Chapter 16 in *Mining, Materials, and the Sustainable Development Goals (SDGs): 2030 and Beyond*[1]

Mining, Formalization and Peace, Justice and Strong Institutions

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This chapter explores the relationship between mining and SDG16 on peace, justice and inclusive institutions. Given that the lion's share of security concerns associated with mining revolve around the – largely informal – ASM subsector, the chapter focuses specifically on ASM. Using ASM formalization as a framework of natural resource governance, it examines both its current and potential positive and negative contributions to the global realization of SDG16 and its various dimensions. Moving beyond narratives of 'conflict minerals', this chapter argues that ASM formalization needs to be understood and prioritized as an integral part of peacebuilding, state-building and post-conflict reconstruction processes in conflict-affected and high-risk areas (CAHRAs), and beyond.

> "Where resource exploitation has driven war, or served to impede peace, improving governance capacity to control natural resources is a critical element of peacebuilding."[3]

The complex relationships between natural resources and peace, security, human rights and governance have been extensively documented in the last few decades, in both policy and academic circles (for example, see: Westing, 1986; Collier & Hoeffler, 1998; Le Billon, 2001; Alao, 2007; United States Institute of Peace, 2007; UN Environment, 2009). Indeed, according to UN Environment, between 1990 and 2009, at least eighteen violent conflicts have been fuelled by the exploitation of natural resources, and over the last sixty years, at least forty percent of all intrastate conflicts were linked to natural resources (UN Environment, 2009). With increased population growth and climate change, and resulting pressures on the competition over natural resources, conflicts over natural resources are likely to intensify in the future (EU Commission and High Representative, 2008).

But whereas historically, most analysis has focused on the *negative* impacts of natural resources on peace and security (e.g. natural resources' role in the outbreak of conflicts, financing and sustaining of conflicts, and impeding peacemaking), the *positive* impacts of natural resources on peace and security have received little attention. Nevertheless, in recent years, natural resource management is increasingly acknowledged as an opportunity for and integral part of peacebuilding and post-conflict reconstruction processes (e.g. UN Environment, 2009; Jensen & Lonergan, 2012; Rustad, Lujala & Le Billon, 2012; Chatham House, 2013; Krampe, 2017).

Among the various resources that relate to peace and security, such as oil, gas, timber, livestock and water resources, *minerals* – and especially precious and strategic minerals that are 'lootable' (Westing, 1986) – arguably take center stage. The role that 'blood diamonds' have played in fuelling the civil wars of Angola, Sierra Leone and Liberia is often used as a textbook example when discussing the natural resources-peace & security nexus. The role that other 'conflict minerals' (in particular gold, cassiterite, wolframite and coltan or "3TG") continue to play in the Eastern Democratic Republic of the Congo (DRC) and the African Great Lakes Region (GLR) has resulted in global media attention and

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[3] Carolyn McAskie, Assistant Secretary-General for Peacebuilding Support, 2007, as cited in UN Environment, 2009

development of international policy mechanisms. Specifically, it has given rise to the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas[4] (hereafter: OECD Due Diligence Guidance) and the EU Conflict Minerals Regulation.[5] More recent examples include what Global Witness has described as Myanmar's 'Big State Secret': the jade trade in Kachin State which is under complete control of military elites and drug lords (Global Witness, 2015); Colombia's small-scale gold sector which is increasingly controlled by insurgent and criminal organisations involved in narcotics trade (Massé & Le Billon, 2017); and gold mines in Africa's Western Sahel which have in the last few years been increasingly targeted by extremist groups and sparked recent media attention.[6]

Evidently, there are multiple links between mining and SDG16 on peace, justice and strong institutions. In appreciation of mining's positive and potential impacts, the World Economic Forum and UNDP's *Mapping Mining to the Sustainable Development Goals: An Atlas* (hereafter: *Atlas*), describes these links as follows:

> Mining can contribute to peaceful societies and the rule of law by preventing and remedying company-community conflict, respecting human rights and the rights of indigenous peoples, avoiding illicit transfers of funds to public officials or other persons, ensuring transparent reporting of revenue flows, and supporting the representative decision-making of citizens and communities in extractives development. [UNDP, 2016, p.2]

The *Atlas*, not unlike the available academic contributions that have to date investigated the links between mining and SDG16, among other SDGs (de Mesquita, Xavier, Klein & Matos, 2017; Monteiro, da Silva & Neto, 2019), focuses exclusively on the large scale mining (LSM) sector, arguing that the artisanal and small-scale mining (ASM) sector warrants a separate guide in relation to the SDGs (UNDP, 2016, p.16). However, as Hilson & Maconachie (2019) have recently argued, this is a critical oversight, as it discourages policymakers to integrate ASM in national and regional development frameworks. Ali (2018) and the World Bank (2019) recently also underscored the need to link ASM to the SDGs (Ali, 2018; World Bank, 2019). This chapter seeks to address an important part of this gap by focusing exclusively on ASM in relation to SDG16 – arguably the most challenging and most crosscutting of all SDGs (a recent policy assessment analyses ASM in relation to all 17 SDGs (de Haan, Dales & McQuilken, 2020). In the author's perception, there are at least four reasons why this subsector merits an in-depth analysis here, which are related to four important elements of SDG16: security, peacebuilding, human rights/justice and effective governance. These issues are briefly highlighted below, while an in-depth analysis of ASM formalization in relation to SDG16 follows thereafter.

First, from a security perspective, although LSM is indeed associated with violent conflict, the lion's share of security concerns associated with the mining sector revolves around ASM. This point has recently been underscored by a quantitative study in the DRC, which demonstrates that armed groups mainly target ASM mines for financing their activities, while LSM companies are much less affected by them (Stoop, Verpoorten & van der Windt, 2019). A recent mapping of armed groups in the Eastern DRC by the International Peace Information Centre (IPIS) corroborates this point (IPIS, 2019). The study further shows that LSM companies' involvement in local conflicts (in the DRC) is broadly limited to conflicts with host communities and local artisanal miners (Stoop et al, 2019), a finding which is echoed in analyses in other parts of the world (UNDP, 2016; Andrews, Elizalde & Le Billon, 2017; Mesquita, Xavier, Klein & Matos, 2017; Monteiro, da Silva & Neto, 2019). The strong association between ASM and insecurity could be explained by the obvious fact that the sector's high degree of informality renders its workforce vulnerable to external threats, as there is little formal oversight and

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[4] OECD, 2016. OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas: Third Edition.

[5] European Union, 2017. EU Conflict Minerals Regulation. Official Journal of the European Union, 60, 17 May 2017.

