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Women in Artisanal and Small-Scale Mining: Challenges and opportunities for greater participation



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Women in Artisanal and Small-Scale Mining: Challenges and opportunities for greater participation

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SUMMARY

Artisanal and small-scale mining (ASM) has grown significantly with approximately 40.5 million people directly involved, and an additional 150 million dependent on the sector for their livelihood. Though not often acknowledged, the role of women in ASM is significant, as they make up around 30 per cent of the total workforce, and up to 50 per cent in some regions. Although cultural and historical aspects have relegated women's participation to the periphery, women have always been part of the mining workforce. Women have primarily been involved in crashing, sluicing, washing, panning, sieving, sorting, mercury-gold amalgamation, amalgam decomposition and, in rare occasions, actual mining. Women are also active in the provision of goods (e.g., food and drink vending, sales of artisanal equipment such as sieves, and credit for mobile phones) and services (e.g., transporting dirt, ores, ore particles and water; cleaning; laundry; sex; nightclub entertainment; and trading). However, the cultural and institutional constraints women face have ensured their involvement in the most value-bearing places such as pits and fair markets is practically non-existent.

The various challenges women face within this sector have been sporadically highlighted in the literature, and a systematic and in-depth approach to understanding those challenges has been inadequate. With some research limitations, this paper takes a focused approach to understanding the key bottlenecks to women's full participation with the aim of informing highly sought interventions to address those challenges.

KEY CHALLENGES TO WOMEN'S FULL PARTICIPATION

Women face different economic challenges as a result of the lack of access to, use of and control over resourceful land and other productive resources, licences, finance, and geological data. In many cases, such as that observed in Tanzania, traditional beliefs prevent women from these utilizing these economic factors, denying them any control over earnings. The inability to access finance contributes to women's inability to invest in mining equipment and technology necessary for a successful business. At policy level, the existing discrimination against women often puts them at a lower order in policy decisions affecting them. The de jure and de facto inequity in access to and control over land and property rights constrains women from accessing various other determinants of mining business success, such as finance.

Due to the traditionally influenced legal constraints to owning or inheriting land and mineral rights, many women end up operating unregistered. This increases their vulnerability in the current global efforts to promote formalization, which, in itself, is characterized by arduous requirements many women are unable to fulfil. Without a commitment to gender mainstreaming, existing prejudices can be reinforced by the formalization process stifling women's capacity to contribute to a productive and responsible mining sector.

Strong cultural norms have influenced legal approaches to gender issues resulting in subtle and, at times, open legal discriminations against women. Thus, legal and cultural discriminations, domestic and childcare responsibilities, and lack of education have relegated women to passive participation, making it difficult for women to openly air their concerns and ideas in front of men. This lower status has meant women have little to no power or influence in actively participating in key decision-making processes. As a result, women's views, needs, ideas and potential to contribute to solutions are overlooked. Women's groups which could represent women's interests in most cases get off to a good start, only to struggle due to lack of organizational structure and institutional capacity, competition for power, weak leadership and corruption.



OPPORTUNITIES FOR GREATER PARTICIPATION

Despite the numerous challenges highlighted above, women in ASM have demonstrated enormous potential to achieve substantial financial gains and manage successful mining businesses. This paper considers some of the key requirements needing to be fulfilled to provide women with equal opportunities and enable their full participation in various activities within the ASM sector, and realize their potential to contribute to a responsible operation and sustainable livelihood development.

LAND, LICENCES AND LEGAL PROTECTION

- Regulatory bodies need to fairly and effectively enforce policies and legislations with clearly stipulated and user-friendly provisions for women in terms of equal access to land and licences.
- Regulatory bodies need to provide legal incentives to enhance women's access to land and licences. Preferential treatments could take the form of quotas reserved for women on licence and land rights.
- Capacity building across the relevant government agencies for consistent enforcement of legal provisions.

ACCESS TO FINANCE

- For more sustainable loan support, governments are advised to establish state-managed loans facilities such as public microfinance and village banking. Preferential treatments can also be applied through exemptions or offering women simplified procedures to access grant and loan schemes.
- Other measures include mainstreaming gender in the banking sector, which can be supported through partnerships with development organizations, setting up specialized women's banks, providing incentives, such as the land titling program, tax and duties incentives to encourage property ownership so women can fulfil collateral requirements, and extensive awareness raising on the parts of the financial providers and capacity building to increase female miners' knowledge of financial systems and standard requirements.

INFORMATION, GEOLOGICAL DATA AND NETWORKS

- With amended legal provisions to promote women's rights for active and equal participation, conduct literacy campaigns targeting women in mining communities in the form of technical, administrative and management training; basic literacy courses; and various inductions on government laws, communications and networking, seeking and accessing information, and procedures such as licence application.
- Gendered provision of information and useful networks on the various opportunities that arise from time to time; pros and cons of activities; legal matters; good practice standards; jobs; availability and access to finances, geological data, licences and land rights, equipment and technology, markets and prices; and other women's experiences in mining business.
- Capacity development of technical staff working in mining ministries to carry out gendered training on technical and access to geological data.



INSTITUTIONAL SUPPORT AND SERVICES

- Government and development partners need to set up market centres on sites that women can easily reach, which would provide accurate information on prices, global networks, and space for buying and selling of product at market prices and provision of market-related training.
- Initiatives supporting women's mining and domestic responsibilities, such as providing childcare services, can help increase female participation in all levels of the ASM sector. Establish or assist female miner's associations that would work collaboratively with, for example: educational institutions to train and build knowledge and capacity of their members; business entities and support centres to provide capacity, resources and services needed by aspiring women mining entrepreneurs; government agencies in charge of licences, environment, land and other relevant agencies to lobby for policy change or legal support for women; and other public and private agencies to channel various other support and services needed.
- Building women's capacity to actively participate and have a voice in key decision-making processes, while providing dialogue platforms that are inclusive and action-oriented.

EQUIPMENT AND TECHNOLOGY

- Establishing networking around female miners with practical ways of disseminating information to enhance women's access to equipment and technology.
- Collaborative avenues bringing together government, development partners, private sector and civil society organizations in an integrated program enabling access to equipment and technology through the creation of loan and grant facilities with preferential treatment for women are required. Information and awareness on such schemes should be promoted through miners' associations and local governments.

Any mechanism aimed at bringing solutions to the issues faced by women in ASM needs to be founded on a comprehensive study. Supported by a systematic and targeted analysis and research, the study can be undertaken at national or local levels with the objective of scoping women's involvement in various activities, the various challenges women face in performing (or lacking) different roles across the mining spectrum, niche areas in which they can excel, and opportunities to help them establish and grow in mining businesses. This knowledge-generating exercise needs to be based on facts from the ground through extensive multistakeholder engagement and dialogue. Solutions introduced must not be ad hoc and one-off but need to be carefully designed in an integrated support mechanism involving various relevant actors.



TABLE OF CONTENTS

Introduction.....	1
Women as “Miners”: Potential and opportunities	2
Women, Mining Cooperatives and Groups	6
Case Studies of Women Miners’ Associations.....	7
Key Challenges for Women in ASM.....	10
Economic Challenges	10
Legal and Institutional Challenges.....	11
Lack of Participation in Decision-Making	12
Addressing Key Challenges	13
Mainstreaming Gender in Land and Licences Issuance and Legal Protection	13
Gendered Facilitation and Provision of Finance	14
Gendered Facilitation and Provision of Equipment and Technology	15
Women Empowerment Through Education and Skills Training	16
Gendered Access to Information, Geological Data and Networks	17
Gendered Access to Markets and Training on Marketability	18
Building Women’s Institutional Capacity	18
Promoting Women’s Voices Through Dialogue.....	19
Concluding Remarks	21
References.....	22

INTRODUCTION

Artisanal and small-scale mining (ASM) around the world continues to grow. There are currently an estimated 40.5 million people directly involved in the activity—and around 150 million people indirectly dependent on it (IGF, 2017), and women make up a significant number of sector participants. Although there is a critical lack of data, women are believed to account for up to 30 per cent of the global ASM workforce (Hinton, Veiga, & Beinhoff, 2003), and up to 50 per cent in Africa (UNECA, 2002): in some cases (such as Guinea) the proportion reaches as high as 75 per cent (Hentschel, Hruschka, & Priester, 2002). Despite the significant number of women involved in ASM in various capacities, there is a serious lack of recognition in almost all spheres, including development programs, public and private sectors, mining communities, or even academia.

