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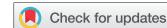
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‘All that glitters is not gold’: the effects of the COVID-19 pandemic on artisanal and small-scale gold mining and supply chains in Peru

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This article explores the impact of COVID-19 on artisanal and small-scale gold mining (ASGM) supply chains in Peru between spring 2020 and early 2021. This analysis delves into the effects of the pandemic on the ASGM sector and the illicit flow of gold, including the effect of the mandated lockdown on the Peruvian economy, the price of gold and its impact on artisanal and small-scale mining communities, the socio-economic consequences of the quarantine on Peru’s ASGM population, and the impact of lockdown on the gold supply chain. This study suggests the artisanal and small-scale mining formalization process in Peru was greatly impacted by the coronavirus pandemic, which brought complications such as increased criminal activity and violence along the gold supply chain. Similar trends can be seen in ASGM populations around the globe, and case studies from Zimbabwe, Colombia, Bolivia, and Chile explore how different governments have handled the effect of COVID-19 on the ASGM sector. This article highlights recommendations for governments and other key stakeholders to consider for supporting and strengthening ASGM communities, the gold supply chain, and the pursuit of formalization in Peru and worldwide.

Keywords: artisanal and small-scale mining; gold; Peru; Bolivia; Chile; Colombia; Zimbabwe; sustainability; trade law; supply chains; mining; COVID-19; coronavirus; environmental law

1. Introduction

Peru is one of the world’s leading sources of artisanal gold. It is also one of the world’s leading hotspots for coronavirus infection, despite an early and strict quarantine response from the Peruvian government. This article explores the

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varied impact of COVID-19 on artisanal and small-scale gold mining (ASGM) and illegal supply chains in Peru. This analysis delves into the effects of the lockdown on the Peruvian economy, examines the price of gold and its impact on illegal mining, and investigates the social impacts of the quarantine on some of Peru's most vulnerable ASGM populations. Most of the statistics and official figures herein were gathered between the summer of 2020 and February 2021 and are as accurate as possible given the rapidly shifting landscape of the global COVID-19 pandemic.¹

Included are case studies with lessons learned from various ASGM communities around the world. This study of Peru and global lessons learned result in a wide range of practical recommendations, listed at the end of this article, that governments and other key stakeholders might consider for supporting and strengthening ASGM communities, the gold supply chain and the pursuit of formalisation in Peru and elsewhere. These recommendations may aid with stakeholder action through the ongoing COVID-19 pandemic and also help prepare for future national or subnational emergencies in the ASGM context. Special consideration is provided to vulnerable groups within ASGM communities, including Indigenous peoples, women, children and migrants.

2. Impact of COVID-19 on Peru ASGM

ASGM provides livelihoods for about 10 million people in over 80 countries worldwide.² ASGM directly or indirectly supports around 100 million people worldwide.³ An estimated 90 per cent of the gold mining sector workforce is classified as artisanal or small-scale miners, and these workers generate around 20 per cent of the world's annual gold production.⁴ The COVID-19 pandemic is now present in all ASGM countries.⁵

ASGM communities, which were economically and socially vulnerable before the pandemic, are now experiencing increased complications from an increase in illegal mining as a result of rising gold prices and financial desperation; increased social tensions between illegal miners and Indigenous peoples; increased risk of infection on ASGM sites, which often lack basic sanitary measures; and a widening of inequalities across the supply chain and the entirety of the nation.

¹ The terms artisanal and small-scale mining (ASM) and artisanal and small-scale gold mining (ASGM) are used throughout this article, as appropriate.

² Shawn Blore, Marieke Kroll, and Kevin Telmer, 'Artisanal Gold Communities as Prime COVID-19 Intervention Targets: Supply Chain Reform, Health in Gold Out' (*Artisanal Gold Council*, 14 May 2020) www.artisanalgold.org/2020/05/artisanal-gold-communities-covid-19-intervention accessed 13 October 2020.

³ *Ibid.*

⁴ IISD, 'Global Trends in Artisanal and Small-Scale Mining (ASM): A Review of Key Numbers and Issues' (January 2018) <https://iisd.org/system/files/publications/igf-asm-global-trends.pdf> accessed 13 October 2020; Kevin Telmer, 'Impact of COVID-19 on ASGM Communities' (*Artisanal Gold Council*, 23 March 2020) <https://responsiblemines.org/en/2020/04/impact-covid-19-artisanal-small-scale-mining> accessed 13 October 2020.

⁵ Kevin Telmer and Marieke Kroll, 'COVID-19 and ASGM Communities – An Early Look at the Crisis' (*Artisanal Gold Council*, 23 March 2020) <https://artisanalgold.org/covid-19-and-asgm-communities-early-look-crisis> accessed 13 October 2020.

As the COVID-19 pandemic ushered in economy-wide shut-downs, disruptions in supply chains, and a drop in local commodity prices, the results of the global lockdown have wreaked havoc on ASM communities.⁶ Entire towns whose survival depends on the ASGM industry have been impacted for the worse.