[6] See for example a recent Special Report by Reuters: Lewis, D. & Mcneill, R. (2019, November 22). How jihadists struck gold in Africa's Sahel. Retrieved from https://www.reuters.com/investigates/special-report/gold-africa-islamists/

workers have difficulties in claiming their rights and accessing grievance mechanisms. Verbrugge & Geenen (2019) further make the point that political crises, conflicts, and the breakdown of political and economic structures have contributed to the expansion of ASM worldwide, arguing that ASM fares much better (than LSM and other sectors) in politically unstable contexts as the subsector is more in tune with local land tenure arrangements and is less affected by formal regulatory change (Verbrugge & Geenen, 2019). Indeed, the largely informal sector tends to flourish in fragile areas that have been affected by conflict, are considered as high-risk, and/or are characterized by poor governance. This can be easily observed in the map below, which overlays the 2019 State Fragility Index with ASM workforce estimates.[7,8,9]

Figure 1. 2019 Fragile States Index vs. estimated ASM workforce
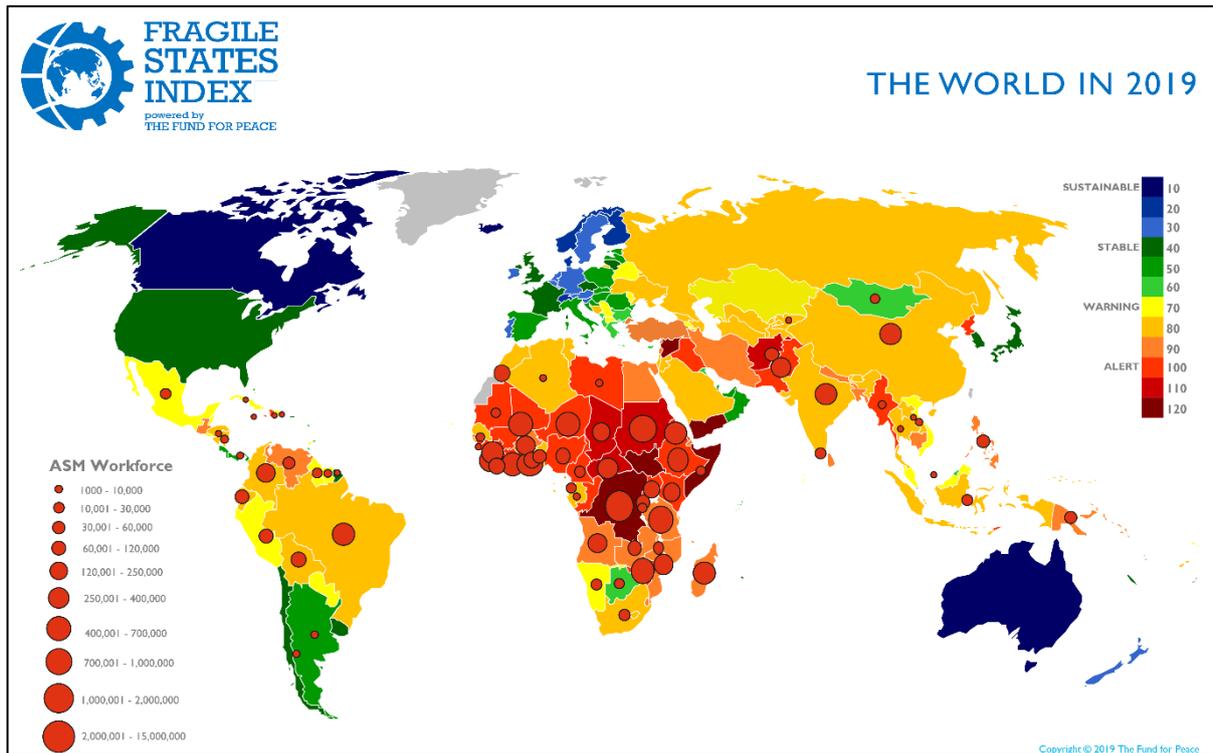
While this map indicates larger ASM workforces in more fragile countries as a whole, there is, in addition to the cited IPIS maps of the DRC, also visual documentation for Colombia and Burkina Faso that illustrates the geographical overlap between ASM activity and the presence of armed groups *within* countries (for Colombia, see Massé & Le Billon, 2017: 4; for Burkina Faso, see Lewis & Mcneill, 2019).

Secondly, when considering the socio-economic dimension of peacebuilding and post-conflict reconstruction, ASM plays a vital role, even in its informal state. In short, based on conservative estimates, the ASM sector employs about 5-6 times more people than the LSM sector[10]. The ASM workforce also includes a larger share of women (Hinton, Veiga & Beinhoff, 2003) and youth (Hilson & Osei, 2014; Maconachy, 2017) who play vital roles in peacebuilding processes (discussed in section

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[7] Figure developed by Jorden de Haan and Imran Ahmed Mohamed, inspired by ASM Program Strategy, Canadian International Resources and Development Institute (CIRDI), developed by Kirsten Dales et al. Used with permission.
[8] The full range of security, economic, political and social indicators of the Fragile States Index can be found here: https://fragilestatesindex.org/indicators/
[9] The ASM workforce estimates have been taken from the Artisanal and Small-scale Mining Knowledge Sharing Archive. http://artisanalmining.org/Inventory
[10] An estimated 40.5 million people were estimated to be directly engaged in ASM in 2017, up from 30 million in 2014, while only 7 million people were working in industrial mining in 2013 (IGF, 2017).

3.1). Moreover, while the sector provides *direct* livelihoods for more than an estimated 40 million people, it can be estimated to support another 120-280 million *indirect* livelihoods when considering the sector's positive spillover effects on rural economies.[11]

Thirdly, as a result of their informality, ASM miners are particularly vulnerable to enduring human rights abuses and injustices. Cases of exploitation (see for example: de Haan & Geenen, 2016), extortion (e.g. Garrett, Sergiou & Vlassenroot, 2009), and the (disputed) 'Worst Forms of Child Labour' (e.g. ILO, 2005) are widely reported in the ASM sector. Fourthly, in terms of governance, ASM is plagued by incidents of bribery and corruption (see for example: Crawford & Botchwey, 2017; Hunter, 2019) and it has been argued that the prolonged informality of the sector in itself is for a large part a manifestation of poor governance (Hilson, 2013; Hilson & McQuilken 2014; Hilson, Hilson, Maconachie, McQuilken & Goumandakoye, 2017). Conversely, ASM formalization holds strong potential for redressing human rights abuses and advancing good governance.

Against this backdrop, this chapter proceeds with examining the interlinkages between ASM formalization and SDG16. But before this can be done, both ASM formalization and SDG16 need to be conceptualized and unpacked. Therefore, section 1 below reviews the key components of the formalization process, and introduces a human rights-based approach to ASM formalization. Subsequently, section 2 unpacks SDG16 and its identified key dimensions of peace, justice and inclusion. After that, section 3, the core part of this chapter, analyses the interlinkages between ASM formalization and each of these three dimensions. This section draws upon some of the author's field work and professional work experiences in Sierra Leone and the DRC, but also includes references to the wider literature so as to maintain a global perspective. The chapter is concluded with a brief reflection on how policymakers could best move forward in leveraging ASM formalization's full potential in enhancing peace, justice and inclusive institutions.

