In Ecuador, indigenous women are frequently framed as key protagonists in narratives of anti-mining activism. To explore the gendered and racial nuances of *defensora* identities (*campesina* women who resist industrial mineral extraction and defend territories from dispossession use for themselves), Velásquez (2017) adopts an intersectional lens. She investigates the political practices of different women, and illuminates the multiple ways in which women demonstrate their opposition to the mining company. While the women have complex racial and social identities, "discourses of motherhood were used to iron out the complexities of organizing a diverse group of women differently positioned in the race/ethnicity, class, and age matrix" (p. 265).

A growing body of literature attempts to untangle the psychological and embodied impacts on women, or "emotional geographies", of mining. Muchadenyika (2015) notes that women complained of being emotionally drained and that there was a growing disrespect within families as a result of the burdens of mining impacts such as relocation, where women's livelihood strategies were undercut by the environmental impacts of mining. Correspondingly, Macleod (2016) finds that Guatemala's first open-pit goldmine caused physical, spiritual, and emotional and embodied distress, while women "highlight the 'deep sadness' that this unprecedented damaging situation has brought to people" (p. 91).

Research on intersectional identities and emotions coalesces into one; a focus on emotions in Velásquez (2017) highlights how "Black women's passion, anger, courage, love, and hope are mechanisms for producing alternative practices of liberation and feminist Afro-epistemologies ..." (p. 230).<sup>2</sup> In the Hunter Valley, Australia, Ey (2018) explores emotional geographies to bring attention to the ways in which particular hegemonic masculinity works to marginalize, dismiss, and erase "very real" and "horrendous" (p. 2) emotional consequences from within the extractive sector (specifically large-scale open cut coal mining), resulting in the emotive and affective impacts of mining being devalued and unaccounted for, especially when shaping how "social impacts" are measured and mitigated within the industry. Ey (2018: 2) shows that "while emotions themselves are not gendered pre-socially,

problematic representations of emotions as 'feminine' have been central to "the control and marginalisation of women as irrational subjects" and "these gritty, earthy, everyday relations are routinely rendered unimportant, 'airy fairy', or invisible by the masculinist discourses ..." (p. 4).

#### 2.4. Masculinities and gender in mining communities

Researchers are increasingly exploring gender in a broader sense, and including discussions of masculinity, particularly the pervasive presence of hegemonic masculinities. As new players such as Indian, Chinese, and Vietnamese investors mobilize mining capital in other countries of the Global South, the traditional forms of gender hierarchies (racial segregation, for example, as noted by Jonathan Crush in South African mining camps) has changed and will bring new forms of masculinity into conflict with each other. In the context of a large industrial mining operation in PNG, Kuo's (2020) research questions how conflicts in masculinities—as Chinese investments grow in mining Pacific Island countries—are inevitable. Indeed, Lahiri-Dutt (2013) shows how "expat" experts in mining operations interact with "locals" within the context of the mining camp, a privileged environment, and create novel gender identities that do not conform to the hegemonic models of either community. Abrahamsson and Johansson (2020) explore hegemonic masculinity in the context of mining and technology. This genre of research is growing but will soon become a major area of investigation as more cross-country investments in industrial mining continue or mining workplaces become digitized and automated to reconfigure work in mining organizations, in turn challenging (or entrenching) existing gendered roles and norms.

