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Formalization of the Artisanal and Small-scale Mining Sector in the Andean Region:

A Gendered Perspective

By: Allison Clayton
Student Number: 6521551
Supervisor: Paul Haslam
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Graduate School of International Development and Global Studies

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Abstract

This paper looks at artisanal and small-scale mining through a political ecology lens to unpack formalization efforts in the Andean region of Peru and Bolivia. It assesses how governments have prioritized more formal entities such as large-scale mining and cooperatives as a result of changing power dynamics and gaining financial revenue. Consequently, this dynamic has largely led to a failure to address needs of ASM actors, which has disproportionately affected women. Multiple angles are reviewed to articulate the complexity of women's roles working in the ASM sector, additional burdens women face as a result of gender roles and perceptions, and subsequent inequities in the ASM sector. This paper further explores the unintended consequences that ASM actors encounter, especially women, as a result of formalization efforts. This paper concludes with lessons extrapolated from the cases of Bolivia and Peru in conjunction with a set of recommendations that seek to redress obstacles that ASM actors face in the formalization process, as well as gender specific barriers faced by women.

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Chapter One: *Introduction*

Artisanal and small-scale mining (ASM) is a common practice that sustains the livelihoods of at least 100 million workers and their families around the world, including parts of South America (Tobalagba & Vijeyarasa, 2020, p. 1635). The mining industry is prevalent throughout the Andes and the Amazon region, extending through both Bolivia and Peru. The mining sector in the Andean region has various benefits such as providing employment and contributing to the economic growth of the state; however, this sector is also fraught with environmental, gendered, and socioeconomic impacts (IGF, 2018 Jan., p. 13).

Internationally, we are increasingly seeing the establishment of laws to regulate ASM in pursuit of economic growth and to help mitigate some of the beforementioned impacts (Tobalagba & Vijeyarasa, 2020, p. 1644). However, attempts in many regions around the world to regulate and legalize ASM have often been largely ineffective. In some instances, formalization initiatives have underlying neoliberal agendas that render policies unsuccessful and/or exacerbate pre-existing inequalities through the inequitable distribution of costs and benefits. The literature suggests this is due to biased agendas of formalization efforts, often in favor of state interests, large-scale mining (LSM) (Marston and Perreault, 2017), and/or cooperatives (Pellegrini, 2016), and is argued to be justified by biased and negative perceptions of ASM actors (Childs 2014; Huggins et al., 2017; Andreucci & Radhuber, 2017). Attempts have been made in both Peru and Bolivia to control the ASM mining industry through formalization initiatives and cooperatives, respectively.

Examining the neoliberal landscape in Peru, more specifically the government's pursuit of economic growth, unpacks the discrepancy in the discourse of top-down formalization efforts and state actions. A glimpse into Made De Dios in Peru looks at how formalization efforts have generated barriers for ASM actors and disregarded pre-existing identities, institutions and existing habits and practices that 'legitimize' the disturbance of an existing customary order (Salo et al., 2016). Subsequently, how this has reinforced pre-existing balances of power among elites and previously excluded groups in society (Benites & Bebbington, 2020).

Bolivia has historically supported the development of ASM actors, and circumstances improved under President Evo Morales for Indigenous peoples who according to a 2012 census,

constitute about 41% of the Bolivian population (UNHCR, 2018). Yet, the 'post-neoliberal' landscape has witnessed the evolution and deepening of extractivist activities for miners, often through cooperatives that have been central to the expansion of extractivism (Andreucci & Radhuber, 2017). The pursuit of resource nationalism legitimized through discourse of generating profits for social development has been, at times, contradicted by state actions and subsequent biased expansion of extractivism (Pellegrini, 2016). While cooperatives have had much success in protecting miners, they are not completely inclusive and there are still many miners who remain outside of cooperatives who are at a disadvantage. This dynamic in Bolivia, which will be discussed throughout the paper, is a unique opportunity to be examined as both exemplary for other mining industries to emulate, as well as an opportunity to reflect on how formalization in Bolivia has room for improvement.

Formalization efforts that are not inclusive to ASM has generated barriers that affect all ASM actors, dependents, and surrounding communities, though has especially impacted women. The ASM sector remains significant for supporting the livelihoods of many women, and by the same measure, women are important economic actors in the industry. Women compose between 30-50% of miners depending on the region (IGF, 2018 April, p. 1), working both direct and indirect jobs that vary depending on the location and minerals being mined (Tobalagba & Vijeyarasa, 2020, p. 1636). Yet, mining communities are often characterized by a chauvinist culture wherein traditional perceptions of women and gender roles lead to what is often an exploitative environment that impedes women's financial empowerment and limits their access to opportunities (Alliance for Responsible Mining, 2019; Tobalagba & Vijeyarasa, 2020).

As will be discussed, the level and extent of these impacts is dependent on factors such as the scale and type of mining, cultural and gender norms, historical processes, and the intentions and effectiveness behind state formalization of the ASM sector. It is common that the inclusion of women and/or the space to voice their concerns and demands regarding ASM formalization is not actualized or is entirely non-existent. Women experience the same barriers as male actors in ASM, though they are also tasked with being primary caregivers in the family, are subject to gender discrimination in the ASM sector, and are absent beneficiaries and proponents of formalization (Alliance for Responsible Mining, 2019; Tobalagba & Vijeyarasa, 2020).

Therefore, this paper will use a political ecology lens to assess to what extent historical, political, economic, and power dynamics in the Andean region of Peru and Bolivia have influenced the success and inclusiveness of formalization efforts, how this intersects with existing gendered constructs and subsequently, what the unintended impacts have been on ASM actors, particularly pertaining to women.

Chapter Two: *Conceptual Framework*

Using a political ecology framework is useful for exploring the intricacy of a state's disingenuous discourse justifying formalization of the mining sector and subsequently restricting the actions of vulnerable miners, impacting their livelihoods. Foucault critically examined the relationship of power and how it interacts with the rationalization and reformation of a society (W, W. F., 1984, p. 225). The term governmentality was then expanded to consider the role of historical influences and more specifically, how this transcends into an extension of power by the state and other elites in a post-colonial context (Agrawal et al., 2005, p. 166). Ignoring history and the residual impacts is perilous as it does not allow for a proper analysis of current livelihood identities, resources, strategies and outcomes intertwined with power and economic benefits (Rademacher, 2015; Scoones, 2015). Scoones articulates that to fully comprehend the state of one's livelihood, it must be viewed through a broader lens by looking at things such as historical patterns, economic and political alliances between classes, business interests, the role of state and structural processes that define power relations between social groups (2015, p. 75).

Goldman warns of an emerging trend in which environmental states around the world are subject to "…new global forms of legality and eco-rationality that have fragmented, stratified, and unevenly transnationalized Southern states, state actors, and state power" (2001, p. 500). Goldman states this process "…has fostered the scientization, governmentalization, and capitalization of some very hotly contested eco-zones" and refers to this phenomenon as 'green neoliberalism' (2001, p. 516). The notion of green neoliberalism builds on Foucault's ideas, and the idea of governmentality, wherein ideas of 'conservation' and 'preservation' are merely an extension of power that coincides with the neoliberal premise to extract market value from optimal natural resources (Goldman, 2001, p. 501). More than this, neoliberal formalization initiatives are a way to impose policies and programs wherein local populations become culpable and accountable for the preservation of newly 'protected' areas (Goldman, 2001, p. 501). This is the result of state rhetoric that expresses there are no other alternatives than to impose 'green' formalization initiatives, which intersects and is made possible by, the negative perceptions of the ASM sector.

Huggins et al. (2017) discuss the politics of 'place-making' as a standard type of land-grabbing by means of formalization efforts in the context of Sub-Saharan Africa. Huggins et al.

argue that attempts to bring order, safety and profitability to ASM actors, entails claim of intervention in subsequent communities and similar to conventional forms of land-grabbing, "…become entangled in the power and authority relations of various scales with varying consequences for class accumulation and livelihood strategies" (2017, p. 143). The justification of which, described by Huggins et al. as a 'cartography of concern' (2017) and by Spiegel (2017) as 'contaminated identities', is derived from generalized critiques, assumptions and delegitimized perspectives of ASM operations. These adverse perspectives of ASM stem from narratives of a sector beset with precarious and anarchic tendencies such as disorganization, conflict, prostitution, alcoholism and "…a reorientation of youth towards vice and money, violence and lawlessness" (Huggins et al., 2017, p. 144).

Similarly, Childs (2014) argues that there are remnants in the perceptions of locals and indigenous people from the colonial era. To elaborate, Childs claims that ASM actors are generally perceived as 'irrational', 'morally deficient', 'primitive' and 'uneducated', wherein they are beyond being educated or trusted to practice mining responsibly, even with outside assistance (2014, p. 134). These narratives homogenize and consequently misrepresent ASM by ignoring the intricacy of the different roles, types, and economic prospects embedded in the industry (Huggins et al., 2017). Huggins et al., argue that these negative perceptions of ASM has allowed for the development of place-making wherein "…a certain vision of space and institutional arrangements which, when entangled with pre-existing authority and gender relations, may lead to expanding inequities and deepening power relations" (2017, p. 142). The linkages that this literature presents are imperative to consider as part of the narrative when unpacking formalization efforts and the lack of support and priority ASM actors often receive.