Section 1. Unpacking ASM formalization

As has become clear from the preceding section, many of ASM's negative associations are 'expressions' of the sector's informality (Hilson , 2013). As such, and despite the disappointing progress that has been made in the last few decades (Hilson & McQuilken, 2014), there is a growing consensus in policy circles that formalization must be part of any strategy to develop the ASM sector (ILO, 1999; World Bank, 2009; UN Environment, 2012; UNITAR & UN Environment, 2018). Indeed, international (e.g. the OECD Due Diligence Guidance and the Minamata Convention on Mercury) and regional policy mechanisms alike (e.g. the International Conference on the Great Lakes Region's (ICGLR) Regional Initiative against the Illegal Exploitation of Natural Resources (RINR)) promote formalization as an essential step towards mitigating the sector's negative impacts and unlocking its full development potential. This mirrors a more general push for formalization of the informal sector, which is reflected in ILO's official Recommendation (204) concerning the Transition from the Informal to the Formal Economy[12], and SDG8 on Decent Work and Economic Growth which equally encourages formalization. There is similar growing consensus in academic circles about the importance of formalization (Siegel & Veiga, 2009; Maconachie & Hilson, 2011; Hilson et al, 2017), although there are also reservations that top-down formalization efforts tend to benefit elites and can perpetuate or exacerbate inequalities (Geenen, 2012; Verbrugge, 2015; de Haan & Geenen, 2016), and have limited impacts if they are not coupled with education (Marshall & Veiga, 2017). It has thus been argued that formalization can only be a vehicle for development if it is approached in an *inclusive* and *comprehensive* manner (UNITAR & UN Environment, 2018; de Haan, 2019). Likewise, the author

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[11] Using multiplier effects of 3-7, including both the lowest and highest range of multiplier effects that have been documented for the sector (World Bank, 2019).

[12] ILO, Recommendation 204 concerning the Transition from the Informal to the Formal Economy, adopted by the Conference at its 104th session, Geneva, 12 June 2015.

argues (once more, but this time in more depth[13]) that ASM formalization can be a vehicle for peace, justice and inclusion, but only if it is approached in such a manner.

With the conceptualization that follows, the author responds to chapter 8 of this book, where Hilson (forthcoming) highlighted the need to package and rebrand ASM formalization in more concrete development lingo which resonates more powerfully with decision makers, as well as to Marshall & Veiga (2017), who have provoked the international community to 'get off the formalization train' – by proposing a framework for getting the train back on track towards peace, inclusive and sustainable development and justice.

While there are multiple interpretations of what ASM formalization entails exactly, there is consensus on the fact that formalization must be understood as a *process* (Siegel & Veiga, 2009) that includes multiple dimensions and goes *beyond legalization* (Verbrugge & Besmanos, 2016). Various IOs and INGOs have started further unpacking the ingredients of formalization. Analysis documents by the Alliance for Responsible Mining (ARM, 2011), and UN Environment (UN Environment, 2012) have provided particularly constructive inputs in this regard. Most recently, and perhaps most comprehensive to date, the UNITAR and UN Environment *Handbook for Developing National ASGM Formalization Strategies within National Action Plans* (hereafter: *Formalization Handbook*), which has been drafted by the author in collaboration with experts from IOs, governments, academia and INGOs, has provided a detailed conceptualization of the formalization process. It defines ASM formalization as follows:

> A process that ensures that AS[G]M actors are licensed and organized in representative entities that represent their needs; policies are implemented, monitored, and enforced; and AS[G]M actors receive technical, administrative, and financial support that empowers them to adhere to requirements prescribed by national regulations. [UNITAR & UN Environment, 2018, p.17]

Essentially, formalization can be understood as a process of building both governments' and ASM actors' (understood as miners, traders, and other supply chain actors) capacity that progressively enables the latter to be in compliance with national regulations and international standards, and ultimately enables them to enter the global market.

Deriving from the above definition, the handbook distinguishes five *dimensions* of the formalization process: legal, institutional, socio-economic, geo-environmental and financial. Moreover, building on ideas from McQuilken & Hilson (2016), it introduces the *formality spectrum*, which helps to appreciate the many shades of grey that exist between 'formal' and 'informal', and illustrates increased degrees of formality as progress is made in the various components of formalization process. The *Handbook* then proceeds with discussing six *key components* of the formalization process, which are illustrated in figure 2 below[14]). Under each component, both key steps and optional steps are introduced, providing flexibility for addressing country-specific and crosscutting issues (e.g. facilitating ASM-LSM co-existence, or managing ASM in protected areas).

Figure 2. Key components of the ASM formalization process

Engage local stakeholders throughout the formalization process

| Geoprospect and allocate land for ASM | Facilitate miners' organization | License and regulate ASM | Organize the supply chain | Facilitate access to finance, markets, and services | Monitor and enforce ASM regulations |

Provide continuous support to ASM actors

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[13] This chapter builds on section 3.4 of the UNITAR & UN Environment *Formalization Handbook*, which (briefly) discusses ASGM formalization in CAHRAs and introduces some of the points that are further elaborated here. For transparency, it must be noted that the author of this chapter is also the lead author of the Formalization Handbook.

[14] Figures 2 and 3 are slight adaptations of figures 4 and 5 of the *Formalization Handbook* (UNITAR & UN Environment, 2018), which focused on ASGM rather than ASM. Used with permission.