#### 2.5. Women and anti-mining activism

Much more of the recent literature has focused on the topic of women's roles in activism and resistance. Jenkins and Rondón (2015), who adopt and unpack the concept of resilience in Andean Peru and Ecuador, explore women activists' experiences of negotiating conflicts both with large-scale mining companies and within their communities. In the same context, Jenkins (2017) analyzes the notion of the "everyday", arguing that rural women enfold their activism and its impacts, which include facing lawsuits and accusations of terrorism, into their everyday lives rather than in large-scale protest. Women's narratives emphasize notions of "staying put" and "carrying on" through mobilization of environmental justice, refusing to be displaced. In the context of Guatemala's first open-pit goldmine, the Marlin Mine in San Miguel Ixtahuacán owned by Canadian Goldcorp, Macleod (2016) uncovers women's voices beneath the corporations' framing of progress and development to reveal that more than 30 women opposed the mine, spearheading strong resistance. These actions are said to have resulted in repression and violence: arrests, disappearances, and the decapitation of one activist. Muchadenyika (2015) provides an analysis of the arrival of large-scale diamond mining in Zimbabwe, highlighting the roles that politics, and particularly the country's elites involved in coercion and extortion of property, plays in determining "who has the right to mine, what laws are applied, and who can question the miners ... (shaping) women struggles" (p. 715). The largely authoritarian state is complicit in the silencing of local women's voices, and the collective challenges experienced by women include displacement and relocation and prostitution, yet at the same time, women's evolving agency is responding to negative impacts in a variety of ways in collaboration with civil society actors. Yet, women's "agency seems to be isolated, uncoordinated and unstructured" (Muchadenyika, 2015: 717).

Again, new theoretical approaches are emerging to explore power relations between centre and periphery in the context of women's roles in anti-mining protest movements in rural or "periphery" areas. In Sweden and Greece, Sjöstedt Landén and Fotaki (2018) problematize the instrumentalist or utilitarian approach to gender equality in European

<sup>2</sup> Also see Vélez-Torres et al. (2018) for a transdisciplinary study specifically focusing on women and the health impacts of mercury in shifts from "traditional" extractive technologies to more industrial forms of mining.

contexts, which they argue is framed by neoliberal competition and ranking through the Gender Equality Index. The authors argue that Sweden's high ranking obscures inequalities found in centre-periphery transnational relations. Instead, these "(neo)colonial and neoliberal capitalist forces and struggles that are trampling on gender rights in both Sweden and Greece" (p. 26) are made visible by the ways in which indigenous women push back against extractivism and mining and form femininity solidarity between peripheries, across borders.

How far research interest on gender and mining has intensified is evident from the recent (2020) publication of a special edition of the journal, *Human Geography*, titled "Women's everyday resistance to the extractive industry". Resistance is interpreted here as related to daily survival needs and gendered chores, as well as embodied experiences as these subsistence resources are depleted. The articles in the journal focus on two particular "triggering elements" of women's resistance in North and South America, and West Africa: water and embodiment and illustrating gendered place-based knowledge that gives women the means and ideas to resist and oppose the practices of the industry, often through small, individual, daily actions (Caretta and Zaragocin, 2020: 4). Rodriguez Castro (2021) shows how territorial dispossession and extractivism are felt in women's "body-lands". This view—that gendered impacts are embodied—resonates in Lahiri-Dutt et al.'s (2021) research on the legacies of mercury use in women's bodies in Indonesia. Clearly, research on gender in large industrial-scale mining has explored new areas and charted new paths, often putting at the forefront the feminist activist roles of the researcher, blurring the distance between the two. A similar trend is visible in researching women and gender in informal ASM as I show below.

### 3. Women's interests in formalizing ASM

Buss and Rutherford's (2020) authoritative research on women's livelihoods in ASM argues that as women have become increasingly visible and referenced in mining reform initiatives, the emergent category of women in mining policy-making and scholarly work has become problematic due to lasting gendered moralizing convictions. Critiquing gender and development initiatives, they point out that "international development programs and policies and advocacy campaigns need to be situated in fields of power to better understand how they generate the ability, if not the legitimate claim, of some actors and institutions to intervene in the lives, social conditions and environments of others" (p. 3). This is because despite a growing interest in assisting women in mining, greater visibility does not equate to improved economic or social situations for women in mining when discussions on gender relations, gendered authority, and power relations within mining zones, households, property regimes, and wider communities are absent.

