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Gender Equality in Artisanal Small-Scale Mining in Ghana: Assessing Progress Toward SDG 5 using Saliency and Institutional Analysis and Design

Natalia Yakovleva¹, Diego Alfonso Vazquez-Brust², Francis Arthur-Holmes³, and Kwaku
Abrefa Busia⁴

¹ KEDGE Business School, France, email: natalia.yakovleva@kedgebs.com

² Portsmouth University, UK, email: diego.vazquez-brust@port.ac.uk

³ Lingnan University, Hong Kong, email: frarthur88@gmail.com

⁴ Lingnan University, Hong Kong, email: busiaabrefa@ymail.com

Gender Equality in Artisanal Small-Scale Mining in Ghana: Assessing Progress Toward SDG 5 using Salience and Institutional Analysis and Design

Abstract

Although a growing body of research emphasizes the role of women in artisanal and small-scale mining (ASM) in developing countries, gender inequality is still persistent in the sector. The paper investigates whether ASM sector policies integrate gender equality principles of the United Nations Sustainable Development Goals (SDGs). In particular, we analyze the implications of formalization policy and a ban on informal mining for the attainment of SDG 5 (Gender Equality) using a qualitative case study of informal gold mining in Ghana. In this study, we assess how these solutions to ASM governance engage with gender equality targets and women's participation in the governance functions using Salience and Institutional Analysis and Design (SIAD) framework. We highlight policy shortcomings with regards to internationally agreed targets on gender equality and draw recommendations for formalization policies in the ASM sector.

Keywords: Artisanal and small-scale mining (ASM), gender equality, institutional analysis and design, stakeholder salience, Sustainable Development Goals (SDGs), Ghana

1. Introduction

The United Nations Sustainable Development Goals (UN SDGs) serve as a blueprint for sustainable development policy globally (UN, 2015). SDGs focus on the elimination of poverty, improving economic prosperity, and promoting decent work conditions, and they are highly relevant to the design of national policy and regulation on informal economic sectors in developing countries. SDGs can be used as a guide for the formalization of informal natural resource sectors such as artisanal small-scale mining (ASM) (Laing and Moonsammy, 2021; Sadan and Dan, 2021), notably in sub-Saharan Africa (Hilson and Maconachie, 2020; Kinyondo and Huggins, 2021). ASM is defined as “the extraction and processing of minerals through intensive labor, rudimentary techniques, and low levels of technology” (Pedersen et al, 2021, p. 37).

Gender equality has been on top of the UN sustainability agenda, and global actions that promote gender equality were implemented previously under the Millennium Development Goals (Esquivel and Sweetman, 2016). Currently, gender issues are mentioned in 24 out of 169 targets of the UN SDGs (UN, 2015). Importantly, SDG 5 (Gender Equality): “to achieve gender equality and empower all women and girls” is a stand-alone goal that “speaks of ensuring women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic, and public life” (Koehler, 2016, p. 5). Contemporary research is concerned about the implementation and relevance of SDGs in ASM (e.g., Zvarivadza, 2018; De Haan et al., 2020; Hirons, 2020; Kinyondo and Huggins, 2021; Maconachie and Conteh, 2021; Pedersen et al., 2021), focusing on the formalization of informal or unregulated ASM activities to bring “it within formal state licensing, economic and environmental regulation” (Buss et al., 2021, p. 31; Hilson and McQuilken, 2014).

Sadan and Dan (2021, p.191) observe that “gender is often completely overlooked in development policy approaches to ASM because of assumptions that mining is intrinsically a male concern”. Although an estimated half of ASM workers in sub-Saharan Africa are women (Hilson and McQuilken, 2014), ASM sector policies ignore gender equality provisions that result in discrimination of women leading to low pay, poor working conditions, exclusion from decision-making, harmful health impacts, and sometimes violence (Hentschel et al., 2002; Hinton et al., 2003; Yakovleva, 2007; Arthur-Holmes and Abrefa Busia, 2021; Buss et al., 2021). A better understanding of the roots and consequences of gender inequality in the ASM sector is imperative for policy design and the formalization of informal ASM activities (Hilson et al., 2020; Sadan and Dan, 2021).

On the one hand, the literature on women miners highlights positive economic and labor impacts, emphasizing that ASM employment provides women with an escape from poverty (e.g., Labonne, 1996; Yakovleva, 2007; Arthur-Holmes and Abrefa Busia, 2021). In Ghana, up to 80% of women working in informal ASM sites come from other regions - often driven by hardship in farming labor - and return to home communities after gaining certain levels of savings (Arthur-Holmes and Abrefa Busia, 2021). Women can earn three times more wages by working in mining than in other forms of rural employment (Arthur-Holmes and Abrefa Busia, 2021). Besides being a source of livelihood, this employment has a multiplier effect in communities because women often reinvest in children’s education, farming improvements, food security, and entrepreneurial activities (Yakovleva, 2007; Hilson et al., 2018a; Orleans-Boham et al., 2020; Weldegiorgis et al., 2018; Arthur-Holmes and Abrefa Busia, 2022a).

On the other hand, researchers reveal negative impacts on gender equality and women’s empowerment in formalized (regulated and registered) and informal mining (unregulated and

unregistered) (Buss et al., 2021). Arthur-Holmes (2021) and Buss et al. (2021) observe an ingrained gendered division of labor within the informal ASM, with women consigned to menial and low value-added tasks. Women consistently receive lower wages than men for performing the same tasks (Buss et al., 2019; Liang and Moonsammy, 2021).

Pedersen et al. (2021) point out that women in ASM lack empowerment and access to decision-making and struggle to benefit from their work. There are gendered environmental and social inequalities: women, and particularly pregnant women, are vulnerable to environmental threats (dust, mercury and polluted water) due to poor environmental regulation in the informal mining (Hinton et al., 2003; Niesenbaum, 2020; Buss et al., 2021). Scholars have also identified a loss of social standing and institutional embeddedness suffered by women when they move into mining from farming or trading, activities where women have greater social mobility and status (Banchirigah, 2008; Rutherford and Buss, 2019; Arthur-Holmes and Abrefa Busia, 2020, 2021; Hagan et al., 2020; Buss et al., 2021). Violence against women, women trafficking, and sexual exploitation have all been reported within the informal ASM (Liang and Moonsammy, 2021; Sadan and Dan, 2021). The intersectionality of gender inequality and discrimination against migrants who differ in ethnicity and language from groups running mining sites produces disadvantages for migrant women. It increases the vulnerability of migrant women working in ASM to violence (physical and verbal) and sexual abuse (Rutherford and Buss, 2019; Arthur-Holmes and Abrefa Busia, 2020, 2021; Hagan et al., 2020).