Very few discussions feature women, with whom male miners have always shared the mining space. Discussions rarely adequately highlight women's productive roles or specify the gendered impacts of the mining industry. There is an invisibility problem whereby women's contributions to the mining sector are masked by the dominant reflection of men's roles in discussions of mining, thus erasing the participation of women (Jenkins, 2014). One of the most important reasons why women have remained invisible is that the literature has historically focused, to a large extent, on *digging* practices, putting emphasis on the miner and excluding women who are mostly engaged in such *non-digging* activities as crashing, sluicing, washing, panning, sieving, sorting, transporting, mercury–gold amalgamation, amalgam decomposition, cleaning and food vending. Women in artisanal gold mining do some of the processing activities at home while attending to their children and domestic work, and so their involvement in mining sites is limited, contributing to their invisibility (Eftimie et al., 2012).

As a result of this invisibility problem, an in-depth knowledge is not well-established about the challenges that women in ASM face and their potential to enable a positive livelihood development through mining. This paper¹ draws on the limited literature and country consultations in Tanzania, Ghana and Madagascar focussing on women in ASM to highlight some of the key bottlenecks to the potential of women not only to actively participate in the ASM business but also be part of the driving force for a responsible and sustainable ASM. The outcome of thematic dialogues on “Women in ASM” conducted in Tanzania in September 2017 further informs this discussion (Weldegiorgis & Buxton, 2017). While highlighting the key challenges women face in various capacities in the sector is important to understand the environment in which they operate, the aim is to explore an enabling environment for women to realize this potential.

The paper mainly considers research into both ASM gold and gemstones, with slight references to the industrial and building materials, sometimes known as “development minerals.” It is structured in three parts, starting with scoping the role of women in ASM accompanied by case studies. The second part presents some of the key challenges faced by women in ASM at the policy and practice spectrums. The third part discusses some of the important elements needed to enable women transition from marginalization and limited and unremunerated activities to active participation, owning and running of successful businesses in and around mining, and independent and influential voices heard in key decision-making processes. The paper concludes with final remarks.



Photo: IIED/Magali Rochat

¹ This paper will serve as a discussion paper at the ASM18 International Conference in September 2018.

WOMEN AS “MINERS”: POTENTIAL AND OPPORTUNITIES

It is rare to see women involved in the actual digging of ores, essentially barred from any activity that involves first contact (mineral discovery) and last contact (sale of minerals). While this may be associated with the lack of access to land and mineral resources, women are generally still not seen digging or operating equipment in pit areas even if they own land or mining licences. This is often attributed to the cultural barriers that prohibit women from physically demanding activities, which are usually deemed to be “men’s work.” The masculine image of “the miner” created in early industrial days when mining was a dangerous, laborious and risky operation continues to have a strong effect excluding women from heavy mining duties (Lahiri-Dutt, 2012). Cultural barriers also amount to taboos due to the belief that female miners are “loose women,” and they are deemed unclean, excluding them from carrying out underground mining (Verbrugge, 2017). These barriers manifest in many countries with a connotation that women cause a “spirit” of bad luck when in close proximity to minerals or mineral-bearing stones, hence the justification for banning them from pits (Hinton et al., 2003). They also restrict women’s access to the valuable first pickings.

“The miner” that carries out heavy mining duties in pits tends to receive most of the publicity, whereas women’s participation in activities outside pits gets ignored and undocumented, although they contribute to a significant part of the mining operation. In order to fully account for women’s roles and understand the opportunities for their greater participation, therefore, the phrases “women as miners” and “women in ASM” should encompass the whole cycle of mining and related activities from exploration to consumption. Indeed, those who are not part of the traditional “miner” workforce but perform all other activities except digging (may be referred to as “extended miners”) need to be recognized. By and large, women’s potential for successful entrepreneurship in ASM lies within the whole spectrum of activities including mining, processing, delivery, and goods and service provision in and around ASM. A simplified mapping exercise can be drawn to understand this whole spectrum of ASM that women are involved in and the range of beneficiation they are likely to receive (Figure 1). This exercise helps sketch out the activities in which women’s participation can be enhanced to achieve better beneficiation.

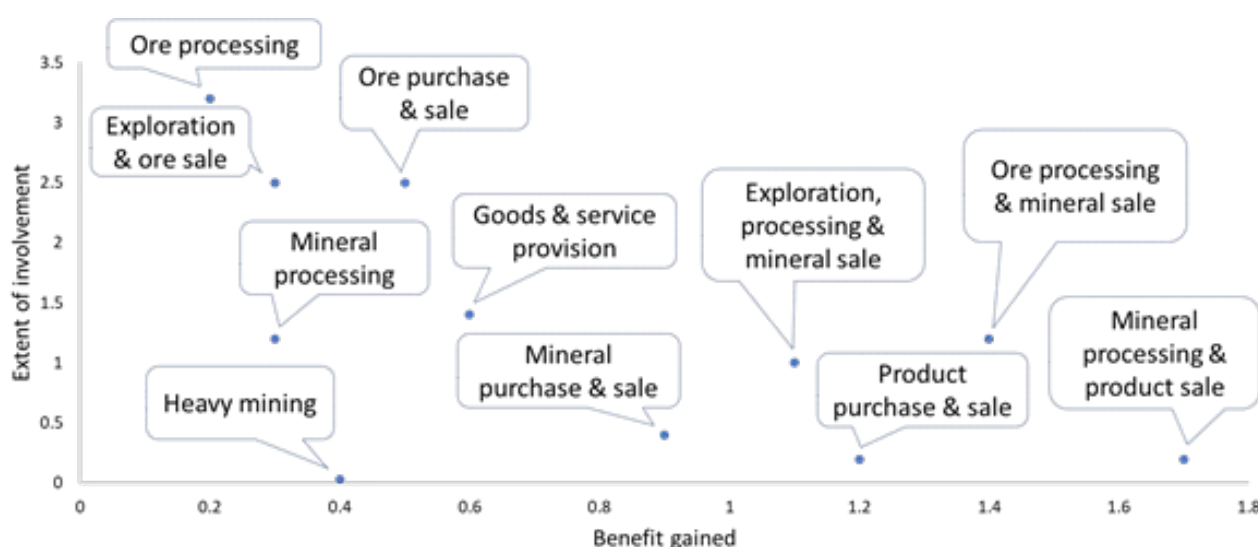


FIGURE 1. WOMEN'S ROLE IN VARIOUS ACTIVITIES OF ASM

Source: Principal author's own conceptualization.



Exploration and ore sale: Women of all ages are seen in mineral and quarry rush areas either individually, with partners and/or children carrying out minor digging, shovelling and collecting mineral-bearing ores and quarry materials. While they are involved in significant numbers and for extended periods, the likelihood of succeeding in discovery and thus benefiting from sales is minimal. Even if they succeed in mineral and quarry discovery, the prices at which they sell their unprocessed finds is far lower than the actual value. This can be due to a lack of information and awareness about mineral and quarry material values and market prices which compel women to deal with on-site buyers.

Exploration, ore processing and mineral sale: In rare cases, women are involved in exploration, traditional processing of ores (usually panning, washing, and mineral separation from ore using easily accessible techniques such as mercury, and stone crashing and curving using rudimentary tools), and sale of semi-purified minerals. While this is very rare, women may gain better benefits through the creation of value, although still at much less than market value.

Heavy mining and quarrying: An insignificant number of women are employed to undertake heavy mining activities such as digging, handling of mineral and quarry equipment and machinery (and most other duties around pits) for the reasons highlighted above. In some cases, these women are treated secondarily in terms of remuneration and working conditions compared to their male counterparts in similar roles. In addition, there are a very small number of women who have endured radical discrimination, overcome serious obstacles, and gained financial muscle to not only own pits (which on its own does not guarantee them work in those pits) but also secure the right to operate them. It is these very rare women who indeed may gain some better benefit with a potential to grow businesses.

Ore and quarry processing: A significant (probably the largest) number of women tend to be involved in the processing of ore (panning, washing and mineral separation) and quarry materials (stone crashing and curving) as employees. Women active in these jobs are particularly visible in small-scale mines run by individuals, family, group of or cooperative investors. In most cases, they have limited or no information about the value, sales and use of the minerals and quarry products that they help process; as such, they benefit only minimally, often relying on the payment they are offered at the discretion of their employers.

Ore and quarry purchase and sale: Many women are also active in the buying and selling of ore and quarry materials on site purely to gain some trade margin. However, they gain insignificant benefit given that the sacks full of supposedly mineral-bearing dirt or fine particles of ores are often deemed disposable remnants with insignificant value.