ASM formalization initiatives, such as legalizing 'ASM zones', are also often intertwined with pre-existing power dynamics and authority, which can perpetuate inequalities and existing relations (Scoones, 2015; Spiegel, 2017; Huggins et al., 2017). Formalization efforts can often act as a barrier to entry for many ASM actors. Huggins et al. (2017) review initiatives such as the Mineral Rights Board and the Mining Act implemented in Kenya that introduced permits and designated ASM areas and committees. They argue that "For the moment, and 'on paper', the vision underpinning the state's bureaucratic construct of ASM seems oriented to those who possess the capital, education and social mobility necessary to meet the high threshold of

'legalized' artisanal mining" (Huggins et al., 2017, p. 148). While it is unknown how these initiatives will unfold, Kenya's formalization efforts of its ASM sector "…hold the possibility of entrenching the authority of small, largely male, business elite" (2017, p. 149). This speaks to the different power dynamics at play and the consequential unequal access to formalizing that remains beyond the control of ASM actors.

Spiegel's assessment of formalization efforts in Zimbabwe established to invoke environmental protection was that they led to prohibitive costly barriers (e.g., environmental impact assessment procurement, enlisting experts), steep fines, and had a lack of institutional support, which only re-centralized purchasing power for gold from ASM to LSM (2017, p. 97). This led to the criminalization of most ASM miners who were forced into less formal mining that has monitoring, poorer equipment, and more precarious working conditions (Spiegel, 2017, p. 99). This shift only further minimized environmental and safety risk management practices and therefore illustrates how a transfer of power from ASM to LSM did not add any protection to the environment (Spiegel, 2017). Hence, Spiegel speaks to the dangers of formalization efforts that have prohibitive barriers that subsequently invoke unforeseen consequences.

Arguments that favor mining formalization via policies that inadvertently favor LSM, such as attracting foreign direct investment (FDI), claim it contributes to economic growth, environmental conservation as well as providing employment and social protections for the local communities. However, the literature suggests that in the context of mining regions in South America these pledges do not always transcend into reality. Instead, often there is little to no social protection, the locals are not consulted nor taken into consideration, while jobs are temporary, low-paying, dangerous and often reinforce class divisions (Gordon & Weber, 2016; Brain, 2017; Dore, 2019; Leonard & Grovogui, 2019).

Access to land and resources is fundamental for human survival, though for some vulnerable populations, direct access is even more crucial for the sustainability of livelihoods. Yet, realities such as class, location, age, gender and ethnicity can determine one's vulnerability to maintaining secured access to land and resources (Scoones, 2015, p. 77). Huggins et al. (2017) argue that in the context of ASM in some regions of Africa, women have often been excluded in negotiations over land access and mineral rights that have involved local communities and/or ASM actors. This can be explained, in part, by women being marginalized in distinct ways, such

as their ASM livelihoods generally reaping lower incomes and simultaneously holding less rights to land (Huggins et al., 2017, p. 145). This combination leads to a scenario in which women are poorly situated to participate in negotiations over land access or have a secured contribution in cooperatives or savings associations, and when women do gain land rights through legislation, it is often poorly enforced (Huggins et al., 2017, p. 145).

Huggins et al. contend that in the context of Migori, Kenya, without being attentive to the hierarchies and norms that constructing mining livelihoods, "…the state's vision of ASM may serve to formalize existing relationships premised on structural inequalities by which chronically marginalized groups, including women, are consistently excluded" (2017, p. 150). While some populations lack security to land and resources for reasons such as seasonal shifts and/or environmental shocks and trends, women who still face these vulnerabilities, also cope with the consequence of gendered disparities for the mining of resources. Additionally, gender inequalities can be reinforced through mining associations led by males, while negotiations that have involved ASM actors have presented irregularities in information and often exclude women altogether (Huggins et al., 2017, p. 150).

It is not uncommon that the voice of women in ASM formalization initiatives go unheard, meaning that their interests are not represented, nor are they given the stage to voice their concerns or demands. The lack of inclusion is problematic since women experience all the same barriers that male actors face in ASM regarding formalization on top of gender discrimination in the ASM sector; yet, they are also tasked with being primary caregivers in the household. This perpetuates gender inequality, though simultaneously positions women in a unique position to inform policy that is inclusive to all ASM actors – which will be discussed further in chapter eight. Using a political ecology framework is useful for exploring the intricacy of historical, political, and economic dynamics in the mining sector in the Andean region. More specifically, how this intersects with existing gendered constructs in the ASM sector as well as the role of biased formalization efforts that often rely on embellished rhetoric, and the unintended impacts.

Chapter Three: *Informal, Illegal and Artisanal and Small-scale Mining*

Mining is typically broken down into small, medium and large-scale firms (Korinek, 2015, p. 35). In general, medium and large firms are easier to manage, ASM is harder to regulate and illegal and informal mining are the most perilous sectors of the industry (Korinek, 2015, p. 35). The ASM sector is complex and diversified, which includes poor informal miners seeking to earn a living and/or supplement seasonal employment, to small-scale formal commercial mining activities that abide by local laws (IGF, N.d). While there is no set definition for ASM, the World Health Organization found that most definitions of ASM share the following characteristics: "…an informal work sector, limited use of mechanical tools, labour-intensive work, low capital and productivity, deposit exploitation, and limited access to land and markets" (2016, p. 4).

Both informal and illegal mining have characteristics that indicate they can be classified as ASM. However, ASM is not homogeneous and a distinction between illegal mining and informal mining must be made (Nhlengetwa, 2016, para. 5). Typically, informal mining in the context of Peru is performed by miners that operate on a small-scale, who have started the formalizing process, though have not yet been able to meet all legal requirements (Bird & Krauer, 2017, p. 1). Although informal mining is technically illegal as it breaches formal requirements (i.e., is conducted without the proper permits), it has the potential to be formalized (Hidalgo & Dargent, 2020, p. 529).

In the context of Peru, individuals who use rudimentary techniques and operate in blatant violation of the law, work in protected areas (e.g., natural reserves), and/or do not comply with environmental, tax and labour law, are considered illegal miners (Bird & Krauer, 2017, p. 2). Typically, illegal miners cannot be formalized and are prosecutable (Hidalgo & Dargent, 2020, p. 529). Illegal mining can generate problems that are difficult for states to tackle, including "…severe environmental damage, lack of good governance in certain regions, social strife, corruption of government officials, human trafficking, money laundering, violent conflicts and links to organised crime, and the loss of human life" (Bird & Krauer, 2017, p. 2). Although these instances do occur, they do not define illegal mining nor represent all illegal miners.

In Bolivia, there are different types of operations that are categorized under small-scale mining. Formal mines in Bolivia consists of "…private, profit-oriented, corporate organizations working effectively within government regulations, interacting with local communities, and participating in the globalization process" (Quiroga, 2002, p. 132). Organized small-scale mining which may be independent or organized under cooperatives typically seek immediate profit without government intervention though simultaneously seek government support. They irregularly adhere to some government and environmental regulations though typically operate with less proper mining procedures (Quiroga, 2002, p. 133). Cooperatives are groups made up of independent miners who extract minerals in relatively modest quantities, typically from abandoned mineshafts (Marston, 2013, para. 3). Some women are members of cooperatives who have full rights, other women are 'representatives' who act as substitutes for other members, while some women are 'volunteers' who complete the same work though are paid about 20–30 per cent of what they acquired during a shift (Bocangel, 2001, p. 11).

Non-organized small-scale (artisanal) mining is more marginalized and precarious for vulnerable populations such as women and Indigenous populations. It is typically less regulated, has unsafe working conditions, little to no environmental protection, operates outside of the formal economy, and has less interaction with the government and communities (Quiroga, 2002, p. 133). Informal miners in Bolivia, for example, operate without concessions and typically work on a temporary basis using rudimentary methods and equipment (Bocangel, 2001, p. 10). There are several types of informal miners in Bolivia, for instance: the jukus who enter mines during the night, the palliris (hand-pickers) seek high-grade material in mine dumps, the pirquiñeros who work in abandoned mines, or the barranquilleros (gravel scratchers) who work in primary and secondary deposits (Bocangel, 2001, p. 10). Informal miners often comprise work at the lowest end of the scale, wherein women perform precarious work, acting as traders, barranquilleros, and palliris (Bocangel, 2001, p. 12).

Chapter Four: *Gender Dynamics in ASM*

Women make up a significant portion of the ASM sector, the extent of which is dependent on factors such as the location and the type of mining. It is typical that the jobs that women occupy surround panning, transportation and processing of minerals (Tobalagba & Vijeyarasa, 2020, p. 1636). Women additionally contribute indirectly to the mining sector, providing services such as cleaning, cooking, and delivering services such as food and accommodation (Tobalagba & Vijeyarasa, 2020, p. 1636). However, there can be associated environmental, social, health, economic and hazardous impacts that are associated with the ASM sector (IGF, 2018 Jan., p. 13). Ensuing consequences such as pollution, heath impacts, low-wages, and dangerous work conditions that affect all ASM actors, often impact women more severely (Salo et al., 2016; Zvarivadza & Nhleko, 2018).

The United Nations defines gender as it "refers to the social attributes and opportunities associated with being male and female and the relationships between women and men and girls and boys, as well as the relations between women and those between men" (UN Women, n.d). Hence, the term gender does not imply strictly female. Though, the emphasis on empowerment of women and attaining equality is crucial as this is where the discrimination often persists. This paper refers to women with the understanding that these traits, opportunities and relationships are socially constructed and are learned through socialization processes. Gender roles being socially constructed is why it is particularly important to view the role of gender in the Andean region through a historical and cultural lens, as it plays an influential role in dictating the perceptions and roles of women today. However, navigating a gendered perspective of ASM does not indicate the focus should be solely on women, and it is important to be cognizant how gender, as a social and cultural construct, directly involves men in the sense that men can either foster or impede action to attain equality (Alliance for Responsible Mining, 2019, p. 2).