Informality magnifies gender inequality in the ASM sector (Buss et al., 2021), and therefore ASM formalization policies should pay particular attention to promoting gender equality (Liang and Moonsammy, 2021; Sadan and Dan, 2021). Hilson et al. (2018b, p. 130) argue

that “Formalization provides the elusive platform needed to facilitate regulation and effective monitoring in the [ASM] sector”.

Hirons (2020, p. 321) and Dell’Anno (2021) warn against an approach to formalization that risks marginalization of the poor and deepens the inequality. Scholars note that further investigation is needed to assess the impact of formalization policies on the promotion of women in the economy and women’s equal access to social opportunities (Hilson et al., 2018a; IGF, 2018; Buss and Rutherford, 2020; Hagan et al., 2020; Arthur-Holmes, 2021; Arthur-Holmes and Abrefa Busia, 2021). More research is needed to examine the positive and negative impacts of ASM formalization on gender equality to improve the work and lives of women in informal mining.

Our paper aims to contribute to this research gap by assessing the implications of ASM formalization policies for targets under SDG 5 (Gender Equality) using a case of Ghana’s informal gold mining. In particular, the paper examines the participation of women in critical functions of ASM governance and analyzes potential changes needed to enhance their participation.

We use Salience and Institutional Analysis and Design (SIAD) framework (Yakovleva and Vazquez-Brust, 2018) to achieve these aims. SIAD is an analytical tool developed to analyze environmental governance system in the mining sector. Our empirical analysis examines the data collected in Ghana from interviews with artisanal and small-scale miners, traditional/town council leaders and the secretary of the Small-Scale Mining Association – Prestea Branch and observation at ASM sites conducted in 2017, after the introduction of a ban on illegal (informal) mining. Using the Salience and Institutional Analysis and Design,

policy interventions are seen as solutions to the existing environmental conflicts and sustainability challenges that affect the functioning of the environmental governance system. In turn, government rules and community rules shape the interactions and salience of various stakeholders situated across governance levels and functions. We apply SIAD to analyze how the ban on informal mining in Ghana and the formalization policy affect women's salience and their role in environmental governance by studying women's participation in governance functions.

The paper extends the conceptualization of SIAD developed by Yakovleva and Vazquez-Brust (2018) with a framework that integrates SDG targets with SIAD. The framework links the progress towards SDG targets (this paper focuses on SDG 5, but the framework can be used for any other SDG) with four functions of environmental governance: 1) authorization of resource users; 2) regulation of authorized use and distribution of benefits and costs; 3) monitoring and enforcement of resource users and conflict resolution; and 4) design and modification of governance solutions. The analysis extends across three governance levels (operational, collective-choice, and constitutional) and three types of governance solutions (state-based, community-based, and co-management solution) to resource conflicts or sustainability challenges. Importantly, the framework analyses whether the salience of women in ASM communities has changed, looking at the elements of power, urgency, and legitimacy (Mitchell et al., 1997). And whether the policies such as the ban on ASM and the implementation of the Minamata convention influence the participation of women in governance functions.

We find that while the ban on informal ASM appears to address environmental SDGs and increase the protection of women at operative level, it reinforces the exclusion of women at a

collective-choice level (area of interactions of business-government-community nexus) (Dahan et al., 2015), and limits the ability of women to move upwards in the governance system to constitutional level. As a result, environmental concerns to add an external legitimacy to innovations in the governance system to improve monitoring and enforcement of environmental conflict, but paradoxically these innovations reify the exclusion of women from critical governance functions such as the authorization of users, distribution of benefits, and participation in decision-making on natural resource use. Next, the paper reviews the literature on gender equality in ASM and presents the analytical framework of SDG 5 (Gender Equality) and SIAD. This is followed by methods, findings, and discussion, where we introduce a conceptual model depicting two mechanisms for the ASM sector to progress towards SDG 5 (Gender Equality).

2. Gender equality in the ASM sector

Structural adjustment programs in many sub-Saharan African countries and the deterioration of agricultural economies have changed employment and growth prospects in agriculture leaving many men and women seeking non-farm jobs (Hilson and Potter, 2005). Liberalization of investment regimes in the 1990s opened market opportunities for extraction, processing and trade of metals and minerals in mineral-rich countries of sub-Saharan Africa. Thus, we observe a movement of labor from agriculture to mining, and the unintended rise of informal small-scale mining activities in countries such as Burkina Faso, Cameroon, Central African Republic, Democratic Republic of Congo, Ghana, Mali, Malawi, Mozambique, Kenya, Tanzania, Senegal, and Sierra Leone (Banchirigah, 2008; Maconachie, 2011; Geenen, 2012; Bakia, 2014; Dondeyne and Ndunguru, 2014; Teschner, 2012; Ofosu et al., 2020; Kinyondo and Huggins, 2021).

Women have been massively involved in ASM labor in sub-Saharan Africa in the past two decades. Researchers report that 50-75% of ASM workforce are women: 50% in Madagascar, Mali and Zimbabwe, and up to 75% in Guinea (Hilson, 2002a; Logan, 2004). In Ghana, official statistics on gender distribution is lacking and estimates vary in the literature (Arthur, 2018). Hilson and McQuilken (2014) indicate that 50% of ASM workers are women (circa 550,000 thousand women), whilst Orleans-Boham et al. (2020) put an estimate at 50-75%. In our fieldwork, 70-80% of workers at ASM sites were women.

Much has been documented about the status of women in artisanal mining in sub-Saharan Africa (e.g., Hilson, 2001; Hinton et al., 2003; Kinabo, 2003; Yakovleva, 2007; Arthur et al., 2016; Buss et al., 2017; Arthur-Holmes, 2021). Women's participation in ASM can be direct or indirect, and their involvement varies across different geographical regions (Hinton et al. 2003; Arthur et al., 2016). As a direct participation, women work as laborers such as diggers, ore carriers, panners and ore processors (Hilson, 2001, 2002b; Susapu and Crispin, 2001; Hinton et al., 2003; Kazilimani et al., 2003; Yakovleva, 2007; Armah et al., 2016; Arthur et al., 2016; Arthur-Holmes, 2021). Despite performing these activities, women are rarely identified as "miners" in their own right and rarely direct or manage mining sites (Susapu and Crispin, 2001). Indirect participation includes women working as food vendors, merchants, nightclub entertainers, cooks, shopkeepers, and sex workers near the mining sites (Hilson, 2001; Heemskerk, 2003; Hinton et al., 2003; Yakovleva, 2007; Armah et al., 2016; Arthur et al., 2016; Zoltnikov, 2020).