Mineral and building material processing: There are also women employed in the processing of minerals and building materials to their finished—and in some cases commercial—forms. Their involvement is low due to such reasons as lack of technical skills and cultural barriers. Though still small, the benefit that these women gain may be slightly better than those employed in the processing of ore and quarry materials, which do not require as much technique.

Mineral and building material purchase and sale: A small number of women may be involved in the buying and selling of semi-purified (in rare cases purified) minerals and building materials to gain some trade return. These women, technically acting as intermediaries, tend to have market exposure in cities and in rare cases internationally, are often aware of minerals and building material values, and well connected with buyers and finished product manufacturers, thus gaining large benefits.

Ore and quarry processing and mineral and building material sale: Some women buy ore and quarry materials which they process using traditional methods (usually panning, washing, and mineral separation from ore using easily accessible techniques such as mercury, and stone crashing and curving using rudimentary tools). They produce semi-purified minerals and building materials for sale



and tend to gain large benefits from their value addition through self-processing. This is particularly the case with those women operating in this capacity who are equipped with mineral and building material value (and market) information and broader trading networks.

Finished product purchase and sale: Women in this capacity, though very rare, are purely dealers involved in buying and selling finished products such as jewellery and building and agro-industrial products. Their main objective is to gain large returns by effectively using their value and market knowledge and key national and international networks, while exploiting knowledge, information and market gaps.

Mineral and building material processing and finished product sale: In rare instances, women buy minerals and building materials in order to process them into finished products, which they then sell at national (and in some cases international) market values. These women are probably in a better position to gain the most benefit due to the added value in self-processing and taking full advantage of market gaps and gaps between unfinished and finished product prices.

Goods and services provision: In addition to involvement in mining and processing activities, women are also active in provisions of goods (e.g., food and drink vending, sales of artisanal equipment such as sieves, and credit for mobile phones) and services (e.g., transporting dirt, ores, ore particles and water; cleaning; laundry; sex; nightclub entertainment; and trading). Although women involved in these activities generally receive limited benefits, provision of sex services and food vending may generate a large amount of money.

The number of women involved in what is commonly known as auxiliary roles performing all activities except heavy mining duties in pit areas is significant; in Tanzania for example, the number is estimated to be about 2.5 times those working in direct mineral production (Eftimie et al., 2012). However, performing these roles does not usually translate in women benefiting, as in many cases women are either underpaid, exploited or deprived of information on any financial flow due to culturally—and violently—imposed control by men. For example, women engaged in processing and hauling roles in Ghana earn 60 per cent less than men in digging roles; 80 per cent of profit from washing gold from lateritic soil carried out by women in Guinea goes to male intermediary buyers (Eftimie et al., 2012). Therefore, while their involvement in the various non-digging activities in ASM presents an opportunity to maximize their potential, these and other barriers need to be addressed.

Due to the low remuneration and other gendered disadvantages, many women (including those that migrated to ASM areas to make a living from working in mining activities or in the bars and hotels of mining towns) end up engaging in sex activities (Verbrugge, 2017). Some women enter the sex business as a bargaining tool to access and maintain employment and are prone to serious health risks (including sexually transmitted diseases) while being susceptible to social exclusion and sexual and physical abuse (Kelly, King-Close, & Perks, 2014). Many young women choose not to return to their homes for fear of stigmatization, leaving them vulnerable. The lack of formal recognition of sex services becomes an issue for any potential intervention to address these health risks or see whether women can leverage some economic advantages out of their involvement in such services.

In addition to financial exploitation, women are exposed to health risks such as brain, kidney and lung damage, particularly because it is women who often perform ore purification using mercury or cyanide and scavenge tailings where they encounter with chemicals such as cyanide (Eftimie et al., 2009). Women are further prone to health issues such as lung diseases, skin irritation and eye damage through dust from ore crashing; and musculoskeletal disorders from manual lifting and carrying of materials and awkward positioning (Lu, 2012). Women also suffer from fatigue due to the physical demands not only of performing the aforementioned activities but also the domestic responsibilities they are traditionally charged with, such as childcare, food and drink preparation, and cleaning among others. The cultural constraints go deeper, in that women in some cases find themselves at the bottom of the family order when it comes to rest, comfort and nutrition in homes leading to their increased vulnerability to health risks (Chakravorty, 2001).

Domestic responsibilities also affect women by limiting the amount of time and effort they can spend in mining sites, thus missing any financial, networking and mining knowledge gains. Therefore, time and mobility (two factors highlighted by Oduro and Van Staveren, 2015) are taken away from women, preventing them from making any meaningful progress in financial gains or entrepreneurial aspirations. For example, the time and resources required to obtain mining permits from offices far from home are beyond many entrepreneurial women burdened with domestic work. This unrecognized, unequal and highly burdensome work makes it difficult for women to advance past subsistence activities, as they lack the time and mobility to take part in dialogue, training and to undertake even small administrative tasks that would help recognition of their activities.



Photo: IIED/Magali Rochat



WOMEN, MINING COOPERATIVES AND GROUPS

The organization of female labour in ASM differs across countries in the global south, which can be attributed to differences in mineral ores, mining equipment and technology, cultural and gender taboos, and political factors. In most cases, however, the sexual division of labour that exists in ASM areas often manifests in the way ASM groups or cooperatives are formed. ASM cooperatives often follow hierarchical systems or top-down organization, with a licence owner at the top followed by pit holder and then mine workers (diggers) (Jönsson & Bryceson, 2009). This categorically disqualifies women from even being part of cooperatives, given they are rarely licence holders, pit owners or diggers. Such deprivations are also behind women's inability to form strong women-only cooperatives. In Tanzania, for example, mining is an individual affair for women, although some women do form partnerships with family members (e.g., mother and children, husband and wife, particularly during the rainy season) or forge temporary alliances with other miners to achieve a common goal (e.g., money for a wedding) (Verbrugge, 2017). Many women also form rotating savings and credit associations to boost their income from mining, but often the cooperation between female miners does not extend beyond these boundaries. This worrying trend away from cooperative participation that is typically seen in women in ASM may deteriorate their participation in mining, as many governments and international organizations increasingly encourage cooperative organizations.

Among the reasons for the limited participation of women in ASM groupings or cooperatives is the lack of trust that exists, especially as ASM often involves migration—many women fear the consequences of failed reciprocity in working relationships. Domestic and childcare responsibilities also make it hard for some women to have (and stick with) the allocated commitment toward group activities. This is because domestic responsibilities vary in terms of extent and timing across households. Furthermore, as with other aspects, women are subject to unfavourable (or non-existent) government policies needed to support the establishment of artisanal mining groups and cooperatives. Although promoting ASM cooperatives is taken as part of formalization strategies, governments have generally put more focus on licensing to generate revenue, rather than empowering miners through the establishment of cooperatives (Maconachie & Hilson, 2011b). In countries that have witnessed an increase in mining cooperatives such as the Democratic Republic of the Congo, the results show corrupt governance with elites wielding power and exploiting miners (De Haan & Geenen, 2016).

In addition to female miners' groups or cooperatives, there are female miners' associations that are set up with a general agenda of supporting women in mining in various capacities. There is a long and proud tradition of groups such as the Tanzania Women Miners' Association (TAWOMA), Association of Zambian Women in Mining (AZWIM), Wives of Miners in Bolivia, and more recently Malawi Women in Mining Association (MAWIMA) and the Réseau National des Femmes dans les Mines or National Network of Women in Mines (RENAFEM) in the Democratic Republic of the Congo. Jenkins (2014) notes that the emergence of such organizations across the global south is in response to the particular challenges women in mining are facing. Although largely invisible in the literature, they can play a vital role in informing policy and enabling government, donors and large-scale mining companies to recognize the particular gendered impacts of mining along with opportunities for growth and development.

As UN Women Africa (2014a, p. 4) noted:

Through consortiums, individual women miners are better able to supply larger volumes for more lucrative rewards, which in turn facilitate larger operations and hence job creation. Such success stories, however, depend heavily on environments conducive to the advancement of women miners.



CASE STUDIES OF WOMEN MINERS' ASSOCIATIONS

This subsection first gives an overview of East African women's mining associations based on what can be gleaned from websites and personal interviews. A more detailed discussion of women in mining in Malawi is then presented with reference to a personal consultation with a female Malawian miner.