Generally, the role of gender has been ignored in the historical context of ASM in the literature (Romano & Papastefanaki, 2020), and the contribution of women is consistently left out of research and analysis by economic geographers and political ecologists being regarded as and 'overburden' or immaterial (Lahiri-Dutt, 2015, p. 524). Though, there is increasing feminist literature that considers the normalizing discourses of hegemonic masculinity in mining (Lahiri-Dutt, 2015, p. 524). For instance, feminist literature assesses how images of men conquering

nature symbolize envisioned masculinity "…in what is represented as mysterious, dangerous, filthy and heroic work" (Lahiri-Dutt, 2015, p. 524). This has effectively normalized male miners to be perceived as the 'typical miner' whose interests are to be protected over those of women. Further, according to Lahiri-Dutt, "The relationship between gender ideology and the sexual division of labour has meant that women's labour as part of the family remains largely invisible" (2015, p. 525). Perceptions of the role of women is strongly limited to serving biological functions (i.e., motherhood) wherein they need to be protected from the dangers of working the mines. The level of invisibility of women's labour in the mining sector is intensified by the inclination to view mining as employment that is solely reserved for men and by the lack of recognition that legitimizes women's work in the mining sector (Lahiri-Dutt, 2015, p. 525).

Romano and Papastefanaki contend that old laws that have been introduced that ban women and children from working in underground mines is largely attributed to the breadwinner model and the traditional gender roles that place women as mothers and caretakers of the work force (2020, para. 2). These laws were historically introduced in both Bolivia in 1930, for women underage, and Peru in 1918, for both underground and above ground mining for all women (Romano & Papastefanaki, 2020, para. 22). A consequence of the laws that excluded women from working in underground mines while pushing them towards household work and care work in mining communities was that it led to women's contribution of labor to be underestimated and viewed as 'unproductive' (Romano & Papastefanaki, 2020, para. 4). These perceptions of the role of women in the mining sector are still prevalent today and help explain the devaluation of their work, the work they can do and the lower incomes they receive.

In the Bolivian highlands, women have a relatively high status mainly since gender largely dictates the labor and household roles that are complimentary to one another (Canessa, 2012). This is true to such a degree that an adult in the highlands of Bolivia is not considered "…a complete and properly social person until one is married" (Canessa, 2012, p. 229). Hence, gender differentiation is not based on who they are as women so much as it is based on the respective gender roles (Canessa, 2012, p. 229). Regardless of whether the role of women is respected among community members, the strong presence of gender roles still dictates the livelihood outcome of women. For example, Canessa links gender and the perception of women's roles with the prevalence of physical abuse that is typically linked with alcohol

consumption (2012, p. 233). Hence, the value of women is still linked to their respective role in the household and less so for their potential and contribution to the workforce.

In rural areas in Peru, there is a hierarchy that favors men over women and children in areas of land, property, education, income, access to credit as well as with access to resources such as water (Castro, 2019, p. 1371). Further, other inequities are at play, for instance, one's gender, race, age, and class dictate the role they will have in the mining industry and the associated impacts (Brain, 2017). According to the Global Initiative against Transnational Organized Crime (TGIATOC), this is exemplified in Peru with women generally being relegated to less desirable and lower paying jobs, as is the case with pallaqueras who extract small amounts of gold from rocks that are discarded by men (2016, p. 30). A lower status leads to a decrease in earning potential and leaves women in a vulnerable situation wherein their livelihood is dependent on men and their discarded rocks (TGIATOC, 2016, p. 30).

Traditional perceptions of women and gender roles can lead to discrimination in the mining community that impedes women's financial empowerment and limits their access to opportunities (Alliance for Responsible Mining, 2019, p. 1). In some instances, women are not able to enter the mining work force as a result of their gender (Gravelle, 2012; Lahiri-Dutt, 2020). In addition, women do not always get paid for their work, or equal pay, and often have a double work burden as they are the primary caregivers for the family (Lahiri-Dutt & Macintyre, 2017). Despite the involvement of both men and women in ASM, men often control and own the majority of the family's assets such as land, income from mining, tools, property and the house (UNEP, 2016, p. 151). It is not uncommon that men opt to use the money for activities that do not contribute to the family livelihood, such as gambling, alcohol, and prostitution (Zvarivadza & Nhleko, 2018, p. 81). This is largely attributed to variables such gender roles (e.g., being primary care-givers), specific tasks performed in ASM, perceptions of women, class (Tobalagba & Vijeyarasa, 2020), and substance abuse.

Health impacts can be gender specific as well, linked to the tasks that women typically perform. For instance, it is common that women's labour in ASM involves processing minerals in the household, which directly subjects women and their families to pollution and toxins which can cause mercury poisoning and silicosis (United Nations, 2016, p. 151). When women are permitted to work in ASM, they are often assigned dangerous work (Lahiri-Dutt & Macintyre,

2017), and often have less access to safety precautions and work in areas with high health risks (Gravelle, 2012; Lahiri-Dutt, 2020). Furthermore, women are often victims of violence, including sexual violence, often resulting from migrant workers, alcohol abuse in the mining sector (Tobalagba & Vijeyarasa, 2020, p. 1637), and/or exclusion of women from political participation (Alliance for Responsible Mining, 2019, p. 1). It is not uncommon in ASM mining that women who are married experience abuse, which is often linked to the consumption of alcohol (Lahiri-Dutt & Macintyre, 2017).

Therefore, it is important to acknowledge the impacts women experience when consigned to lesser employment opportunities and unsafe working conditions, among other impacts which will be discussed throughout the paper, as these are injustices that need to be acknowledged and addressed immediately. Yet, it is important to be cognizant that this perpetuates negative connotations (i.e., 'unruly', 'deviant') of the ASM sector; the narratives of which are argued in the literature to be aiding in the justification of discriminatory formalization, whether intentional or not. While there are instances of illegality, discrimination, and abuses – these instances are not reflective of the entire industry nor does it detract from the agency of women and the productivity and necessity of the ASM industry to sustain all livelihoods. Furthermore, it is reflective of a region and industry fraught with poverty and a lack of access to fundamental resources, such as education. Therefore, instances of discrimination and abuse should be viewed as a symptom of larger systematic socio-economic inequalities, rather than justifying further discrimination through formalization under the rhetoric of advancing social development. It also explicitly outlines the necessity for the development of associations that increase the presence of women in decision making powers, among other recommendations discussed in chapter eight.

Chapter Five: *ASM in Peru*

Peru is the dominant producer of gold in Latin America (Tobalagba & Vijeyarasa, 2020), which is the main mineral mined by ASM miners (Hilson & Maconachie, 2017). A combination of increased global mineral prices, low-cost migrant labor and flows of transnational capital have triggered the ASM sector, predominantly informal mining, to expand and contract accordingly (Salo et al., 2016, p. 1058). The influence of illegal mining should not be underestimated as about 28% of gold in Peru is mined illegally (TGIATOC, 2016, p. vi), which was worth about 1.8 billion USD in 2011 alone (Korinek, 2015, p. 41). Mining is a significant source of economic income for Peru as it composes 60% of Peru's exports (Smits et al., 2020, p. 68), and 10% of Peru's GDP (Korinek, 2015, p. 10), making the formal mining sector (predominately LSM) an important source of fiscal income from taxes (Castro, 2019).

The mining sector in Peru has been both a source of economic growth and social conflict over the role of the state in the mining industry (Arellano-Yanguas, 2016, p. 174). In the 1990's, Peru was transformed into a neoliberal economy that promoted mining through the extraction and exports of minerals that relied on FDI, large corporations and associated elites (Bury, 2005, p. 221; Salo et al., 2016, p. 1060). The economic reformations resulted in an economy dominated by "…the private sector, regulated by market forces, and intricately linked to the global economy" (Bury, 2005, p. 223). In attempts to regulate and control the mining sector in Peru, the government has implemented a series of formalization efforts over the past few decades. The Peruvian President, Fujimori (1990-2000), implemented the National Mining Cadastre Law which abolished previous mineral rights agreements and replaced it with a geographic reference system that secured exclusive land resources for national and transnational mining firms (Bury, 2005, p. 223). As a result, mining claims surged from 4 million ha in 1992, to 22 million ha in 2000, predominantly in the highlands, and favoured LSM companies (Bury, 2005, p. 225). Consequently, at the time, transnationalization and privatization substantially altered the spatial distribution and organization of the mining sector away from ASM and in favor of LSM (Bury, 2005, p. 226). In the 1990's, the Peruvian state did little to promote ASM, focusing instead on large-scale interests.

In 2002, the Peruvian government passed the Law of Formalization and Promotion of Small-scale Mining and Artisanal Mining (Smith, 2019). The legislation defined a succession of

measures for miners to become formalized, including "…obtaining a tax number and acquiring a mining concession or entering into a mining contract with a concession owner", as well the completion of an environmental report to manage mercury (Smith, 2019). Further, Peru created the Integrated Registry of Miner Formalization in 2012, which registered miners in the processing of formalizing into a database – which as of 2019, had registered 50,000 miners (Smits et al., 2020, p. 68).

The neoliberal landscape forged in the 1990's in Peru did not dissipate over time, it only shifted slightly. Peruvian President, Humala (2011–2016), altered the political-mining landscape when he took a more active role by introducing a formalization plan and distinguishing between illegal and informal mining that allowed for compromise with informal miners and punishment of illegal ones (Hidalgo & Dargent, 2020, p. 528). While these laws and formalization attempts were important steps forward, they still achieved limited results largely due to substantial problems in certifying and regulating land titles (Hidalgo & Dargent, 2020, p. 529). According to Hidalgo and Dargent (2020), the government's simultaneous incentivization and facilitation of gold extraction insinuates that there was no true intention of enforcing the law. To elaborate, in theory, gold extraction activities that ignore regulations are illegal and therefore punishable, however, Hidalgo and Dargent argue there are loopholes that effectively legalize these activities (2020, p. 529). For instance, the 2014 Mining Law that forbids illegal mining, concurrently authorizes cooperatives to operate during the formalization process undisturbed (Hidalgo & Dargent, 2020, p. 529).