Research shows that women persistently receive less recognition and compensation for their work in ASM (Tallichet et al., 2003; Dinye, Erdiaw-Kwasie, 2012; Labonne, 2014; Arthur-Holmes, 2021). Women do not achieve the same levels of reward, recognition, and

progression within the ranks of ASM as men (Dreschler, 2001; Arthur-Holmes, 2021). Researchers are concerned that sector policies ignore the challenges that women face (Arthur-Holmes and Abrefa Busia, 2022b) and solutions to various conflicts such as environmental degradation, property conflicts with large-scale mining companies ignore gender equality principles in the transition of informal ASM towards sustainable development and formalization (Hinton et al., 2003; Buss and Rutherford, 2020). The disregard for gender equality issues in policy-making can undermine the efforts to address poverty, education, and other SDG targets (Lahiri-Dutt, 2015). Policy-making should avoid undesirable trade-offs between SDGs. Policy solutions may undermine gender equality while supporting environmental protection, and this trade-off will hamper the long-term sustainable development progress (Scherer et al., 2018).

Formalization or efforts to bring informal economic activities under the rule of law is recognized as a desirable solution to address environmental, social, and economic challenges of ASM in sub-Saharan Africa (Hilson and Maconachie, 2017; Mensah, 2021). Studies show that informality increases wage inequality (Binelli, 2016¹), exacerbates social inequality (Valenzuela-Levi, 2020), and reinforces gender inequalities (Chen, 2010; Franceschet, 2017).

Researchers caution about the side-effects of introducing outright ban on informal ASM, these include public protesting, removing economic opportunities for communities, and intensification of risks to miners and the environment when mining continues as a clandestine activity, thus slowing the progress towards SDGs (Niesenbaum, 2020). Critics voice concerns about a rushed policy decision to ban informal (illegal) mining in Ghana in 2017-2019. Orleans-Boham (2020) argues that the ban has detrimental effect on women working in

¹ Binelli (2016) finds that over 60% of wage inequality in Mexico is attributed to informal economy.

Ghana's ASM sector, leading to economic hardship, work-related migration and removal of children from schooling. Buss and colleagues (2021) highlight the importance of ASM sector policies to engage with SDGs targets, including SDG 5 (Gender Equality). However, the progress toward SDG 5 (Gender Equality) in ASM will require changes to its governance so that women "can ascend upward in the sector" (see Buss et al., 2021, p. 35).

Efforts have been made to address some of these tensions as evident by the Minamata Convention which seeks to address the environmental impacts of ASM and regulate the use of mercury. However, scholars drawing on a feminist perspective are critical of these initiatives (Rutherford and Buss, 2019; Buss et al., 2021). They see that an explicit reference to gender issues in the emerging policy represents a "ritual of inclusion". Gendered prescriptions in these initiatives, they argue, crystalize the social exclusion of women by reinforcing a view of women as simultaneously risky and at risk. That is, lacking the strength or skills to be entrusted with mining tasks than can affect others and at the same time in need of rescue from potential harm; the result being the exclusion of women from ASM.

2.1. Sustainable Development Goal 5 Gender Equality

SDG 5 that comprises 9 targets and 14 indicators and aims to "achieve gender equality and empower all women and girls" by eliminating gender disparities, discrimination, and violence against women (UN, 2015, 2019). Gender equality means that "women and men enjoy the same rights and opportunities across all sectors, including economic participation and decision making" (UNCTAD, 2016, p. 31). In economic sense, it implies equal treatment and distribution of benefits to men and women at the workplace (UNCTAD, 2018; O'Brien et al., 2017). Women's employment is relevant because it serves as a foundation for their economic and social development and affects every part of women's lives. Disempowering women can

slow the social progress and create more conflicts within the society (Hudson et al., 2020). Women's empowerment can be understood as "a woman's sense of self-worth, her decision-making power, her access to opportunities and resources, her power and control over her own life inside and outside the home, and her ability to effect change" (Peace Corps, 2020, p. 4).

Montiel et al. (2021) differentiate between SDG targets aimed to reduce negative externalities and SDG targets aimed to increase positive externalities. The former aim is to prevent or ameliorate practices that encourage or tolerate abuse of women and increase the protection of women in social structures. Targets related to positive externalities are oriented to empower women and redress gender power imbalances in the use of community resources.

Targets aimed to increase women's protection (reduction in negative externalities):

- End discrimination against women and girls
- End all violence against and exploitation of women and girls
- Eliminate forced marriages and genital mutilation.

Targets aimed to empower women/ redress gender power imbalance (increase in positive externalities):

- Value unpaid care and promote shared domestic responsibilities
- Ensure full participation in leadership and decision-making
- Universal access to reproductive rights and health
- Equal rights to economic resources, property ownership and financial services
- Promote empowerment of women through technology.

Workplace gender inequality is often rooted in socio-cultural norms and gender ideologies (Arthur-Holmes and Abrefa-Busia, 2021). Besides promoting workplace gender equality,

targets under SDG 5 seek to foster women's voice and agency (Eden and Wagstaff, 2021; Arthur-Holmes and Abrefa-Busia, 2021). In the extractive industry, issues of gender inequality and gender-segregated roles pose a serious challenge to women's leadership opportunities and workplace growth. Franco and colleagues further argue that socio-cultural, corporate, and governance factors often prevent women from taking on leadership roles in male-dominated industries such as ASM (Franco et al., 2020). In advancing women's agency, the devaluation of women's work, gender discrimination and stereotyping are often noticed in workplaces dominated by men (UNCTAD, 2014).

2.2. Salience and institutional analysis and design (SIAD)

Social and environmental challenges of managing natural resources can be studied using an institutional approach, that treats environmental governance as a system consisting of rules, practices, and institutions shaping the behaviour and interactions of actors with the natural environment (Paavola, 2016). Previous literature on gender relations in ASM in developing countries examines policy solutions to environmental conflicts at different governance levels (Hinton et al., 2003; Lahiri-Dutt, 2015). To advance SDG5 (Gender Equality) in ASM, we need to examine whether the proposed policies and solutions improve the opportunities for women and what roles these governance arrangements prescribe for women.

Yakovleva and Vazquez-Brust (2018) frame actors' involvement in environmental governance by proposing a framework for systematic analysis of environmental conflicts with an analysis of solutions, functions, and stakeholder salience across interrelated governance levels. Stakeholder salience is a critical element of decision-making of focal parties (such as government, communities, or companies). Design and implementation of solutions to environmental conflicts such as environmental degradation require consideration

of various functions of the governance system and its implications for the actors involved. In this study, we adopt the *Saliency and Institutional Analysis and Design (SIAD) framework* to investigate gender equality in the ASM sector in Ghana and examine ASM sector policies and their effects on men and women. SIAD allows the differentiation between government, community, and corporate solutions and traces how these solutions influence different actors.