While there is no space to discuss the concepts of the *Formalization Handbook* in more depth, a final element that merits a brief reflection in this chapter is the *Human Rights-Based Approach to ASM Formalization* (see the illustration below). Starting from the premise that ASM formalization can be a vehicle for development or for sustaining or exacerbating inequalities, depending on what approach is taken, the handbook introduces this human-centred approach to steer governments towards the latter. Building on an approach introduced by the Sustainable Artisanal Mining (SAM) project funded by the Swiss Agency for Development Cooperation (SDC)[15], it focuses on the rights and duties of both ASM actors and the government. Moreover, as illustrated by the arrows in figure 3, central to this approach is participation and consultation of ASM actors in a bottom-up rather than a top-down formalization process. Furthermore, as illustrated with the lower circle – and in line with observations that formalization needs to be grounded in local realities (Hison et al, 2017) and absorb existing customary practices (Siegel & Veiga, 2009) – it recognizes that the ASM sector is embedded in the local economy and local social order. Finally, as per the *UN Statement of Common Understanding on Human Rights-Based Approaches to Development Cooperation and Programming*[16], it focuses specifically on those stakeholders who are most marginalized, excluded, or discriminated against (such as women, youth, and lowest-ranking miners).
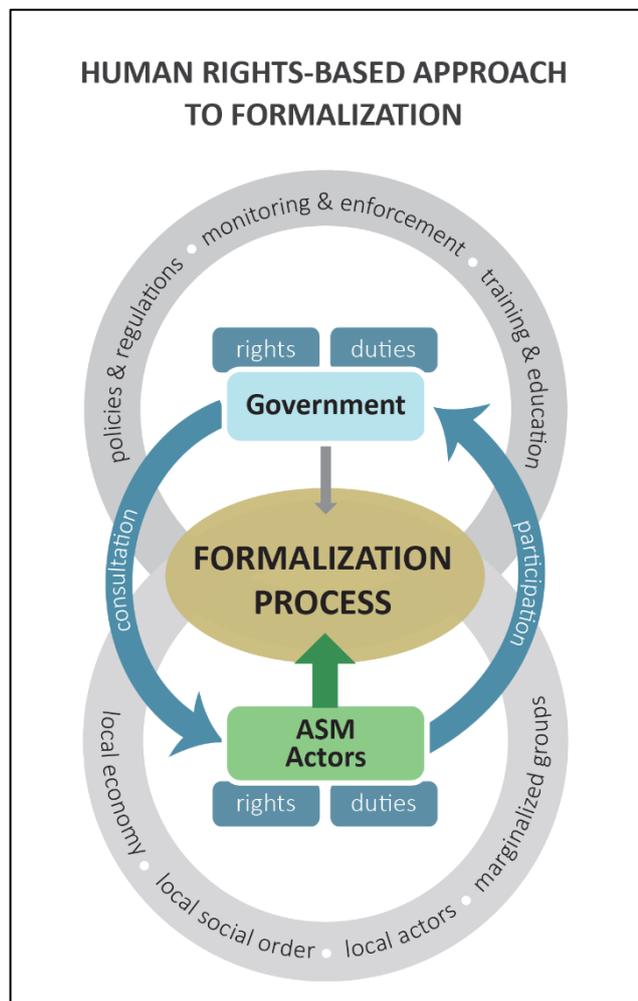

Figure 3. A human rights-based approach to ASM formalization

Section 2. Unpacking SDG16 and its dimensions of peace, justice and inclusion

SDG16 aims to "promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels". As a lesson drawn from the Millennium Development Goals (MDGs), it was included in UN Agenda 2030 for Sustainable Development on the premise that that there can be no inclusive and sustainable development without democratic governance, peace and security and the rule of law, including protection of human rights (The Global Alliance for Reporting Progress on Peaceful, Just and Inclusive Societies (hereafter: Global Alliance), 2019). Besides creating an enabling environment for the achievement of all other SDGs, the aims of SDG16 are explicitly incorporated in Agenda 2030 as cross-cutting principles that should guide its implementation (e.g. "leaving no one behind"), thus focusing not only on the *what* but also on the *how* by providing a human rights-based approach to implementing Agenda 2030. Obviously, the achievement of SDG16 is a daunting task. It is not surprising that since the adoption of Agenda

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[15] See: http://sam.mn/sustainable-artisanal-mining-project/
[16] See: http://hrbaportal.org/the-human-rights-based-approach-to-development-cooperation-towards-a-common-understanding-among-un-agencies
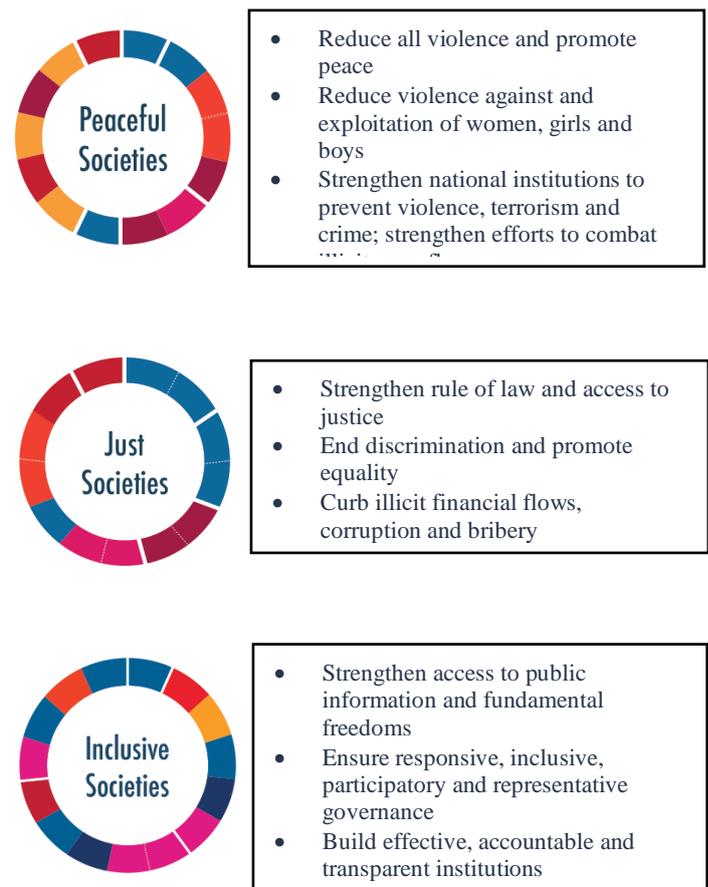
2030 in 2016, each annual Report of the Secretary-General on progress made on the SDGs has reported uneven spread in progress towards achieving SDG16, and underscored the critical need for renewed efforts towards this goal (United Nations Economic and Social Council, 2017, 2018, 2019, 2020).

The SDG in question includes many aspects, as illustrated by its 12 targets (see Table 1) and 23 corresponding indicators. However, as has also been argued by Whaites (2016), the targets' and indicators' causal relationships to the headline goal cited above are questionable, and seem to fall short of grasping its full scope (Whaites, 2016). In recognition of this, the 'Pathfinders for Peaceful, Just and Inclusive Societies'[17] launched the Roadmap for Peaceful, Just and Inclusive Societies at the UN General Assembly in September 2017, which provides a shared vision for how 'SDG16+' can be delivered. Based on Agenda 2030, the Pathfinders have identified three main domains of SDG16 in this roadmap: peace, justice and inclusion. With the term 'SDG16 plus', the Pathfinders convey that 24 targets under other SDGs also contribute to peace, justice and inclusion, and that they should equally be considered when discussing and pursuing SDG16.[18] Telling examples include target 5.5 (of SDG 5 – Gender Equality) on women's participation in leadership, or target 4.7 (of SDG 4 – Quality Education) on a culture of peace and non-violence. While a detailed overview of the three domains of SDG16 and their corresponding targets can be examined in the cited roadmap (Pathfinders for Peaceful, Just and Inclusive Societies, 2019, p. 16), figure 4 provides a simplified overview of the three domains and a total of nine associated 'clusters' that include the various SDG targets (including all SDG16 targets) that are related to each of the three domains.[19]

Table 1. SDG16 targets

16.1	Significantly reduce all forms of violence and related death rates everywhere
16.2	End abuse, exploitation, trafficking and all forms of violence against and torture of children
16.3	Promote the rule of law at the national and international levels and ensure equal access to justice for all
16.4	By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime
16.5	Substantially reduce corruption and bribery in all their forms
16.6	Develop effective, accountable and transparent institutions at all levels
16.7	Ensure responsive, inclusive, participatory and representative decision-making at all levels
16.8	Broaden and strengthen the participation of developing countries in the institutions of global governance
16.9	By 2030, provide legal identity for all, including birth registration
16.10	Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements
16.A	Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime
16.B	Promote and enforce non-discriminatory laws and policies for sustainable development

Figure 4. Three domains of SDG16+

- Reduce all violence and promote peace
- Reduce violence against and exploitation of women, girls and boys
- Strengthen national institutions to prevent violence, terrorism and crime; strengthen efforts to combat illicit ...