Although numbers are not well known, there are an estimated 100,000 to 500,000 ASGM workers in Peru.⁷ ASGM workers in Peru have been greatly affected; despite early, stringent quarantine measures, as 2020 came to a close, Peru had one of the highest mortality rates from COVID-19.⁸ As of February 2021, Peru is facing a 'second wave' of COVID-19, with over 1.1 million confirmed cases of the novel coronavirus and over 40,000 reported deaths.⁹ The disruption of monetary income, the delay or absence of government aid, and increased risk of infection due to an influx of outsiders and opportunists to ASGM sites are some of the impacts of the quarantine on artisanal miners in Peru.¹⁰

2.1. Peru's informal economy, COVID-19 and ASGM

Over 70 per cent of the Peruvian workforce is considered informal, and authorities maintain this has been a key driver of the spread of COVID-19 in the country.¹¹ Despite the country's early and stringent quarantine measures,¹² many in Peru were unable to comply with stay-at-home orders because of a lack of savings and a need to continue working in order to provide for themselves and their families.¹³ Medical experts attest that the virus spread so quickly because many of the country's residents are living in a situation of vulnerability, with a vast 'informal economy where it is difficult to exercise social distancing'.¹⁴ In addition, urban areas such as Lima are characterised by crowded street markets where the

⁶ 'Emergency Action Needed for Vulnerable Artisanal & Small-Scale Mining Communities & Supply Chains' (*OECD Watch*, 12 May 2020) <https://oecdwatch.org/2020/05/12/emergency-action-needed-for-vulnerable-artisanal-and-small-scale-mining-communities-and-supply-chains> accessed 13 October 2020.

⁷ Kathleen M. Smits and others, 'Voices Mineras: Clarifying the Future of Artisanal and Small-Scale Mining Collaborations' (*The Extractives Industry and Society*, 19 December 2019) <https://sciedirect.com/science/article/pii/S2214790X19301996> accessed 1 February 2020.

⁸ MENAFN, 'Peru: Highest Mortality Rate from COVID-19' (27 August 2020) <https://menafn.com/1100706914/Peru-Highest-mortality-rate-from-COVID-19> accessed 13 October 2020.

⁹ CoronaTracker, 'Peru Overview' <https://coronatracker.com/country/peru> accessed 28 January 2021. In the fall of 2020, the Peru death rate from COVID-19 was the worst in the world, and it was double that of the more populous nations of the United States and Brazil. Jake Kincaid, 'Despite Early, Strict Quarantine Measures, Peru Has Worst COVID-19 Death Rate in the World' (*Miami Herald*, 10 September 2020) <https://miamiherald.com/news/nation-world/world/americas/article245600805.html> accessed 13 October 2020. Peru is home to 33 million people, compared to nearly 330 million in the United States and 211 million in Brazil.

¹⁰ Solidaridad, 'You Can Contribute to Alleviate COVID-19 Impact on Small-Scale Miners' (28 July 2020) <https://www.solidaridadnetwork.org/news/you-can-contribute-to-alleviate-covid-19-impact-on-small-scale-miners> accessed 28 September 2020.

¹¹ El Peruano, 'El 71.1% de los Trabajadores en el Perú son Informales' (2 April 2020) <https://elperuano.pe/noticia-el-711-de-trabajadores-el-peru-son-informales-93831.aspx> accessed 13 October 2020.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ Kincaid (n 9).

majority of residents buy their groceries. In May 2020, two of the capital's largest markets were closed when 80 per cent of vendors tested positive for COVID-19.¹⁵

Also known as 'shadow economies', informal economies have become a risk factor for the spread of COVID-19 because people employed in such industries have been unable to stay at home in lockdown in compliance with official government orders.¹⁶ Over 50 per cent of those in the informal economy in Peru report losing their entire incomes as a result of the lockdown, compared to just 16 per cent of Peruvians with formal employment.¹⁷ The mix of economic vulnerability and the lack of access to government assistance, such as unemployment insurance, has continued to exact a heavy toll on millions of Peruvians.

Informal work contributes to one-fifth of Peru's overall gross domestic product (GDP).¹⁸ Far from being integrated, reports calculate that Peru's informal sector will continue to account for a substantial portion of the economy well into 2050.¹⁹ The large size of Peru's informal economy is expected to continue to have a negative impact on the country's fiscal growth.²⁰ The country's agricultural sector is 'almost completely informal', and workers' transition from informal to formal employment occurs at much slower rate in Peru compared to other Latin American countries.²¹ States with the highest rates of informality include Huancavelica (91 per cent), Ayacucho (89 per cent), Puno (89 per cent), Cajamarca (88 per cent) and Amazonas (88 per cent).²² Many of these are home to significant ASGM activity.

From an economic standpoint, informal or 'extralegal' workforce activity is less productive because such entities have reduced access to credit and resources from the state.²³ Informal businesses are often restricted in investment and capital in part because long-term investments in extralegal activities are riskier.²⁴ According to the World Bank, one of the primary drivers of Peru's informal economy is the country's business and labour regulations, which the Bank has cited as among the world's

¹⁵ Gestión, 'Mercado de Frutas: el 89.6% de Comerciantes Testeados Dio Positivo Para Coronavirus' (15 May 2020) <https://gestion.pe/peru/coronavirus-peru-las-victoria-el-896-de-comerciantes-testeados-del-mercado-modelo-de-frutas-dio-positivo-a-covid-19-fotos-ndc-noticia> accessed 13 October 2020; Kincaid (n 9).

¹⁶ John Letzing, 'The Plight of Peru Illustrates the Danger of COVID-19 to Developing Countries' (*World Economic Forum*, 17 June 2020) <https://weforum.org/agenda/2020/06/the-plight-of-peru-illustrates-the-danger-of-covid-19-to-developing-countries> accessed 13 October 2020.

¹⁷ *Ibid.*

¹⁸ Korey Finn, 'The Informal Economy in Peru: A Blueprint for Systemic Reform' (*Lehigh Preserve*, 2017) <https://core.ac.uk/download/pdf/228665033.pdf> accessed 1 February 2021.

¹⁹ Centro Nacional de Planeamiento Estratégico (CEPLAN), 'Economía informal en Perú: Situación actual y perspectivas' (2016) <https://perureports.com/wp-content/uploads/2016/08/Economia-informal-en-Peru-situacion-actual-perspectivas-15-03-2016.pdf> accessed 1 February 2021.