SIAD is an extension of the Institutional Analysis and Design framework (Ostrom, 2010; Paavola, 2016) that examines access and use of common-pool resources such as forests and pastures and analyzes actors, institutions, and solutions to resource degradation and depletion (Ostrom, 2009, 2010). SIAD locates the analysis of actors and institutions across three interlinked governance levels: operational, collective-choice, and constitutional, which are regulated by formal and informal rules and norms. Borrowing from Ostrom (2009), the operational level encompasses rules, norms, and actions that impact the physical world; the collective-choice level presents an arena for rule design and policymaking involving several actors; and the constitutional level is an area where higher-order rules are made that impact both collective-choice and operational levels. These rules are crucial for policy-making and the design of solutions to resource governance challenges.

Common-pool natural resources, that can be easily accessed by various actors, are under threat of resource overuse, degradation, and depletion. Solutions to environmental conflict and management of actors' interests can be addressed through the design of rules that define exclusion, entitlement, monitoring, and decision-making around access and use of natural resources (Ostrom, 2009, 2010; Clement, 2010). Ostrom and colleagues argue that self-regulation and cooperation between actors is a successful solution to the preservation and sustainable use of common-pool resources (Ostrom, 2009). Paavola (2007, 2016) proposes

three types of solutions to resolve environmental conflicts (i.e., state-based, community-based, and co-management solutions) that should perform specific resource management functions to maintain the stability of the governance system.

SIAD enriches the analysis of decision-making and cooperation with a focus on the assessment of stakeholder salience of actors (using the attributes of power, legitimacy, and urgency) (Mitchell et al., 1997) within the nexus of business-government-community (Dahan et al., 2015; Tashman and Raelin, 2013; Mitchell et al., 1997). Stakeholder salience affects the nexus interactions across levels of environmental governance (operational, collective-choice, and constitutional) and consideration of stakeholder concerns by focal parties. Stakeholder salience assessment can determine which actors access decision-making on resource use and foresee the outcomes for various actors by presenting the analysis of governance functions. Stakeholder salience can change over time, being influenced by the interactions of the business-government-community nexus, where parties impact each other's assessment of the importance of social groups. Where the legitimacy of social groups is lacking, it can be elevated within the nexus through a process of 'legitimation through engagement' (Yakovleva and Vazquez-Brust, 2018). The SIAD framework suggests that changing stakeholder salience allows fringe stakeholders (with low salience) to gain core stakeholder status (with high salience) and be considered in the design of solutions often led by governments and companies.

SIAD examines rulemaking, solutions, and functions of environmental governance, such as governance of natural resources and environmental pollution control. When companies compete for access to common-pool resources (such as forests, rivers, and artisanal mines) with local communities, they can follow two strategies: 1) political strategy of relying on a

state-based solution of enforcing inclusion and exclusion; and 2) stakeholder management strategy of developing cooperation solutions with other resource users (Yakovleva and Vazquez-Brust, 2018). These strategies have specific implications for local communities, who are either excluded or included in the use of natural resources and decision-making.

The SIAD framework is highly relevant to the study of interactions between states, companies, and communities, especially informal miners who compete for access to mineral resources in the context of ASM. The framework makes it possible to study the access to mineral resources, user rights, and implications of different community, state, and private solutions. The SIAD has been applied in ASM studies before (Yakovleva and Vazquez-Brust, 2018) but has not been used to study gender equality or SDG policies.

3. Methods

This paper is based on the analysis of semi-structured interviews and focus group discussions conducted with respondents in the ASM sector in Ghana in July-September 2017, particularly with relevance to informal mining activities in the Prestea/Bondaye mining area in the Prestea/Huni Valley municipal district of Western Region. Prestea/Bondaye mining area is located in Southwestern Ghana, about 50km north of the Gulf of Guinea (Arthur, 2018; Arthur-Holmes and Abrefa Busia, 2020). It is one of the hotspots of ASM operations in Ghana; many unlicensed ASM sites attract thousands of people to work in gold mines, including migrants (Arthur-Holmes and Busia, 2022a; Hilson and Hu, 2022).

In Ghana, informal artisanal small-scale miners are often called “galamsey” (see Teschner, 2012). Formalized gold mining in Prestea/Bondaye mining area commenced as far back as 1873. Mines were operated by various multinational (private) companies from 1873 to 1965,

but in 1965 they were nationalized by the government and later privatized in 1985 (Barradas, 2012).

In line with research aims, women directly involved in ASM were selected for the study. Women artisanal miners who were interviewed fell within the 18-45 age cohorts. They were asked questions about reasons for participating in informal gold mining, power relations at mining sites, relations within the household, and struggles they go through at mine sites. To understand the perspectives on gender relations in ASM, traditional leaders, male artisanal/small-scale miners, and town council leaders in Bondaye were also interviewed. In addition, the secretary of the Small-Scale Mining Association of Prestea Branch was interviewed on working conditions, power struggles/relations at mine sites, gender dynamics, and the policy framework regulating ASM operations in Ghana (see Arthur, 2018).

Multistage sampling was employed in the study involving purposive, snowball, and convenience sampling techniques as well as the use of social networks. Through purposive sampling, the study approached women working in ASM to gain insights into gender inequality and challenges to women's participation in ASM, as the literature points to as problematic (Kvale, 1996; Denscombe 2007). Convenience sampling was used to select female miners for interviews and focus groups due to the flexibility of this technique to recruit respondents, the availability of women at ASM sites, and their willingness to participate in research (Davis and Scott, 2007). Social networks and snowball sampling techniques were used to gain access to traditional leaders, mine site committee members, and town council leaders.

Overall, 93 respondents were captured by this research, of which 86 people were interviewed and 7 participated in focus group discussions. Some interviews were informal and unstructured and provided “qualitative depth by allowing interviewees to talk about the subjects within their own frames of reference” (May, 2011, p. 136).

Table 1. Interviews and focus groups with small-scale miners in Ghana

Groups of respondents	Number and particulars	Purpose of interviewing
<i>Interviews</i>		
1) Women working in ASM	49 in total, 22 in Prestea and 27 in Bondaye	Interviewed on women’s participation and their struggles in ASM sector.
2) Committee members from ASM mining sites	7 persons (mostly men) from 3 different mines sites (Kutukutu, Papa Amolley and Clinic)	Interviewed to gain nuanced understanding of the power dynamics and gender equality in ASM.
3) Male miners	19 men in total	Interviewed on their perceptions of women and their activities in the various types of ASM, how women’s wages are negotiated and determined.
4) School pupils working at sites	4 female school pupils over 18 years old	Interviewed to explore the reasons for children and school pupils’ participation in ASM activities in the area.
<i>Focus Groups</i>		
Two focus groups in Bondaye informal miners	2 meetings (1 hour each) with 7 women with migrant women from Northern Ghana	To share their own perspectives on gender issues within ASM and opinions about their role(s) in the sector. Open thematic question guide.