- Strengthen rule of law and access to justice
- End discrimination and promote equality
- Curb illicit financial flows, corruption and bribery

- Strengthen access to public information and fundamental freedoms
- Ensure responsive, inclusive, participatory and representative governance
- Build effective, accountable and transparent institutions

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[17] The Pathfinders for Peaceful, Just and Inclusive Societies are a group of member states, international organizations, global partnerships, and other partners committed to accelerating the delivery of the Agenda 2030 targets for peace, justice and inclusion (SDG16+), hosted by the NYU Center on International Cooperation. https://www.sdg16hub.org/pathfinders
[18] Other prominent initiatives such as the Global Alliance have adopted this conception of SDG16+.
[19] These nine 'clusters' have been developed by the Global Alliance (Global Alliance, 2019).

Section 3. Examining the interlinkages between ASM formalization and SDG16

In appreciation of this more holistic conceptualization of SDG16, the interlinkages between ASM formalization and SDG16 will now be examined along the three mentioned domains, considering not only the SDG16 targets, but also targets from other SDGs that have been identified to relate to these domains, where relevant. Whereas the *negative* associations between the informal ASM sector and peace, justice and inclusive governance have been well documented, this section will mainly explore the *positive* impacts of ASM formalization processes, in the spirit of the recent environmental peacebuilding literature. In doing so, the author recognizes that a large part of this potential is not yet realized because most governments do not (yet) address formalization from a human rights-based approach. Indeed, most governments take a rather top-down approach to the formalization process (Spiegel, 2015; de Haan & Geenen, 2016; Mutemeri et al, 2016; Verbrugge & Besmanos 2016). At the same time, there are also indications that some countries are starting to adopt more bottom-up approaches. As discussed in Stylo, de Haan & Davis (2020), several countries that are developing NAPs have been conducting regular stakeholder engagement initiatives. For example, Sierra Leone has recently conducted workshops at both the national and the provincial level with a wide variety of stakeholders to map their needs and interests in ASGM (i.e. ASM gold), to develop a *national vision* for the sector and a comprehensive formalization strategy as per guidance of the *Formalization Handbook* (de Haan, 2019; Stylo, de Haan & Davis, 2020).[20] Such examples show that a shift in policymaking is thus possible. Still, it is in recognition of this caveat that this section now explores both the current and potential interlinkages between ASM formalization and SDG16, including for situations where no human rights-based approach is adopted.

3.1 ASM formalization and peaceful societies

 The domain of 'peaceful societies' includes three main objectives, as illustrated in figure 4. Starting with the first objective, ASM formalization holds immense potential for reducing violence and promoting peace, and is already realizing a significant part of that potential. One direct way in which this occurs is through the establishment and implementation of supply chain due diligence systems (which can be understood as a part of component 4 of the formalization process: organization of the supply chain). For example, the ITSCI (the International Tin Supply Chain Initiative) mineral traceability and due diligence program for 3T minerals implemented by Pact in the DRC, Burundi, Rwanda and Uganda covers 2,200 mine sites across the four countries to date, positively impacting the lives of close to 80,000 miners by giving them access to the international market. If including the number of other people involved in the supply chain (transporters, middlemen, people who trade both minerals and other goods and services) along with immediate dependents of miners (estimated at 5 per miner), the total number of people benefitting from ITSCI is estimated to approach 1 million. In full alignment with the OECD Due Diligence Guidance, ITSCI records, monitors and reports risks along the supply chain, and facilitates their mitigation and resolution, aiming to create responsible and conflict-free 3T mineral supply chains that avoid contributing to armed conflict, human rights abuses, child labour or corruption.[21] Notwithstanding ongoing challenges in implementation and the risk of 'crime displacement effects'[22], the program has been effective in creating 3T mining areas that can be considered today as 'security hubs' in the region, by eliminating armed groups' control of ITSCI 3T sites (United Nations, 2018) and/or by preventing the capture of validated sites by armed groups (IPIS, 2019), thereby contributing to peace and security in insecure parts of the region (Pact, 2015).

More indirectly, but importantly, ASM formalization helps to address the root causes of the outbreak of violence. For example, in post-conflict Sierra Leone, where frustrations over unemployment,

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[20] This national vision and ASGM formalization strategy are both included in Sierra Leone's NAP (EPA-SL, forthcoming)
[21] This can be verified in the latest quarterly ITSCI reports: https://www.itsci.org/status-report-public/
[22] i.e. displacing armed groups and the insecurity they bring to other natural resources in the Eastern DRC (Bafilemba, Mueller, & Lezhnev, 2014)

exclusion and a general loss of hope for the future among youth have been identified as some of the root causes of the civil war, ASM has provided ex-combatants with an alternative way of living (Maconachie & Hilson, 2011; Maconachie, 2017). At the same time, as the author has personally documented during field work in Sierra Leone's Kono region (which hosts many ex-combatants), ASM miners have indicated that if they keep getting exploited by traditional authorities and do not receive more substantial support from the government soon to formalize their activities, they may "return to the bush and continue to do what we did during the civil war…".[23] Similarly, in Niger, ASM has offered people alternatives to unemployment, banditry or rebellion against the government (Grégoire & Gagnol, 2017). As such, and in light of the UN Secretary General's 'Plan of Action to Prevent Violent Extremism'[24], in which the provision of meaningful future prospects for youth is identified as a crucial step in the prevention of violent extremism, the comprehensive formalization of such miners' livelihoods can serve to address such frustrations by providing access to legal protection against exploitation, and provide more meaningful prospects for professionalizing their livelihoods in the future.