Humala sought to increase the participation of the state in mining rents which targeted LSM, while simultaneously including locals in the decision-making process and increasing environmental concerns when granting licenses for mining practices (Arellano-Yanguas, 2016, p. 175). However, according to Arellano-Yanguas (2016), the inclusion of locals did not materialize into any tangible results, nor has environmental preservation been a priority in the mining sector. The political landscape quickly returned to status quo since the Peruvian economic elite were too powerful in their ability to influence policy-makers, which resulted in the continuation of conventional policies which reinforced the role of private mining companies (Arellano-Yanguas, 2016, p. 187).

Arellano-Yanguas contends that this outcome was the result of Humala being "…locked in the logic of private interests" (2016, p. 187). Meaning that the success of Peru's economy remained contingent on private investment in the mining sector, the state's involvement in private mining companies and its ability to benefit from the subsequent economic activity (Arellano-Yanguas, 2016). However, the result has been that mining companies became more powerful and Peru's economy would remain dependent on this landscape (Arellano-Yanguas, 2016, p. 187). In addition, Humala stepped away from a political agenda of development in Peru, and instead focused on ideas of inclusion that signaled a placated stance for the status quo economic model (Arellano-Yanguas, 2016). This was problematic given that the current model allowed LSM companies the power to plan the territory, the level of extraction, and the amount and timing of investments (Arellano-Yanguas, 2016, p. 188). Hence, Peru's neoliberal agenda was prioritized at the cost of inclusive formalization efforts for ASM actors. Formalization created an enabling environment in favor of LSM that instantaneously developed barriers for ASM actors that have thwarted their success as miners (Kleinhenz, 2017).

Formalization Critiques from Peruvian ASM Actors

ASM actors revealed at the "Voces Mineras II" 2019 conference in Peru "…the overwhelming and cumbersome paperwork required to become formal that actually discourages miners from pursuing formalization" (Smits et al., 2020, p. 70). Miners described a lack of capability to negotiate with the mineral rights owners and when negotiations did occur, they often lacked transparency that generated an unfair playing field and created a space that fosters illegal activity (Smits et al., 2020, p. 70). While these circumstances likely persist for most ASM actors, it is plausible these barriers are more prominent for women, linked to being less valued members in the ASM sector.

One of the most prominent problems identified with ASM formalization legislation is that women are largely absent, more specifically there is no mention of women's specific roles in and experiences of ASM (Tobalagba & Vijeyarasa, 2020). The lack of inclusion and representation of women in formalization initiatives has had unintended, though disproportionate, impacts on women that will be discussed further in chapter seven. This absence was vocalized by the pallaqueras at the "Voces Mineras II" conference, where ASM actors had a chance to speak to the difficulties faced with formalization initiatives. They cited a disconnect between laws and

realities being that there is a lack of recognition or acknowledgement from the government which transcends into their work as pallaqueras in the ASM sector. Pallaqueras additionally expressed interest in improving working conditions, occupational safety, social benefits and environmental stewardship that could be achieved through formalization efforts, but is currently unsuccessfully capturing ASM miners, particularly pallaqueras (Smits et al., 2020, p. 70).

ASM in Madre De Dios

Further tribulations with implementing formalization efforts and subsequent contentions from ASM actors were made apparent in the region of Madre De Dios in Peru. Salo et al. contend that the explicit objectives behind the formalization of ASM in Madre De Dios, Peru, mirroring formalization efforts abroad, has been to obtain control of the ASM sector with the intention to generate public revenue while simultaneously implementing and enforcing social and environmental norms (2016, p. 1065). The logic behind this notion is that formalizing the mining industry will invoke property rights that enable actors to gain economic benefits from the minerals, at which point they are likely to embrace the social and environmental norms regulating the mining sector (Salo et al., 2016, p. 1058).

The Peruvian government sanctioned and incentivised mining in the Madre de Dios region by "…granting mining concessions over existing land rights and in areas currently classed national reserves" (Bird & Krauer, 2017, p. 3). However, there was a lack of co-ordination between the numerous state and regional entities involved, and the legal criteria for formalization did not permit the only form of gold mining in the region, which is alluvial artisanal gold mining (Bird & Krauer, 2017, p. 4). Furthermore, there were additional impediments cited, such as overlapping land and mining rights, high formalization costs (approximately USD 130,000 per ASM Organisation) (Bird & Krauer, 2017, p. 4), a lack financial support for ASM actors (O'Faircheallaigh & Corbett, 2016, p. 966), insufficient state resources, a saturation of informal workers, and many companies breaking the law with impunity (Salo et al., 2016). Obtaining and securing the access to the right to mine has been raised as a prominent barrier experienced across Peru (Smits et al., 2020, p. 68), and is therefore not limited to Madre De Dios. The Peruvian government's decision to target illegal and informal mines and the subsequent above mentioned barriers only obscured the division between informal and illegal mining, increasing participation in the illegal sphere (Bird & Krauer, 2017, p. 4).

The intentions behind formalization efforts at face value are legitimate goals given the level of social and environmental concerns surrounding the ASM sector in Peru; however, the reality has been much different. In the attempt to control property rights, other rights such as human rights and/or political rights are not necessarily considered, "…even when abuses related to these rights are explicitly stated as reasons for formalization" (Salo et al., 2016, p. 1064). Salo et al. warn that policy failure, as witnessed in Madre De Dios, can lead to instances such as the financial demise and the outright exclusion of ASM actors who are already vulnerable populations, often leading to the aforementioned consequences, including conflict and/or criminalization (2016 p. 1064). Duff and Downs articulate that this is already the case in Madre De Dios because while ASM activity started legally via government concessions to mine, the government favors LSGM in Peru with FDI, leaving ASM mostly marginalized (2019, para. 18). Further, Salo et al. (2016) warn that the transfer of power from ASM actors could also lead to a new form of elite capture of resources previously mined by the ASM sector. These processes can have unintended environmental consequences when they either prompt pre-emptive mining or the displacement of resource mining (Salo et al., 2016, p. 1064). Therefore, top-down formalization efforts do not guarantee environmental protection, regardless of state 'intentions' to do so. Hence, in a region plagued by poverty with a clear lack of access to capital, the formalization efforts, as seen in Madre De Dios, only acted as barriers for alluvial gold miners. These barriers have been experienced by most artisanal miners across Peru (Bird & Krauer, 2017, p. 4), signifying a substantial problem of inequity in the way that formalization of mining has been inequitable to ASM actors.

The Minamata Convention was signed in 2013, which was ratified by Peru in 2016 and it went into effect in August 2017. The purpose is to control and reduce mercury pollution and emissions by requiring ratifying countries to develop National Action Plans to regulate the trade and storage of mercury waste (Smith, 2019). This could serve as an opportunity to minimize mercury pollution and thereby lessen the burden on local communities and ASM workers, especially women. According to Smith (2019), Peru is currently developing their National Action Plan to comply with the terms of the Convention, in which ASM will likely encounter more stringent controls on mercury. However, while this is a necessary initiative to tackle mercury pollution, without careful implementation, it could serve as another barrier to formalization that pushes ASM actors underground.

The Political Settlement in Peru

To better understand why formalization efforts favors LSM, while ASM goes largely unprioritized, it is important to unpack the current political settlement in Peru. Benites and Bebbington articulate how the relations between ASM actors, LSM companies, and the Peruvian government "…are part of the fabric of Peru's political settlement" (2020, p. 215). The political settlements that Benites and Bebbington refer to mirror "…the balance of power among contending elites and excluded factions in society, leading to a particular set of institutions that distribute economic opportunities in line with this balance" (2020, p. 215). Settlements can be both a space wherein there are different, or opposing, territorial projects; or a space where narratives of social order can be repaired (Benites & Bebbington, 2020, p. 216). In the case of Peru, the political settlement is constructed, and reinforced, by Peru's position of being a "mining country" in which the economic development of the state relies on the promotion and protection of resource extraction.

Benites and Bebbington (2020) argue that the political settlement in Peru was made more apparent in the wake of Covid-19. The Peruvian government protected and permitted LSM operations in certain territories amid nationwide Covid-19 restrictions. Simultaneously, the government did not allow other territories, where ASM is more common, to continue to mine (Benites & Bebbington, 2020). Further, the Peruvian government offered LSM companies' opportunities to increase their governance over certain territories, through new instances of risk management (Benites & Bebbington, 2020). This has in turn left resource-dependent ASM actors out of the political settlement arena and vulnerable not only to the impacts of losing immediate work, but to potentially losing previously mined land to larger companies or miners not abiding by the government-imposed restrictions related to Covid-19. There is a strong possibility that Covid-19 will further bolster Peru's mineral dependence "…and the political settlement that sustains it" (Benites & Bebbington, 2020, p. 220). The political settlement illuminates the power that the LSM has in the political arena for influencing government actions and policy and therefore speaks to the uphill battle ASM actors may face in gaining autonomy, financial security and fair accountability and representation in the future.

While the socio-economic landscape behind the state and the mining sector largely accounts for the push for formalization by the government, it is important to underline the

narrative justifying such efforts. According to Benites and Bebbington, the current political settlement in Peru is contingent on the narrative that ASM actors are "…privileged, deviant, and unruly, and therefore in need of authoritarian order" (2020, p. 220). This argument mirrors that of similar observations regarding negative perceptions of ASM actors and the subsequent lack of support made by prominent authors (i.e., Childs 2014; Huggins et al., 2017; Andreucci & Radhuber, 2017), in chapter two. Historically, Peru has balanced economic growth from the mining industry with a 'tolerable risk' threshold, where certain levels of human settlement disruption or pollution levels were permitted given the benefits outweighed the costs (Benites & Bebbington, 2020, p. 216). This standpoint relies on the narrative that ASM actors, the environment and surrounding communities are somewhat expendable, or are less prioritized, compared to LSM companies who generate more revenue.

