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The role of gender in the extractives industries

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Abstract: In recognizing that women’s participation and gender equity is a precondition for the achievement of acceptable development outcomes, extractives industry companies are increasingly making public commitments to integrating gender equality, inclusion, and women’s economic empowerment into aspects of their operations. This paper reviews recent literature on gender and the extractives industries and then considers the following questions that emerged from the scholarship. How is gender understood in the extractives sector and has this changed over time? What are the gendered impacts of the extractives industries? Are women passive victims of the sector rather than active participants or even resisters to industrial expansion? What is the nature of extractives-associated sex-work and gender-based violence in various settings? In addition, the paper presents available information on women’s participation in the extractives industry, both formal and informal, and how these differ, and evaluates industry efforts towards achieving improved gender balance and equity in the sector.

Keywords: extractives industry, gender equity, sustainable development

JEL classification: J16, Z1, Q3, Y8

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1 Paper overview

1.1 Scope

The extractives industries are a major source of revenue for many resource-rich economies around the world, and are central to economic growth and social development. Many studies have revealed that the extractives industries have different impacts upon men and women, in a variety of ways. It is important to try to understand those impacts and to determine whether mitigation policies and programmes are needed. Further, the full social benefit of resources development can only be realized if women and girls are able to participate as fully as males in all aspects of resources activity and consequent economic development and social progress. This requires that the principles of gender equality are embedded within policies and practices applied to resources and associated development.

In recognizing that women's participation and gender equity is a precondition for achieving the best development outcomes, some extractives industries companies have committed to integrating gender equality, inclusion, and women's economic empowerment into aspects of their operations, but others have not. This paper reviews the situation and assesses progress to date.

Examples are provided that demonstrate what leading companies are doing to integrate gender concerns into their corporate and social/community policies. This paper considers how widespread these practices are and whether they are effective or need improvement.

1.2 Content

Research for this paper encompassed a survey of the wide-ranging literature that discusses matters of gender in the extractives sector over the past five years or so. Several themes have emerged from that survey, and these form the basis for the discussion in the rest of the paper, with a section focusing on each. These six main themes are:

- 1 the understanding of gender in the extractives sector and how this has changed over time;
- 2 the gendered impacts of the extractives industries and whether women are, indeed, passive victims of the sector rather than active participants;
- 3 the nature of extractives-associated sex-work and gender-based violence in various settings;
- 4 women's role in resisting the expansion of extractives projects;
- 5 the actual roles of women in the extractives industries, both formal and informal—and how these differ—and available participation numbers; and
- 6 industry efforts towards achieving gender balance and equity in the sector.

This paper is not based on primary research, although it is informed by fieldwork and interviews that the author has undertaken for other research over many years. It is primarily a synthesis of the most important evaluations of the situation of gender in the extractives sector as undertaken by an impressive array of scholars and practitioners, many of whom have undertaken primary fieldwork and have also made recommendations for improving women's status. It includes an assessment of industry efforts and a summary of recommendations for future action.

2 The many facets of gender and the extractives industries

There is a wealth of literature about women and gender in the extractives industries published over the last five years, and much that goes further back. The more recent articles analyse a variety of different issues and geographical locations and are often unrelated to each other, although a number of common themes emerge from the entirety of the scholarship. Some articles deal with the negative impacts experienced by women in extractives industries project areas; others deal with women's active engagement in the extractives field and the choices they make to improve their position in life; some focus on informal mining (artisanal and small-scale mining (ASM)), while many are concerned with large-scale industrial extraction projects. Much of the research features statistics and indicators about women's involvement in extractives industries, both formal and informal, and whether the numbers are increasing towards any semblance of equality; still others describe women's participation in battles against extractive projects in many different countries. Other articles discuss culture in one form or another, such as the persistently masculine nature of the extractives industries and what that means in practice, and attempts to transform this culture that nonetheless continues to work against gender equity on the whole, despite considerable efforts. The disparate nature of the scholarship makes it difficult to distil a clear picture of 'gender and the extractives' as a single topic. Indeed, it necessitates separate discussions of the different aspects of the research. However, this variety also lends a great richness to the field and reveals the many facets of women's interactions with and activities in and around the extractives industries.

At a more critical level, the business case for workplace diversity—the foundation on which most calls for gender equality and efforts to increase women's participation in the extractives industries rest—has been shown to be problematic by recent scholarship (Laplonge 2014, 2016; Mayes and Pini 2014; Williams et al. 2014). These analyses demonstrate that the business case for diversity in the workplace is fundamentally harnessed by the industry to perpetuate the status quo—which is of a highly masculinized sector—while presenting a modern and acceptable face to society. This argument is discussed in several sections of this paper; it is important to understanding several of the facets of the situation.

2.1 Women and gender: what do we mean?

Before entering into discussions about the many aspects of women and gender in the extractives sector, it is necessary to consider what is meant by these terms. Gender is a complex and contested term and tends to be assumed to be 'natural', in the sense that men are seen as 'masculine' and women as 'feminine', and we all think we know what that means. 'Gender' is frequently used as an interchangeable term for 'sex' in modern usage—for example, when a form asks you to tick a box indicating your gender, rather than your sex.¹ In discussions of gender and the extractives industries, the term gender is often used synonymously with women. Academics writing about women and the extractives industries prefer to use the term gender to indicate that they are referring to a cultural construct, not a biological descriptor; in practice, most of these articles are referring only to women—the gender of men is not considered. A very few scholars (Laplonge 2014, 2016; Mayes and Pini 2014) have recently started to point out that this conflation of the term 'gender' with women is enabling the industry to remain highly masculinized in spite of considerable efforts to achieve 'gender balance' and 'gender diversity', or even gender equality (in a similar

¹ Questions of the existence of more than two sexes are not addressed in this paper.

fashion to the word ‘sex’ being superseded by ‘gender’, the term ‘sexual equality’ is rarely used nowadays’).²

Laplonge utilizes a much more sophisticated and nuanced consideration of gender than is common in the literature. Although it is correct to define gender as a cultural construct, not a biological fact, as is done by most of the literature on gender applied to mining, Laplonge points out that it is still only talking about women. Thus, although the reference to culture is important, the discussion reverts to the essentialist position of sex as destiny by only discussing women, and not grappling with ideas of masculinity and how all humans learn to behave in gendered ways, varying with personality and context. He explains that we all ‘do gender’ in the ways we act, rather than ‘having a gender’ that is assumed to be a natural category. He says that “‘gender’”, therefore, is not about what men and women are; rather it needs to be seen as what men and women do’ (Laplonge 2014: 36). This then enables a discussion of behaviour rather than nature, which can lead to options for cultural change.

There is an undercurrent in much of the literature aimed at improving gender balance in the extractives sector that emphasizes women’s weakness and disadvantage in order to make the case for policies and programmes to assist them to overcome these. Although he is supportive of active policies to increase the numbers of women in the extractives industries, Laplonge disagrees with this portrayal:

We need to stop talking about women as weak and seeking to provide them the help they need to make it. This assumes that women naturally do not have the capacity to do what men are already doing, which is factually wrong. It also assumes that men are naturally strong and do what they do with no help at all—an assumption that is also factually wrong. The reality is that men rely on the masculine structures of their organisations to provide them with a workplace in which they can thrive. (Laplonge 2014: 68)

He asserts that the extractives industries, like many other highly male-dominated workplaces, is designed to favour those who behave in what he describes as ‘hyper-masculine’ ways. That is, those who are tough, aggressive, and ‘blokey’ will fit in and succeed, and those who are not will struggle to do so. For that reason, research has shown that women in mining ‘often consciously make an effort to not act like girls when on site’ (Laplonge 2014: 70) and women managers in mining do not like to associate their success with feminism or women’s rights for fear of alienating their mostly male colleagues. Williams et al. found the same in the American oil and gas industry when they discovered that women managers were actually subconsciously discriminating against the promotion of women in their departments for fear of appearing gender-biased in favour of women. They observed that in such a situation ‘the only way to prove one is neutral and objective is to hire a white man for a position’ (Williams et al. 2014: 455). Thus, although many of the women geoscientists they interviewed stated a preference for having more women and greater opportunities for women in their industry, most of them were opposed to any form of preferential policies for women, in case it undermined the positions that they themselves had achieved.