ASSOCIATION OF ZAMBIAN WOMEN IN MINING (AZWIM)

Zambia is a country with a long history of mining, small-scale and large-scale, state-owned and private. Women are involved in the artisanal mining of industrial minerals and gemstones, in particular. AZWIM was established in the early 1980s by Kaingu Namaku, a gemstone mine owner and global champion of women in mining. She was the first African woman in Koffi Annan's UN Global Compact Advisory Council in 2001 to advise on small-scale mining. She was the Coordinator of the African Women in Mining Network, Regional Chairperson for SADC Women in Mining Trust, and SADC Committee of Mining Ministers from 1997 to 2005 (Kaingu Namaku, personal communication, November 12, 2014). She continues to champion the cause of women in mining and lobbies the Zambian government for funds for women to buy equipment. AZWIM has been notably successful in enabling female emerald miners to compete internationally, winning a contract to supply 135 kg of emeralds to a Canadian company in 2011 and similar deals in Asia (Mining Review, 2011).

AZWIM has also enabled women to add value to their mining activity through beneficiation, the processing of rough stones and making of jewellery and entrepreneurship. One creative example is mining-related tourism, where guided tours are offered to an aquamarine mine. AZWIM was called on by UN Women to assist in the development of an investment and trading platform for women in mining, which provides training opportunities; services—including valuation of minerals, information, marketing opportunities, business-to-business linkages (UN Women, 2014b). However, an observation was recently made that the more powerful women in charge are, the less they convey the voices of poorer remote women at the mine sites (Mercy Zulu, personal communication, August 6, 2017).

TANZANIA WOMEN MINERS ASSOCIATION (TAWOMA)

Tanzania has a long history of ASM with an estimated 1.5 million people directly involved, of which around 27 per cent are women (IGF, 2017; Tanzania Ministry of Energy and Minerals [MEM], 2011). TAWOMA was established by veteran miner and gemstone dealer Martha Bitwale in 1997, with a mission to improve the economic and social welfare (particularly in relation to HIV AIDS) of female miners through “financial, technical and marketing services (which are) environmentally friendly, to enable them to be economically and commercially viable” (TAWOMA, 2011). It has a regional organizational structure, is a founding member of the Chamber of Commerce and has links to the Mining School at the University of Dar es Salaam.

TAWOMA is considered to have a passionate and committed group of 350 women with vast knowledge of their terrain and many creative and entrepreneurial ideas which are, nevertheless, hamstrung by a lack of finance to buy even the most rudimentary equipment. One member of TAWOMA asked “We women miners have had no chance to get microfinance, never. Where is it? We need help to buy tools” (Spiegel, 2012). TAWOMA leaders have asked for their existing licences to be used as collateral and for government to work with banks to facilitate credit access. Finance is one of the many challenges that this group and others face.

MALAWI WOMEN IN MINING ASSOCIATION (MAWIMA)

Malawi Women in Mining Association (MAWIMA) was launched in 2000 to promote and empower female miners, who are estimated to make up 24 per cent of all miners (AllAfrica.com, 2000). It has recently been reinvigorated by a symposium on “Unlocking Artisanal and Small-Scale Mining

Opportunities for Socio-Economic Development in Malawi,” designed to give ASM input into the draft of Malawi’s first ever Artisanal and Small-Scale Mining Policy (MininginMalawi.com, 2014). A unique characteristic of Malawi’s mining is its high number of mining cooperatives, and MAWIMA is able to build on these. Long-time member and former president Emma Adam is a tireless advocate for training and the improvement of the life of female miners and particularly health such as HIV AIDS. She lobbied the conference for more help to access capital, use modern equipment and get exposure on the international market (AllAfrica.com, 2000; MininginMalawi.com, 2014).

While acknowledging the unique contribution of MAWIMA, a recent review by Rickard et al. (2017) gave an ambivalent appraisal of its efficacy. Some comment that MAWIMA has real convening power and been an effective conduit for networking to local and national government and regulators playing an important role in assisting with the drafting of recent mining law and policy. Others argue MAWIMA lacks strong governance and tends to be dominated by business interests; they question whether it has been effective in capturing and representing the voices of female miners in the field who are “disadvantaged by low education or literacy and limited communication access” (Rickard et al., 2017, p. 36).

A FEMALE MALAWIAN MINER’S EXPERIENCE²

Margaret Banda is a successful mine owner in Mzimba in the north of Malawi and a “veteran” member of MAWIMA. She established herself as a miner with her husband and today she is greatly assisted by her son, David. When asked about the challenges his mother faces as a woman, he said that it is hard for women to do operations as they “face oppression from men.” Her daughter has a mining licence, and her younger son is also working in the mining business. She can recite by heart regulations concerning export and appears to have some basic knowledge of where minerals can be found in Northern Malawi. Their company, Mzumwanda Mining (named after the river by the rose quartz mine), is part of the Mzimba Gemstone Cooperative. Margaret became successful selling large amounts of rose quartz to Chinese clients but was then unable to provide the large blocks of quartz they required due to lack of equipment. The day we visited her open pit rose quartz mine, it was filled with water and she had no pump to empty it.

In 2017 Banda reported that her six rose quartz, citrine and aquamarine mines are producing well, and she is currently prospecting for amethyst. However, she expresses the great difficulty she has with finding markets for her stones. During good times they employ 150 people, but at present only 50. Theft is a huge problem, especially of aquamarine. In the deep forest they employ only men, though women are employed for sieving overburden for aquamarine. According to Banda,



Margaret Banda inspecting a sample at the Community Lapidary in Mzimba. Photo credit: Lynda Lawson.

² Based on personal interviews with Margaret Banda, January 1, 2015 (Lynda Lawson) and March 7, 2017 and David Banda interview April 7, 2017 (Rachel Etter-Phoya). The author wishes to acknowledge the great assistance of Rachel Etter-Phoya in assisting with both data collection and the narrative of this section and Gibson Nyirenda for his gracious guidance.



the market is not reliable, sometimes it closes, and sometimes it is there. We can extract a lot, we can invest a lot, but we end up with having no market. The buyers are mostly Chinese or from the East including Thailand and Hong Kong. The markets we get have a long chain of people with a lot of middlemen, so prices are not good.

The Community Lapidary: Banda is a member of the Mzimba Gemstone Cooperative which has a community lapidary with machines provided in 2010 by Japanese International Cooperation Agency – One Village One Product (OVOP); it is currently managed by the government. Unfortunately, this equipment is not really adapted to their needs, and the promised extra training has not been forthcoming. Banda notes that the “lapidary lacks tumbling and sawing machines, and the cutting and polishing equipment is not sophisticated as we are only able to cut large sizes of about 5 grams and up.”

Without this equipment, good small stones and low-grade material are thrown away and a potential market is missed. According to Banda,

When we mine, we only find maybe 10 per cent gemstone and the rest is low-grade. So, for those low-grade stones to add value, like tumbling, would make a good business. If you go to the mines, you will find plenty of low-grade material. All miners, not just women, face this challenge. So, we need processing machines.

A second issue is the supply of material to the lapidary. Excavators are needed but hire at \$500 a day is impossible for these miners. Banks and financial institutions are still unwilling to assist them. Banda notes that “We need to be empowered on the ground [to mine]. How can you add value if you cannot produce the stone? If we just have a lapidary shop without support to mine, the shop will just be dormant.”

A reliable supply is essential to obtain direct and permanent markets.

MAWIMA: Banda is the Chairperson for the Northern Region MAWIMA, which has more than 50 members from Mzimba, Mzuzu and Ekwendeni. The Department of Mines supports all miners in acquiring correct licences and permits. They also need access to basic processing equipment and larger scale mechanical mining equipment. According to Banda,

Some (members) are miners, some are buying and selling and have licences to do so. But mining is very difficult, so not many women are mining. . . . We have many challenges, including culture; and I can say in most cases, we have a challenge with equipment. I wish small-scale miners could have heavy-duty machines like excavators. . . . We want things to improve—we can be helped with heavy-duty machinery, not picks and shovels.

While great potential is evident in the women’s mining associations (as shown in the success of AZWIM in selling their emeralds on the open market), this is unlikely to be sustained without a change in their business practices. Market research is needed to better understand the complex supply chains these female miners are working in. A common thread running through the accounts of women’s mining associations is the frustration with not being able to access funds to develop their business model, to buy or hire equipment and to market their product appropriately. Growth in governance and leadership structures is also needed if the associations are to fully represent the needs of all their members, especially those women lacking in education and literacy working at the mine face.