Hence, it is apparent that there is a discrepancy between government discourse justifying the formalization of the mining sector, and the vocalized reality from ASM miners. Formalization in Peru has been portrayed as either an endeavor to empower marginalized actors or to invoke standards for environmental protection. Yet the consequence has been the establishment of barriers, and unintended consequences, such as pushing ASM actors into illegality resulting from regulations that are difficult or impossible to comply with. It can be expected that there are varying impacts depending on considerations such as type of formalization policy, the region, and potential barriers to entry – including gender specific barriers. The extent of the success and inclusion of formalization efforts are therefore thwarted by pre-existing identities, political and power dynamics, institutions and existing habits and practices. Salo et al., claim that the equivocal language of top-down formalization processes helps decipher how these processes have legitimized the disturbance of an existing customary order (2016, p. 1065). This necessitates the need for formalization efforts to be intricately linked with impact prevention and management, as well as a critical analysis of top-down formalization approaches.

Chapter Six: *ASM in Bolivia*

Bolivia is a dominant producer of gold in South America, which is the main mineral mined by ASM miners and therefore supports the livelihoods of many individuals and their families (Hilson & Maconachie, 2017). Bolivia's mining sector is dominated by cooperatives, which are backed by the local government (Marston, 2013, para. 3). There are currently about 60,000 cooperative members (incorporated cooperativistas), which accounts for about five times the number of miners that are employed in the private and public sectors combined (Marston, 2013, para. 3). Cooperatives in Bolivia have been looked at as a beacon of success in many ways, adding protection to many workers particularly during periods of economic recessions when international demand dropped, and subsequently mineral prices plummeted (Lahiri-Dutt & Macintyre, 2017).

The relationship between the Bolivian government and cooperatives is complex in the sense that at times it has been extremely productive and beneficial for cooperatives. Yet, in other ways the rapport is contradictory and presents as a mutual opportunity for both parties to utilize the relationship to further their interests. Marston and Perreault (2017) refer to Bolivia as being a post-neoliberal state that does not completely reject global capitalism, but rather attempts to align the state's responsibility for social inclusion with the priorities of economic growth. Sworn in as president in 2006 in Bolivia, Evo Morales nationalized natural resources, which secured more access of mineral revenues for the state (Pellegrini, 2016, p. 191). Morales created the National Development Plan (PND) in 2006 and updated the Constitution in 2009 to reflect and acknowledge the country-wide diversity and support for Indigenous peoples and independent organizations (Pellegrini, 2016, p. 191). The PND promoted both the '*vivir bien*', meaning collectively living well, of the people, and the expansion of mining in conjunction with industrialization of natural resources (Pellegrini, 2016, p. 195). Furthermore, the Constitution also recognized the right of Indigenous peoples to control and manage their territories corresponding with their preferred forms of organization (Pellegrini, 2016, p. 194).

Pellegrini (2016) argues that state institutions are pushing for the expansion and deepening of extractivist activities and legitimizing it under the discourse of 'resource nationalism'. Pellegrini contends that the Constitution and the PND were formed to rationalize the transfer of mineral resources to the state with the intent to increase economic revenue that

could then be fed into further industrialization, thereby increasing the demand for extractive industries (2016, p. 193). The nationalization of resources was backed by rhetoric that foreign exploitation rooted in colonialism is over, and instead, revenue from the mining industry will be for the benefit of all Bolivians (Pellegrini, 2016, p. 194). More specifically, that the profits generated would be diverted from foreign multinational companies and reinvested into the development of Bolivia with an emphasis on social development (Pellegrini, 2016, p. 194).

Pellegrini claims that the Constitution's commitments to the well-being of vulnerable populations have been contradicted by the reality of spreading extractive frontiers (i.e., new incentives and contracts with investors and arrival of mega-projects) into Indigenous territories, generating environmental impacts and sparking social tensions with Indigenous organizations and the state (2016, p. 191). As many as 15 of Bolivia's 36 Indigenous communities are at risk of extinction as a result of "…systematic neglect, social exclusion and their geographic isolation" (UNHCR, 2018). Land rights of Indigenous communities remain a significant and persisting issue regardless of hopes of gaining greater protections and territorial autonomy under Morales, which is strongly linked to the extractive industry (UNHCR, 2018). Salman et al., argues this could be the result of a lack of capacity of the Bolivian state to implement laws and regulations, and to effectively oversee all the territory that has traditionally had weak capacity, especially in more remote areas (2015, p. 365). However, Pellegrini argues the state uses resource nationalism discourse to both gain political support and to shape the mentality of Bolivian citizens thereby rationalizing state interventions, which is an act of what Foucault describes as governmentality (2016, p. 200). Andreucci and Radhuber take this a step further and argue that the 'post-neoliberal' landscape in Bolivia is, in fact, an enabling environment for transnational investment as well as 'cooperatives', which have been central to the expansion of extractivism (2017, p. 289). Consequently, contrary to community demands for improving the socio-environmental outcomes of mining and greater participation in mineral extraction, which was promised by the government and included in the 2009 Constitution, it has been disregarded in practice (Andreucci & Radhuber, 2017, p. 289).

The Bolivian state had historically supported the formation of mining cooperatives to facilitate the success of the mining economy, however, in recent decades cooperatives have spearheaded the maintenance of mining's regional hegemony (Marston & Perreault, 2016).

Marston and Perreault (2016) argue that cooperatives play a substantial and arguably influential political and economic role in Bolivia's mining sector. The Bolivian state appears to be entangled in a politico-economic power affiliation with powerful cooperatives which place the government in "…a quandary vis-à-vis the challenge to control and regulate the mining sector" (Salman et al., 2015, p. 365). Salman et al. (2015) claim that the expansion of mining operations has increased tensions and conflicts between private and cooperative mining activities as well as between local communities. However, typically the cooperatives will win the fight and their rights and interests come first given their high level of organization and strong contacts at the government level (Salman et al., 2015, p. 365).

Cooperatives have therefore been accused of increasingly operating like private enterprises, in the way that they are abusing workers and disregarding environmental and safety regulations (Salman et al., 2015, p. 363). Further, cooperatives are increasingly "…exploiting the fear within government circles of displeasing them, and obstructing the nationalization intentions by demanding an easier granting of concessions" (Salman et al., 2015, p. 363). Hence, the landscape has shifted in which the Bolivian government wants to appease cooperatives that have been pillars of the Bolivian economy, but which are increasingly demanding exemptions and privileges, such as environment impact allowances, and more autonomy from the state's control of the entire mining sector (Salman et al., 2015, p. 363). Therefore, this suggests that cooperatives have to some degree become successfully formalized, illustrated by their ability to gain a voice, attain autonomy and become strongly represented. This is the goal for small-scale actors to ultimately increase their financial gains and eliminate some of the barriers ASM actors face. Yet, there is rising concern that this has become an extension of power wherein cooperatives have a strong desire for neoliberal economic growth via increased transnational connections, that does not redress other barriers identified, such as gender inequality as well as environmental and social protections for more vulnerable actors and communities.

Marston and Perreault contend that while the extractive industry produces considerable advantages, the benefits of mining in Bolivia are distributed unevenly, with significant adverse environmental, dispossession, economic dysfunction and social consequences disseminated unequally through both location and within communities (2017, p. 256). This has occurred as a result of "…both formal legislation (the various mining, water, environmental, and labor laws

that have been enacted over time to support various fractions of capital), and through informal, culturally embedded practices" (Marston & Perreault, 2017, p. 256). The ensuing landscape of institutional arrangements has created an extractive hegemony which delineates the governance of minerals, water and territory (Marston & Perreault, 2017, p. 268). Marston and Perreault claim this is dictated over an extended period of time by the "…territorialized complexes of political economic institutions, socio-natural relations, social norms and knowledges" that sustain certain types of resource extraction as well as the interests of parties involved (2017, p. 256). In which, Bolivia mining cooperatives play a central role. Hence, while cooperatives have gained much success, similar to the landscape in Peru, changing power dynamics in the mining sector could increase inequities for those who are not the immediate beneficiaries of the gains attained by elites.

One of the ways that the benefits have been distributed unevenly is determined by gender and reinforced by pre-existing perceptions of women. Trying circumstances in the last few decades in the industry has caused women to work inside the mine alongside men, which provides financial benefits (Hoecke, 2006, p. 266). Yet, the mining industry in Bolivia struggles with preconceptions about physical and intellectual capacity of differing genders as well as a strong cultural prejudice. This includes views that women bring bad luck to the mines, they cannot emotionally handle fear and stress associated with the industry (Hoecke, 2006, p. 266), and they cannot physically handle working in a mine (Blow, 2019, para. 6). These superstitions and prejudices against women are cited for reasons that women should not work in the mines in Bolivia (Blow, 2019, para. 7). For example, one woman, Quillka, spoke to the reality of working inside the mines being that on top of extremely dangerous work, it is an extremely hostile environment – being told she did not belong and often experiencing sexual harassment (Eerten, 2016, para. 4). Quillka is among hundreds of other women who work in the mines who are referred to as *palliris* (Blow, 2019, para. 2).