² For this paper, we define gender equality as providing equal chances and opportunities to women and men, and gender equity as the process of being fair to both men and women (which might require compensation for past disadvantage in order to level the playing field). ‘Equity is a means. Equality is the result.’ UNESCO Gender Learning eLearning Programme. Module 2: Key Concepts. Slide 23. www.unesco.org/bpi/pdf/gender_equality_eLearning_module2_en.pdf.

Laplonge and Mayes and Pini both talk about the belief that women will ‘civilize’ the workplace, but that there is no proof either that this works in practice nor that women want this responsibility. Mayes and Pini explain that in the business case for increasing the numbers of women in the Australian mining workforce:

[W]omen are ‘valued’ for the ‘breadth and depth’ they are deemed to bring, including gendered styles of communication and decision-making. There is, however, a further emphasis in this mining industry business-case discourse on the way that the presence of women will civilize the workforce and workplace. Employing women in ‘non-traditional’ roles is directly linked to a reduction in extremes of (male) behaviour and workplace stress, improvements in workplace amenities and increased morale and loyalty. Women are thus valued for the stereotypical gendered benefits they are to provide for the male workforce (though it is unclear just how many women are needed to achieve this outcome). (Mayes and Pini 2014: 538)

Laplonge, too, derides this assumption that women’s presence will automatically change the masculine mining industry, and notes that there is often an assumption that if the numbers of women in the workplace reach an arbitrary ‘critical mass’, often stated to be 30 per cent, then the cultural balance will be tipped. He states that there has never been any proof that the critical mass assertion is true and argues that, in any case, women should not bear the sole responsibility for bringing about this cultural change:

Moreover, it’s just wrong to assume that women are there to help change—or tame—our masculine workplace cultures. Women are not responsible for changing a world that has been created and is still run by men. I’m sure most women have much better things to do. (Laplonge 2014: 7)

Mayes and Pini describe this assumption that women will change the workplace and work behaviour by their very presence and innate femininity as an expectation that they will perform ‘unpaid civilizing work’ (Mayes and Pini 2014: 542). Laplonge declares that this cannot work without a fundamental revaluing of the gendered expectations of the entire workplace:

We need to start realising that women are not the problem in the mining industry; and ‘woman’ is not the solution. If we really want to see changes in a gender culture of a workplace where most of the employees are men, we need to do some work with these men and with the production of masculinity. If we want to see changes in the gender culture of an industry like mining, which is historically masculinised, we need to look at masculinity in this industry and on the mine sites. (Laplonge 2014: 71)

For this reason, Laplonge decries the use of the term gender as if it only applied to women, because he considers that the only way to truly effect cultural change in the extractives sector that may eventually lead to sexual equality in employment is to challenge both male and female gender stereotypes and the associated sets of behaviour, an approach that would be supported by Mayes and Pini. A large part of his work is focused on safety matters and the ways in which hyper-masculine gendered behaviour in the workplace, whether by men or women, can lead to unsafe practices and the taking of unnecessary risks. As long as the hyper-masculine form of behaviour continues to predominate in the extractives sector, it will continue to appeal primarily to those workers, mostly men, who enjoy that sort of harsh and risky workplace environment. This is not considered optimal for enhanced production by most industry leaders and yet no-one is really yet

embracing the need for fundamental cultural change in the understanding of gendered behaviour in the extractives workplace.

Most scholars working on the many aspects of gender that feature in the extractives sector favour the promotion of ‘*gender mainstreaming*’.³ There are different meanings given to this term, as to many others in the gender studies field. Rio Tinto, for example, explains in its *Gender Matters* guidance that it prefers to talk about the integration of the workforce, rather than dealing with the contested definitions of gender mainstreaming (Kemp et al. 2009: 80). Laplonge uses a simple and practical explanation that “‘gender mainstreaming’ is the idea that an organisation can integrate gender into every aspect of its business and workplace’ (Laplonge 2014: 145), which is the definition that is used in this paper. There are disagreements about whether it is feasible to apply concepts such as gender mainstreaming in some contexts in which women are at such a cultural disadvantage that nothing short of deliberate affirmative programmes designed specifically for women will achieve any improvement in women’s participation. For example, when talking about Papua New Guinea, Macintyre makes the following statement:

Whatever gender mainstreaming might be in academic terms, by the time it gets into aid projects or workplace policies it has become ‘add women and stir’ with nobody prepared to actually do this. If gender equality is to be achieved in a period of a decade, specialised programs for women are needed. (Macintyre 2011: 30)

While acknowledging the importance of cultural and contextual specificity when talking about measures to influence change in gendered behaviour, nonetheless this paper discusses gender mainstreaming as a major policy initiative in various extractives industry settings. It is important to describe the actions of women in and around the extractives sector, both currently and historically. So, much of the discussion in this paper focuses on women, although the discussion about recommendations for change will return to the discussion about gender, including masculinity.

2.2 Aspects of gender in the extractives sector

Although many scholars describe the masculinity of the extractives sector, Lahiri-Dutt (2015) posits the development of a ‘feminisation of mining’. She bases this on the increasing presence of women in the *formal* mining sector, the large numbers of women involved in the growing *informal* mining sector, and on an evolving debate on the nature of sex-work associated with mining settlements. All of these are themes that recur throughout the literature and are discussed at greater length below. She makes a strong case for recognizing women’s agency in the mining sector, thereby moving beyond the portrayal of women as victims of the negative impacts of mining: an opinion shared by a number of other scholars, such as Mahy (2011), O’Faircheallaigh (2013), and Bryceson et al. (2013a, 2013b). This is a useful contribution to the debate about gender in the mining sector.

Women have been active in the mining sector in various ways and in many countries for a very long time, although they are periodically sidelined by men when other sources of employment (including war) become less crucial. Mercier (2011) explains that women achieved inroads into mining in North America at two particular stages of the twentieth century, for different reasons, namely during the Second World War and then in the 1970s, as described below:

³ For a discussion of efforts in gender mainstreaming in the development assistance sector, see www1.wider.unu.edu/recomgender/home.

As these examples from North America and scholarship from around the world demonstrate, women have persistently sought access to mining jobs. Women miners endured discrimination, harassment and dangerous and demanding labour in order to gain more comfortable lives for their families and in many cases the self-satisfaction that they could perform a 'man's' job. These cases remind us how masculine work cultures, entrenched corporate practices and social assumptions about gender, even in periods of labour expansion (such as the Second World War) or structural legislative changes (as in the EEO push of the 1970s), can impede the entry and survival of women in the mining workplace. (Mercier 2011: 44)

The embedded barriers to women's increased participation in extractives industries are addressed in a number of other articles discussed in this paper. Geographically, the presence of women in the extractives field has varied from place to place. Lahiri-Dutt and Burke (2011) demonstrate the essential roles played by Asian women miners throughout history, specifically in Japan and India. Although they describe the many challenges and obstacles that have existed and continue to exist for women, they nonetheless paint a compelling picture of Asian women's active role in mining history. Murillo (2013) concluded that women were essential to the development of the Mexican silver industry in the seventeenth and eighteenth centuries. Although she was unable to find evidence that women actually worked in mines, she demonstrated that they were crucial to the supporting economy: 'Mining towns and other communities that developed in northern Mexico, and in other unsettled areas of Latin America, could not have formed, persisted, or prospered without the presence and labor of women of all ages and ethnicities' (Murillo 2013: 32). It is quite common for observers to comment upon the supportive roles played by women around extractives projects, often because they are not able to be directly involved, but Murillo takes the case further with her conclusion that the historical Mexican silver mining industry would not have been able to exist without women's actions.