²⁰ *Ibid.*

²¹ 'Informality persists with a low probability of transition to formal employment,' states the report. Colin Post, 'Peru's Informal Economy to Persist for Decades: Report' (*Peru Report*, 10 May 2016) <https://perureports.com/perus-informal-economy-persist-decades-report/3901> accessed 1 February 2021. Ninety-five per cent of Peruvians with no high school education and 92 per cent of workers in rural areas work informally, or outside the law. Colin Post, 'World Bank Recommends Peru Loosen Labor Regulations', (*Peru Report*, 8 October 2015) <https://perureports.com/world-bank-recommends-peru-loosen-labor-regulation/2422> accessed 1 February 2021.

²² CEPLAN (n 19).

²³ 'Peru's Informal Economy to Persist for Decades: Report' (*Peru Report*, 10 May 2016) <https://perureports.com/perus-informal-economy-persist-decades-report/3901> accessed 1 February 2021.

²⁴ *Ibid.*

most restrictive.²⁵ To boost the formal economy, a 2016 Peruvian state report recommends a combination of more flexible labour laws, improved government transparency and increased state spending on education, social programmes and infrastructure.²⁶

Overall, the vastness of Peru's informal economy means that those who are in greatest need of government support and resources are often ineligible for them: 'The linkage of social benefits to formal employment means that the groups most in need of aid and services lack access to them'.²⁷ This includes women workers, 80 per cent of whom are part of the informal economy; agricultural workers, including the vast majority of those engaged in ASGM; workers with less than a high school education; workers under 30; and 99 per cent of low-income workers.²⁸ These groups, which are most likely to be impoverished or in need of state aid, particularly during times of crisis, are often the least able to access government resources under the current legal framework.

The extensive spread of COVID-19 in Peru, made worse by the entrenched informal economy, has exposed the nation's deep inequalities and exacerbated economic vulnerabilities.²⁹ Only one in three lower-income households in Peru has access to running water, for instance.³⁰ Without widespread access to running water, soap and disinfectants, communities are at a higher risk for contracting and passing on COVID-19. The World Health Organization (WHO) states that what is happening in Peru is a stark example of how lockdown is affecting many low- and middle-income countries around the world.³¹ As the pandemic continues, it disproportionately impacts developing countries, in part due to the lack of social safety nets and the prevalence of informal economies that tend to be a characteristic of many of these countries.³²

Artisanal and small-scale mining (ASM) makes up a large portion of the informal economy in Peru's rural areas. The lack of jobs elsewhere as a result of the lockdown has led to an increase in illegal mining, including gold mining, in the Peruvian Amazon.³³ The arrival of illegal miners from outside regions may be a driving force behind the number of deaths in Madre de Dios. As of 29 June 2020, Madre de Dios had less than 1500 confirmed cases and less than 30 deaths.³⁴ However, by January 2021, over 9700 cases had been confirmed in the Madre de Dios region,

²⁵ Post, 'World Bank Recommends' (n 21).

²⁶ CEPLAN (n 19).

²⁷ Finn (n 18).

²⁸ *Ibid.*

²⁹ Mitra Taj and Anatoly Kurmanaev, 'Virus Exposes Weak Links in Peru's Success Story' (*New York Times*, 12 June 2020) https://nytimes.com/2020/06/12/world/americas/coronavirus-peru-inequality-corruption.html?campaign_id=57&emc=edit_ne_20200612&instance_id=19369&nl=evening-briefing®i_id=84340260&segment_id=30822&te=1&user_id=0a1c49ffc02efac2ea755060e0a20c32 accessed 13 October 2020.

³⁰ *Ibid.*

³¹ Letzing (n 16).

³² *Ibid.*

³³ Peter Velt and Patricia Quijano Vallejos, 'COVID-19, Rising Gold Prices and Illegal Mining Threaten Indigenous Lands in the Amazon' (*World Resources Institute*, 8 September 2020) <https://wri.org/blog/2020/09/covid-19-rising-gold-prices-and-illegal-mining-threaten-indigenous-lands-amazon> accessed 13 October 2020.

³⁴ Sergio Saffron, 'Soaring Gold Prices During Pandemic Fuel Peru's Illegal Gold Mining' (*InSight Crime*, 30 June 2020) <https://insightcrime.org/news/brief/peru-coronavirus-illegal-mining> accessed 13 October 2020.

with nearly 167 deaths.³⁵ Authorities warned that an increase in illegal mining and influx of those seeking ASGM work in Madre de Dios could lead to a spreading of the virus, given the region's poor infrastructure and ability to prevent, detect and treat cases,³⁶ and it seems those fears have been realised.

Artisanal and small-scale miners in particular may find it difficult to comply with social distancing rules.³⁷ For many in this sector, artisanal mining is their sole source of income.³⁸ Across the globe, these miners need to access fast cash and must continue working, so despite shutdown measures, COVID-19 health and safety regulations may not always be respected at mining sites.³⁹

Further exacerbating the situation, many ASGM operations occur in geographic areas where the healthcare infrastructure is insufficient to attend to a medical emergency at the scale of the novel coronavirus pandemic.⁴⁰ In Peru, the remoteness of Madre de Dios and other regions where ASGM occurs contributes to the difficulty of providing adequate access to health services for artisanal miners.⁴¹

Overall, more than a quarter of a million artisanal and small-scale miners in Peru have been profoundly economically impacted by the COVID-19 crisis.⁴² Peru is the top gold producer in Latin America, producing a total of nearly 130 metric tons in 2019.⁴³ ASGM is a critical component that produces up to 20 per cent of the country's gold.⁴⁴ Major economic effects of the pandemic on ASGM in Peru include an absence of formal buyers of ore; speculation of the price of gold by the black market; a shortage of inputs, and indebtedness with high interest rates; and a massive disruption of the supply chain, which has led to a 'domino effect' of negative financial consequences for artisanal miners and suppliers.⁴⁵

³⁵ MINSA, 'Sala Situacional: COVID-19 Perú' (2020) https://covid19.minsa.gob.pe/sala_situacional.asp accessed 28 January 2021.