Palliri women in Bolivia are present throughout Bolivia's formal and informal mining sector, yet their labor ranks lowest in the work scale (Hoecke, 2016, p. 267). *Palliri* women are considered poor women who are often single mothers, widowed or have been abandoned by their male counterparts and left with no alternative but to do this work. It is extremely common for housewives and mining women to become widowed (due to abandonment or death), leaving

women extremely vulnerable with no social security (Hoecke, 2016, p. 269). It is common that *palliri* women lack access to capital, safety gear and/or technology to conduct mining and are relegated to work inferior jobs – even within cooperatives (Hoecke, 2016, p. 266). Irrespective of their contribution in the mining process, their work is not always recorded and is not paid for as such, leaving these women statistically invisible (Hoecke, 2016, p. 266). Often, these women are overextended with obligations such as looking for supplementary jobs and seeking food and supplies to feed the family – this particularly true if assuming the role of head of the household as well (Hoecke, 2016, p. 269). Further, they are without contracts, time off, maternity leave, and are often the greatest victims of abuse (Blow, 2019, para 3). Working extremely long hours, *palliris* have the task of crushing rocks from the mines and sifting through to find valuable materials and then washing them using toxic substances such as mercury – using only their hands, often without gloves, leading to various health consequences (Blow, 2019, para 3).

Female cooperatives and female miners' associations exist, such as the 'Wives of Miners', that offer women support in various capacities within the mining sector (IGF, 2018, p. 6). Further, in 2001 women miners were finally able to join FENCOMIN, the national miners' association. These groups have emerged in response to challenges that many women face in ASM sector (Jenkins, 2014B). There is no denying that these groups have provided women benefits and protection in Bolivia. However, Lahiri-Dutt and Macintyre (2017) argue the extent to which cooperatives fully protect women has been ineffective. Women have not gained safety and economic independence yet in Bolivia (Blow, 2019, para. 1). When women are paid it is not typically equal pay, as has been the case in Bolivia with cooperatives that are supposed to protect their rights (Lahiri-Dutt & Macintyre, 2017). As a result of the precarity in the mining sector, women often turn to sex work in exchange for minerals to support themselves and families (Lahiri-Dutt & Macintyre, 2017). Hence, unequal access to cooperatives, or within cooperatives, can create divisions for the women and are therefore subject to a lack of regulations, pensions, protection, and experience high illiteracy with little to no access to schools or education, leaving them in extremely daunting situations (Lahiri-Dutt & Macintyre, 2017, p. 270).

Chapter Seven: *Formalization and Unforeseen Impacts in ASM: A Gendered Perspective*

Increased Precarity

As has been discussed, formalization efforts have predominantly favoured elites such as LSM in Peru and cooperatives in Bolivia. Often having unintended consequences on ASM actors regardless of gender; yet disproportionately impacting women which has manifested in peculiar ways in both the ASM sector and in the household. This is particularly true for ASM actors in the informal sphere that are pushed further into the illegal sphere to mine. The Peruvian government's decision to target illegal and informal mines and the subsequent above mentioned barriers has only "blurred the lines between informal and illegal mining, increasing involvement in the latter" (Bird & Krauer, 2017, p. 4). This is problematic given that in some regions, the lawlessness can attract exploitation and rights violations (Alliance for Responsible Mining, 2019, p. 1). ASM mining, especially informal or illegal mining, often occurs in regions that are impoverished and secluded where there is little to no state presence (Alliance for Responsible Mining, 2019, p. 1).

To elaborate, it is common that ASM miners are unable to generate substantial incomes for reasons such as receiving far lower prices for gold than they would receive on the open market, being forced to purchase supplies sold in the mining camps at inflated prices, and/or losing earnings to alcohol and sex workers (Bird & Krauer, 2017, p. 3). Women subject to a combination of higher costs, lower wages, less minerals and lower prices would have significantly decreased revenues, threatening their livelihoods. Women such as the pallaquares in Peru, and *palliri* women in Bolivia, who already uphold precarious positions in the ASM sector, could therefore be at risk for being pushed further into illegality to supplement their livelihood, where as mentioned - there is typically less monitoring and protection from the state or police.

These circumstances can lead to women either being exposed to, or freely engaging in, precarious circumstances to sustain their livelihoods. For example, Bird and Krauer (2017) found that mining that operates outside of formal legal structures in Peru is subject to higher instances of labour exploitation, predominantly through poor working conditions and/or forced labor. Research by TGIATOC found that in Colombia and Peru particularly, there are frequent

instances of debt-bondage, human trafficking and exploitation, sex trafficking and child labour (2016, p. 27).

The role of women often entails involvement in the sex trade which can be a source of financial revenue, but without adequate knowledge and access to reproductive services, health risks can occur such as HIV/AIDS, STI's and abusive situations (UNEP, 2016, p. 151). However, voluntary sex work is less frequent as the mining industry fosters an environment that has prostitution, sexual harassment and sex trafficking (Kleinhenz, 2017; Laser-Maira et al., 2018). Illicit mining has led to instances of girls (some as young as 12) and women being trafficked into sexual exploitation under false pretenses of secured employment (Bird & Krauer, 2017, p. 3). Many women are aware of the implications of these roles; however, they are often targeted in rural and impoverished regions where they lack viable alternatives to sustain their livelihoods (Bird & Krauer, 2017, p. 3). Trafficking in Peru occurs in areas such as La Pampa and Delta 1 in Madre de Dios, as well as La Rinconada, Puno (Bird & Krauer, 2017, p. 2). One calculation, provided by a civil-society organization, is that there are around 2,000 sex workers, of which 60% are minors, in the illegal gold mining town of Delta 1 alone (Bird & Krauer, 2017, p. 2). While other estimates allege around 4,500 Peruvian and Bolivian girls are trafficked for sexual exploitation to work in bars in La Rinconada (Bird & Krauer, 2017, p. 2).

Precarious situations surrounding the ASM industry are not limited to women – it also impacts children. In Bolivia, by the age of seven children are working various jobs in the mines including preparing dynamite and using chemical reagents such as mixing xanthate with acid to recover ore (Lahiri-Dutt & Macintyre, 2017, p. 271). In Peru, child labour and child sex trafficking are a growing problem; however, this is also only briefly touched on in the literature. This is likely the result of a lack of information, awareness and ability to measure and monitor the situation (Salo et al., 2016; Lahiri-Dutt & Macintyre, 2017; Laser-Maira et al., 2018). In addition, the impacts are difficult to encapsulate since measuring the impacts relies on estimates, limited resources, few victims coming forward due to the illegality and difficulty interviewing victims (Laser-Maira et al., 2018). Increased illegality and lower state presence could be particularly dangerous for women and children, wherein various instances of abovementioned precarity could not only become more prevalent, but could be more difficult to track, monitor and redress.

The Environment

Environmental impacts originating from the pollution of the mining sector have been well-established (Gravelle, 2012; Jenkins, 2014A; Brain, 2017). We know that mining contributes to environmental impacts such as forest loss and fragmentation, GHG emissions, soil loss and degradation, loss of biodiversity, pollution, and increased competition for land and water (UNEP, 2016, p. 149). Severe environmental impacts are predominantly linked to LSM, but ASM also contributes to environmental impacts as well – especially illegal mining (UNEP, 2016, p. 150). These environmental impacts alongside mining activities can cause displacement of communities, food insecurity and loss of livelihoods for those who depend on impacted resources (UNEP, 2016, p. 149).

Gold mining in particular is extremely destructive to the environment as it can contaminate water and land with mercury and cyanide, which destroys ecosystems and causes immense health impacts. For example, according to Smith, it is estimated that the artisanal-small scale gold mining (ASGM) sector in Peru dumped about 70 tons of mercury into the environment in 2010 – an estimate which is likely much higher today (2019, p. 645). The impact can be severe as mercury poisons aquatic species and has negative health impacts on people living in the surrounding area, with up to 150,000 people exposed each year (Smith, 2019, p. 645). In several mining communities in Bolivia, there is a scarcity of water for domestic use, and this has meant that household tasks such as washing is completed with water from the mine, causing skin diseases (Hoecke, 2016, p. 275).

As has been established, promises of environmental conversation behind formalization efforts in Peru and the Bolivian Constitution has not materialized into tangible results. Difficulty accessing resources is becoming exacerbated as the issue of water grabbing is becoming more prevalent in Peru and Bolivia, which is linked to various sectors, including the mining sector (Hidalgo et al., 2017). In the rush to liberalize economies and attract transnational companies including LSM companies, countries in Latin America, including Peru and Bolivia, offer the necessary natural (i.e., water and land) and human resources to strengthen market relations (Hidalgo et al., 2017). Hidalgo et al., argue that the accumulation of water and land by private companies in the wake of neoliberal policies and the subsequent impact on resource depletion for

vulnerable local communities and Indigenous territories are a direct illustration of the power and influence of elite stakeholders (2017, p. 68).

Important to note, is there is less discussion on how this disproportionately impacts women. There is no doubt that environmental impacts from ASM, and the lack of effective environmental conservation from the governments affect all ASM actors, surrounding communities and ecosystems. The precarious roles women obtain in ASM and the lack of protection they receive, impacts women who depend on ASM for their livelihood. This is exacerbated by their double work burden as gender roles dictate that they are typically the main providers for their families. Since women are typically the primary caretakers of the household, decreasing water sources due to water grabs in combination with increased environmental impacts such as contaminated water or soil, places the burden on women to find alternative sources and resources for them to support their families'. It is typically local communities, particularly women, who bear the brunt of these impacts without reaping any of the benefits (UNEP, 2016, p. 150). This pertains to wives of miners, women in mining communities and women employed in the ASM sector who experience a double-burden. The financial gains obtained in the ASM sector do not typically outweigh the environmental consequences, as most of the financial profits are generated further down the supply chain (UNEP, 2016, p. 149).