O'Faircheallaigh makes a strong case for the recognition of indigenous women's influence in the development of agreements with mining companies in both Canada and Australia, especially at the end of the twentieth century and the beginning of the current one. However, he notes also that many scholars have tended to overlook this, stating that the 'dominant view in the academic and activist literature is that women are bypassed in agreement negotiations, and as a result are often excluded from the benefits of mining while continuing to experience its economic, social and environmental costs' (O'Faircheallaigh 2013: 1790). Although he concedes that women are sometimes (but not always) excluded from negotiating teams, for a variety of reasons, he contends that they are usually actively involved in processes leading up to the formal negotiations, influencing the shaping of agendas and objectives of negotiations and in the institutional structures that implement the provisions of agreements, thus ensuring that matters of importance to them are not forgotten. In his experience as a legal adviser to various aboriginal groups in Australia and Canada before, during, and after their negotiations with resource developers, he has observed that women exerted significant power over the negotiations and the content of the agreements. He gives examples of how indigenous women have ensured that gender equality provisions were included in agreements, particularly concerning income distribution, and also that sufficient attention and resources were allocated to sustainable investments and the recognition of and respect for cultural traditions. He notes that indigenous men did not oppose these measures, but that it was women's influence that insisted upon them.

Thus, although the extractives industries are very largely masculine, as will be seen in a later section when the actual numbers involved in the industry are examined, nonetheless women have played and continue to play a wide range of significant roles in the sector. Although there are negative impacts of extractives projects upon women, as noted elsewhere in this paper, it is important to

also acknowledge the strong and active roles taken by women in the mining and oil and gas industries throughout history.

2.3 Gendered impacts

Many discussions of the impacts of the extractives industries state that these effects are differentiated by gender and are more likely to affect women negatively than they do men. For example, the following statement from the World Bank's 2009 guidance volume on gender and the extractives industries states that:

Men have most access to the benefits, which consist primarily of employment and income, while women and the families they care for are more vulnerable to the risks created by Extractive Industries, which consist of mostly harmful social and environmental impacts. (Eftimie et al. 2009: 1)

While much of the discussion in this paper emphasizes the ways in which women are actively engaging with the extractives industries in order to derive benefits from them, it is important to also note that there are detrimental impacts coming from the sector that seem to fall disproportionately upon women.

One of the main ways in which women are negatively affected by extractives projects is in the impacts of involuntary resettlement and also by environmental damage. The loss of land and waters that they rely upon to grow food for their families when they are forced to move by an extractives project will typically have a greater impact upon the women of a community, as they take the greater responsibility for subsistence farming. In a similar way, as women are often the most fully engaged in subsistence farming activities, they are also most affected by any pollution arising from extractives projects, because they are more directly exposed. Men are also affected by displacement and environmental damage but, as noted by the World Bank above, they often have better access to alternative incomes and the ability to move to other locations to seek alternative and often better opportunities.

In the case of an iron-ore mining area of Goa in India, D'Souza et al. (2013) describe the detrimental effects of badly managed physical displacement of subsistence farming families, when men took the little compensation paid by the companies but wasted it on short-term personal consumption, while the women lost the land on which they could grow food for their children. They also lost access to clean water, necessitating much more time-intensive efforts to obtain water for the home. These negative impacts, among others, were shown to take a great toll on women's social and physical well-being, as well as their economic situation. This case study, which focused on the health impacts of mining on women, showed that poorly mitigated impacts of extractives projects can have major deleterious effects upon women and their families.

A number of articles (Mukherjee 2014; Omeire et al. 2014) describe the way in which indigenous women in developing countries (here India and Nigeria) are disproportionately affected by mining and oil and gas projects because they lose access to forest, fields, and fisheries, which they have previously used for food to feed their families. Men may receive compensation and jobs when an extractives project moves into their area, but women generally do not so there is no replacement for their lost incomes. Articles by Omeire et al. (2014) and Oluduro and Durojaye (2013) assert that in the Niger Delta women are also more affected by pollution and gas flaring because their livelihoods are dependent upon the land and the water, so they are more exposed. They also say that the loss of land-based livelihoods drives more women to sex-work in the absence of alternatives. Some of these outcomes are not actually well demonstrated—they are merely stated, but there is clearly some basis for the claims.

Other scholars have researched the varied roles that women have played in the extractives sector in Africa, most often in informal mining, but some have also looked at women in the formal sector. For example, Lauwo (2016) presents an interesting post-structuralist analysis of the essentially masculine mining discourse, even when discussing gender balance, and then relates it to the poor performance of gender equality measures in the Tanzanian mining industry. This theme, of the disconnect between rhetoric and reality, occurs throughout the literature, and is observed from a number of theoretical perspectives. Mayes and Pini (2014) demonstrate that the use of gender equity targets and discussion of the business case for diversity in the Australian extractives industry discourse are actually effective in maintaining the status quo: perhaps an unintended consequence. The business case, central to these efforts, incorporates a normative role for women, namely that of an idealized ‘civilizing’ woman, but fails to mention equality. Instead, women’s difference is used to ensure that the mining space remains male. Indeed, the public efforts at ‘gender balance’ are used as a rationale for resisting regulation and structural change. Lauwo’s effort at radical post-structuralist feminist analysis arrives at the same conclusion—that talk of gender balance in the Tanzanian mining industry bears no significant result (Lauwo 2016).

These and other similar articles call for governments to mainstream gender and force extractives companies to include special provisions for women’s protection and livelihoods. The question of women’s involvement in sex-work near extractives projects and gender mainstreaming policies are explored in more detail later in this paper.

2.4 Gender-based violence and sex-work

Much of this section on sexual relationships around extractives projects is concerned with the ASM sector, but not all. Studies by Lockie (2011) in Australia and Cane et al. (2014) in Mongolia focus on large-scale mining projects. Mahy’s (2011) Indonesian research was also concerned with the impacts of a large-scale rather than an artisanal mining project. These examples apart, the cases referred to in this section focus on ASM. That is not surprising, as the informal mining sector is reputed to provide many more opportunities for women than does the formal mining sector, which is heavily masculinized, as will be shown in the next section. That is not to say that the ASM sector typically treats women fairly, nor that there is any form of gender balance or equality operating there. Just the same, there is much more scope and flexibility for women to participate in the economic benefits associated with informal mining, so it is important to discuss gender relations in the ASM context. Much of the work available for women in mining areas involves sexual aspects, but not all of it. Further, a growing list of scholars is demonstrating that the sex-work associated with mining is often a preferential choice for women workers, rather than a case of victimization.