³⁶ Saffron (n 34); see Adam Rolfe and Estelle Levin-Nally, 'Six Reasons Why COVID-19 Response Planning Should Prioritise ASM Communities' (*Levin Sources*, 21 April 2020) <https://levinsources.com/knowledge-centre/insights/covid19-response-planning-prioritise-asm-communities> accessed 13 October 2020.

³⁷ 'Emergency Action Needed' (n 6); see Shamiso Mtisi and others, 'COVID-19: Mining Sector and Communities' Situational Report (Sit-Rep) 3rd Series' (*Zimbabwe Environmental Law Group*, May 2020) <http://www.zela.org/covid-19-publications> accessed 13 October 2020.

³⁸ Blore, Kroll, and Telmer (n 2).

³⁹ See Mtisi and others (n 37).

⁴⁰ Kenneth Davis, 'Monitoring the Impacts of COVID-19 on Artisanal and Small-Scale Mining' (*planetGOLD*, 1 April 2020) <https://planetgold.org/monitoring-impacts-covid-19-artisanal-and-small-scale-gold-mining> accessed 28 September 2020.

⁴¹ See Gisselle Vila Benites and Anthony Bebbington, 'Political Settlements and the Governance of COVID-19: Mining, Risk, and Territorial Control in Peru' (*Journal of Latin American Geography*, 27 May 2020) <https://muse.jhu.edu/article/760941> accessed 11 August 2020.

⁴² UNDP Peru, 'How Can Peru Transform Artisanal Mining After COVID-19?' (*planetGOLD*, 25 May 2020) <https://planetgold.org/how-can-peru-transform-artisanal-mining-after-covid-19> accessed 13 October 2020.

⁴³ Statista, 'Distribution of Gold Mine Production in Peru 2019, By Region' (19 August 2020) <https://www.statista.com/statistics/1030921/peru-gold-mine-production-region> accessed 13 October 2020. Shawn Blore, Marieke Kroll, and Kevin Telmer, 'Artisanal Gold Communities as Prime COVID-19 Intervention Targets: Supply Chain Reform, Health In Gold Out' (*Artisanal Gold Council*, 14 May 2020) <https://www.artisanalgold.org/2020/05/artisanal-gold-communities-covid-19-intervention/> accessed 13 October 2020.

⁴⁴ UNDP Peru (n 42).

⁴⁵ Franco Arista, 'ASGM in the Time of COVID-19: How to Reactivate Artisanal and Small-Scale Mining in Peru?' (*planetGOLD/UNDP*, 27 April 2020) <https://planetgold.org/sites/default/files/>

2.2. COVID-19, mining and the Peruvian economy

COVID-19 has had a widespread impact on Peru's national economy, with the quarantine paralysing at least 55 per cent of the Peruvian GDP.⁴⁶ The informal economy has been particularly impacted by COVID-19.⁴⁷ Peru's National Statistics Institute estimates that as much as 72 per cent of the country's economy and as many as 12.5 million workers belong to the informal sector (compared to the 53 per cent informality rate across Latin America and the Caribbean as a whole).⁴⁸ The cessation of artisanal and small-scale mining activities has directly or indirectly impacted more than 1 million families across the nation.⁴⁹ ASGM workers are highly vulnerable, with limited access to cash and savings.⁵⁰ In several Latin American countries, including Peru, government policy has created increased economic and social vulnerability for artisanal and small-scale miners by freezing mining operations without providing alternative forms of financial support.⁵¹

On 15 March 2020, President Martín Vizcarra declared a national state of emergency in response to COVID-19.⁵² This declaration legally restricted most economic activities.⁵³ On 17 March, Peru's Ministry of Energy and Mines met with representatives of the large-scale mining (LSM) sector, thereby resulting in the exemption of LSM from the state of emergency.⁵⁴ However, only large-scale mining was exempted.⁵⁵ Regarding ASGM, all official formalisation processes were effectively suspended.⁵⁶ Peru, which is the sixth largest gold producer and the second largest copper producer in the world, has 'earmarked' the mining sector as a launching pad for its post-coronavirus economic recovery.⁵⁷

The Peruvian government implemented a framework to re-open the economy in four phases.⁵⁸ The Peruvian government implemented an initial US\$28 billion emergency package, equivalent to 12 per cent of Peru's GDP.⁵⁹ The emergency stimulus package included a fund to direct cash transfers to support three million poor and

2020-04/ASGM%20in%20the%20time%20of%20COVID-19_planetGOLD_EN.pdf accessed 13 October 2020.

⁴⁶ See Vila Benites and Bebbington (n 41). The second quarter alone of 2020 saw GDP fall 30 per cent. <https://elcomercio.pe/economia/peru/economia-peruana-cierra-segundo-trimestre-con-caida-de-302-tras-el-golpe-de-la-pandemia-pbi-ndc-noticia> (20 August 2020) accessed 11 October 2020.

⁴⁷ Arista (n 45).

⁴⁸ *Ibid*; John Letzing, 'The Plight of Peru Illustrates the Danger of COVID-19 to Developing Countries' (*World Economic Forum*, 17 June 2020) <https://www.weforum.org/agenda/2020/06/the-plight-of-peru-illustrates-the-danger-of-covid-19-to-developing-countries/> accessed 13 October 2020.