In a broader sense, ASM helps to address (or avoid) various forms of 'structural violence' (e.g. unequal distribution of benefits, exclusion) that are often the root causes of violent conflict, by contributing to the socio-economic dimension of peacebuilding processes.[25] As was already illustrated in the introduction, ASM contributes significantly to direct and indirect livelihoods and has significant spill over effects on *local economies*. Moreover, a large part of the revenues benefits the *local population*.[26] Furthermore, notwithstanding cases of informal taxation and exploitation, ASM also strengthens solidarity and promotes equality as miners from varying cultural backgrounds are easily accepted in ASM communities, irrespective of race and socio-economic status (Bryceson & Fisher, 2014; Bryceson & Geenen, 2016; Nkuba et al, 2019). As such, ASM's work culture contributes to fostering a culture of peace, which can be further leveraged by formalization. For example, by strengthening ASM cooperatives (formalization component 2: facilitating miners' organization) on 'cooperative ideals' such as democratic governance, solidarity, equality and social justice, such entities can strengthen social cohesion.[27] Indeed, as reflected in the words of ILO's former Director-General, "cooperatives can [also] be highly resilient in crisis and conflict and particularly valuable in building cooperation and solidarity and restoring dignity through self-help initiatives in situations of tension and post conflict situations".[28] However, notwithstanding this *potential*, it must be noted that most ASM cooperatives are still a far cry away from realizing such ideals in *practice* (see for example Fisher, 2007; de Haan & Geenen, 2016).

Moving to the second element of peaceful societies, ASM formalization can help to reduce violence against and exploitation of women, girls and boys. Women, who tend to be adversely affected by violent conflict, have been estimated to constitute about 30% of the global ASM workforce (Hinton, Veiga & Beinhoff, 2003) and have been argued to constitute more than that (Eftimie et al., 2012). Although most women voluntarily pursue ASM as a livelihood because it is the best option available to them, they face a plethora of challenges – such as accessing land, mining groups, finance, technology and (formal) markets – that affects them disproportionally as a result of local gender dynamics (Hinton et al, 2003; Buss et al, 2017). Moreover, women operating in the informal ASM sector have been documented to fall victim to various forms of GBV, especially in conflict-affected areas (International Trade Union Conference, 2011; Rustad, Østby & Nordås, 2016). It has been argued that rather than seeking to remove women from this livelihood, efforts to protect such women from GBV should look to include them in mining reform initiatives (i.e. formalization processes) and empower them to improve their situation (Bashwira et al, 2014). This line of argument resonates with UN Security Council Resolution 1325 (2000) and the Women, Peace, and Security (WPS) agenda, which reaffirms the important role of

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[23] This quote is taken from a field study that the author has undertaken with EPA-SL in Kono and other regions of the country in January and February 2018. For an appreciation of the full context, readers can refer to EP-SL, 2018.

[24] United Nations General Assembly, A/70/674. Plan of Action to Prevent Violent Extremism.

[25] For a conceptualization of structural violence and different dimensions of peace(building), see Galtung, 1969

[26] For example, as has been documented in East Africa, at least 50% of the international value of gold is retained in the ASM communities where it is extracted (Barreto et al, 2018).

[27] See the International Co-operative Alliance's website for more on this: https://www.ica.coop/en

[28] http://www.ilo.org/public/english/bureau/dgo/speeches/somavia/2006/coopday06.pdf

women in conflict prevention, peacebuilding, and post-conflict reconstruction. Indeed, as has been argued in the *Formalization Handbook*, the formalization of female ASM miners does not only accommodate the regulatory oversight and access to protection that is required for reducing violence against women, but can also help to *empower* women in their capacity as peacebuilders.

The same can be said for youth, which dominate the ASM sector in Africa (Hilson & Osei, 2014) and likely worldwide. As can be deduced from the above example of young ex-combatants engaging in Sierra Leone's ASM sector, ASM formalization can go a long way in reducing miners' vulnerability to exploitation, and provide a meaningful alternative to picking up arms. Likewise, while UN Security Council Resolution 2250 on Youth, Peace, and Security[29] recognizes youth's important role in peacebuilding and post-conflict reconstruction, the formalization of young ASM miners equally presents an opportunity for empowering them as peacebuilders.

Beyond women and youth, a key concern that has driven the ASM formalization agenda is child labour. The ILO has since long documented children's involvement in ASM and the hazards they are exposed to (see for example ILO, 2005), and considers it one of the 'Worst Forms of Child Labour'[30]. As part of its approach to addressing this issue, ILO promotes the formalization of the ASM sector, as it serves to create an enabling environment for monitoring children's presence in the mines, and accommodates access to education and alternative sources of household income.[31] While it must be cautioned that child labour is a complex issue that requires addressing of its root causes (O'Driscoll, 2017), ASM formalization can thus help to create an enabling environment for reducing child labour and children's vulnerabilities to exploitation.

Finally, ASM formalization can help to strengthen national institutions to prevent violence, terrorism and crime, and strengthen efforts to combat illicit arms flows. At present, informal ASM and especially ASGM is associated with all of these issues. In Colombia, insurgent and criminal organisations involved in narcotics trade wield control over informal small-scale gold mines to diversify and compliment their sources of income, (re)investing gold proceeds in the coca business and vice versa to launder drug money (Massé & Le Billon, 2017). Likewise, in various African countries, criminal consortia have managed to assert control over the ASGM sector, not only to finance their activities but also for purposes of money laundering and tax evasion (Hunter, 2019). In Africa's Western Sahel, ASGM mines are increasingly targeted by terrorist organizations, such as the home-grown Ansarul Islam terrorist group which has targeted ASGM sites in Burkina Faso, and the Islamic State which has claimed several attacks in mining areas in Niger (OECD, 2018; International Crisis Group, 2019). In the DRC, artisanal diamond revenues have been documented to be used for financing arms trade (United Nations, 2002). Formalization can counter these issues in various ways. As was already discussed above, due diligence processes and formalization of ASM supply chains can constrain criminal, terrorist or insurgent groups in benefitting from ASM production and trade. Moreover, as is explained in more detail in the *Formalization Handbook* (Section 2.6), the component of monitoring and enforcing compliance with national regulations and international standards can help to identify and address the use of mineral proceeds for criminal purposes such as money laundering. Financial Intelligence Units (FIUs) can play an important role in this regard, as they receive, analyse and disseminate information relevant to money laundering, associated predicate offences and financing of terrorism; and can mobilize national security authorities.[32]

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[29] United Nations Security Council, S/RES/2250 (2015).
[30] See ILO Convention 182 on the Worst Forms of Child Labour.
[31] ILO's approach to addressing child labour in ASM is further discussed in Section 3.2 of the cited *Formalization Handbook* (UNITAR & UN Environment, 2018).
[32] Following Recommendation 29 of the Financial Action Task Force, many countries have established FIUs. For more information, see: https://egmontgroup.org/en/content/financial-intelligence-units-fius