Much insightful interpretation has now become available from research on ASM communities in African countries. In Uganda, Serwajja and Mukwaya (2020) draw upon qualitative research exploring women artisanal gold miners' lived experiences and suggest that while women benefit from employment and other opportunities, the most lucrative opportunities remain beyond their reach. Patriarchal and customary norms push women to the periphery, and women's unpaid domestic labour mirrors this marginality. Recognizing the co-existence of opportunities and risks, in conflict ASM landscapes in the Eastern Democratic Republic of Congo (DRC), Kelly et al. (2014) unpack two advocacy narratives of vulnerability to suggest that dominant narratives can lead to flawed understandings of the true dynamics of women's experiences in these contexts. While women migrate to mining centres in search of employment, which can result in vulnerability and engagement in transactional sex in order to gain entry to employment, they argue that women's accounts "compel a re-examination of development efforts to remove women from the mines altogether, and to look more closely at the measures available to help them realize their legal rights to work safely and fairly in these contexts" (p. 95). Indeed, it is becoming obvious that policy efforts should focus on promoting women's safe

entry into employment and address a lack of knowledge about their rights to safe and fair work to navigate complex socioeconomic circumstances.

The main policy effort has been the formalization of ASM, often with unintended consequences for women. Two main themes emerge from the literature: the gendered politics of inclusion/exclusion, and changing gender dynamics in attempts to formalize ASM.

#### 3.1. Impacts of formalization and the politics of inclusion and exclusion

As formalization is presented as the panacea for the ills of ASM, the gendered effects of these initiatives are turning into one of the key themes in ASM and gender. Attempts to formalize ASM result in new gender dynamics and authority structures, change decision-making patterns, reconfigure access to resources, and create (or undo) opportunities that are gendered (Rutherford and Chemane-Chilemba, 2020). Buss et al. (2019) detail how formalization of ASM in Sub-Saharan African has tended to focus on legalization, and typically is framed as a response to economic and/or social potential or as a response to environmental, social, economic, or even security problems. Drawing upon six ASM sites in the DRC, Rwanda, and Uganda, they show that gender norms influence women's ASM activities in ways that make it difficult for women to benefit from formalization processes due to existing gendered authority structures that privilege men. Buss et al. (2021) draw upon case studies from Mozambique and Ghana and adopt a feminist political economy lens to consider the convergence and intersections (and where they fail to intersect) of three policy developments: the Sustainable Development Goals (SDGs) and related international commitments to gender equality and women's empowerment; the growing trend of formalizing ASM; and the push to address the environmental concerns of ASM by increasing regulation and through formalization. Looking at the gendered effects of environmental protection narratives, they intentionally steer away from a focus on mercury and instead focus on the gendered nature of government interventions.

Sebina-Zziwa and Kibombo (2020), for example, show the gendered impact of formalization in Uganda, while in Kenya and the DRC, Huggins et al. (2017) critique the perceived negative association of ASM with various evils such as criminality, illegality, immorality, and destructiveness, and demonstrate how in Sub-Saharan Africa, mining laws and policies have privileged large-scale mining. There have been some negotiations between governments, donors, and mining companies, leading to the establishment of some legal "ASM zones" and the cooperativization of artisanal miners. However, organized bodies quickly come to be dominated by men and cement the existing gender relationships that are premised on structural inequalities (Huggins et al., 2017: 150). In Rwanda, Nsanizimana et al. (2020) likewise highlight that efforts to formalize gender equality have proven inadequate due to "poor enforcement of laws and policies on gender and mining, women's skills gaps, women's triple burden, gender norms and taboos, and the strong gender division of labour, where women occupy the least remunerated jobs" (p. 135). Tobalagba and Vijayarasa (2020) are more optimistic and argue that a gender perspective is both necessary and achievable. By focusing on women's needs and experiences as workers, community members, and decision-makers, they point out that there has been considerable recognition of women's roles and direct and indirect experiences of ASM. However, they also note the discrimination inherent in "protectionist" legislation (p. 4). As regulation of ASM increases globally, they argue that "this is an opportune moment to ensure that such domestic legislation and related policies are engendered at the outset, meaning that they acknowledge and respond to the depth of structural inequality that is experienced in ASM by women as workers and affected community members" (p. 10). Hilson et al. (2018) draw upon case studies in Sierra Leone and Zambia to investigate how formalization of the mining supply chain frequently works to marginalize women, the "female faces of informal spaces", in Sub-Saharan