⁴⁹ Arista (n 45).

⁵⁰ UNDP Peru (n 42).

⁵¹ See Vila Benites and Bebbington (n 41).

⁵² *Ibid*.

⁵³ Supreme Decree 044-2020.

⁵⁴ See Vila Benites and Bebbington (n 41).

⁵⁵ *Ibid*.

⁵⁶ *Ibid*.

⁵⁷ Bnamericas, 'Peru Seeking to Kickstart US\$58bn Mining Project Pipeline' (16 July 2020) <https://bnamericas.com/en/news/peru-seeking-to-kickstart-us58bn-mining-project-pipeline> accessed 14 October 2020.

⁵⁸ KPMG, 'Peru: Government and Institution Measures in Response to COVID-19' (last updated 12 August 2020) <https://home.kpmg/xx/en/home/insights/2020/04/peru-government-and-institution-measures-in-response-to-covid.print.html>; <https://pe.usembassy.gov/covid-19-information> accessed 11 October 2020.

⁵⁹ See Vila Benites and Bebbington (n 41).

extremely poor households, as well as 780,000 casual workers.⁶⁰ In addition, the government has provided four monetary subsidies to the Peruvian population, including the ‘I stay at home’ voucher, ‘independent’ voucher, ‘rural’ voucher and ‘universal family’ voucher.⁶¹ Known as ‘bonos’, these monetary subsidies were granted by the government to people living in poverty. However, many eligible families report not receiving the subsidy.⁶² To compound the issue, illegal miners and many working in the ASGM sector are not eligible for the government subsidy at all.⁶³

2.3. Contrast between government treatment LSM and of ASGM

Peru has implemented divergent policy responses to LSM compared to ASGM in the wake of the COVID-19 pandemic. According to one account, ‘Peru’s response to COVID-19 has favored LSM interests while constraining livelihood possibilities for artisanal and small-scale miners’.⁶⁴ Much of the favourable treatment may be due to LSM’s outsized role in Peru’s economy: mining encompasses nearly a quarter of the country’s foreign direct investment (FDI).⁶⁵ It accounts for close to 14 per cent of the country’s GDP, and a whopping 60 per cent of exports.⁶⁶ ASGM does contribute an estimated 20 to 30 per cent of Peru’s annual gold production,⁶⁷ yet LSM’s financial role in Peru’s economy remains significant. In addition, a field interview conducted between our research team and a former government official involved in formalisation of the ASM sector clarified that politically, ASM is often viewed with a negative bias, in part because of the environmental issues the sector causes, such as pollution and environmental degradation.⁶⁸

As a positive step for ASM, the Ministry of Economy and Finance has put in place measures to support micro, small and medium-sized enterprises (MSMEs) during the pandemic.⁶⁹ Formalized ASGM operations are part of this group.⁷⁰ Artisanal and small-scale miners who qualify for this programme are eligible for government subsidies of up to 35 per cent of their salaries, for employees who earn up to 1500 soles a year (US\$430).⁷¹ In addition, the ministry has authorised the withdrawal of up to 2000

⁶⁰ *Ibid.*

⁶¹ Bono ‘yo me quedo en casa’, bono independiente, bono rural, and bono familiar universal in Spanish.

⁶² See Vila Benites and Bebbington (n 41).

⁶³ Reports show that many artisanal and small-scale miners have not received government benefits for COVID-19 relief, as miners who are self-employed or illegal may not be eligible. See Isabelle Ramdoo, ‘The Impact of COVID-19 on Employment in Mining’ (IGF, June 2020) <https://iisd.org/sites/default/files/publications/covid-19-employment-mining-en.pdf> accessed 13 October 2020; Tina Blazquez-Lopez, ‘The Effect of COVID-19 on Women in Artisanal Mining’ (Bryan Cave Leighton Paisner LLP, 8 June 2020) <https://lexology.com/library/detail.aspx?g=708720a4-eeb7-4c00-b487-b84ea179c5a6> accessed 28 September 2020.

⁶⁴ See Vila Benites and Bebbington (n 41).

⁶⁵ Pablo de la Flor, ‘Mining and Economic Development in Peru’ (*ReVista: Harvard Review of Latin America*, 2014) <https://revista.drclas.harvard.edu/book/mining-and-economic-development-peru> accessed 28 September 2020.

⁶⁶ *Ibid.*

⁶⁷ Livia Wagner, ‘Organized Crime and Illegally Mined Gold in Latin America’ (*The Global Initiative Against Transnational Organized Crime*, April 2016) https://arcominero.infoamazonia.org/GIATOC-OC_Illegally-Mined-Gold-in-Latin-America-3c3f978eef80083bdd8780d7c5a21f1e.pdf accessed 13 October 2010; UNDP Peru (n 42).

⁶⁸ Interview with former government official, 21 September 2020.

⁶⁹ Arista (n 45); Blazquez-Lopez (n 63).

⁷⁰ *Ibid.*

⁷¹ *Ibid.*

Table 1. Key Peruvian legislation and actions in response to COVID-19.