KEY CHALLENGES FOR WOMEN IN ASM

Within the aforementioned broader understanding of women's role, experience and opportunities in ASM, the key challenges that women face can be summed as relating to: economic, legal and institutional, and decision-making. The categories mentioned here reflect the kaleidoscope of challenges women face while performing the various roles, and they are by no means exhaustive.

ECONOMIC CHALLENGES

Traditional norms exist prohibiting women from access to, use of, or control over land and other productive resources (United Nations, 2013). These norms are mostly based on the belief that women are not physically and intellectually strong enough to be able to manage and use resources productively. In many cases, such as that observed in Tanzania, ownership of concessions does not necessarily give women the control over earnings (Tanzanian female gold miners in Geita, personal communication, May 13, 2017). Because women are prohibited from pit areas, they are kept in the dark about the extent of actual minerals mined. The lack of women's participation in the critical stages of mining gives men the leverage to exercise control over financial matters. Unable to see any financial flow, women end up gaining little from their work. In cases where women participate in pit areas and do the actual work, they still lose control over any financial or other business-related matters to men. This is due to social norms in most developing countries, where women are considered as subordinate to men with little independence.

It is believed that women with independence and control over financial matters are mostly successful (Amutabi & Lutta-Mukhebi, 2001). In such very rare cases, women own mineral rights and successfully manage a mining business. However, there are belief systems like in Tanzania, where envious family members or other male miners may use local witch doctors to harm these women, believing their business success to stem from occult practices (Verbrugge, 2017). Despite such claims, their success in the mining business—along with ownership of mineral rights—places women in a better position for accessing loans.

Both men and women are generally challenged by the inability to access finance. While banks readily lend to agricultural projects, they are often unwilling to lend to “risky” ASM projects and rarely consider mines as collateral (Spiegel, 2012). The difficulty in accessing finance is, however, considered to be higher for women due to cultural barriers, lack of traditional collateral, and their relatively lower income levels (Narain, 2009). In cases where ownership of land (and a licence) is considered as collateral, most women in ASM are still disadvantaged due to their lack of this potential surety. The inability to access finance contributes to women's inability to invest in mining equipment and technology necessary for a successful business. In some cases where women resort to borrowed access to technology, they are effectively controlled and denied freedom to operate independently. For example, one female gem trader the author met in South West Madagascar was only able to use her male relative's phone to perform transactions and only if he was present.

Women are further geologically excluded from mineral-rich areas due to cultural barriers that amount to economic exclusion. Geological mapping over five years in Central and West Africa reveals that women typically participate in extraction processes only when a deposit is relatively easily accessible with small amounts of overburden (Malpeli & Chirico, 2013). Women do go underground but rarely when the commodity is of high value, which is often due to traditional reasons related to superstition. In the sapphire mining areas of Madagascar, women and their children are very often found re-sieving the tailings in the river after male miners have moved on; and women may be expected to give all their findings to male family members. Strong cultural traditions with beliefs that larger stones are only for men maintain this inequality, and this belief is shared both by miners and foreign sellers of gemstones (Lawson, 2016a). Likewise, in South America, Andean female miners are typically relegated to low-paying and dangerous works such as sorting surface-based waste and mineral processing, depriving them of any economic benefits (Brain, 2017).

LEGAL AND INSTITUTIONAL CHALLENGES

At policy level, the existing discrimination against women often puts them at a lower order in policy decisions that affect them. Women's capacity to benefit from ASM may be constrained by both de jure and de facto inequity in access to and control over land and property rights (Meinzen-Dick et al., 1997). In Kenya for example, the traditional social system allows women access to, but not control over, the land, thus their overall production is low (Lahiri-Dutt, 2008). In Madagascar, in the absence of broader gender equality principles, land tenure reform seems to have reinforced the primary ownership of land by male household heads, at the expense of women's land rights (Widman, 2014). Without control over land, mine ownership—a crucial part of success in ASM—is thus beyond the reach of most female miners.

The lack of access and control over land constrains women from accessing various other determinants of mining business success such as finance. The extent of these constraints is indeed to the level of laws, (for example in Botswana and Lesotho) that formally restrict women from accessing loans by requiring consent from a spouse or father (Hinton et al., 2003). In Sierra Leone, even when a woman is the family head and owner of land, approval of the male relative is required before any decision can be made (Rickard et al., 2017). In such a difficult situation, women typically enter into unwanted relationships with male miners to survive and hopefully save money for future investment. Male miners agree to supply them with raw material to sieve in return for sex in a relationship which rarely extends beyond the field. Such relationships lead to temporary marriages typically known as “gold marriages” (Bryceson, Jönsson, & Verbrugge 2014) or “vadin saffira” (sapphire marriages) in Madagascar (Lawson, 2016a; Walsh, 2003). These marriages bear no legal status in relation to land or property rights and typically exploit vulnerable women.

Many widowed female miners may see an opportunity to acquire mineral rights after the death of their husbands; however, this does not give them an automatic access to mineral concessions. Although women and men generally possess the same rights with respect to owning property, women's inheritance rights—in particular those of widows—are unequal to men's in terms of “ownership, acquisition, management, administration, enjoyment and disposition of property” (UN-CEDAW, 2013, p. 11). Often, customary laws and cultural beliefs dictate that sons or other male relatives inherit the properties and possessions of the deceased man. Therefore, by law, women do not inherit their husbands' mineral deeds. An exception is observed in Tanzania, where licence papers may be transferred to the widow, provided that the woman is able to present a valid marriage certificate and pays the fees (Verbrugge, 2017). However, this may not be straightforward in the event of a polygamous marriage, because in most cases only the first wife has a marriage certificate. Furthermore, in order to inherit mineral rights, widows often need approval from their in-laws to obtain the documents, usually ending up in a dispute with their in-laws about ownership and management of the mine (AMDC, 2015).



Photo: IISD/Alec Crawford



Ironically, current efforts for formalization and transparency can disadvantage women. For example, female gold traders in the DRC, the “shashulere,” play a crucial role in the supply chain, but because they are not registered, recent changes in the mining law mean authorities consider them to be illegal and they are blamed “for fraudulent practices, including the trading of minerals outside the official circuit” (Bashwira et al., 2014, p. 113). Comments by Huggins et al. (2017, p. 149–150) concerning new Kenyan legislation are pertinent to many women in ASM: arduous formalization requirements mean that “only a small minority are able to mine legally thus entrenching a system by which chronically marginalised groups including women are consistently excluded.” Without a commitment to gender mainstreaming, existing prejudices can be reinforced by the formalization process stifling women’s capacity to contribute to a productive and responsible mining.

Certification processes such as the Fairmined standards include a commitment to gender equality. However, such schemes are premised on formalization of mines that may not be possible for many female miners who suffer low levels of literacy and are unable to meet the gender-insensitive legal requirements. McQuilken’s (2016) analysis of four gold certification schemes finds that they fail to break down the institutional power structures that keep the majority of ASM operators—at least in sub-Saharan Africa—trapped in poverty. Gender is not mentioned, but it is likely that gendered institutional power structures are just as intractable.

LACK OF PARTICIPATION IN DECISION-MAKING

Women in ASM regularly face exclusion when key issues are discussed in associations, local governments and other platforms. As in many other sectors, women are often excluded when ASM operators are engaged in negotiations over land access and mineral rights. Huggins et al. (2017) attribute this to the customary deprivation of women’s rights over land access and women’s involvement in the low-paying activities that position them poorly for participation. Women’s exclusion may be strongly linked to historic gender discrimination because of traditional beliefs and practices, which in turn have contributed to their lower status in almost all aspects of social and economic life. Strong cultural norms in many cases have influenced legal approaches to gender issues resulting in subtle and, at times, open legal discriminations against women. Thus, legal and cultural discriminations, domestic and childcare responsibilities, and lack of education have relegated women to passive participation, with low confidence and self-esteem to openly air their concerns and ideas in front of men. This lower status has crucially meant that women have no power or influence to force their active participation in key decision-making processes. As a result, women’s views, needs, ideas and potential to contribute to solutions are overlooked.

In many mineral-rich developing countries, women form groups³ at national and local levels with the aim of representing female miners’ issues and perspectives at the decision-making table. Either motivated by one or two inspirational women or initiated by government or non-government organizations, women’s groups in most cases get off to a good start, only to struggle due to lack of organizational structure and institutional capacity, competition for power, weak leadership and corruption. Many such groups are rooted in governmental structures and lack credibility, causing many female miners to disregard them as they do not project trustworthiness. They often do not represent “the poorest of the poor” but target women who are already licensed, obscuring most female miners and their needs (Verbrugge, 2017). In addition, their headquarters are generally so far removed from mining sites that the information from meetings does not get through to female miners.