Table 2. Interviews with local authorities/opinion leaders in Ghana

Groups of respondents	Number and particulars	Purpose of interviewing
<i>Interviews</i>		
5) Women from traditional councils	2 women from traditional council Bondaye area	Interviewed on whether women in the traditional council helped to protect women’s rights and activities in ASM and influence women’s access to mining lands. In addition, women in traditional council were asked whether local institutions have a role to play in gender struggles within the ASM sector.
6) Members of unit committee	2 people– one male, one female	Interviewed on aspects of local government, concerning the role(s) of unit committee and its influence on women’s relations with men in the ASM sector.
7) Secretary of the Small-Scale Mining Association – Prestea Branch	1 person	Interviewed on women’s participation and what the association had done to enhance the power relations of women within ASM in the area.
8) Female executives of Bondaye Youth Association	2 women	To understand whether community-based non-profit organizations could influence the power dynamics within ASM.

Data collection is documented in Tables 1 and 2. Interviews were conducted in Wassa and Fante languages. Interviews lasted on average 40 minutes with an exception of 1.5 hours interview. Three research assistants (two female and one male) were employed to help with interviewing at mining sites in Prestea and Bondaye. They assisted in recruiting people for interviews and focus groups. Interviews were transcribed in English and notes were taken in English.

The interviews were analyzed using thematic analysis. Themes were selected from the SIAD framework: 1) Authorization of resource users; 2) Regulation of authorized use and distribution of benefits/costs; 3) Monitoring and enforcement; and 4) Design and modification of governance solutions (Yakovleva and Vazquez-Brust, 2018); targets of SDG 5 Gender Equality (UN, 2015); and governance solutions (Community, Government, and Co-management) (Yakovleva and Vazquez-Brust, 2018). We also looked at the salience of women across different governance levels and functions and analyzed whether different governance solutions improve the position of women in ASM.

4. Findings

The paper presents a framework that integrates SDG targets with SIAD. The framework links the advancement towards SDG 5 targets with four functions of environmental governance: authorization, regulation, monitoring, and design. We find that women can benefit from changes in the ways governance functions operate in the ASM sector. Indeed, these rules have changed to allow women to work in mining (end discrimination), to make sure that their work is paid (equal rights to resource use and distribution of benefits and costs), and to increase protection from physical and sexual abuse at mining sites (see Table 3).

The salience of women in ASM mining is still low across operational, collective-choice, and constitutional levels. This concerns both the informal ASM which is governed by informal and often customary or traditional rules that are very much linked to cultural norms in the communities, and the formalized ASM which is governed by formal rules such as mining legislation, government policy, and regulation of government departments.

Women do have legitimacy at the constitutional level (women are neither excluded from rule making in customary regulation nor in formal legislation), but they are not highly present amongst decision-makers at the constitutional and collective-choice levels. Women have power at the operational level, as they have access to paid work and constitute a sizable number of miners, particularly in informal mining. But there is no progress in giving women further power at the collective-choice and constitutional levels or advancing their roles in the design and application of governance functions and solutions. Neither women's concerns are perceived with urgency by different groups of actors (ASM community and government). As a result, women have low salience, and there is little progress toward women's full participation in leadership and decision-making in the ASM sector.

1) Authorization of resource users: This function concerns rules allowing operators to access gold mines and conduct mining. At the operational level, women are not involved in this function, they seek permission to find work at mines from mine operators. If women want to join a mine, the authorization will always come from male leaders. This leads to cases when women are exploited for sexual favors to return for work. At the collective-choice and constitutional levels, there are no informal rules that explicitly exclude women from this function, but it is tacitly considered to be a male role as mine operators are men and decisions about land are often governed by men. Overall low salience.

2) *Regulation of authorized use and distribution of benefits*: This function is about how mining is conducted, and how proceeds and pay are distributed. This role is again taken by men at the operational level. Mine leaders discretionally decide on tasks that are appropriate for men and women and how much each group should be paid. There are also social rules and norms when women can and cannot work at the mines. As before, there are no restrictions at the collective-choice or constitutional levels for women to own and manage mines and make decisions about the distribution of tasks and pay. But women are not organized in mining groups, and there are no women leaders at the mines. Overall low salience.

3) *Monitoring and enforcement of resource users and conflict resolution*. This function is about supervision of rule implementation and application of penalties. At the operational level women are occasionally given an enforcement role over other women and expected to resolve conflict arising between women. However, enforcement of rules and conflict resolution between women and men is a male prerogative. At the constitutional level, there are informal rules to protect health and safety, they are intended to protect women, such as not allowing women to do underground mining or forbid pregnant women at the mining sites. However, when translated at the collective-choice level, they became mechanisms of exclusion on health and safety grounds of women from value-added activities or from full participation in governance functions. Overall low salience.

4) *Design and modification of governance solutions*. This function is about revising the rules and solutions for mining. Women have no participation in this function at the operational level, they are explicitly excluded at the collective-choice and constitutional levels to do so. Overall, the involvement of women in mining does little to ensure their full participation in

decision-making, and the salience of women in ASM remains low. On the other hand, despite being excluded from the ASM governance, women can gain salience in their communities because mining income enhances their legitimacy and power as household providers.