Mahy (2011) and Bashwira et al. (2014) point out that mining-related prostitution can benefit women who choose to earn money in this way and that it is crucial not to assume that all women taking up this profession are ‘victims’ of mining, especially in the ASM sector. Mahy’s research among women sex-workers near a large mine in Indonesia revealed that they should not be viewed as victims, nor as heroines, but rather as ‘women who are pursuing a livelihood opportunity within their wider socio-economic context’ (Mahy 2011: 53). She points out that, for many of the women, their income-earning capacity and lifestyle options are greater in the mining town than they would have been in their home villages, and this includes a variety of work possibilities for single women, among which sex-work is often the most lucrative, especially for those with limited education:

Where sex workers’ agency is acknowledged, so too is the capacity of miner’s wives to protest and to act in ways that ensure their own economic survival and personal satisfaction. The picture of the chaste, ignorant and passive woman living in a mining community needs to be replaced with a far more real picture of diversity,

opportunism and agency while also acknowledging that mining communities have specific gendered dynamics caused by the male dominated workplace and wider patriarchal traditions. (Mahy 2011: 61)⁴

The range of options may be limited, but engaging in sex-work in a mining settlement can be a rational livelihood choice rather than a question of force or victimization.

In a far more conflict-ridden setting, that of the Democratic Republic of Congo (DRC), two separate teams of scholars—Bashwira et al. (2014) and Kelly et al. (2014)—criticize the use of the high incidence of gender-based violence (GBV) as a valid reason for controlling women’s ability to access income in the ASM sector. They particularly oppose the tendency of development programmes, implemented by donor agencies and non-governmental organizations, to promote women’s exit from the mining sector as the best means for protecting them from violence and exploitation, arguing instead that programmes improving women’s situation within the industry would be more beneficial;

In the place of context-appropriate and locally-owned initiatives, a simplistic storyline has taken hold, springing from the conflict minerals discourse and drawing on conceptions of DRC as a barbaric and incomprehensible war zone. The resulting typology that emerges from this narrative pays little attention to the subtle ways in which women negotiate access to employment, and how sex is both a profession and a bargaining tool for livelihoods. Rather, the narrative of victimhood perpetuated largely by outside advocacy organizations emphasizes SGBV⁵ as the culmination of women’s exposure to unregulated ASM environments. The few programs that are available for women were subsequently organized by development organizations seeking to address ‘victimization’ or to remove women entirely from the places that, as we will see in the next section of the paper, they actively seek out. (Kelly et al. 2014: 99)

They agree with Mahy that women’s agency and active engagement in the mining sector need to be recognized and understood better by policy makers. Given the paucity of alternative means of income and the choice of many women to become involved in the ASM sector as an attractive livelihood alternative among the limited options available, they claim that legislation aimed at protecting women by excluding them from mining areas is actually counterproductive. They state that ‘instead of serving as an instrument to protect women miners’ health, it is currently being abused as a tool to consolidate the male-dominated nature of the ASM industry in eastern DRC’ (Bashwira et al. 2014: 112). They exhort policy makers to work at empowering women within the industry, tackling gendered power relations and structural inequalities rather than excluding women from the field.

Some of the most interesting recent scholarship documenting the ‘complex interplay of competing sexual desires, emotional needs, social status, daily practicalities and economic security objectives’ (Bryceson et al. 2013a: 50) of women in informal mining settlements has been produced by Bryceson et al. (2013a, 2013b) in Tanzania. They reject the assumption that most women’s roles in these communities revolve around prostitution, and have instead developed the term ‘wifestyles’ to describe the many different relational forms pursued by women and men in these places.

⁴ The term ‘agency’ is used in much feminist literature (and in this paper) to denote choice and self-empowerment; that is, women acting as agents of their destiny, rather than being passive recipients of whatever comes their way.

⁵ SGBV = sexual and gender-based violence.

Through their fieldwork, they have concluded that women seek to become steady girlfriends or wives of miners, as this status provides some material and emotional security, in exchange for a range of domestic services. Although many of these relationships are not long-term, in the light of the fluid nature of mining work and settlements, some certainly are. This in turn highlights the need to avoid blanket statements about women's welfare in artisanal mining settings. Another key point they make is that the relationships in ASM communities are financially and emotionally interdependent, and of benefit to both men and women, as long as they last:

What is important to stress is that it is not only women depending on men's income. Miners, constrained by erratic income-earning, fall back on girlfriends/wives' income-earning as well. It remains to be seen who provides the bulk of shared income but whatever the case, the income exchange is likely to be vital for continued habitation in the settlement. (Bryceson et al. 2013a: 51)

Reflecting upon Tanzanian women's views of themselves and their life choices ('wifetypes') is an essential part of understanding the role of gender in the ASM sector. Perhaps the strongest point made about women's agency and choices by Bryceson et al. is that:

[W]omen in Tanzanian mining settlements generally do not perceive or portray themselves as victims of sexual oppression. No longer subject to the control of their elders, they have migrated to the mining settlements, engaged in sexual relationships, and pursued productive and reproductive paths of self-making in or out of relationships with men. (Bryceson et al. 2013b: 102)

This research demonstrates the inadequacy of statements assuming that women engaged in a range of relationships and activities in communities surrounding mining settlements are victims, as prostitutes or in some other way. Some may be, but many women choose to engage in this sphere as their best chance for self-advancement at a certain stage of their lives.

Bashwira et al. (2014) suggest the mainstreaming efforts of the Mongolian government and the Swiss Agency for Development Co-operation (SDC) in the Sustainable Artisanal Mining Project as a good example of how to improve gender equality in ASM communities. This programme is described below.

Gender has been mainstreamed throughout project activities in recognition of the participation of women in ASM and the link between the sustainability of ASM and gender roles and relations in ASM communities. All community institutions and structures created by the project must be gender-sensitive, including ASM associations. In terms of gender balance, the proportional participation of women and men in capacity building training, in the implementation of community action plans and in project work with groups of artisanal miners has been mandated. Gender-sensitive training programs and manuals have also been developed to ensure equal access, rights, responsibilities and opportunities for men and women in ASM activities. Gender analysis (the systematic gathering and examination of sex-disaggregated data to identify and understand inequities based on gender) has also been a key and ongoing part of the project. (Purevjav 2011: 209)

This deliberate approach to include women in training to build their capacity is anticipated to yield better results than the approach of finding alternative income sources as was proposed in the DRC case. The SDC project website (www.sam.mn) notes that more than 40 per cent of Mongolian ASM workers who registered in social and health insurance schemes in 2015 were women, although they account for only 30 per cent of registered ASM miners, indicating that women were

embracing opportunities to improve their living standards while engaging in artisanal mining. Although the issues are different between the formal and informal sectors, Cane et al. (2014) reported in a study of GBV undertaken in communities in the proximity of two large-scale mines in southern Mongolia, that the Mongolian government and a private mining company entered into a partnership to make the mining area community a safer and more family-friendly place (Cane et al. 2014: 35), thus altering the gendered behaviour status quo.

In-depth studies of GBV in relation to extractives projects are not yet common, but are likely to increase in importance as current campaigns about gendered violence in mining-focused countries like Australia and Canada gain currency, along with rising expectations that companies must act to ensure human rights in their spheres of influence, as promoted by the Ruggie Principles (United Nations Office of the High Commissioner for Human Rights, 2011). Often, all that is available in the public domain are news articles and announcements of company programmes, for example those made by the Canadian gold miner Barrick in response to authenticated allegations of sexual assault against community women perpetrated by its security forces at two of its mines, one in Papua New Guinea and one in Tanzania (Barrick 2011a, 2011b).

One of the limited examples of detailed research was undertaken by Lockie in Queensland; he found that intimate partner violence was no worse in mining towns than in the general population, but that other factors, such as family finances and alcohol and drug use were far more likely than mining-related elements to exacerbate family and sexual violence (Lockie 2011). By contrast, Cane et al. found that the social changes provoked by the transient populations associated with mine-related transportation and the temporary population growth during construction led to an increase of domestic violence and sex-work (Cane et al. 2014: 18). The preponderance of men spending long rostered periods away from their families contributed to anti-social behaviour and increased GBV (Cane et al. 2014: 35). Both studies concluded that much more work needed to be done on the subject of GBV in mining areas, as their own work was just the beginning. As different results have been found in different contexts, it is certainly clear that additional research is still required and also that generalizations based on what we already know may be misleading.