Africa. In 2009, the African Union created a policy framework called the African Mining Vision which lists one of its main goals as “boosting” ASM, in addition to the need to localize frameworks in “truly unmoderated ‘spaces’” (p. 337). However, calls to formally include and organize women in the Zambian gemstone ASM context were “captured by a cartel of powerful (female) elites, at the expense of the poor majority” (p. 338). These elite women operate as gatekeepers, and while they champion themselves as the voices of women in communities, it is suggested that most of these women use their positions for personal gain.

The indication is that there is a need to go beyond the rituals of inclusion to understand the gendered contexts where a “strong ‘protectionist’ ethos” (Buss et al: 33) is perpetuated. A similar picture emerges from evidence presented from Ghana (Stokes-Walters et al., 2021) showing unchanged gender roles at home undermine women’s livelihoods or even remove livelihoods in ASM by keeping their incomes low. Rutherford and Buss (2019) point out that in two artisanal gold mining sites in the DRC and Uganda women are almost entirely absent from committees, associations, and leadership positions, and question formalization efforts that are fixated on “women’s empowerment”, which work to make certain types of labour more legible. Moreover, in Sub-Saharan Africa, while collective organization such as self-help groups has been a tactic proposed for women miners by several “donor-directed mining legislative and policy changes” (p. 73), persisting assumptions often gloss “over social differentiation and authority and power relations” (p. 74).

Several authors have specific recommendations for engendering formalization processes. For example, Huggins et al. (2017) recommend expanding the definition of mining to capture the roles women play within gendered hierarchies of power, to effectively mainstream gender. Hilson et al. (2018) recommend referring to the “The World Bank’s Rapid Assessment Toolkit” to attend to specific risks women face in the still-masculinized mining industry, while Buss et al. (2019) suggest that in order to recalibrate ASM formalization, gender should be central to design and implementation processes, and this should be “done in ways that *correct for* [original italics], rather than merely observe, existing exclusions of women from mining activities, policies, trainings, out-reach, and design” (p. 11).

### 3.2. Changing gendered dynamics

Most authors argue that existing gendered divisions of labour are the key barrier to women benefiting from formalization processes (Buss et al., 2019). The articles in the *Canadian Journal of African Studies* (2020) special issue edited by Buss and Rutherford centre on this reoccurring theme. They explore how these divisions are actively reproduced and map how they translate to gendered organization of ASM at mining sites. Buss et al. (2020) detail how women are prevented from digging ore in Kenya; yet they manage to navigate and even resist some gender norms. In Sierra Leone, Ibrahim et al. (2020) show how the entanglement of state interventions with pre-existing social relations has resulted in a kind of dependency relationship that keeps women in limiting gendered roles and on the margins.

Elsewhere, Huggins et al. (2017) describe how women in Kenya are heavily involved in production processes and specific tasks such as gold panning, but are not typically “allowed” underground; the shafts are described as strongly associated with masculinity. In Colombia, Vélez-Torres et al. (2018: 432) point out that “men are considered to be the ‘owners’ of the production units and women conduct manual labour with their immediate family, usually husbands or brothers”. Arthur-Holmes’ (2020) study in Ghana mirrors other African-situated studies in showing that divisions of labour in ASM have reinforced inequalities where women have limited opportunities to progress in their work. They develop the concept of “gendered sympathy” to explain the ways in which some women have gained access to “dig and wash” work by drawing on the sympathy of the men in the group, revealing gendered