Table 3. Access of women to governance functions in ASM

Governance functions	Are women included or excluded from resource governance at different levels?		
	<i>Operational level – level affecting the natural environment, where ASM units operate</i>	<i>Collective-choice level – level where different actors apply rules concerning the ASM sector</i>	<i>Constitutional level – level for rule-making in the ASM sector</i>
1) Authorization of resource users	Excluded Women are lacking formal power in communities to decide on who and where they mine. They lack moral legitimacy in communities to influence decisions on ASM. Women’s claims and concerns are not considered urgent in decision-making at a community level. ²	Excluded In informal ASM, women have no specific powers to influence authorization of resource use. They lack legitimacy in communities. In formalized ASM, the government departments do not specifically consider gender equality concerns in decision-making over who mines and where. ³	Not excluded Though in communities’ women can participate in decisions about land management and access to resources, the existing power structures favor men. In formalized ASM, the formal legislation does not explicitly discriminate against women, it does not subvert their power or legitimacy. Gender equality is part of government policies – giving urgency to the claims of gender equality and women’s interests in formal policy making. ⁴
2) Regulation of authorized use and distribution of benefits/costs	Excluded Women do not partake in decisions on benefit sharing from ASM within the communities. As this is mostly decided by chiefs and managers of ASM units, where women are not present. ⁵	Excluded In informal ASM, women are not in positions to decide how mining is conducted and how the proceeds are distributed between the actors. In formalized ASM, gender equality issues are not specifically considered in decisions of local government departments in dealings with ASM camps and units. ⁶	Not excluded In principle, women can own mines and manage teams, but in practice women almost never are mine managers or decision-makers at informal mining sites. In formalized ASM, formal legislation does not explicitly discriminate against women and offers equal opportunities to women to join, own or manage formalized ASM. ⁷
3) Monitoring and enforcement of resource use	Excluded Community leaders and ASM leaders oversee the operations of ASM units. Women are excluded from monitoring and enforcement functions. ⁸	Excluded In informal ASM, women are not in charge of enforcement roles, but they can oversee teams of other women at mining sites. In formalized ASM, gender equality is not monitored by local government departments. ⁹	Not excluded In communities, women can be enforcers of rules as well as conflict mediators, but this does not apply to mining. In formalized ASM, formal legislation does not explicitly discriminate against women and offers equal opportunities to women to engage in formalized ASM activities. ¹⁰
4) Design and modification of governance solutions	Excluded Women do not participate in the design of community solutions to ASM challenges, as they are excluded from management and are not consulted on new solutions. ¹¹	Excluded Gender equality principles are not applied in decision-making concerning implementation or changes to ASM regulation at local levels.	Excluded Gender equality principles are not applied in policy changes for the ASM sector. Bans or formalization policies do not actively promote gender equality. ¹²

² Interview with Tufuhemaa (female sub-chief) on 18 August 2017, Bondaye

³ Interview with the queenmother on 18 August 2017, Prestea

⁴ Interview with the secretary of Small-scale Mining Association- Prestea Branch on 17 August 2017, Prestea

⁵ Interview with the queenmother/Tufuhemaa on 18 August 2017, Prestea

⁶ Interview with a member of unit committee on 08 August 2017, Bondaye

⁷ Interview with the secretary of Small-scale Mining Association- Prestea Branch on 17 August 2017, Prestea

⁸ Interview with the secretary of Small-scale Mining Association- Prestea Branch on 17 August 2017, Prestea

⁹ Interview with the secretary of Small-scale Mining Association- Prestea Branch on 17 August 2017, Prestea

¹⁰ Interview with the secretary of Small-scale Mining Association- Prestea Branch on 17 August 2017, Prestea

¹¹ Interview with Tufuhemaa (chief) on 18 August 2017, Bondaye

¹² Interview with the secretary of Small-scale Mining Association- Prestea Branch on 13 August 2017, Prestea

Table 4. Analysis of solutions to ASM formalization against SDG5 targets

	Is progress brought forwards by the solutions to informal ASM activities?		
<i>SDG5. Gender Equality Targets, indicators, and progress</i>	Existing Community Solution <i>(Traditional model – Informal ASM)</i> Details: Traditional ASM with customary chiefs and informal mining.	Existing Government Solution <i>(Contemporary - Ban on Informal ASM)</i> Details: Ban on informal ASM imposed by the Government of Ghana.	Proposed Solution – Co-management solution <i>(Hybrid model – Formalized and Informal ASM)</i> Details: Formalized mining and partnerships with informal miners.
5.1: End discrimination against women and girls	No The traditional model does not end on-site discrimination of women and girls. However, income raised in ASM allows women to improve their power in households. However, it does not end discrimination unless there is a culture change on-site and off-site in ASM communities.	No The ban does not end discrimination against women and girls in formalized and informal ASM. In addition, it deprives women and girls from earning in the informal ASM sector therefore increases discrimination.	Should end discrimination of women and girls. The future policy interventions should be designed to target discrimination factors and trigger culture change and support skills development for women in mining.
5.2: Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation	No Within the traditional model, women are conditioned to maintain household work alongside ASM work. Neither they are offered powerful positions nor can effectively avoid exploitation or violence on-site or off-site. Reports suggest increased violence against women on-site.	No The ban may drive informal mining further into illegality, leaving women even more vulnerable on-site, as they are targeted by both law and illegal mining operators. Ban on informal mining does not aid elimination of violence against women off-site, and lack of formalized work in ASM may reduce women’s power off-site.	Formalized mining should commit to ending violence against women and girls. By providing a commitment at the registration stage. Policy measure should support community awareness about ending violence and exploitation of women and girls.
5.3: Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation	Not conclusive Further research is required.	Not conclusive Further research is required.	Not conclusive Further research is required.
5.4: Value unpaid care and promote shared domestic responsibilities	Yes The informal ASM communities, where women go out to sites, value the unpaid care. As women spend time between home and sites, the value of unpaid care becomes apparent for households and communities. However, it is not certain whether the traditional ASM model promotes shared domestic responsibilities between men and women. It is likely that young girls and elderly women are left to undertake greater domestic responsibilities instead of male members of the household sharing the load.	No The ban on informal ASM does not offer solution to promote shared domestic responsibility and improve the value of unpaid care. Instead, when women are not accessing work in informal ASM, they are likely to continue unpaid care and taking the brunt of domestic duties.	This need to be investigated further on how the ASM sector can promote gender equality off-site with regards to value of unpaid care and shared domestic responsibilities.
5.5: Ensure women’s full and effective participation and equal opportunities for	No Traditional model offers limited opportunities for women to be decision makers in the ASM sector.	No The ban denies opportunities to promote women’s leadership in the informal ASM sector. In	The formalized mining should be encouraging active and effective participation of women in decision-making and management of ASM units.