2.5 Women's resistance to extractives projects

One important sphere in which gendered modes of action seem to predominate is that of environmental activism against extractives projects. Much of the literature discusses the gendered representations that commonly occur among women anti-extractives activists. This is often labelled as 'ecomaternalism', or the belief that women, as mothers and nurturers, care more about conserving the planet than do men, and are therefore more prepared to fight for it. One example of this occurs in the shale energy industry, which has catalysed a high level of resistance among women in the United States. Willow and Keefer (2015: 114) observed that women activists opposing hydraulic fracturing in Ohio are 'fashioning a new (but still highly gendered) relationship to motherhood'. Women activists who they interviewed stated that political action had become more important than traditional care-giving tasks in order for women to protect the future of their families. They explained that women were used to being disempowered in their personal lives and therefore having to stand up to authority figures, who no longer impressed them. Having less to lose from the system, they were more likely than men to challenge it. They had come to view activism and care-giving as complementary goals. This self-portrayal of women as 'ecowarriors' enables them to represent their non-traditional, even anti-social, behaviour as good mothering, giving strength to their movement (Willow and Keefer 2015). Although clearly an essentialist position, the underlying presumption that all women are better than all men in some respects, this self-empowering depiction of women's abilities to force social and economic change has emerged as a strong gender model in certain extractives contexts.

In a mining context, the literature reveals the important but previously understudied role of women as anti-mining activists in Andean Peru and Ecuador. Jenkins (2014) highlights the active role played by women in the anti-mining campaigns there, based on their acute concerns about the environmental degradation of the land and waters that they rely upon to grow food for their families. For many women activists, their engagement has entailed great personal sacrifice and risk, as they experienced significant opposition from within their own families, especially from senior men, but also intimidation from pro-mining groups, both within their communities and outside, and from mining companies, as described below.

Here, it is important to give due weight to gender considerations. Despite recent social gains including recognition of their leadership role, women are exposed to many stresses, mainly from family members (in particular, elderly relatives and men) to abandon their activism. Activists who challenge the dominant narrative regarding women's participation in public activities expose themselves to public criticisms as well as verbal and physical abuse. (Jenkins and Rondón 2015: 426)

Andean women continued with their activism in spite of this high level of pressure, as they had become used to 'experiences of violence, harassment, and intimidation which have become part of their daily lives over a number of years' (Jenkins and Rondón 2015: 419). This echoes the experiences reported by the US women shale energy activists described above. The Andean women activists also share the 'eco-maternal' perspective of their North American sisters. As Jenkins records when discussing the Ecuadorian women activists, in 'explaining their activism, the women identify themselves with Pachamama, reflecting broader (and by no means unproblematic) eco-feminist maternalist tropes of women as Earthmothers and guardians of nature' (Jenkins 2014: 451). This use of Pachamama—the indigenous Mother Earth figure of Ecuadorean culture—can be seen as strategic essentialism, appealing to a strong cultural basis as justification for their actions.

Similarly, in the Niger Delta, women have played very specific and active roles in the resistance movement fighting the oil and gas extraction industry: roles that prescribe clear limitations for women's actions, although these actions are essential for the cultural and practical survival of the male soldiers (Oriola 2012). On one hand, post-menopausal women play an essential spiritual role in performing cleansing rituals for male insurgents in the Delta's creeks, and supply them with various herbal preparations designed to protect and sanctify the warriors. On the other hand, non-menopausal women are forbidden from entering the creeks as they are believed to defile the area with their presence. Oriola states that the Delta insurgents do not seem to perpetrate sexual violence against women, unlike the Nigerian security forces, so perhaps the strong belief in women's spiritual potency, for good or evil, has influenced the behaviour of the male insurgents towards women. He also states that female Delta insurgents do not engage in prostitution, although other women 'for instance, professional prostitutes and girlfriends or sex partners of male insurgents' (Oriola 2012: 550) are encouraged to undertake 'soft prostitution', that is to befriend oil workers and security service officers in order to gather intelligence. Women insurgents are also active in smuggling arms and ammunition and 'benefit from the gender stereotypes and chivalry displayed by security operatives' (Oriola 2012: 549). Although this range of specific gendered roles had given women in the Niger Delta insurgency a range of positive positions, Oriola admits that this gendered freedom disappeared once the insurgents were offered an amnesty by the state. Thereafter, 'women's participation in the insurgency and the rehabilitation exercise seems devalued and relegated to the fringes' (Oriola 2012: 551). Women insurgents were not offered rehabilitation programmes until after their male counterparts and were often viewed with suspicion in their home communities, as they had transgressed gender boundaries and no longer behaved in the ways expected of women. So, although the insurgency had provided some women with opportunities for unprecedented freedom of action, they were later punished for their actions, and not rewarded as heroes like their brothers were.

Presenting a highly critical view of the effects of oil development upon gender equality, Etkind (2014) describes the Russian oil oligarchy as *petromachismo* and claims that it is gender discriminatory, as well as anti-human rights in many ways. He agrees with Ross' (2008) finding that oil-fed development decreases women's employment opportunities, stating that the 'synergy between the oil and gas trade and security services creates a hypermasculine, cynical, and misogynistic culture: *petromachismo*, as I prefer to call it' (Etkind 2014: 161). He also highlights women's activism, as described below.

Promoting archaic values of aggressive masculinity, the post-Soviet overreliance on natural resources and security services denies the role of women as the critical drivers of human capital. Victims of the regime, they become leaders of the resistance. At the turning points of the protest movement, rebellious femininity confronts the overbearing masculine state, with symbols of female sexuality acting as powerful, liberating political messages (Etkind 2014: 167).

One of the examples he refers to is that of the radical Russian women's rock group, Pussy Riot, notoriously jailed for performing a protest song in a Russian Orthodox cathedral in 2012. Etkind demonstrated the inherently anti-feminist stance of the Russian state when he noted that the judge, a woman, commented when making her judgment, that 'Though feminism is not a crime, it is incompatible with Orthodoxy, Catholicism, or Islam.... Feminists violate the sphere of decency and morality' (Etkind 2014: 167). Of course, the Pussy Riot 'Punk Prayer' does not refer to the oil business, and Etkind does not clearly demonstrate a link between the extractives industries and Russian chauvinism, which may well be cultural. In the same way, Rorbaek (2016) asserts that chauvinism in oil-rich Muslim countries is indeed cultural. Etkind does, however, emphasize that one of the largest employment sectors in Russia is the security industry (including the armed forces and police), which employs about 10 per cent of the population, almost all male, revealing an inherent 'hypermasculinity' already existing in the Russian state. A similar condition certainly seems to exist in Russia's oil and gas sectors.

By contrast, Rorbaek (2016) has challenged the assertion that a 'resource curse' in the Middle East has had a negative influence upon women's rights by making it easier to confine women to the home—an idea advanced by Ross in 2008. He concludes instead that it is Islamic culture that is detrimental to women's rights and that although the possession of oil wealth may bolster the degree of repression of women, it does not actually cause it. He cites Afghanistan and Pakistan as examples of repressive Islamic regimes which do not possess oil wealth. Thus he concludes that, although the 11 OAPEC⁶ nations are definitely oil-rich and repressive, so too are many other Muslim countries without similar wealth. So he argues the explanation must be more than economic, and he analyses historical and cultural reasons for his findings. Whether or not it is possible to prove that the oil industry, whether in the Middle East or in Russia, leads to increased repression of women, it is clear that the presence of large-scale oil development is certainly not bringing about an increase in gender equity and sexual equality in these host countries. This begs the question of whether oil companies should be making greater efforts to bridge the gap by working towards gender equality themselves when host states are clearly not doing so. Although it may be that the cultural subjugation of women in Islamic countries has resulted in less female anti-extractives activism than is apparent elsewhere, which may benefit extractives companies, their human rights policy commitments should lead them to encourage host governments towards

⁶ OAPEC = Organization of Arab Petroleum Exporting Countries.

greater gender equity. If the industry provided more positive opportunities for women worldwide, it is possible that their motivation to oppose it might be lessened.