bargaining within traditional power dynamics. As Buss and Rutherford (2020: 9) point out, “Gender norms often structure inequalities in which women, by and large, are negatively impacted. But gender norms also create possibilities”, and one can see that in ASM, women create spaces for themselves in spite of the harshest oppression. Rutherford and Chemane-Chilemba (2020) exemplify some possibilities by noting that, in Mozambique, although women are excluded from many mining roles, other gender norms that perceive women to be more trustworthy than men have resulted in some women gaining access to positions like preferred gold buyers and food vendors, and that these important roles are most often undocumented and unknown. Rutherford (2020) draws on in-depth anthropological approaches to labour to unpack how overlapping moral politics in Sierra Leone constitute women’s labour practices in ASM work to reinforce women as “family workers” within ASM sites, and how women’s processing work is viewed as not “real mining” in comparison to the digging work carried out by men.

Adopting more of an intersectional lens, some of the literature on these themes also looks at differences between women. Bashwira and Cuvelier (2019) note that two trends have emerged in ASM literature in recent years: firstly, women’s move to mining to escape oppressive gender rules and norms, and secondly, the exercise of agency by women miners in the complex and unstable sociopolitical contexts of artisanal mining sites. They identify a lack of attention to differences and power dynamics *between* women and note that “there are considerable differences in how women miners navigate the unstable socio-political environment ... as well as in the ways they exercise agency and power” (p. 961). On escaping oppressive gender norms through migration to mining areas in DRC, Bashwira and van der Haar (2020) go beyond the usual binaries of necessity/choice and push/pull to argue that women’s decisions to migrate are complex. They use the term “social navigation” to describe the process of women navigating gendered challenges and discrimination, including violence and insecurity. Yet these women may find a degree of protection, in addition to income and entrepreneurship, in mining areas. Buss et al. (2020) also discuss the importance of socioeconomic differences amongst women in Kenya, finding that gender norms are mediated by age, with older women typically facing increasing challenges in gaining access to mining spaces.

While the majority of recent work on ASM notes that hegemonic masculinity remains a dominant cultural value and gender expression in mining spaces, few studies focus exclusively on masculinity. Cuvelier (2014) critiques tendencies to simplify the complexities of masculine identity construction in African ASM communities, and insists that while mining industries are male-dominated, men’s involvement in artisanal mining “should be considered not only as an economic survival strategy but also as an attempt to experiment with new ways of being a man in a context of economic crisis and changing gender relations” (p. 3). Behzadi (2019) also focuses on masculinities, and brings gendered emotional geographies into the literature on ASM. Adopting a feminist political ecology lens to shifting gendered identities in an informal coal-mining landscape in Tajikistan, they illustrate how the norms of honour and shame mediate women informal miners’ stigmatization and exclusion. This process goes beyond Islam and is instead linked to broader political and ecological changes, migration, emotional labours, and struggles over natural resources that have caused a rupture in hegemonic masculinities, creating new gender identities.

## 4. Critical debates and themes to move the field forward

### 4.1. (Women’s) rights and questions of empowerment

While several of the authors cited above critically engage with hegemonic notions of gender equality and ideas of “women’s empowerment”, few centre their analysis on it. Rutherford (2020) points out that empowerment is a growing theme easily gleaned from recent civil society organizations and donor interests, public events, and media in the context of mining in Africa. This is exemplified by the promotion of