leadership at all levels of decision-making in political, economic and public life	Women are excluded from management functions within the ASM units. However, there are instances where women are in charge of supplies to the ASM sites – food and drink, trades, etc.	addition, the ban does not offer alternative solutions to improving the participation and leadership of women off-site.	This could be done with subsidies and loans for companies with women in managerial positions or requiring quotes for women in managerial positions for issuing licenses.
5.6: Universal access to reproductive rights and health	No Traditional model does not offer solutions to improve women’s reproductive rights and health. Instead, it may increase the risks to reproductive health due to sexual violence and environmental conditions.	No The ban does not offer solutions to improve women’s reproductive rights and health. Lack of income from informal ASM may reduce women’s opportunities to access health solutions.	The policy should offer women access to reproductive rights and health in ASM communities. With more women in the position of leadership in the ASM sector, there are more opportunities to promote community awareness and support.
5.a: Equal rights to economic resources, property ownership and financial services	Mixed results Though women cannot take ownership of the informal ASM units in the traditional system, they have access to employment and thus can enhance their economic rights off-site.	No The ban does not offer employment opportunities and does not offer alternative solutions for women to improve their economic rights.	Formalization policies should offer equal opportunities for women to own mining sites, mining licenses, equipment and get funding and access financing from public and private financial institutions. Discrimination of women in formalization of ASM should be eliminated.
5.b: Promote empowerment of women through technology	Mixed results Traditional model places women in specific roles within the informal ASM sites, where they have limited opportunities to gain skills and take charge of technology. However, women within the ASM supply chains do have opportunities for technological development. In addition, women purchase technology for farming and trades from income raised in ASM employment.	No The ban does not promote empowerment of women through technology. Instead, it drives women in more fixed roles within the illegal mining where they have no opportunities for technological development.	Formalization should offer opportunities for women to access and own technology within ASM sector and gain training to operate mining technology as well as technology within the wider ASM supply chain.
5.c: Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels	In the traditional model, the role of women is fixed and not equal. There are limitations of how much women can be promoted at all levels of the management and governance of the ASM sector.	The ban of informal ASM is not a solution to promote gender equality. Instead, it drives mining further into illegality and places women in further vulnerable position and reduces legitimacy of women’s work in the ASM sector.	Formalization should systematically offer opportunities for women to participate in all levels of the governance of the ASM sector. Further efforts should be placed on enforcing the policy on gender equality.

Source: From interviews with small-scale miners, the secretary of Small-scale Mining Association-Prestea Branch and traditional leaders.

Our research is inconclusive about the impact of all three ASM solutions on target 5.3 and about the impact of co-governance solution on target 5.4 (see Table 4). It also shows that the ban on informal mining has no positive impact on any of SDG5 (Gender Equality) targets. In terms of the community solution, our analysis suggests that an extent to which women's involvement in ASM contributes to SDG 5 targets depends on a degree to which women miners became more salient in their households and communities. This in turn relates to two aspects. First, whether women *can* decide how income they earn in ASM is used (for instance, when they engage in ASM with an objective to earn enough to buy something specific, such as a sewing machine). Second, whether women's bargaining power and economic independence enhances their ability to provide income at a household level. These aspects are exogenous to ASM and vary across communities and households. When community norms are heavily gendered, women have little agency to challenge them, notwithstanding their increased salience in ASM.

Table 5 below summarizes the differences between two government solutions to problems in the informal ASM. The first one is about formalization and the second one is the ban on illegal (informal) mining. We analyze how these two solutions operate according to the environmental governance functions of SIAD (such as authorization, regulation, monitoring and design). In addition, we examine the implications of these solutions for gender equality principles across governance functions. We find that the ban on illegal mining is the least favorable solution concerning achieving SDG 5 (Gender Equality).

Table 5. Consideration of gender equality across governance functions of proposed solutions to informal ASM (formalization and ban on illegal mining)

Environmental governance functions	Formalization of ASM	Implications for gender equality	Ban on illegal ASM	Implications for gender equality
1) Authorization of resource users	There are clear prescriptions about who and where can use the resources, these are implemented at collective-choice level.	<i>Transparency of formalization rules prevents opportunities for mine site managers to abuse power to authorize men and women to access the resources.</i>	All men and women are excluded from access to resources.	<i>Men and women are equally excluded.</i>
2) Regulation of authorized use and distribution of benefits/costs	In formalization policy, there is no gendered division of tasks. Women can decide what roles to apply for in ASM.	<i>Increased empowerment of women in formalized ASM.</i>	All uses are forbidden and this leads to loss of income and source of livelihood for men and women.	<i>Women are more affected indirectly as they have no escape from gendered division of roles in rural areas.</i>
3) Monitoring and enforcement	Formalization policy has compulsory health and safety rules.	<i>Women can be excluded from formalized ASM operations under health arguments.</i>	Enforcement of the ban may be delegated to police/military.	<i>Potential for increased violence towards illegal women miners from policy and military.</i>
4) Design and modification of governance solutions	Centrally decided.	<i>Positive, as government solutions cannot have open gender biases.</i>	Centrally decided.	<i>Requires further investigation.</i>

We find that the mechanisms by which the ban on illegal ASM appears to address the concerns of environmental SDGs and increase the protection of women at the operative level, actually reduces the salience of at the operational level. The ban also reinforces their exclusion at the collective-choice level (area of the interactions of business-government-community nexus). As such, the ban on informal mining further marginalizes women and exposes them to unregulated social, environmental and economic risks. It limits women's ability to move upwards in the governance system to design solutions. The ban targets all functions of the governance system in ASM and this government decision seeks justification in environmental concerns of the Minamata convention to reduce mercury pollution. But paradoxically the ban disempowers women in ASM, because it confirms the exclusion of

women from critical governance functions such as authorization of users, distribution of benefits and participation in decision-making on natural resource use.

By analyzing government policies on ASM across governance functions of authorization, regulation, monitoring and design, allows us to conclude that formalization as a solution to ASM governance has greater chances of protecting gender equality in ASM. However, the implementation of formalization policies requires further transparency at the collective-choice level to avoid prejudice against women in ASM and allow formal gender equality regulation to travel from the constitutional level to the collective-choice and operational levels.

5. Discussion

Our analysis supports the relevance of applying multilevel analytical framework SIAD to the study of progress towards SDGs in the ASM sector. Unpacking women's access to governance functions demonstrates that changes are needed to improve gender equality by increasing women's salience and legitimacy at all levels. Our study shows that the treatment of women in both informal and formalized ASM is remarkably similar, and it actually converges at the operational level. We suggest that to achieve a positive change in gender equality at the operational level of ASM governance, we need to consider both formal and informal rules in the execution of solutions. And especially, the formalization policy should strengthen the implementation, transparency, and enforcement of pro-equality rules at the collective-choice level. Thus, public policy changes (such as the integration of SDGs) need to be appropriately resourced to carry out monitoring and enforcement of new rules, and offer transparency at the collective-choice level.

Mapping the SIAD dimensions on specific SDG 5 targets helps us examine the progress towards achieving UN SDGs. Regardless of the solution, we found positive effects on some targets, negative on others, and inconclusive results (because it did not feature in our data), in terms of SDG 5.3: Eliminate all harmful practices, such as child, early, and forced marriage and female genital mutilation. Given the significance of this target, further research should investigate this sensitive issue.

Constitutional level rules do not explicitly forbid or exclude women from the governance functions in ASM. On the other hand, formal and informal rules do not actively promote equal participation of genders in the ASM governance. We suggest that barriers to gendered formalization are not at the constitutional level since Ghana's customary rules give room for high-powered roles for women such as community leaders and trade queens. However, one might argue that the presence of powerful women is a matter of class inequality rather than gender equality for the masses. We find that the barriers to equality develop at the collective-choice and operational levels through business-government-community relations that have been incrementally excluding women from decision-making and reducing their bargaining power. Non-market formalization solutions such as cooperatives may be an avenue for women's empowerment. Further research needs to examine barriers to the effective delivery of constitutional level changes to the operational level, and why public regulation on gender equality is not fully implemented on the ground.