2.6 Women's participation

Statistics on women's participation in the extractives industries are available in certain developed-country contexts where governments or industry bodies have invested significant resources in collecting the necessary data. But, in many places, especially when dealing with informal mining contexts, the numbers available are merely estimates. For instance, the World Bank estimated that there is a very low proportion (5–10 per cent) of female employees in extractives industries companies across the world, but without being able to provide much in the way of specific data (Eftimie et al. 2009: 9). This World Bank figure seems to be the main available estimate for women's global participation in the extractives sector, as the same numbers have also been used in more recent studies of women in leadership positions in the mining sector (WIM (UK) and PWC 2013, 2015). In the informal sector, the data are even less sturdy, although a 2011 report offered the following:

ASM usually involves the whole family. Women's roles, either indirectly supporting the activity through domestic work or directly involved as service providers or in mineral extraction, vary according to the local cultural setup. In Asia, generally less than 10% of miners are women, whereas in Latin America, the proportion tends to be higher, approximately 20%. The percentage of female artisanal miners is the highest in Africa, ranging between 40 and 50%. These statistics vary regionally and from site-to-site. In some regions of Africa, the involvement of women reaches 60 to 100%, while in parts of Latin America and Asia, ratios can approach 50% and 70%, respectively. (Hruschka and Echavarría 2011: 13)

What this reveals is that the ASM sector is often far easier for women to participate in than the formal extractives sector, which is why this paper has included both. This section briefly reviews what statistics are available to throw light on both the actual numbers of women engaged in the sector and also what roles they undertake. It also discusses any trends that are visible in these data and what these may mean. All of these data come from the formal sector, as that is what is primarily collected by official and industry agencies.

In terms of international data on women's participation in the extractives industries, the main countries for which overall industry numbers are readily available are Australia, Canada, and the United States. This is not surprising, as these are the major mining countries as identified by a survey of the top 500 mining companies worldwide, selected by market capitalization, and accounting for 97 per cent of the total global mining market (WIM (UK) and PWC 2014: 5). According to this survey, Australian- and Canadian-listed companies each accounted for 15 per cent of the market and the United States for about 9 per cent. The United Kingdom accounts for 19 per cent of the market capitalization, because so many mining companies are listed on UK stock exchanges, but only management-level and not overall employment data were available for UK-listed companies (WIM (UK) and PWC 2015: 9). Most of the available studies focus on mining. However, where possible, oil and gas statistics are also included.

Women's overall participation in the resources sector

In Canada, the most recent data available for female participation in the mining industry indicated that, in 2012, 17 per cent of the workforce comprised women, up from 14 per cent in 2006. The same study included the oil and gas sector as a comparator, indicating that women made up almost

25 per cent of the employees in that industry (Mining Industry Human Resources Council 2016: 5). I have been unable to find information on women's employment in the US mining industry, but a 2014 study on the US oil, gas, and petrochemicals sectors found that in 2010, 19 per cent of all employees were women (IHS Global 2014: 20). Thus, at best, in these leading economies, women hold one-quarter of the jobs in the extractives sector, and usually under one-fifth. This is a long way from gender equality in employment.

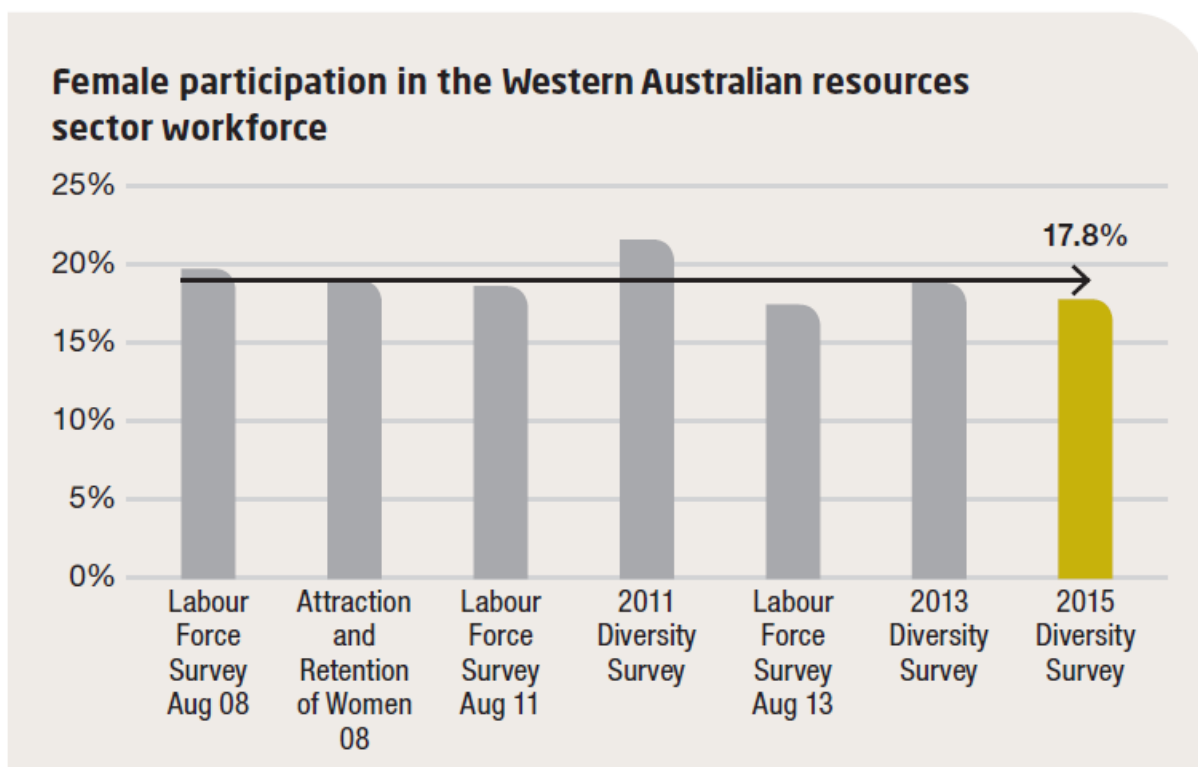
One of the best-organized jurisdictions for collecting and analysing data on women's participation in the extractives sector is Western Australia (WA), where the Chamber of Minerals and Energy, a private sector-funded organization, has produced biennial diversity studies for the past five years (CMEWA 2011, 2013, 2015). These studies cover the participation of women and indigenous peoples in the WA mining and oil and gas sectors. In addition, the Australian Workplace Gender Equality Act of 2012 requires all non-public sector companies with 100 or more employees to report annually on a set of gender equality indicators, and this provides a useful set of baseline data against which to measure change.⁷ Almost half the resources companies reporting to the Workplace Gender Equality Agency (WGEA) are located in WA, making it appropriate to also use these state-based data as representative of Australia. This information is used here to illustrate the pattern of participation of women in formal mining worldwide. However, it must be remembered that these are probably more favourable figures than in other parts of the world because of the law and industry's response to changing societal expectation, which will be discussed in the next section.