women in mining by the Women's Rights and Mining group, launched in 2017, which has a "strong moral argument" (p. 6) that targets norms and practices in the Global South. In Zimbabwe, [Tiernan and O'Connor \(2020\)](#) focus on how women in a mining company "experience and access power in dealing with the perceived negative effects of mining in that community" (p. 86), and how they negotiate power in a system where they are perceived to have limited power. They explore "the paradox of women's effective disempowerment and yet their feelings of empowerment in a community where structural power both in the public and private areas is seen as male dominated" (p. 87). An intersectionality lens reveals which women are able to find ways to enact power, and the ways in which women adopt "patriarchal bargaining" and the performance of "gendered good behaviour" to negotiate and access "episodic power" both as *power over* and as *power to* [italics in original]. Relevant to this context is Lawson and Lahiri-Dutt's (2019) research on the empowerment of women gemstone traders in Madagascar, who exist on the margins of miners and mining towns and have very little access to resources and power. While women traders of extractive resources in Africa face harassment, violence, and inequality, their work is no longer a "last resort" livelihood or part of a "survival" economy. Women now comprise a "vibrant, entrepreneurial part of the economy that creates new jobs, stimulates economic growth, and offers better opportunities for equity" ([Lawson and Lahiri-Dutt, 2019: 2](#)). Yet, women traders "work on the edges of the sapphire boom and their personal and financial situation is far from easy" (p. 6). Clearly, within the overall context of growing appreciation of African women's tenacity and entrepreneurship, more nuanced information is needed on the barriers and enablers of all women's entrepreneurship when considering whether their involvement in informal trade economies can empower them.

Some authors discuss human rights and women's rights in their analyses, such as in the context of indigenous women's rights and resistance to large-scale mining ([Jenkins, 2014b](#); [Jenkins and Rondón, 2015](#); [Macleod, 2016](#)) or in relation to CSR and gender mainstreaming ([Sjöstedt Landén and Fotaki, 2018](#)), property rights in relation to ASM ([Tobalagba and Vijayarasa, 2020](#); [Buss et al., 2019](#)), and workers' rights within mining companies ([Muchadenyika, 2015](#); [Rutherford, 2020](#)). However, an explicit focus on critically discussing rights and exploring what they mean in specific contexts appears to be lacking. A 2019 special edition of *Canadian Journal of Women and the Law* titled "Women and resource extraction" focuses on large-scale industrial forms of mining. The editors reiterate the need to "address structural issues so as to ensure gender equality and a safe and discrimination-free workplace" ([Seck and Simons, 2019: i](#)). They point out that despite states widely ratifying international human rights treaties, which include the protection of women's and girls' human rights, and the growing endorsement of CSR and regulatory mechanisms and policies, "to date, most domestic laws and international providing guidance for the extractive industry do not sufficiently integrate a gender perspective, if they do so at all" ([Seck and Simons, 2019: v](#)). Other articles centre on topics such as direct and indirect state violence against women anti-mining activists ([Deonandan and Bell, 2019](#)), and the limitations and failures of international human rights processes for indigenous peoples, particularly the United Nations Declaration on the Rights of Indigenous Peoples ([Moraes, 2019](#)). In addition, [Seck \(2019\)](#) unpacks concepts of relational law and the need to reimagine tools for environmental and climate justice when considering environmental vulnerability. She argues for the inclusion of indigenous feminist theorists and posits that "insights from relational theory can assist in the reimagining of constructs and legal tools ... this reimagining is one key piece of the puzzle as we seek environmental, climate, and gender justice in the context of extractive industries" (p. 153).

Of particular relevance to the emerging themes is whether or not women have a right to mine, as questioned by [Lahiri-Dutt \(2019b\)](#). She argues that the rights-based approach, when applied in the context of mining, is usually based on Eurocentric biases and a limited interpretation of women as being located outside of the mining industry and as

victims of patriarchal oppression. However, this is an incomplete view and not feminist. Research from Asia illustrate that the rights-based approach, when applied partially, alienates the figure of the woman who labours as an economic citizen within the mining industry; usually at the very bottom of its structural hierarchy, and who is usually no less subjugated. Highlighting the diverse roles and experiences of women in mining contexts is crucial, yet gender equality currently remains a distant mirage in masculinized extractive industries, as the rights-based approach remains primarily fixated on "impacts of mining on women" rather than exploring why impacts are gendered and why or how industry can work to realize women's rights and equality.