3.2 ASM formalization and just societies

The domain of 'just societies' includes three main objectives: i) strengthen the rule of law and access to justice; ii) end discrimination and promote equality; and iii) curb illicit financial flows, corruption and bribery. Starting with the first, the Global Alliance cautions that people who lack a legal identity are generally excluded from society and face difficulties in accessing public services, exercising the right to participate in civic processes and seeking justice for grievances (Global Alliance, 2019). A similar situation exists for informal ASM miners, who often have their rights violated by LSM companies, government officials, and even armed groups, without possessing access to formal means of justice. Formalization can serve as such a means, by providing miners with mining titles that serve as a form of legal identity. As Siegel and Veiga already put it a decade ago, in their reflections on De Soto's concept of the dual economy and its meanings for ASM formalization: "formal property rights are the basis of a miner's access to legal redress when rights are violated by a government or company, as they frequently are" (Siegel & Veiga, 2009, p. 52). As we have seen in section 1, a human rights-based approach to formalization provides informal ASM actors with both rights and duties. These rights include both land tenure and labour rights, which can enable them to enjoy and exercise human rights as recognized in the Universal Declaration of Human Rights. For example, the right to recognition everywhere as a person before the law, or the right to an effective remedy for acts violating fundamental rights (UN General Assembly, Resolution 1948). Equally important, the duties may include, as per national regulations, things such as the (gradual) adoption of better mining practices or investments in local development. When governments enact their own duty of enabling ASM actors in carrying out such duties, the rule of law can be upheld.

Inclusive formalization processes further contribute to reducing discrimination and promoting equality. By legitimizing the livelihood of a historically marginalized workforce – including vast numbers of women (including widows and single mothers), poorly educated youth, orphans, former combatants, displaced people, refugees, economic migrants and in general, some of the world's poorest people – and by facilitating its integration into the mainstream economy and society, ASM formalization can empower many of those who have been left furthest behind. In this regard, it is a promising trend that several countries have recently recognized ASM as a mining subsector in their regulatory frameworks for the first time[33], transforming it from an extra-legal (often described locally as 'illegal') to an informal or legal activity; and that countries like Zimbabwe have recently 'decriminalized' informal ASM as part of their formalization efforts (Chipangura, 2019). The legal aspects (i.e. component 3) of the formalization process provide many other opportunities for developing policies and regulations for greater equality. For example, Sierra Leone has included in its National Action Plan's (NAP) formalization strategy steps to include gender-sensitive provisions in the amendment of its 2009 Mines and Minerals Act, as well as to streamline ASM in national gender policies and regulations (UN Environment, 2019; Environment Protection Agency Sierra Leone (EPA-SL), forthcoming).

Finally, ASM formalization can help to curb illicit financial flows (IFFs), corruption and bribery. IFFs, which can be understood as "money illegally earned, transferred or used", have been identified in the vast majority of ASGM financial flows in Africa and Latin America (Global Initiative against Transnational Organized Crime & Levin Sources, 2017: 3-4). These flows tend to have a cyclical nature: while ASM gold may be smuggled over the border without paying taxes and could be used for purposes of money laundering, the proceeds from such activities may be reinvested in ASGM activity as a part of pre-financing arrangements between miners and gold buyers (idem). While in a context of widespread informality, not all types of IFFs should be outright presumed to be illegitimate (consider an example from Sierra Leone[34]), it is difficult to distinguish the legitimate from the illegitimate ones.

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[33] For example, Uganda has just integrated ASM in its new Mining and Minerals Policy 2018; Mauritania has recently issued a Ministerial decree (Decree of 22nd April 2016) to enable the licensing of ASM miners.

[34] Many of Sierra Leone's small gold traders smuggle gold over the Guinean and Liberian borders simply to avoid exorbitant export taxes. Once over the border, they receive US Dollars in exchange for their gold, which they may use to buy clothes

However, what is clear is that formalization processes, albeit challenged by IFFs themselves, can help to manage IFFs and mitigate their impacts – for example, by making financial flows and the stakeholders involved in them visible, by removing barriers for providing ASM miners with access to formal means of finance (replacing IFFs), and by creating incentives to engage in formal trade. Besides IFFs, the informal ASM sector is plagued by bribery and corruption, from Africa (Crawford & Botchwey, 2017; Hunter, 2019) to Latin America (Global Initiative against Transnational Organized Crime, 2016) and Asia (Global Witness, 2015). ASM actors without licenses are easy targets for predatory (and often low-paid) government officials and traditional land owners. This leads to an often-cited reason why many informal ASM miners want to formalize: to be able to claim their rights, and to consolidate their bargaining position to deal with issues of bribery and exploitation.[35] Formalization can help protect ASM actors as they can demonstrate their possession of licenses and payment of formal fees and can more easily seek legal redress; and it can further help to strengthen government institutions with whistleblowing and grievance mechanisms that can help to minimize bribery and corruption.

3.3 ASM formalization and inclusive societies

The domain of 'inclusive societies' includes three key objectives: i) strengthen access to public information and fundamental freedoms; ii) ensure responsive, inclusive, participatory and representative governance; and iii) build effective, accountable and transparent institutions.

The lack of publicly available information about the mining sector, such as census data, geological data and the allocation of mining titles, poses a key barrier to formalization (Hilson & Maponga, 2004; World Bank, 2019). Conversely, the process of gathering information and making it publicly available is an important part of the formalization process. For example, Sierra Leone's National Minerals Agency has established an Online Repository where people can log in to find data on all issued mineral rights, exploration, mining, dealers and exporters licenses, and related payments.[36] Likewise, in its draft NAP, the DRC plans to make geological data, information about the availability of suitable land, and the rationale for the allocation of ASM and LSM areas publicly available through the Mining Cadre's (CAMI) website (Agence Congolaise de l'Environnement (ACE), forthcoming). While such repositories or mining portals do not always contain accurate and up-to-date information, and most *informal* ASM miners do not have the means to access them, they are a step in the right direction for making important information about the mining sector publicly accessible. Initiatives such as the World Bank-funded and Pact-implemented DELVE platform are leveraging and encouraging this trend.[37]

If implemented from a human rights-based approach, ASM formalization can further contribute to the realization of fundamental freedoms and responsive, inclusive, participatory and representative governance. As explained in section 1, central to this approach is participation and consultation of ASM actors – including especially those who are typically excluded – in a bottom-up process. Such initiatives enhance people's freedom of expression and participation in decision-making. For example, by organizing workshops where miners, traders and community members can voice their concerns about the current governance of their ASM sector and suggest new policy measures – as was recently done in Sierra Leone (de Haan, 2019) and the Eastern DRC (ACE, forthcoming). Moreover, while top-down formalization approaches, and in particular some countries' obligation to organize exclusively into

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and other goods which they sell back in Sierra Leone, or which they may reinvest in Sierra Leone's ASGM mines. Although this is illegal and can be considered as money laundering, the traders in question do not necessarily intend to engage in criminal activity or do harm in other ways; it just makes 'business sense' from their perspective. (This example is based on the author's field work in Sierra Leone, conducted with EPA-SL in January-February 2018.)