The following data combine information from the mining and oil and gas sectors. They show that the overall participation rate for women in the WA resources sector has generally remained below 19 per cent, although peaking at 21.6 per cent in 2011, and declining to 17.8 per cent in 2015 (CMEWA 2015 :16). For comparison, the Australian national employment rate for women in the resources industry in 2015 was 12.9 per cent, so WA was favourable in terms of numbers of jobs for women in resources (WGEA 2016b: 2). In Queensland, the overall female employment numbers increased from 12 per cent in 2006 to 16 per cent in 2015, so well below WA numbers, although Queensland achieved some success in increasing women's participation in so-called non-traditional occupations, as described below (QRC 2015: 2). Overall, the ceiling for female employment seems to hover at about the 20 per cent mark, as also seen in North America.

Figure 1 confirms this broad order of magnitude for women's participation in the WA resources sector workforce by using data collected from a series of surveys dating from 2008 to 2015 (CMEWA 2015: 16).

⁷ Reportedly, seven Canadian provinces and two territories have recently started to require publicly traded companies to report on gender diversity initiatives and women's representation on their boards and senior executive teams. This will mean that in future Canada will be able to produce similar sets of data to those of the WGEA (MIHR 2016: 40).

Figure 1: Female participation in the WA resources sector workforce, 2008–15



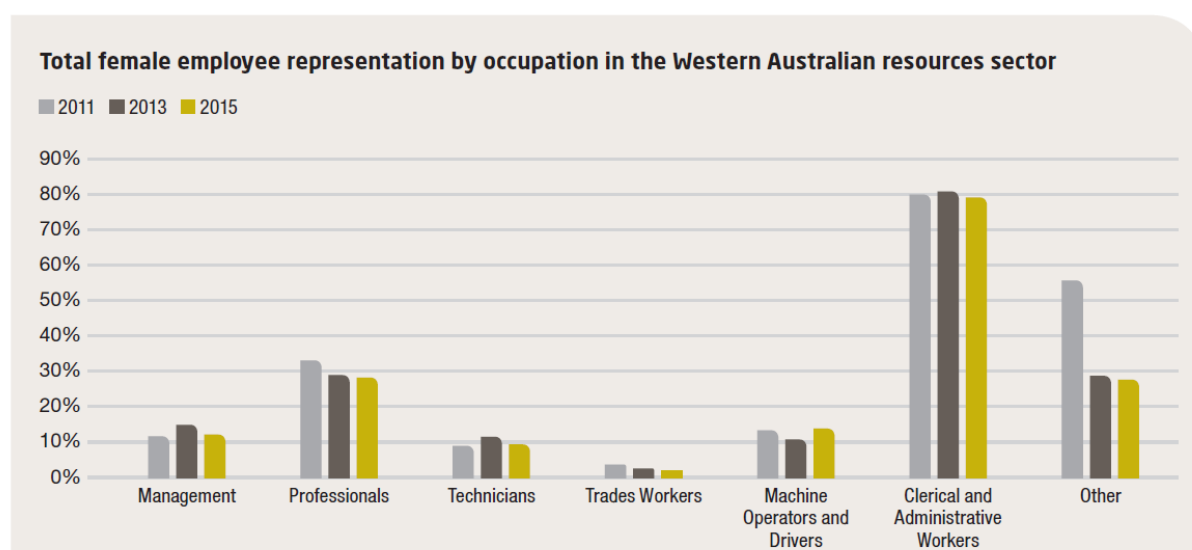
Source: CMEWA 2015: 16.

Gender segregation by occupation within the resources sector

A report on the US oil, gas, and petrochemicals sectors found that in 2010, the only occupation stream dominated by women was office and administrative support, which was 74 per cent female. By contrast, women made up 28 per cent of management, business, and financial streams, and only around 22 per cent of professional, service, and sales occupations (IHS 2014: 25). Women were under 10 per cent of all blue-collar work streams, meaning that these occupations, a very popular way for uneducated workers to gain good salaries, are predominantly male (McKee 2014: 168). Canada also reported that female participation in mining operational roles was only registered in single-digit figures (MIHR 2016: 5).

The WA data shown in Figure 2 illustrate a similar pattern, with women concentrated in the clerical field (around 80 per cent), followed by around 30 per cent of professionals, with the traditional mining occupations of technicians, trade workers, and machine operators continuing to be mostly male. The clerical field, where most women are employed, accounts for less than 5 per cent of the total workforce. The most common occupations are machinery operators and drivers (27 per cent), professionals (24 per cent), and management (16.7 per cent), but women make up low proportions of these work streams, between 10 and 30 per cent only (CMEWA 2015: 19–20).

Figure 2: Female employees by occupation in WA resources sector, 2011–15



Source: CMEWA 2015: 20.

The Queensland Resources Council committed in 2007 to doubling the number of women in non-traditional roles (engineering, geology, and trades) from 6 per cent in 2006 to 12 per cent by 2020. It raised its 2020 target to 20 per cent in 2012, by when it had already reached the original target. Although the numbers are still low (13.5 per cent in 2015), the increase in non-traditional recruitment demonstrates that success can be achieved with appropriate efforts (QRC 2013: 15).

Gender pay gap

The gender pay gap, that is the percentage difference in salaries between men and women in the same jobs, has been a key focus of Australian studies on gender equality. The numbers of companies reporting that they perform an annual gender pay equity audit is being used as an indicator of progress in the CMEWA (Chamber of Minerals and Energy of Western Australia) Diversity Surveys, and 62.5 per cent of companies reported having done so in 2015, 20 per cent more than in 2013 (CMEWA 2015: 26). Interestingly, the Australian resources sector is an average and improving performer on this measure relative to the 18 industries for which comparable data are available. It recorded a 17.2 per cent gender pay gap in 2015, down from 21.7 per cent in 2014 (the national equivalent figures were 17.3 per cent and 18.5 per cent). The resources sector thus improved its ranking among the 18 industries from the fifth worst industry for gender pay gaps in 2014 to the ninth in 2015, placing it at the median (WGEA 2016a: 5–6). When drilling further down into the specific occupational gender pay gaps, the Australian resources sector performs better than the national industries averages in all occupations except clerical and administrative, which is where most women are employed in the sector. The industry also performs worse than the national average for the gender pay gap of part-time workers, the bulk of whom are women. A lot more work would need to be done to be able to draw definitive conclusions from these statistics, but it does seem that the Australian resources sector has been responding to questions of inequity in salaries for most of its operational and professional workers, although discrepancies still exist in the areas where most women are employed: part-time and clerical jobs (WGEA 2015).

Women on boards

An area that is receiving a lot of attention in the gender equity field is the roles of women in leadership positions, particularly on company boards. PWC UK, sponsored by several resources companies, has conducted three annual surveys of women on mining company boards in the top

500 publicly listed mining companies. They state that some progress has been made over the course of the three years of the study (2013, 2014, and 2015), particularly among UK-listed companies, which represent one-fifth of the market capitalization. However, the changes are fairly minimal, increasing from 8 per cent of women on boards to 11.1 per cent in the top 100 companies over the three-year period, and from 4.9 per cent to 7.9 per cent of women on boards in the top 500 companies—thus about a 1 per cent improvement per year. They project that, at this rate of improvement, it would take until 2039 for the top 100 companies to reach the 30 per cent threshold of female board membership that they believe necessary to make significant changes in corporate culture. It would take until 2045 for the top 500 companies to reach the 30 per cent target (WIM (UK) and PWC 2015: 10–11). They list a number of recommendations to accelerate the rate of improvement, which will be referred to in the following section on industry initiatives.