Phases	Implementing Legislation and Economic Activities
Phase 1	Supreme Decree 080-2020-PCM (May 2, 2020): Approved the reactivation of economic activities in four phases. It included a list of approved activities considered in Phase 1, which began in May 2020.
Phase 2	Supreme Decree 101-2020-PCM (June 4, 2020), amended by Supreme Decree 110-2020-PCM: Approved the beginning of Phase 2, which includes small-scale mining and formalised artisanal mining.
Phase 3	Supreme Decree 117-2020-PCM (June 30, 2020): Approved the beginning of Phase 3, which includes all energy and mines sector activities not considered in Phase 1 and 2. This includes the majority of informal artisanal and small-scale mining activities.
Phase 4	Supreme Decree 157-2020-PCM (October 1, 2020): The beginning of Phase 4 was delayed, due to the increase of cases of COVID-19 in the country, until October 1.

soles (US\$580) from pension funds for contributing workers, and a bonus of 380 soles (US\$110) for vulnerable populations.⁷²

However, in Madre de Dios, police and military-led interdiction operations to eradicate illegal mining, some of which began in 2019 and have resulted in a year-long state of emergency, have rendered many families ineligible as beneficiaries of the emergency package.⁷³ In contrast, most of those involved with LSM are eligible for benefits.⁷⁴

In addition, LSM was almost immediately exempted under the national state of emergency.⁷⁵ Through a decree issued on 2 May 2020, the Peruvian government authorised LSM companies to resume operating activities on that same day, during the first phase of economic reactivation (Table 1).⁷⁶ Commentators note that LSM is the principal contributor to Peru's fiscal stabilisation fund, which may have played some role in the decision to approve the exemption.⁷⁷ This is despite the fact that by early May, eight LSM companies had experienced confirmed exposure to the coronavirus, with a total of 264 reported cases.⁷⁸ An internal report from the Ministry of Energy and

⁷² *Ibid.* The 380 soles bonus is one of the 'bonos', or monetary subsidies from the Peruvian government.

⁷³ See Vila Benites and Bebbington (n 41); Manuel Calloquispe Flores, "Coronavirus en Perú: vivir en cuarentena, en la pobreza y sin beneficios en Madre de Dios," *El Comercio* (March 31, 2020) <https://elcomercio.pe/peru/madre-de-dios/coronavirus-en-peru-vivir-en-cuarentena-en-la-pobreza-y-sin-beneficios-en-madre-de-dios-fotos-noticia/?ref=ecr> accessed 27 June 2020.

⁷⁴ *Ibid.*; Ramdoo (n 63).

⁷⁵ See Vila Benites and Bebbington (n 41). Article 4.1 of Supreme Decree 044-2020-PCM lists the essential services and goods. Article 4.1(1) provided, as an exception, that in the case of productive and industrial sectors the Ministry of Economy and Finance (it was later amended for 'the competent sector'), this may include additional activities, only if they do not affect the National State of Emergency and they comply with the required sanitary measures. On 17 March, by means of OFICIO 059-2020-EF-10.01, the Minister of Economy and Finance gave his consent to the proposal to include the mining sector in the exceptions provided in article 4.1(l) of Supreme Decree 044-2020-PCM, in order to guarantee the maintenance of critical operations with the minimum essential personnel, in safe, healthy and environmentally sound conditions.

⁷⁶ Jessica Casey, 'Great Panther COVID-19 Update' (*Global Mining Review*, 7 May 2020) <https://globalminingreview.com/mining/07052020/great-panther-covid-19-update> accessed 28 September 2020.

⁷⁷ Velt and Quijano Vallejos (n 33).

⁷⁸ Of these, 216 are associated with Antamina Mining Company. The company had to stop operations following the identification of seven cases and the protest of miners. See Vila Benites and Bebbington (n 41). The massive Antamina mine, controlled by BHP and Glencore, was the largest mining outbreak in the country, and one of the worst reported worldwide. Marco Aquino, 'Exclusive: Peru Miners Restart Pandemic-Hit Operations with Mass Testing, Isolating Workers' (*Reuters*, 18 June 2020) <https://reuters.com>.

Mines stated that as of 22 May, 821 mining workers were confirmed infected with COVID-19.⁷⁹

3. Global pandemic leads to an increase in the price of gold as investors seek 'safe haven', yet the field price of ASM gold plummeted

Gold is unique compared to other commodities in that it has seen a sharp increase in price throughout the global lockdown, while other minerals have experienced sharp price decreases.⁸⁰ Despite the supply chain challenges and other difficulties with gold trading that have occurred since lockdown began, the international price of gold has boomed as investors seek a 'safe haven' in the perceived security of gold during the crisis.⁸¹ In addition, government stimulus packages to address the pandemic have driven down borrowing rates, raised fears about inflation,⁸² and supported a further increase in the price of gold.⁸³

The commodities price of gold hit a 'record high' of nearly \$2100 per ounce in August 2020, compared to a price of \$1600 in early March, pre-lockdown.⁸⁴ Although the price of gold has been rising for years, the pandemic and ensuing economic crisis have resulted in an investor-led surge in price on the world market.⁸⁵ In contrast, the field price of gold, meaning the price artisanal and small-scale miners are receiving for gold on the ground, plummeted in 2020. The increase in worldwide gold prices is not reflected in the price artisanal and small-scale miners receive; on the contrary, very little of the increase in gold prices has been realised at the local level.⁸⁶ In Peru, when the country closed its borders in March 2020, local purchases of gold were set at 50 per cent of the international price, at most.⁸⁷ This is in contrast to the pre-pandemic price of gold in Peru, which was often closer to 97 per cent of the international market price (see Table

com/article/us-health-coronavirus-peru-mining-exclus/exclusive-peru-miners-restart-pandemic-hit-operations-with-mass-testing-isolating-workers-idUSKBN23P1L6 accessed 13 October 2020.

⁷⁹ Servindi, 'Minería y Petróleo: Las Consecuencias Devastadoras de los Privilegiados' (24 May 2020) <https://servindi.org/actualidad-noticias/24/05/2020/mineria-y-petroleo-las-consecuencias-devastadoras-de-los> accessed 13 October 2020.