The failure of women’s groups to function well and properly construct an inclusive agenda for women’s causes often results in their lack of presence and influence on policy and practice. In cases where women’s groups are able to survive despite their challenges, they still fail to push their issues and ideas in decision-making processes. On top of the cultural challenges where dominance of men and passive participation of women is the accepted norm, women’s groups struggle to table perspectives shared among their members. Even when they do, the lack of committed follow-up is a great disadvantage to progress.

³ For a list of women mining associations in Africa, see: <http://internationalwim.org/about-us/wim-groups-hub/>.



ADDRESSING KEY CHALLENGES

Despite the numerous challenges highlighted above, women in ASM have demonstrated enormous potential to achieve substantial financial gains and manage successful businesses. Some of the positive stories of women involved in various capacities within the ASM sectors of Ghana, Tanzania and Madagascar are profiled by the International Institute for Environment and Development's (IIED) (2017a). Furthermore, qualitative research by Buss et al. (2017) reveals women-only teams undertaking all aspects of the mining process and employing men where needed in Uganda's Western Region. The authors report on the successful businesses run by these women, as well as the ability for female miners to not be subjugated to sexual harassment and prejudice.

Women are often seen as having a tendency to save, invest in households and communities, and manage finances. A World Bank study found gendered differences in that women opted for more local spending on revenue and were more prepared than men to save rather than spend windfalls (Mansuri & Rao, 2013, p. 133). Women's additional income from resource projects tends to be spent on their community and family, on items such as food and education for children (Eftimie et al., 2012; Westerman & Benbow, 2013). Because ASM is a low-threshold business, women may get involved quite easily, as it offers them sufficient flexibility to organize work in combination with their domestic responsibilities, at the same time gaining independence. For example, women who enter a mining area with the aim of selling products and services to the local mining population accumulated enough money to involve themselves directly in mineral production, by investing in pits and owning claims themselves (Fisher et al., 2009). With their earnings, women who are successful mining business owners can diversify their economic activities, thereby promoting sustainable development.

It is, therefore, imperative that the role of women is considered and supported as the ASM sector gains increasing attention with initiatives to formalize ASM and the drive to increase production of traditionally ASM-mined minerals that have gained global attention as important elements of new technologies. The following subsections present some of the major requirements to promote the role of women as active members of the ASM community and successful mining entrepreneurs who are able to contribute to the collective sustainable livelihood.

MAINSTREAMING GENDER IN LAND AND LICENCES ISSUANCE AND LEGAL PROTECTION

While legal provisions in various jurisdictions differ, common traits observed include lack of clarity on gender, inconsistency and lack of enforcement. In many cases (such as Ghana and Zimbabwe), gender equality was incorporated in laws for equal access to mining titles (Hilson, 2002); in practice, however, women are denied access rights to land, licences and other government provisions. This occurs for several reasons, including effects of customary laws, lack of information about these rights and provisions, and lack of capacity and resources to access those rights and provisions. Policies and legislations need to have clearly stipulated and user-friendly provisions for women in terms of equal access to land and licences. There needs to be consistency across the relevant government agencies charged with regulations and enforcement of policies and legislations. Given women's institutional and cultural barriers on the one hand and their potential as driving forces for sustainable livelihoods on the other, regulatory bodies need to provide legal incentives to enhance women's access to land and licences. Preferential treatments could take the form of quotas reserved for women on licence and land rights.

In addition, governments should provide women with legal protection against such issues as unlawful discrimination and exploitation. Women lack knowledge and skills in mining law, and thus enter in subservient contracts and partnerships with male miners, a scenario highlighted by stakeholders consulted in Tanzania as part of the IIED's ASM dialogue.⁴ Some women in this situation

⁴ More information on Tanzania ASM dialogue programme is available at <https://www.iied.org/time-right-for-dialogue-about-sustainable-asm-tanzania>.



Photo: IIED/Steve Aanu

are threatened from pursuing their rights when there is a breach of agreement. Women also seek legal protection against the obstacles they face (usually by male relatives) when exercising their legal rights to acquire land and mining licences following the death of their husbands. Regulatory bodies need to fairly and effectively enforce gender-related stipulations without discrimination and by resisting the influence of customary laws. To successfully enforce gender-related legislation, government (along with partner organizations) needs to build capacity and commitment across government and civil society.

As many stakeholders in ASM are pushing the sector to become formalized, extreme care must be taken not to further marginalize women who cannot access the offices or forms that are required. Regulators need to ensure women's access to formalization is facilitated, protected and monitored.

GENDERED FACILITATION AND PROVISION OF FINANCE

Access to finance is a crucial factor for the establishment and success of mining businesses. There is a business case for increasing women's access to finance as "women are an untapped, profitable and a growing market but their ability to grow is hampered by access to finance and other resources" (Narain, 2009, p. 25). Access to grant and loan schemes by government and development partners needs to be gender-sensitive and address some of the challenges women face. Information and awareness on such schemes should be promoted through miners' associations and local governments, particularly reaching out to female miners who often miss out on meetings or accessing notice boards due to their prohibitive domestic chores. Preferential treatments can be applied through exemptions or offering women simplified procedures to access grant and loan schemes. For more sustainable loan support, governments are advised to establish state-managed loans facilities such as public microfinance and village banking, which functioned in Zimbabwe and stipulated in Tanzania's 1997 mining policy (Spiegel, 2012). Through these facilities, which can help address the issues with formal financial services, policy-makers should extend special loans to female miners (independently from their husbands) and female miners' associations.



At the formal macro-level, some of the recommendations provided by Narain (2009) can have a useful impact on promoting women's access to finance. These include mainstreaming gender in the banking sector, which can be supported through partnerships with development organizations such as the International Financial Corporation (IFC); state-led initiatives such as that of India, where the government-enforced action plan for public sector banks seeks to mainstream women's access to finance through special cells, training and outreach efforts; setting up specialized women's banks, such as the Self Employed Women's Association (SEWA) in India, to provide financial services to women; and providing incentives, such as the land titling program, and tax and duties incentives to encourage property ownership so women can fulfil collateral requirements. While these initiatives can be instrumental to the broader promotion of women's access to finance in mining and other industries, further efforts are necessary to ensure that mining-specific barriers are addressed. There is a need for extensive awareness raising on the parts of the financial providers and capacity building to increase female miners' knowledge of financial systems and standard requirements.

Informal financial services such as informal microfinances and lending by individuals and groups may be encouraged for female miners to tap into some of the advantages of localized access to credit services, simple and less onerous procedures, and readily available credit at negotiated prices. To maximize such services, some of the attendant issues (including unfair credit costs and short repayment periods) need to be addressed. Government could introduce subsidy programs to enable fair, equitable and easily accessible informal financial services. In addition, efforts can be made to simplify access by women in ASM to formal financial services with less risk, by promoting the involvement of financiers. A concerted and integrated support mechanism led by government is crucially needed to address the challenges women face in fulfilling financial sector requirements for loan. Public-private sector partnerships need to be forged that initiate—and facilitate—awareness raising on ASM business risks and opportunities, and that support women in ASM through such things as collateral guarantees. Through such partnerships, specific financial products can be designed that are accessible to women in the sector while providing risk assurance to lenders. Success factors that can be ingrained in these partnerships include mutual confidence and shared vision, self-determination of needs and acceptance of diversity in the women group (for example differing levels of education and literacy).

GENDERED FACILITATION AND PROVISION OF EQUIPMENT AND TECHNOLOGY

Enabling better access to mining equipment and technology could play a significant role in promoting efficient production and greater return, while drastically improving health and safety conditions of ASM operators. Like access to finance, promoting a more equitable and gender-sensitive provision of equipment and equipment loans is needed. As seen in Tanzania and other countries, governments partner with development organizations like the World Bank and the private sector (including large-scale mining companies) to provide equipment. Consulted female miners in Tanzania expressed that most women, unfortunately, miss out either because of a lack of information or gender discrimination. Thus, it is important that networks are established around female miners, and practical ways of disseminating information are identified to enhance women's access to those uncommon schemes. This should build on existing networks, such as female miners' associations and other women groupings.