When barriers of entry are too great for ASM miners to formalize, it risks pushing ASM actors further into illegal activity wherein it can have the opposite effect and lead to even worse environmental impacts (TGIATOC, 2016, p. 60). Illegal mining is particularly harmful to the environment as it ignores any legal requirements and restrictions. Hence, formalization that in not inclusive for the ASM sector does not add any protection for the environment, nor does it redress safety or health management practices. This argument could pertain to less formal ASM actors in Bolivia, especially for miners who are not established in a secured cooperative. Hence, as ASM actors who are unable to formalize are increasingly driven into the illegal sphere, this pushes them further into territories and work that has higher environmental consequences that subjects them to higher health risks, and potentially exacerbates the aforementioned burdens on women.

The failure to adequately enhance environmental conservation is not the result of a lack of aspiration from ASM actors and community members, made evident by continuing

environmental impacts and increasing concerns from ASM actors to help them manage their environmental impact through formalization (Arellano-Yanguas, 2016; Salo et al., 2016). This concern has been voiced by women in particular, such as the pallaqueras, who expressed concerns that they received little to no support from the government to move away from unsound environmental practices and cited environmental stewardship as a top priority moving forward (Smits et al., 2020, p. 68). The desire for increased environmental protection from issues such as mercury pollution has also been expressed by ASGM actors and community members in Ayacucho Region of Southwestern Peru (Smith, 2019, p. 646). Furthermore, women have actively protested mining companies on the premise of environmental conservation and water preservation in Peru, citing concern for their family's livelihoods and future generations (Jenkins, 2014A). However, they achieved little success in their efforts to protect local resources as protesting women are often ignored or ostracized (Jenkins, 2014A).

The lack of action in Peru can be explained by environmental conservation falling under the 'tolerable risk' threshold previously discussed, wherein the benefits of economic gain from the mining sector, particularly LSM who generate more revenue, effectively outweigh the costs of environmental destruction and the subsequent impact on communities (Benites & Bebbington, 2020). This notion aligns with the idea of 'green neoliberalism' that builds on Foucault's ideas, and the idea of governmentality, wherein ideas of 'conservation' and 'preservation' are merely an extension of power that coincides with the neoliberal premise to extract market value from optimal natural resources (Goldman, 2001, p. 501).

The tolerable risk threshold is 'justified' by the pre-existing negative perceptions of ASM actors and the current political settlement in Peru, wherein there is a lack of appreciation for the environment and the vulnerable livelihoods it sustains (Benites & Bebbington, 2020, p. 220). Similarly, although Bolivia is a left-wing government that advocates for the environment, social development and Indigenous territories, the accumulation and depletion of resources by private companies away from local communities and Indigenous territories illustrate the neoliberal landscape regarding the power and influence of elite stakeholders (Hidalgo et al., 2017, p. 68). Most of the extractive activity occurs in the Indigenous territories where LSM threatens ecosystems and consumes, degrades, and pollutes water sources (Hidalgo et al., 2017, p. 70).

Increasingly, we are also seeing constraints on the state to act to regulate as local mining actors are too powerful to control. Hence, it is not sufficient to only look to the government as being solely culpable for the lack of enforcement for environmental conservation via formalization efforts in the mining industry. As formalization efforts become more successful and ASM actors experience an increase in power and financial gains (i.e., earn a livelihood) then conceivably it will lead to increased production with little regard for the environment. Hence, governments via formalization efforts might have difficulty achieving both environmental conservation as well as economic growth for ASM actors. This is the result of a lack of capacity or willingness to redress the root of the problem; being that we live in a capitalist society wherein regardless of the impact, gaining the maximum profit with the least amount of economic input is the norm – in which ASM actors naturally want to take part in.

Hence, the current climate in both Peru and Bolivia suggest that environmental protection will not be prioritized at the expense of economic growth, nor will this be accounted for in formalization efforts, particularly not for ASM actors as well as vulnerable populations and communities. This is important to highlight as it speaks to the probability of the voices of impacted populations, especially women who are often the most impacted but whose voices are marginalized, to be heard regarding calls for action to increase environmental conservation. Without acknowledging, prioritizing and changing negative perceptions of these vulnerable populations, there will be no subsequent actions taken to decrease environmental impacts from the mining sector or to add protections for ASM actors. Conservation efforts are necessary for well-established reasons (i.e., habitat conservation, resource preservation, diversity, community health), but as well for minimizing the burden on women as both ASM actors, as well as care-takers and community members.

Chapter Eight: *Lessons Learned and Recommendations*

While ASM actors in Peru remain largely marginalized compared to the interests of the state and LSM, cooperatives in Bolivia can be looked at as a beacon of success for using a united voice to gain a more dominant presence for negotiations and representation. Further, there has been arguably more progress in Bolivia than Peru regarding the state's advocacy for the environment and protection for small-scale miners, including women and local communities. The reliance of the Bolivian state on cooperatives for economic growth and success illustrates the power that even small-scale actors have, and their ability to present themselves as organized, productive and powerful agents of change, representation and accountability. This is true of ASM actors in general, but especially for the inclusion of women. As the literature suggests, some cooperatives have become so powerful - to the point of becoming a part of the hegemony itself – that they do not always abide by laws set to protect workers and enforce environmental and local community protections. Hence, cooperatives should be simultaneously used a model to be emulated but should also be viewed with caution – the caveats of which should serve as a basis for learning moving forward.

Moving forward, there are several recommendations that are worth noting, for the reasons that they promote the inclusion of all ASM actors in formalization initiatives; emphasize the mobilization and inclusion of women; harness the successful aspects of cooperatives; often align with international law; reflect the aforementioned areas of concern and recommendations of ASM actors; and they address the lack of attention and proposed solutions in the literature.

As this paper has sought to illustrate, government leaders might use the idea of formalization, which reflects that of "green neoliberalism" to promote the interests of the environment, ASM actors and social development, but this does not always transcend into reality. For ASM actors to reap the most benefits from mining, there needs to be an emphasis on tackling adverse formalization intentions (e.g., narrow economic gain, redistribution of power) hidden behind false rhetoric. Further research and analysis are needed to explore these links and the subsequent impacts on the ASM sector, including disproportionate impacts on women. Part of the way to rectify these practices will be to raise awareness to change adverse narratives of ASM actors to dignify their employment, especially women as miners. This could be done by challenging negative narratives and misconceptions on a political level as well as public opinion

(Alliance for Responsible Mining, 2019). Further, actors should seek policy solutions that follow through on addressing environmental pressures and protection against the precariousness surrounding the ASM industry and that minimize entry barriers to formalization, without compromising the livelihoods of those who depend on the industry. This will help minimize the phenomenon of formalization having contrary impacts while worsening pre-existing issues as well as mitigate the generation of additional barriers for ASM actors.

Interviews with ASGM actors in the Ayacucho Region of Southwestern Peru revealed that the main challenges they faced in the ASGM sector was mineral theft, contaminated water, and formalization initiatives. When ASGM actors were asked what they viewed the path forward for addressing community challenges to be, they responded there is a need for addressing mineral (gold) theft (43%), as well as the need for enhanced communications with government authorities to emphasize the support for becoming formalized, obtaining access to new and cleaner mineral processing technologies, constructing a drinking water reservoir and building a fence around the industrial park (33%) (Smith, 2019, p. 651). The Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development also identified the need to provide technical and financial support for ASM actors to afford and easily acquire licensing requirements to combat lack of access and affordability (2018 Jan., p. v). To make this easier and accessible, streamlining the licensing processes so that it is simple, cost-efficient and sensible to obtain a licence will significantly minimize many existing barriers (IGF, 2018 Jan., p. v). Generating a space that is supportive and accessible rather than biased and prohibitive will decrease barriers and thereby improve access for all ASM actors.

At the 2019 “Voces Mineras II” conference, ASM actors including the pallaqueras, harnessed their voice and nuanced points for intervention and strategic actions within formalization measures. A major critique was that formalization efforts are top-down and therefore do not represent the interests of the ASM actors (Smits et al., 2020, p. 70). The main consensus among the miners was the need for a ‘united front’ in which they could work collaboratively with the Peruvian government, stakeholders, and LSM companies through a national forum, to establish contracts, agreements and legislation that would address the reality of the constraints that ASM actors face throughout Peru (Smits et al., 2020, p. 70). It was imperative to the ASM actors that they were included in the decision-making process so that

their needs could be appropriately articulated and met (Smits et al., 2020, p. 70). To achieve this, there was a demand for a simple and straightforward approach that addressed all areas of concern in one document (i.e., environment, health, safety, employment rights, mining, etc.) (Smits et al., 2020, p. 70). This would also rectify the current lack of organization that exists by simultaneously improving the lack of technical and legal information that ASM actors currently have access to (Smits et al., 2020, p. 70).

The global shift to formalize the ASM sector via laws and regulations presents an auspicious opportunity to push mining legislation and policies to consider gender constructs at the outset. As has been made evident in this paper, gender inequality in the ASM sector is multi-faceted and therefore requires an array of interventions and policy recommendations. The pallaqueras ardently emphasized the importance of creating a pathway that would link legislation to match their reality through increased recognition (Smits et al., 2020, p. 70). They expressed that to achieve this, associations needed to be established (Smits et al., 2020, p. 70). Pallaqueras could then seek recognition from the government and subsequently pursue the formation of programs that promote environmental conservation, safety and social security, which were cited as their main concern and motivator for collaboration (Smits et al., 2020, p. 70).