⁸⁰ According to the Artisanal Gold Council,

Other commodities have seen prices decline as the world economy slows under the pressure of lockdowns and other restrictions on the movement of goods and people. Tin prices on the London Metal Exchange have fallen by 10% from beginning of March to beginning of May, cobalt by about 5% over the same period.

Diamond prices have also experienced a decline, with diamond traders and miners facing problems with liquidity. Blore, Kroll, and Telmer (n 2).

⁸¹ Velt and Quijano Vallejos (n 33); Blore, Kroll, and Telmer (n 2).

⁸² CNBC, 'Gold Rises as New Coronavirus Cases Spur Lockdown Fears' (18 June 2020) <https://cnbc.com/2020/06/19/gold-markets-coronavirus-dollar-in-focus.html> accessed 28 September 2020.

⁸³ Velt and Quijano Vallejos (n 33).

⁸⁴ *Ibid*; Blore, Kroll, and Telmer (n 2).

⁸⁵ Velt and Quijano Vallejos (n 33).

⁸⁶ Blore, Kroll, and Telmer (n 2); The Conversation, 'Meet the Struggling Gold Miners Who Are Missing Out on Boom in the Precious Metal' (21 May 2020) <https://theconversation.com/meet-the-struggling-gold-miners-who-are-missing-out-on-boom-in-the-precious-metal-138997> accessed 13 October 2020.

⁸⁷ Arista (n 45). However, with the re-opening of borders and economic reactivation, gold prices have since stabilised. Mona Avalos, 'Updates on COVID-19 Impacts in PlanetGOLD Countries' (planetGOLD, 21 December 2020) <https://planetgold.org/updates-covid-19-impacts-planetgold-countries> accessed 28 January 2021.

Table 2. Price of gold pre-COVID-19 and post-COVID-19 as of March 2020.^a

Country	Field Price USD/GRAM Pure Gold (99.9%)	% International Price Pre-COVID19	% International Price Post-COVID19
Colombia	24.46	92.0%	46.8%
Peru	26.10	97.7%	51.3%
Burkina Faso	35.99	93.9%	60.9%
Mali	38.70	94.1%	76.0%
Mongolia	48.36	95.9%	95.0%
Papua New Guinea	33.73	74.8%	64.7%

^aKevin Telmer, 'Impacts of COVID-19 on ASGM Communities' (*Artisanal Gold Council*, 23 March 2020) <https://artisanalgold.org/2020/03/possible-impacts-of-covid-19-on-asgm-communities> accessed 28 September 2020.

2).⁸⁸ This divergence between rising prices on the world market and plummeting local prices was unique to gold.⁸⁹

Low gold prices at the local level led to a surplus in the artisanal and small-scale gold supply in Peru.⁹⁰ This resulted in the excess volume of artisanal gold that is either being sold at rock-bottom prices or cannot be sold at all.⁹¹ The closure of the border due to the quarantine resulted in the restricted extraction and trade of gold in Peru, which exacerbated the surplus issue.⁹² Similar dynamics have been observed in artisanal and small-scale gold communities around the globe, from Ghana to Burkina Faso to Colombia to Suriname.⁹³

According to Kevin Telmer, Executive Director of the Artisanal Gold Council, 'The supply chain is collapsing ... Buyers have gone into isolation in some cases, so people are stuck with their gold'.⁹⁴ The payment chain was fractured, which directly affected artisanal and small-scale miners.⁹⁵ Productivity and income decreased for artisanal and small-scale miners around the globe because of 'increasing logistical complications with supply chains, labour disruptions, and ... government mandated lock downs'.⁹⁶

4. COVID-19 and the disruption of artisanal and small-scale gold supply chains

COVID-19 and the resulting lockdowns contributed to widespread disruption of the worldwide supply chains for gold throughout 2020 and beyond. The closure of state

⁸⁸ Kevin Telmer, 'Impacts of COVID-19 on ASGM Communities' (*Artisanal Gold Council*, 23 March 2020) <https://artisanalgold.org/2020/03/possible-impacts-of-covid-19-on-asgm-communities> accessed 28 September 2020.

⁸⁹ Arista (n 45).

⁹⁰ Arista (n 45); UNDP Peru (n 42).

⁹¹ *Ibid.*

⁹² UNDP Peru (n 42).

⁹³ Helen Reid and Jeff Lewis, 'Subsistence Miners Lose Out as Coronavirus Crushes Local Gold Prices' (*Reuters*, 31 March 2020) <https://reuters.com/article/health-coronavirus-mining-artisanal/subsistence-miners-lose-out-as-coronavirus-crushes-local-gold-prices-idUSL8N2BN670> accessed 11 August 2020.

⁹⁴ *Ibid.*

⁹⁵ UNDP Peru (n 42).

⁹⁶ Telmer, 'Impacts of COVID-19 on ASGM Communities' (n 88).

borders and legal business channels resulted in disrupted supply chains.⁹⁷ Disrupted supply chains in some cases slowed or halted production entirely.⁹⁸ The longer that ASGM supply chains are affected by the global shutdown, the wider the effects that permeate across the board. Even where mining exemptions meant that ASGM in some form was allowed to legally continue to operate during lockdown, such as was the case in Peru with ASM activities being phased in over time, ASGM supply chains have still been affected.⁹⁹

Mining is a supply chain-based sector that does not operate in isolation; it relies on multiple other sectors in order to function, from production to purchasing to selling. When other sectors of the economy are prevented from operating, such as the informal trading posts in Madre de Dios where many of the region's artisanal and small-scale miners sell their gold,¹⁰⁰ disruptions in the supply chain are enduring, crippling and inevitable.

The Artisanal Gold Council stated:

Within regions, border restrictions on the movement of goods and people have hindered or prevented the evacuation of minerals. Within countries, artisanal miners have been affected by local restrictions on movement that – while necessary and laudable from a public health perspective – restrict their ability to access their mine sites, or travel to local service towns to sell their product, obtain supplies or access health care facilities.