There is, however, a desperate need for a major program to tackle the problems which concern not only the ASM business development agenda but also the environmental, health, and safety aspects of society and biodiversity. As such, broader collaborative avenues need to be pursued that bring together government, development partners, private sector and civil society organizations in an integrated program to enable access to equipment and technology through setting up loan and grant facilities with preferential treatment for women. Similar efforts have been implemented, for



example, by the UNDP which runs an innovative hire-purchase scheme in Sudan with women gold miners (Spiegel, 2012). This scheme was originally designed to alleviate the use of mercury until it was realized that such gains needed to be matched by improvement in mining that could only be made by introduction of basic equipment—this enabled groups of female miners to progressively buy a range of equipment.

WOMEN EMPOWERMENT THROUGH EDUCATION AND SKILLS TRAINING

Most of the barriers to women's active and fair participation in ASM are the result of either cultural practices or influenced by those practices. Addressing those barriers requires behavioural change, which in turn requires time, commitment and collaboration between various parties. Most importantly, raising awareness and building knowledge through education can make a difference in societal behaviour and cognitive capacity. Education and skills training initiatives for women are recognized as one of the key enablers of women's economic empowerment (Hunt & Samman, 2016). An in-depth knowledge broadens women's horizon, building their confidence and capacity to freely make their mining claim, share ideas and perspectives, and stand for their own rights. Most women in ASM are illiterate (or have little literacy) and are hence prone to exploitation and discrimination. There are two ways of achieving the knowledge base necessary for women to succeed in ASM: education through formal schooling and education through short or longer-term courses or skills training.

Education through schooling is a broader aspect that fosters education through formal and regular learning from elementary school through to higher education. While the number of general school-goers in most developing countries tends to be low, school-aged girls suffer the most due to cultural barriers and domestic responsibilities. Therefore, a national strategy needs to be adopted to foster inclusive education for all, applying suitable mechanisms to help school-aged girls in poor communities become beneficiaries. This will have a longer-term effect transforming society's attitude in favour of gender equality and greater women's participation, and empowering women to exercise their rights to develop and implement their innovative capacity to play a significant positive role in ASM.

With regards to a more immediate and targeted form of education, government and non-government organizations should collaborate on literacy campaigns for women in ASM. Supported by regulations amending legal provisions to promote women's rights for active and equal participation, literacy campaigns targeting women in mining communities can play a significant role in addressing the various gendered challenges mentioned above. Literacy campaigns may take different forms including technical, administrative and management training; basic literacy courses; and various inductions on government laws, communications and networking, seeking and accessing information, and procedures such as licence application. As with their male counterparts, women in ASM need technical, managerial and administrative skills to establish and run successful mining businesses. However, recent research has found that the most promising approaches to equipping women to be successful small business holders in developing countries do not focus on traditional business skills training but on personal psychology: "Personal initiative training led to a boost in profits for micro entrepreneurs and was particularly effective for female entrepreneurs" (World Bank, 2018).

In order to maximize women's role across the whole spectrum of activities described above, training needs analysis should be carried out and training programs initiated. For example, training women in value addition such as gemstone cutting and polishing in Sri Lanka, Brazil and at the Institute of Gemmology in Madagascar can create opportunities for women (Eftimie et al., 2012; Lawson, 2016b). In Colombia, training, education and creative arts programs provided by Somos Tesoro⁵ have enabled female miners to move to positions of responsibility in their communities and to take pride in mining safely. Such programs are innovative and effective as they seek to address cultural constraints around community perceptions of mining and to actively promote women and youth. Innovative

⁵ <http://www.responsiblemines.org/en/project/somos-tesoro/>



approaches to teaching women about gemmology, tools and the value of their stones has led to increased negotiating power when faced with male buyers (Lawson, 2018).

While government should take central role to drive training programs, other groups such as civil society organizations, NGOs, development partners and the private sector can be important catalysts providing financial, material and expert support. Given women's status within mining communities, the challenges they face and their unique strengths, innovative ways can be introduced to achieve a successful skills development for women in ASM. Training programs targeting women can be crucial in providing a free space for women to express themselves and share their ideas. Training women in workgroups with the help of gender-specific experts and successful women ASM operators would create an opportunity for learning by inspiration and personal experience-based testimony (Labonne, 1996). Training programs need to be tailored flexibly to the limited time and opportunities that women often have within their various daily activities.

GENDERED ACCESS TO INFORMATION, GEOLOGICAL DATA AND NETWORKS

Lack of information and networks, whether imposed or not, represents a critical deprivation that women in ASM suffer, having an important impact on their role and influence within mining communities. Information and useful networks are key to unlocking women's independence and their potential to successfully undertake the various roles which are traditionally reserved for men. Information can be on the various opportunities that arise from time to time; pros and cons of activities; legal matters; good practice standards; jobs; availability and access to finances, geological data, licences and land rights, equipment and technology, markets and prices; other women's experiences in mining business and so on. Raising women's awareness about such information and getting them well connected can have an immense impact on behavioural, technical, intellectual and innovative transformation. Given the barriers women face that affect their access to information and networks, interventions need to have a comprehensive institutional approach with a political and social backing.

The issue of access to geological data is felt by both men and women; however, women are more disadvantaged given their lack of education and technical skills, lack of networks that could support access to information, and gendered discrimination in the provision of data. New initiatives for better access to geological data through such mechanisms as ASM data centres in mining sites and online systems need to be inclusive of women's needs. Government with development partners should either set up new centres on sites that are easily accessible by women or provide support to facilitate access through subsidized transport, data access inductions and dissemination of information materials. Associations of female miners need to be supported and actively involved in the provision of geological data and any form of support aimed at helping women to have easy access. Regular extension services targeting women would also help them understand technical aspects of and access to geological data. Technical staff working in mining ministries are often well suited to carry out such training; thus, capacity development of ministry staff should place an emphasis on practical approaches to gender inclusion.⁶

A comprehensive study based on extensive primary data collection, engagements and dialogue should be the basis of knowledge building that is to be shared. Such a study would shed light on the challenges and opportunities for women's active participation in the ASM business and strategies to pursuing successful mining businesses while promoting sustainable development. The study should also provide accurate information on the sector's potential for women, women's positive stories and achievements, and support mechanisms such as financial, in-kind and training opportunities. There are a few women in ASM who have successfully become mining business owners; however, there are not many documented examples of how such women have become successful in moving from crushing and panning to semi-mechanized mining, selling materials and adding value.

⁶ See for example the Australia Awards Africa gender equity policy at <http://www.australiaawardsafrica.org/social-inclusion/gender-equality/>



Knowledge should, therefore, be generated and communicated through various innovative and effective platforms to raise awareness, thereby influencing policy and practice. IIED's stories of change work disseminated through national and international events and online platforms is an example (see IIED 2017a). These stories play an important role in bringing forth successful achievements and initiatives by women involved in the different activities in ASM, motivating and serving as role models for other female miners. Local actors such as national and local government agencies, community-based organizations, media, civil society organizations and non-government organizations have a significant role in disseminating knowledge and information pieces. Female miners' associations, regional miners' associations and government agencies in charge of mining-related departments should play central roles. The wider networks concerned about women's participation need to be involved in making sure women receive relevant information and awareness.

GENDERED ACCESS TO MARKETS AND TRAINING ON MARKETABILITY

As an important end result of mining activity, access to the right market is a crucial determinant of business survival and success. Women are more disadvantaged in this area, as it is often difficult for them to travel distances due to limited time (being overly burdened with domestic responsibilities in addition to mining activities), resources and information. Information on markets and prices is one of the critical bottlenecks for ASM operators in general and women in particular who end up not seeing the lion's share of mineral values. Dialogues among Tanzanian ASM stakeholders pointed to the need for government and development partners setting up market centres on sites that women can easily reach (Tanzanian ASM Forum, 2018). These market centres would provide accurate information on prices and space for buying and selling of product at market prices. The centres would also help connect female miners and their associations with market players further afield and at the international level.

Factors such as business stability and continuity, product quality and standard approval are key to marketability by providing a competitive edge. Women in ASM can benefit from training initiatives that could help promote their business productivity, design and quality of their mineral products, and better assessment and management of business and market risks. Training can be provided within the market centres which then becomes a one-stop-shop for multiple market-related services. Guidance can be provided by organizations such as the Trade Promotion Organizations (TPOs) on marketing, branding, networking with women suppliers, and a program of certification providing "third party endorsement of businesses managed, led or owned by women" (Australian DFAT, 2017). Organized and well-managed capacity building and awareness raising campaigns need to be initiated through an integrated program involving key relevant actors to ensure effective marketability of businesses run by women in ASM.