#### 4.2. Women or gender? Victim or agent?

While some writers continue to focus on women as a unitary category, exemplified by the suggestion that mining and development are in need of a women-centred approach where consultation is proposed to ensure that benefits flow to women ([Franco and Kunkel, 2017](#)), others problematize the tendency to equate women and gender in mining. As [Buss et al. \(2021\)](#) point out, "ASM interventions and research on ASM, need to begin with a gender analysis, not just of 'women' in relation to ASM, but also how policy, whether articulated by global institutions or mine-level authorities, is also enmeshed in gendered power relations and meaning systems" (p. 35). Despite a growing interest in women in ASM, [Buss and Rutherford \(2020\)](#) warn against the continuation of stock characterization of women in gender and development and the "discursive rendering of male and female mining bodies" (p. 5) that can work to reinforce women as victimized by mining. Instead, they argue that "gender ... provides an important analytical and methodological lens to critically consider the materialization of 'women' in relation to ASM" ([Buss and Rutherford, 2020: 1](#)).

Other authors go further to discuss the limits of a focus on gender as the primary frame of analysis. [Musonda \(2020\)](#), in analyzing shifting gender dynamics in the home in a mining town in Zambia, suggests that "a focus on gender inequality could miss subtle shifts in the distribution of domestic work" (p. 39), pointing out that in this context, while domestic work is still obviously gendered and seen as "the woman's job", a stronger cooperation between husbands and wives is emerging in mining households. While gender struggles still exist, we should not ignore "the hidden work of social reproduction that men increasingly perform and women's struggle in the workplace to undo gender or at least reconfigure it without passing for feminists" (p. 40). [Ey \(2018\)](#) wants to avoid dichotomies yet makes a case for a focus on women "as a matter of politics" due to them being often rendered invisible in highly masculinist spaces (p. 5). More recently, [Ey \(2020\)](#) adopts an intersectional frame to explore the diversity of ways in which women enact and perform resistance, arguing that "a prevailing reliance on gender as an explanatory analytic runs the risk of overlooking a much wider, messier and diverse resistance terrain" (p. 1). To avoid inadvertently professing "strong theory" that obscures the plurality of resistances to resource extraction, the lenses of "more-than-gender" and "more-than-human" seek instead to bring forth a "weak theory" to avoid singular analytic frames and explanations of "why women resist".

Connected to this debate is the politics of representation of women, and the need to balance the evidence of their exclusion and vulnerabilities with the growing recognition of their agency (as workers, activists, etc.). [Jenkins' \(2014\)](#) literature review problematizes a picture "of women miners' vulnerable and disempowered status (in ASM)" (p. 332). The papers in [Buss and Rutherford's \(2020\)](#) special issue aim to provide more nuanced accounts of women's livelihood strategies in and around ASM "in ways that challenge images of women as (simply) heroines and/or victims" (p. 5). They insist that "focusing on change and agency can suggest a more open template of gendered possibilities and subjectivity than may in fact be the experience for many women and men working and living in ASM economies" (p. 10). Holding the nuance between vulnerabilities and agency, this approach may "reveal

overlapping inequalities and gendered authority relations at play in ASM sites, and their particular effects on women” (Buss and Rutherford, 2020: 10). In an effort to move beyond dichotomous representations of women and to better understand their livelihood choices, Hemer (2017) examines differing choices and strategies chosen by different women in PNG, informed by broader gender equality concerns that can either challenge men’s authority, or improve women’s livelihoods from within existing gendered norms. Although their society is highly patriarchal, it is “these differing forms of strategy and agency—the ways in which Lihirian women are actively navigating local politics to position themselves to benefit from mining” (Hemer, 2017: 294). Ey (2018), in considering the tensions in detailing emotional impacts alongside activist agency, suggests that “highlighting the extraordinary tenacity of these women does not dismiss what they have been through, and what they continue to go through ... what we can make of these emotions is that they *matter* [original italics] (p. 7).