When women are grouped together and represented in associations, it strengthens and unites their voice, increasing the probability of fair representation and change (IGF, 2018 April, p. 18). For instance, the Bolivian Wives of Miners association was developed in response to challenges women in the ASM industry are facing (Jenkins, 2014B, p. 336). Women grouped in organizations such as this have played a vital role in providing nuance for opportunities for growth and development (Jenkins, 2014B, p. 336). The actualization of women's power is preceded on the notion of collective empowerment, especially targeting the poorest and the least privileged factions, enabling women to assist each other in an organized manner (Galindo-Reyes et al., 2016, p. 60). This platform provides women the foundation to become active agents in achieving social change, increase their social position, and end discriminatory practices (Galindo-Reyes et al., 2016, p. 61). Subsequently, the participation and perspective of women in decision-making structures will be imperative for the inclusive promotion and creation of policies and initiatives that integrate gender equality in ASM, and prevents discrimination and violence (e.g., lower wages, abuse, exploitation, etc.).

For the formalization of ASM to be effectively inclusive, it would require the acknowledgement and response to consider "…the depth of structural inequality that is experienced in ASM by women as workers and affected community members" (Tobalagba & Vijeyarasa, 2020, p. 1644). A gendered perspective in existing and future ASM legislation and formalization could challenge and push pre-existing gender stereotypes and roles for the benefit of women (Tobalagba & Vijeyarasa, 2020, p. 1644). To successfully achieve this outcome, Tobalagba and Vijeyarasa argue that extensive work remains to understand the effects of gender-responsive legislation on ASM (2020, p. 1644). Gender specific indicators for effective monitoring and evaluation should be developed (OECD, 2017, p. 102), as well as increased and effective tracking of human rights violations and progress with gender-disaggregated data (UN Human Rights, 2011, p 23). Considerations such as the process being voluntary, confidential and with informed decision-making being present will be important during the processes and consultations with women. Established networks and consultations with local women in the ASM sector, via associations for example, should remain socially and gender specific (OECD, 2017, p. 100). As part of the comprehensive monitoring of the situation of women, it will be imperative to include spaces that women are free to talk openly and without fear of reprisal (i.e., women's only spaces). Further, an increase in the collection of data and information will allow for more accountability, enhanced encapsulation of the gendered experience in and around ASM, increased knowledge on the efficacy of current formalization initiatives, and what steps still need to be taken for the improvement of future policies.

The promotion of gender equality can be pursued through the promotion of equal opportunities, gender awareness and empowerment programs (UN Economic Commission for Africa, 2004, p. 35), while fighting stereotypes and discrimination through legislative actions. The promotion of equal relations between men and women will need to be paired with education and programs that are not only geared towards women. It is crucial that men are integrated into the education and processes for changing perspectives on gender related positions and discriminations in a non-hostile environment.

Tobalagba and Vijeyarasa (2020) highlight the importance for non-discriminatory and accessible, affordable, and acceptable services for women. This might include access to services such as gender specific bathrooms or showers, however, they encourage support to be provided

in more specific and delicate situations as well, such as for survivors of abuse (Tobalagba & Vijeyarasa, 2020, p. 1640). In addition, access to information and education will be imperative, particularly regarding women's rights, trainings and access to educational programs to gain competitive opportunities (Tobalagba & Vijeyarasa, 2020). A study of women in small-scale mining in Bolivia found that women who learned to read and write gained the respect and recognition of their families and their interests increased for participating in conferences with an inclination to take on more responsibilities (Hoecke, 2016, p. 278). The study found that becoming literate reduces women's ability to be deceived, stand up against domestic violence, as well as provides them the ability to sign, demand rights, develop self-esteem and take public stances (Hoecke, 2016, p. 278). This could also include the promotion of education in the communities, including youth and men, on gender equality (Alliance for Responsible Mining, 2019).

Confronting and rectifying areas of vulnerability and exploitation against women is imperative (CEDAW, 2017). For example, adopting international human rights regarding gender, protection against violence and sexual violence, and precise risks for indigenous women (IACHR, 2015, p. 168). An emphasis on laws that prioritize the protection of victims or prevention of trafficking, opposed to the criminalization of transnational crime and human trafficking that target victims and/or those pursuing a livelihood can assist in combating vulnerability and exploitation (TGIATOC, 2016, p. 55). Further, labour inspectors and other relevant organizations need to have adequate capacity and resources to protect, remediate and rehabilitate victims of different forms of exploitation related to the mining industry (TGIATOC, 2016, p. 57). If necessary, providing vulnerable individuals of forced labour or other exploitative situations with improved access to alternative viable livelihoods and support fostering their integration into new employment opportunities. Access to justice that is straightforward, affordable, unbiased and prompt is imperative to allow women to combat discrimination and injustices mentioned previously as well as other inequalities such as unequal pay (CEDAW, 2017).

While there are some generalizations to be made regarding ASM impacts and formalization concerns, the experiences and subsequent demands likely vary depending on variables such as location, type of mining and formalization efforts, local conditions (e.g.,

poverty rates, precarity), as well as current intervention strategies and effectiveness of enforcement. The multifaceted dynamics within the ASM industry and subsequent formalization precarities necessitates the assurance that all concerns are being heard and addressed, necessitating facilitations such as cooperatives and associations to achieve widespread and inclusive representation of the ASM sector.

Too extreme an approach for protectionism risks further marginalizing, excluding, or undermining those, especially women, who rely on the land and resources for their livelihood. Recognizing the intricate systematic power dynamics while unpacking formalization initiatives, and accounting for all variables, is crucial for successful policy analysis and formalization of the ASM sector. The intended goal providing these recommendations is not to favor, or have a biased lens, for the inclusion of women in ASM formalization initiatives. It is to ensure that all ASM actors are included and represented in the formalization process, existing barriers are considered from all gendered perspectives, and therefore the necessary protections are implemented to protect all ASM actors.

Chapter Nine: *Conclusion*

This paper sought to explore to what extent formalization policies and cooperatives are dictated by neoliberal agendas, and subsequently how successful they have been for effectively protecting the ASM sector. There was an emphasis on exploring the gender dynamics in the ASM sector that disproportionately impact women as well as to what degree women are represented in formalization processes. Finally, a review and expansion of recommended policies and actions was provided that could garner increased support for ASM actors, emphasizing the inclusion of women.

Peru has sought formalization under rhetoric of environmental, social and economic development that materialized into favoring the demands of the LSM sector and inadvertently created barriers for ASM actors. While the Bolivian government has historically provided more support to cooperatives, and 'opposed' neoliberal capitalism and instead promoted social development and environmental protection via resource nationalism. While the approach between Peru and Bolivia has been different, the intended result is the same – increased economic growth with the state reaping a greater share of the financial gains to promote further development. Peru and Bolivia exemplify how the state can use discourse to enhance and maintain power to gain revenue and exert control, which is especially true in times of economic and political turmoil when power and financial stability are threatened.

Instances of "green neoliberalism" and biased formalization efforts explored in this paper, in conjunction with literature expressing similar concerns in other parts of the world, indicate there is a growing need to unpack the complexities of different power dynamics that use formalization to control economic opportunity through the resource sector. Growing and changing power dynamics must also consider the mining sector itself as we have seen with LSM in Peru, and cooperatives in Bolivia. Cooperatives in Bolivia have successfully become powerful agents of change with a dominant presence for negotiations and representation; yet, the level of autonomy achieved has meant cooperatives can influence the government and do not always abide by laws as well as environmental and local community protections. Cooperatives therefore provide a basis for many lessons that can be emulated but should also be viewed with caution. Otherwise, the extension of pre-existing authority and power dynamics only perpetuate

inequalities and pre-existing relations; consequently, ignoring the consideration and involvement of ASM actors, particularly the protection and inclusion for women.

Local mining communities who are introduced into newly protected areas are often those who are dependent on the land and resources for their sustenance, employment and general livelihoods. As the literature suggests, ASM actors in Peru and marginalized actors in Bolivia are also more likely to bear the brunt of the culpability and cost as opposed to elites in the form of the state, LSM and cooperatives. This is particularly true for women as a result of gender roles and perceptions in the Andean region. Hence, without careful consideration, formalizing the ASM sector could strip already marginalized populations of their livelihoods and lead to worse adverse impacts. This necessitates further critical analysis regarding the innate intentions behind ASM formalization, as well as understanding the unintended consequences of implementing biased policies to mitigate them in the future and ensure the equal socio-economic access and success for ASM actors and communities.

Women are both recipients and valuable drivers of ASM; simultaneously, women face adverse impacts of ASM in distinct ways from men. Women gain financial security and empowerment from the ASM sector; yet, their role is largely undervalued, precarious and unrepresented. The literature suggests that there are disproportionate impacts on women in the ASM mining industry (e.g., socio-economic inequities, biased and precarious working conditions, etc.), which can be intensified through formalization and regulatory efforts.

There is a lack of information regarding the gendered structures and sources of precarity in the ASM sector as well as an attempt to quantify the extent of the problem that necessitates further attention. A deeper comprehension of the gendered experience in ASM will allow for more accountability, reveal the efficiency of current formalization initiatives, as well as inform the improvement of future formalization initiatives. This speaks to one of the key areas for intervention that has emerged, being the inclusion of ASM actors, particularly women, as their stifled voice has been detrimental for achieving further inclusion and representation and therefore needs to be remediated. As explored in chapter eight, local ASM actors know best the barriers they face to formalizing effectively and therefore areas for strategic intervention. Hence, women should be considered as agents for the successful implementation of representative and effective formalization efforts.

The Peruvian and Bolivian case studies illustrate the importance for identifying different areas of precarity, but also for illuminating key areas of intervention to improve the formalization processes. This nuance signals the need for further research, awareness and advocation for ASM actors with an emphasis on the role of women, as well as the increased presence and representation of women in formalization processes such as policy development, committees, negotiations and cooperatives. This can only be achieved by recognizing and rectifying deficits of current formalization efforts in Peru and ensuring the continued, and enhanced, representation of ASM actors both in and outside of cooperatives in Bolivia.

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