[35] Based on the author's field work in South Kivu, DRC (with Agence Congolais de l'Environnement, July 2017) and Bo, Sierra Leone (with EPA-SL, March 2017)

[36] See https://sierraleone.revenuedev.org/dashboard

[37] See: https://delvedatabase.org/

ASM cooperatives, undermine miners' freedom of association (Mirindi, 2015: 593), more bottom-up approaches can instead enhance miners' freedom of association and assembly. For example, under Mongolia's SAM project, which also adopted a human rights-based approach, various consultations and workshops were organized, which allowed miners to engage in dialogue and establish their entities (unregistered partnerships, partnerships, or cooperatives) according to their own pace and capacity. Furthermore, the Mongolian government facilitated a Mongolian Artisanal Miners Assembly in 2013, in which ASM miners have elected leaders of community-based 'miners' NGOs' that serve to defend miners' interests. Subsequently, a National Federation for Artisanal Small-Scale Miners was established, which supports these miners' NGOs and represents ASM miners' interests to the Mongolian government (UNITAR & UN Environment, 2018: 29). Sierra Leone and the DRC have planned similar steps in their NAPs' formalization strategies, which include measures to facilitate women's and youth's inclusion and assumption of leadership positions in such entities (EPA-SL, forthcoming; ACE, forthcoming). Such examples further underscore how inclusive and participatory approaches to ASM formalization can facilitate the social, economic and political inclusion of previously-excluded citizens, and advance their representation at the local and national levels.

As a final cluster of analysis, ASM formalization can help the formation of effective, accountable and transparent institutions. In the *Formalization Handbook*, the author already noted that formalization can enhance state-building and state reconstruction processes, and wider aspects of good governance (UNITAR & UN Environment, 2018). State-building can be understood as "the creation of a government that has a monopoly of legitimate power and that is capable of enforcing rules throughout the state's territory" (Fukuyama, 2005). As has already been discussed in section 3.2, formalization can help to enhance monitoring and enforcement of national regulations and strengthen the rule of law. Moreover, as part of the formalization process, many countries are decentralizing the issuance of mining licenses and related tasks to provincial and district governments and, albeit to a more limited extent, building their financial and technical capacity for regulating the ASM sector (ARM, 2011; UNITAR & UN Environment, 2018). This can help, in the terminology of SDG target 16.6, to "develop effective […] institutions at all levels". In addition, through field studies, stakeholder consultations and other activities, ASM formalization can help to foster mutual understanding between the government and ASM communities, thereby restoring trust and state legitimacy in areas where trust in the government has often been eroded.

State reconstruction is a similar concept which includes elements such as the re-establishment of political institutions, the promotion of political participation and human rights, the provision of social services, and economic recovery (Englebert & Tull, 2008). During Mali's coup d'état in 2012, ASM played a critical role in funding rural institutions providing public services. While the central government's revenues collapsed, ASM revenues earned by miners and informally taxed by local authorities helped to fund local governments, schools and medical providers, enabling such institutions to proceed with their social services in a time of national crisis (Teschner, 2014). ASM formalization can further leverage and institutionalize such dynamics. For example, by facilitating formal taxation and the acquisition of foreign exchange earnings, and by stimulating ASM's spill over effects on local economies, ASM formalization can increase government resources and facilitate economic recovery in post-conflict settings more generally.

Finally, ASM formalization can enhance transparency and accountability. As discussed above, it can enhance public access to information about the extractives sector and transparency in mineral supply chains. Moreover, it can enhance transparency in revenue sharing in the sector, as it enables progress under the Extractives Industry Transparency Initiative (EITI), ITSCI, and other initiatives. By allowing such public scrutiny, and by giving ASM actors a voice, relevant government departments can further be held to account in their governance of ASM sector.

Conclusions

This chapter has examined the interlinkages between ASM formalization and SDG16 on peace, justice and inclusive institutions. It has started from the observation that the (largely informal) ASM sector is strongly related to poor governance, insecurity and human rights abuses, and that such issues have – in combination with other drivers such as poverty and unemployment – given rise to the informal ASM sector in many parts of the world (Hilson, 2013; Hilson & McQuilken 2014; Verbrugge & Geenen, 2019). Conversely, poor performance outcomes on SDG16 – e.g. insecurity, IFFs, bribery and corruption – undermine the formalization process. Moreover, if approached in a top-down manner, ASM formalization can negatively affect peace, justice and inclusion. For example, as experiences from the DRC have shown, the imposition of cooperatives as the only legal mode of miners' organization can facilitate exploitation of labour (de Haan & Geenen, 2016); and ASM bans can trigger former ASM miners to (re)engage in criminal and rebel activities (Stoop, Verpoorten & van der Windt, 2019).

Moving beyond these negative (and better-documented) interlinkages, this chapter has explored both ASM formalization's current and potential *positive* impacts on SDG16. Using a comprehensive conceptualization of 'SDG16+', it has been demonstrated that ASM formalization has *great potential* to contribute to *all* of the identified clusters of SDG targets under SDG16's three dimensions of peace, justice and inclusion. To date, a relatively small yet considerable part of that potential is already being realized. For example, by facilitating the demilitarization of certain mineral supply chains; by facilitating processes of state-building and state reconstruction; and by legitimizing the livelihood of a historically marginalized workforce and facilitating its integration into the mainstream economy – thereby empowering many of those who have been left furthest behind. As such, this chapter has confirmed the positive role that natural resource management can play in peacebuilding and post-conflict reconstruction (UN Environment, 2009; Jensen & Lonergan, 2012; Chatham House, 2013), in the context of ASM.

However, as has become evident, the unrealized potential is much bigger. Governments could realize more of it by shifting part of their focus from legalization to other components of the comprehensive formalization process, and by adopting more inclusive and bottom-up approaches. In this respect, the human rights-based approach to formalization that has been introduced in the *Formalization Handbook* and discussed here, can serve as a framework for understanding and enhancing ASM's contributions to peace, justice and inclusion. When such an approach is adopted, it becomes less about the *outcomes* of formalization processes – which can take decades to complete, if ever – and more about the *process* of formalization itself, which, from this lens, is fundamentally a process of state-building, peacebuilding and development.

To be sure, the global efforts that are required for the achievement of the ambitious SDG16 go far beyond ASM formalization, and must include broader strategies for promoting issues such as democratic governance, inclusive development, access to justice, and security sector reform. Nevertheless, as has been pointed out before (OECD, 2018; UNITAR & UN Environment, 2018), and as this chapter has attempted to demonstrate, ASM formalization needs to be understood and prioritized as an integral part of such strategies, and correspondingly be integrated in national, regional and global frameworks of peace and security.[38]

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[38] Concrete steps and recommendations for integrating ASM into national and regional development frameworks are provided in de Haan, Dales & McQuilken (2020).

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