#### 4.3. Decolonial indigenous worldviews?

The use of decolonial frameworks and meaningful incorporation of indigenous worldviews beyond a brief mention is a gap in the literature, and indigenous women’s voices are not only often missing but are often replaced with those of others. Indeed, Ulloa (2020) takes issue with the dominant Eurocentric and anthropocentric discourse surrounding indigenous people’s rights in the context of mining in Colombia, examining the ways in which the women’s organization Fuerza de Mujeres Wayúu has adopted water defence strategies of resistance in the face of environmental inequality. Here, mining processes are inseparable from embedded more-than-human relations, including spiritual entities in the water that are also political agents. Indigenous actors are promoting “relational water justice ... demanding the recognition of their relational ontology, which is based on the continuity of life” (Ulloa, 2020: 8). Similarly, Caretta et al. (2020) examine water usage by extractive industries and the impacts of this usage on communities in the United States and Ecuador, insisting upon a decolonial, multi-sited analytical approach to rethink the scale of impacts of extractive industries on the body, the environment, and transnationality. They focus on how women organize to resist industry as catalyzed by “embodied water pollution”, and plan to facilitate reciprocal learning among women’s groups from both sites.

#### 4.4. Critical perspectives on the nexus of environmental and gender justice: changing epistemology?

Another gap is the critical nexus of environmental and gender justice in context of extractive industries, an area that has not yet been adequately untangled. This gap is mentioned by Seck (2017, 2019), and Seck and Simons (2019), who point out that “an added complexity in this time of climate crisis is whether it is even possible to reconcile the development of new oil and gas projects with any vision of a rights-respecting future, particularly one that is respectful of the rights of vulnerable women and children who disproportionately experience climate harms” (p. iii). Indeed, currently, two major processes—economic reform programs and the rapid pace of environmental change—are reconfiguring patterns of resource use and governance at both local and global levels, inviting us to treat gender as a political concept, and to ensure that theory, policy and practice negotiate with each other.

Feminist research is not a singular enterprise. It embraces several different research and activist approaches and perspectives that coexist across and within individual’s or group’s research within a field. We have uncovered women’s roles, that is ‘counted women in’ so as to combat the gender-neutrality of research, policy-making and management strategies in the field. We have illuminated gender relations to offer more dynamic interpretation of women and men’s lives in extraction. We have articulated the diverse experiences of gender to

show that there are no common experience of women within extractive communities or the industry itself.

Now, it is our turn to build a feminist critique of epistemologies of extraction to build the bridges with the wider studies of gender and the environment. The challenge is to reimagine from a feminist perspective how knowledge is produced, who produces it, how and where. In this regard several aspects of feminist questions about how knowledge production are relevant to research on gender and extractive industries. First, we need more thinking on how socially constructed gender roles, norms and relations influence the production of knowledge on extractive industries. For example, what kinds of knowledge are considered legitimate, by whom and why? If knowledge is actively produced by people who are differently situated in society, then people’s various experiences and social locations will influence what they count as knowledge and legitimise it. Further, the consideration of how gender influences what counts as knowledge, how knowledge is legitimised and how knowledge is reproduced and represented to others is an area that remains untouched. A related concern is how the gender of researchers and their subjects might affect data collection on extraction and analysis, and how the research results are circulated to various audiences, particularly the international agencies wielding excessive power. Finally, the extent to which women share experiences that can result in common actions or approaches of resistance to patriarchal practices and ideologies propagated by extractive practices has been investigated, but to what extent women’s knowledges can be retrieved and applied to community based resource management has not been discussed in close detail in context of extractive practices. As the field matures, feminists also need to send out a call to those involved at various levels and types of the extractive industries as a whole to be reflexive, that is, to reflect on their own location in the production of knowledge.

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