2.7 Industry efforts

Over the past decade, industry bodies, international financial institutions, and various extractives companies have undertaken initiatives aimed at improving the gender balance in the sector. For example, the Queensland Resources Council commissioned research on the retention of women in the resources sector in 2005 (Colmar Brunton Social Research 2005), the Minerals Council of Australia and the Australian government commissioned research on attracting and retaining women in mining in 2007 (Australian Government and Minerals Council of Australia 2007), and the World Bank published guidance on gender equity in the mining industry in 2009 (Eftimie et al. 2009). Rio Tinto published a guidebook on integrating women into its communities work in 2009 (Kemp et al. 2009) and, in the same year, Lonmin and the IFC produced a manual on integrating women into the mining workforce (Lonmin and International Finance Corporation 2009). There are many publications from the ICMM, IPIECA, and the IFC that provide guidance on a wide range of social investment, community development, and human rights aspects of extractives industries projects and which include gender, among other topics.⁸

However, as Laplonge has pointed out, all this research and efforts on women in mining have not achieved anything like sexual equity or equality because they do not challenge the fundamental masculinist gender systems of the industry, but gloss over and reproduce the status quo. He states that years of reports and studies of women and mining have all resulted in similar sets of recommendations and that these are yet to produce any appreciable results, despite many companies publicly committing to them and even investing considerable sums into trying to follow the advice. The five recommendations common to the industry reports are:

- Market directly to women
- Allow people to work more flexible work hours
- Promote successful women as role models
- Establish workplace groups for women
- Deliver equal opportunities training. (Laplonge 2014: 58–9)

⁸ Lahiri-Dutt, whose work is referred to in Section 2.2 has an unfortunate blind spot about the ICMM Community Development Toolkit, restating the erroneous accusation that it completely ignores gender and women (2015: 530), whereas even the most cursory search of the document reveals more than 60 references to women and gender in the 2005 version, and closer to 90 in the expanded, revised version of 2012. In both versions there is a subsection headed ‘Gender and Inclusion’, clearly listed in the table of contents, and therefore rather hard to miss. It may be acceptable to state that ICMM should make greater efforts to be gender inclusive, but I hope that Lahiri-Dutt will cease making this false claim in the future.

In spite of the same set of recommendations having been agreed upon by so many research projects, they are obviously not effective, as little has changed, as evidenced by the very minor improvements in women's involvement in the extractives sector seen over the past five years, with female employment rates still not exceeding 20 per cent even in the more advanced economies.

Mayes and Pini also point out that every report that sets out the business case for increasing the number of women in the mining industry repeats the same justifications. They argue that this is because these justifications have not become standard nor widely accepted, but need to be constantly reinforced, demonstrating failure, they suggest, in the quest for gender equality in the sector.

Interestingly, the business case for the employment of (more) women, far from becoming over time a taken-for-granted aspect of the industry, is restated in each and every report. This repetition enables the ongoing public justification/rationalization of the privatization of equality and validation of the specific business-case rationales, which in turn continue to empower industry despite very poor improvements in the number of women in the industry. (Mayes and Pini 2014: 542).

By frequently restating its commitment to gender equality policies and programmes, the extractives sector arguably can avoid regulation or intervention even if the actual results of its actions to date are negligible, as demonstrated in the data presented above.

This conclusion is reinforced by the research into the geoscience field in the oil industry, which found that the only diversity programmes that had any real impact on the numbers of women in the workforce were those associated with deliberate recruitment targets. All the talk about culture and change, major elements of most gender mainstreaming programmes and mostly aimed at women, was simply not effective. Gender barriers to the advancement of female geoscientists in the oil sector have been studied to illustrate the inherently biased nature of the industry, despite rhetoric about diversity and gender balance (Williams et al. 2014).

In spite of much research producing general agreement about what needs to be done to make the extractives industries more gender-balanced and equal, and major efforts by a number of resources companies to try to implement the recommended changes, there has not been much visible improvement. Some of the more radical scholars (Laplonge, Mayes and Pini) claim that industry efforts to date have done little more than perpetuate the status quo while making cosmetic changes around the margins. The next section considers these critiques while also considering recommendations for future action.

3 Conclusions and recommendations

For the enhancement of gender equality in the ASM sector, Kelly et al. propose efforts 'to promote rights and education to ensure safe and fair working conditions for those doing work in and around mining tunnels' (Kelly et al. 2014: 103). In their view, campaigns and programmes should target the education of government and customary leaders in how to assist women miners to organize and represent themselves, rather than trying to persuade them to leave the industry they have chosen. Better medical services, especially for those engaged in transactional sex, would benefit women miners, as would microcredit services. These practical programmes have been recommended to improve women's status in the ASM sector.

On the formal extractives side, although efforts have been put into increasing the representation of women in leadership positions, especially on boards, these efforts have yet to bear much fruit.⁹ PWC's studies over the past three years have produced the following conclusion.

The benefits brought by women to senior management roles within corporations are now well recognised by most corporate governance experts. Our findings suggest that the mining industry still has a long way to go before such benefits are understood and acknowledged; mining is still perceived by both genders to be a male-dominated industry where women do not possess equality of opportunity to advance. The only way that an organisational culture change of this nature can be effective is if it is led from the top. The boards and executive teams of mining companies need to understand and champion the business imperative to promote and support women within their organisations. They need to drive cultural change within their own companies to create a more profitable and sustainable industry. (WIM (UK) and PWC 2015: 11)

It is doubtful that sufficient change will emerge from these worthwhile but only advisory research efforts, and the researchers themselves estimated that it would take decades to achieve notable change at the current rate (WIM (UK) and PWC 2015: 10–11). One of the leading movements for corporate gender transformation in Australia is called Male Champions for Change, but only one mining company representative, from Rio Tinto, has become engaged with this group, and even in that case not at CEO level. This demonstrates a general lack of commitment to change from the top of the extractives sector. While it is true that change can only occur if driven by management, change at the top is not necessarily reflected by change throughout an organization, and the expectation of the PWC study that the achievement of 30 per cent women on extractives company boards will bring about a transformation is not supported by evidence (Laplonge 2014). Nor are the common statements by successful women that women themselves must bring about change.

Continuing efforts to recruit more women certainly make the industry more appealing to them. Company efforts to make more positions available to women in the full range of extractives occupations, at equal pay, as described in the industry efforts section above, will surely be of benefit to some women. However, these corporate initiatives can only bring about superficial changes to the masculine nature of the extractives sector without there being a root-and-branch, industry-wide cultural transformation focused on men as much as women. Laplonge accuses the industry of refusing to 'investigate the practices of masculinity which dominate in the business of mining and which continue to ensure that most women ... will find it hard to succeed in this industry' (Laplonge 2014: 70).

Thus, what is needed is change at the top, driving cultural change throughout each extractives organization and primarily focused on the men who make up the majority of the workforce. Some work has been done in this field, and the WA government has sponsored the development of a training course along these lines (Department of Mines and Petroleum 2012). Others may want to follow this example. Fundamentally, unless the men who run the extractives industries decide to

⁹ A few women have reached positions at the top of major extractives companies, but very few. Cynthia Carroll was CEO of AngloAmerican plc from 2007 to 2013, when she stepped down, leaving Kay Priestly, CEO of Turquoise Hill Resources, as the only woman CEO in the top 100 resources companies. Cheryl Carolus, of Gold Fields Limited, was the sole female chair of a major resource company in 2015. In the larger group of the top 500 resources companies women fared a little better, with 12 being CEOs, an increase from 7 in 2014 (PWC 2015: 11).

make these changes, which will not be easy, there is unlikely to be much improvement in the gender balance of the sector in the foreseeable future.

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