BUILDING WOMEN'S INSTITUTIONAL CAPACITY

Solutions to the intractable challenges that women continue to face require various institutional support mechanisms and services. This is because women not only face challenges in mining sites but also domestically as they perform multiple duties limiting their engagement in mining to their full capacity (GROW, 2017). Public and private agencies must do more to unburden women from their domestic responsibilities and to increase female participation in all levels of the ASM sector. One solution that has been suggested is providing childcare services to ease the pressure on female miners. In Peru, a female miners' association works around childcare needs and has provided a nursery and safety equipment for women (Maldar, 2011). Women-friendly facilities need to be established, and appropriate equipment and technology provided to address the health effects of mercury and cyanide. These and other pieces of solutions, however, can only be sustained when there is a structured, well-planned and goal-oriented support mechanism that is channelled through existing or new female miners' groups. The chances of women having a stronger voice and influence are enhanced when they are grouped and represented in associations.



Female miners' associations usually are founded by inspirational women with few resources but a vision for a brighter future for female miners, which then struggle to survive let alone meet their objectives. The challenges that these associations face can be addressed with institutional, administrative and technical capacities support. Most associations need adequate facilities; management, administration and leadership skills; and financial and in-kind (material and expertise) support to function well and serve their members. Some of this support is provided in certain countries like Tanzania, where the State Mining Corporation (STAMICO) and African Minerals Geosciences Centre (AMGC) provided technical training to TAWOMA. These, however, are isolated initiatives, and it is difficult to discern the contribution to the association as an institution. An integrated program of support with clear vision and objectives needs to be developed to help strengthen these associations, so they can deliver on their mandate.

A well-established and functioning female miners' association can be a credible channel through which development organizations and other linked institutions can provide support and services to help women realize their potential. Many women combine different income-generating activities, one of which is agriculture, which commonly becomes their responsibility as men abandon the field to pursue mining. Although women are excluded from the main profit-making business streams in mining, the diversified livelihood portfolios they occupy in addition to mining can be viewed as a route to financial sustainability. In Sierra Leone, for example, women use the money made from ASM to establish local businesses including farming, finance trading (such as food) ventures and re-establish cooperative associations (Maconachie & Hilson, 2011a). In Uganda, some women were able to accumulate capital from food vending and gold panning which they then invested in new farmland, buying raw ore for processing, renting out tools, and owning shafts (Buss et al., 2017). Through female miners' associations, government and NGOs can help women leverage their ASM earnings to establish and run successful farming and other businesses.

Established and functioning associations would also be able to work collaboratively with, for example: educational institutions to train and build knowledge and capacity of their members; business entities and support centres to provide capacity, resources and services needed by aspiring women mining entrepreneurs; government agencies in charge of licences, environment, land and other relevant agencies to lobby for policy change or legal support for women; and other public and private agencies to channel various other support and services needed. Existing associations can be a source of strategic and integrated support mechanisms, at the same time serving as a one-stop-shop for information on women in ASM. Providing these services strengthens their credibility in the eyes of individual female miners.

PROMOTING WOMEN'S VOICES THROUGH DIALOGUE

Careful consideration of gendered impacts and the role of women in the protection and exploitation of natural resources is vital in relation to mineral resources (Lahiri-Dutt, 2008) as in other resources such as marine areas (Westerman & Benbow, 2013) and forests (Agarwal, 2009). Including women in decision and planning processes improves outcomes for all parties and the environment. Agarwal (2009) found that when women, particularly older women, were part of forest management committees, there were better conservation outcomes such as forest and canopy regeneration because of better cooperation among women, better forest protection and better knowledge of plant species. O'Faircheallaigh (2013) reviewed the role of indigenous women in the negotiation of mining agreements, and found that while some women were excluded, or exclude themselves, from participation, many others have played a central role holding senior negotiator roles and producing favourable outcomes. In the implementation of agreements, women played a vital role as trustees and leaders in trusts handling millions of dollars and ensuring income was split evenly between men and women—and used for the purpose intended.



Finding ways to effectively include women in dialogue is vital for better understanding of complex projects. Women bring a different and invaluable perspective when included in meetings. As highlighted elsewhere in this paper, women often have a gender-specific approach to handling and managing finances, saving and investing in households. Given the opportunity to participate, they are able to come up with alternative ideas and strategies that offer a vital contribution toward prudent management and utilization of resources. Thus, building women's capacity to actively participate and have a voice in key decision-making processes is an important way of directing resources back into the community. At the same time as supporting women in active participation and confidently making their voices heard, suitable dialogue platforms need to be made available. Bottom-up, inclusive and action-oriented dialogue process supported by field research and successive engagement could play a key role in ensuring women actively participate in understanding problems and identifying solutions (IIED, 2017b).

Starting with improved government policies that encourage and push for women participation in decision-making processes, various mechanisms need to be adopted to promote women's voices. As well as working directly with rural women, it is important to encourage all stakeholders (such as regional and national partners and regulators working in mines and natural resource management) to broaden their thinking about the importance of mainstreaming gendered approaches in policy. Their support and buy-in is essential, since gender-neutral policy approaches that national government and NGOs may try to put in place in natural resource management (and, in particular, the regulation of artisanal mining) can counter-effectively widen the gender gap and worsen development outcomes (Eftimie et al., 2012). One approach to encouraging informed participation at all levels is to invite local women representatives to field meetings and encourage their learning, reflection and participation and also to facilitate vital linkages between organizations.

Simple efforts such as making sure there is a women-friendly meeting setup would encourage women's active participation. These efforts may include having a manageable and well-balanced number of participants, managing seating arrangements to enable a conducive environment raising women's confidence, using skilled facilitators (usually works well when shared by both a male and female) to prompt and motivate women's active participation, using media to encourage participation, and holding meetings in places and times that are convenient for women. As Eftimie et al. (2012) point out, women will not participate in workshops that are not done in the local language and are conducted in large mixed group. Even if they do, it is merely a passive participation without asserting their perspectives and having any impact.

It is often helpful to organize women-only meetings before a large community meeting or event to build confidence and create a space where women feel strong, and to identify key issues and strategies for communication, for example, on who to speak and how to deal with situations where they feel intimidated. Such meetings also permit new leaders to emerge and be mentored. Care should be taken, however, that women-led meetings may lead to further exclusions whereby elite and wealthy women who may have little interest in the collective gender cause may dominate (Cornwall, 2003). This is often perceived to be the case with regards to how leaders of female miners' associations conduct themselves, often blamed for representing individual interests, not those of the majority.

CONCLUDING REMARKS

The potential contribution that women can make in key aspects of social well-being is significant. According to a McKinsey Global Institute study, global GDP would increase by USD 28 trillion (or 26 per cent) by 2025 if women participate equally to men in economic activities (Woetzel et al., 2015). The role of women in small-scale mining is currently being recognized as never before. Global associations such as International Women in Mining and the Women's Jewellery Association are keen to know more about women working in the early stages of their supply chain. In the UNDP Development Minerals project, gender audits were included in all baseline studies, and female miners were supported to attend regional meetings.⁷ In the mining of precious metals, gender inclusivity still needs to be made more visible in Fair Trade Gold and OECD Due Diligence Guidelines. Some of the most promising developments are business-to-business actions such as those proposed by jewellers who are keen to respond to claims of malpractice in their supply chain and to give back to other women. Such global efforts have the potential to drive some change on the ground and support women's entrepreneurial and leadership roles and proactive participation in ASM.

Any mechanism aimed at bringing solutions to the issues faced by women in ASM, however, needs to be founded on a comprehensive study providing background knowledge about the various aspects of women's role in ASM. The study, supported by a systematic and targeted analysis and research, can be undertaken at national or local levels with the objective of scoping women's involvement in the various activities described above, the various challenges women face in performing (or lacking) different roles across the mining spectrum, niche areas in which they can excel and opportunities to help them establish and grow in mining businesses. This knowledge-generating exercise needs to be based on facts from the ground through extensive multistakeholder engagement and dialogue. At the same time as documenting and widely communicating the challenges, opportunities and potential of women in ASM, it is vital that practical solutions are explored that can be implemented in policy and practice. Solutions must not be ad hoc and one-off but need to be carefully designed in an integrated support mechanism involving various relevant actors.



⁷ See <http://developmentminerals.org/index.php/en/search-resoultts?searchword=gender&searchphrase=all>



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