Overall, we identify several dimensions that should be factored in policy implementation and decision-making to promote SDG 5 in ASM. The first dimension is about increasing the salience of women that takes place at home (communities) or in ASM (mining site). The second dimension is intrinsic to SDG 5 targets themselves. We find that SDG 5 has two types

of targets, the first type that we call protection targets aim to protect women from harm. The second type of targets aim to empower women. This is consistent with Montiel et al. (2021), who classify the SDG targets into two groups: targets aiming to reduce negative externalities and targets aiming to increase positive externalities. The third dimension relates to pathways through which governance solutions can influence the salience of women in ASM governance and improve the progress toward SDG 5. Pathway A can increase the power given to women in ASM governance (for instance, pay increase for women miners), and pathway B can change the legitimacy of women in ASM (this concerns changes in gender performativity/ the extent to which women respond to gendered work expectations).

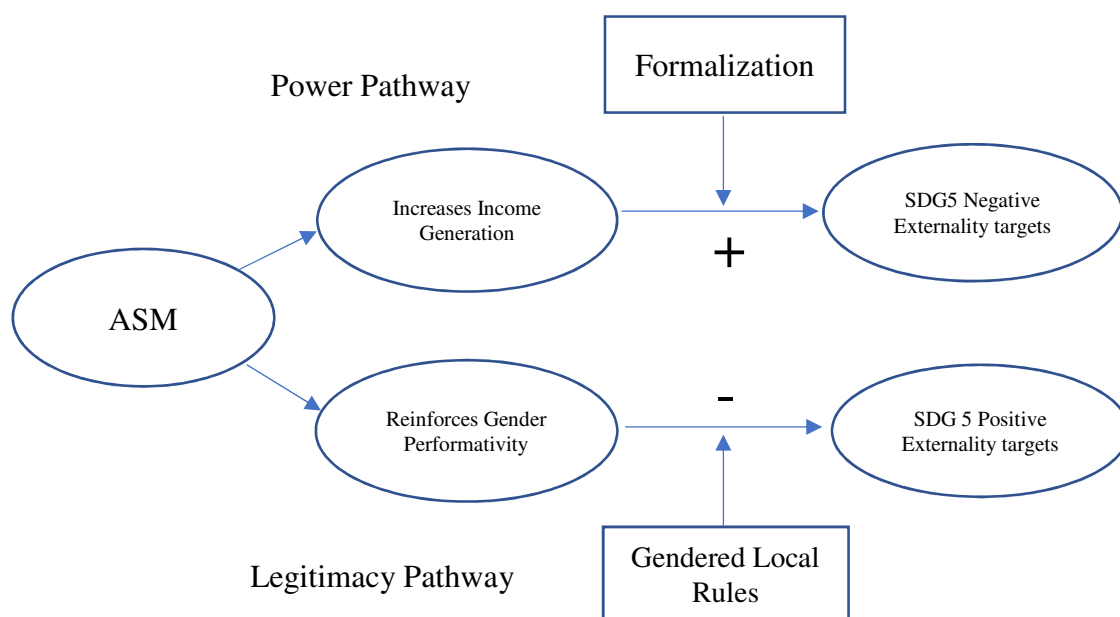
Our study suggests that women's work in ASM can positively contribute to the attainment of SDG 5 by targeting the negative externality targets at home. ASM increases women's income generation. As Arthur Holmes and Abrefa Busia (2020) have shown, women's income-generating activities from ASM help women to alter household dynamics and improve their bargaining power at the household through supporting family provisioning particularly for their children. Wealthier women are more powerful and can either protect themselves or attract defenders. This positive effect can be magnified by the formalization of ASM since women working in formalized ASM can improve their salience in the sector, as they will be considered businesswomen.

In the second pathway, ASM work can have a negative impact on SDG 5's positive externalities target. When women work at the mines, their role is allocated by male leaders brought up with social norms dominated by gender performativity. Thus, women will be placed in roles subservient to men (washing, carrying and bringing food) and excluded from "male" activities involving technology, high value or physical strength. Women respond to

that by appeasing gender expectations and gaining acceptance while losing legitimacy. In turn, lower legitimacy results in unequal distribution of benefits and reduced power. Women in mining sites almost always have lower legitimacy than at home, thus having lesser chances to benefit from positive externalities such as target 5b (promote women through technology).

This detrimental effect of ASM on progress toward the empowerment targets is moderated by gendered local rules in households. Women belonging to communities with strongly gendered local rules would be conditioned to take “feminine” roles. They will not pursue empowerment opportunities if they are available. This simplified analysis suggests that achieving SDGs at home and in communities are two sides of the same coin. Progress to regulate mining activities with co-governance solution, formalization, and positive discrimination in mining sites will only work if efforts are made to change gendered rules in the communities where women miners live. Fig. 1 below summarizes our proposed model of impacts of ASM on SDG 5.

Figure 1. Framework of impacts of ASM work on SDG 5 Gender Equality



One important limitation of our research is that fieldwork was conducted by male Ghanaians albeit with recruitment of two female assistants, which may have prevented some women from freely expressing their woes. This may explain the lack of data to evaluate target 5.3: Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation. Given the relevance of this target for Africa, further research should investigate how to elicit information on this crucial topic. Further, our conclusions about changes in the salience of women at home are based purely on narrative accounts of these women. Further research could take a longitudinal ethnographic approach and follow women miners returning home to investigate how community members perceive them.

6. Conclusions

The SIAD analysis supports the warnings heeded by ASM scholars about the consequences of formalization of informal mining (Banchirigah, 2008; Hilson et al., 2019; Niesenbaum, 2020). We find that formalization per-se does not automatically result in gender equality according to SDG 5 targets. It is clear that formalization does not solve inequalities at the collective-choice level: very few women own gold mine licenses, even fewer are buyers of gold, and at the operational level women are excluded from the governance functions. Despite around 50-80% of the workforce being women in Ghana, there are no women in “community boards” informally ruling mining sites. We suggest that the barriers to gendered formalization are not at the constitutional level since Ghana’s customary governance solution gives room for high-powered roles for women, but there are no clear pro-equality provisions in the formalization policy. The gender inequality concerns arise at the collective-choice and operational levels, where the business-government-community relations and norms incrementally exclude women from decision-making and reduce their bargaining power.

Non-market formalization solutions such as cooperatives may provide an avenue for women's empowerment. Further research can examine issues relevant to gender inequality, such as class, migration, cultural, and institutional barriers.

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