Supply chain disruptions resulted in artisanal and small-scale miners being partially or fully prevented from excavating and selling minerals.¹⁰¹ Lockdown led to a lack of formal buyers of ore.¹⁰² The field price of gold was then pushed down and impacted by the black market, given the restricted access to legitimate trading channels.¹⁰³ The shortage of inputs has led to indebtedness for many ASGM workers, with high interest rates.¹⁰⁴

In Peru, impacts of the artisanal and small-scale gold supply chain disruption are being felt in multiple sectors. The artisanal and small-scale gold miners, suppliers and *pallaqueras* are being impacted by the frozen chain of payments and a severe lack of liquidity.¹⁰⁵ The disruption in the ASGM payment chain and the resulting lack of liquidity has a trickle-down and cumulative effect: on the 'downstream' side of the supply chain, border lockdowns are interrupting payments from the manufacturers of finished goods; the purchasers, marketers and distributors of purified gold; and component manufacturers.¹⁰⁶ Smelters and refineries, which represent the midpoint of the gold supply chain,¹⁰⁷ are then impacted by the government quarantine and the lack of

⁹⁷ 'Emergency Action Needed' (n 6).

⁹⁸ Ramdoor (n 63).

⁹⁹ Arista (n 45).

¹⁰⁰ For a detailed description of how the Peruvian ASGM supply chain has been affected by COVID-19, see *ibid.*

¹⁰¹ Bløre, Kroll, and Telmer (n 2).

¹⁰² Arista (n 45).

¹⁰³ *Ibid.*

¹⁰⁴ *Ibid.*

¹⁰⁵ *Ibid.*

¹⁰⁶ For a detailed description of the gold supply chain, see Lee Williams, 'Exploring the Gold Supply Chain' (Minespider, 14 March 2019) <https://minespider.com/blog/exploring-the-gold-supply-chain>.

¹⁰⁷ *Ibid.*

liquidity.¹⁰⁸ Restrictions on air travel and other forms of transportation disrupt transportation of gold to refineries.¹⁰⁹ On the ‘upstream’ side of the gold supply chain, traders are unable to receive cash from the refineries or benefit plants, due to quarantine; in turn, artisanal and small-scale miners are unable to receive money from the traders.¹¹⁰ This lack of liquidity has a domino effect on entire communities.¹¹¹

The economic impact of disrupted supply chains widens when the secondary industries that depend on ASGM are taken into account. ASGM service providers, including industries that provide food, equipment and accommodations to artisanal and small-scale miners, are all affected by the restricted chain of payment during these times.¹¹² A unique feature of ASGM is that, because of its informal nature yet significant financial contribution to Peru’s GDP, entire towns have sprung up outside of official government control, entirely dependent on the ASGM industry. In the province of Madre de Dios and other areas of Peru, such ASGM-dependent towns are complete with doctor’s offices, churches, restaurants and bars.¹¹³ Other employment opportunities peripheral to ASGM include food services, gold trading and processing, entertainment and security.¹¹⁴

Madre de Dios in particular is a region deeply affected by COVID-19’s effects on ASGM. Statistics from the government of Peru estimate that 74 per cent of workers in the region are involved in the ASGM sector.¹¹⁵ Regions such as Arequipa, Ayacucho and Apurímac have nearly a quarter of workers involved in the ASGM sector, and in the Puno and Piura regions ASGM workers represent 8 per cent and 2 per cent of the workforce, respectively.¹¹⁶ Overall, COVID-19 has impacted the more than 250,000 ASGM workers in Peru,¹¹⁷ which has in turn affected more than 1 million Peruvian families (Figure 1).¹¹⁸

According to the Artisanal Gold Council, policy action that reinvigorates frozen mineral supply chains is the main solution to support ASGM communities that have been deeply affected by lockdowns.¹¹⁹ Even more than temporary income support

¹⁰⁸ Arista (n 45).

¹⁰⁹ *Ibid.*

¹¹⁰ *Ibid.*

¹¹¹ *Ibid.*

¹¹² *Ibid.*

¹¹³ Nate Frierson, ‘Economic Informality and Gold Mining in Madre de Dios’ (*Public Policy Peru*, 1 April 2018) <https://umdpolicyperu2016.wordpress.com/2018/04/01/economic-informality-and-gold-mining-in-madre-de-dios> accessed 11 August 2020.

¹¹⁴ Patrick Wieland, ‘Hernando de Soto, the Lone Prospector and the Formalization of Artisanal and Small-Scale Mining: A Case Study from La Rinconada, Peru’ (*Environ: Environmental Law and Policy Journal* 43(1), 28 February 2020 <https://environ.law.ucdavis.edu/volumes/43/1/Articles/Wieland.pdf>) accessed 11 August 2020. Our research team interviewed an author and researcher specialising in the Peru ASM sector (21 August 2020), and he stated: ‘Illegal works within legal. The productive chain in Madre de Dios always has a link to the formality’ (translated from Spanish). As an example, he discussed the case of a large beer company in Peru. The company had a local distributor of beer in La Pampa, which sold over 1 million soles every month to the brothels in the area. That amounted to millions of soles every year, more than the budget of Peru’s National Plan Against Human Trafficking. The only operation the distributor banked were the direct payments to the company. The rest of the transactions occurred outside the official banking system in Peru.

¹¹⁵ Arista (n 45).

¹¹⁶ *Ibid.*

¹¹⁷ UNDP Peru (n 42).

¹¹⁸ Arista (n 45).

¹¹⁹ Blore, Kroll, and Telmer (n 2).

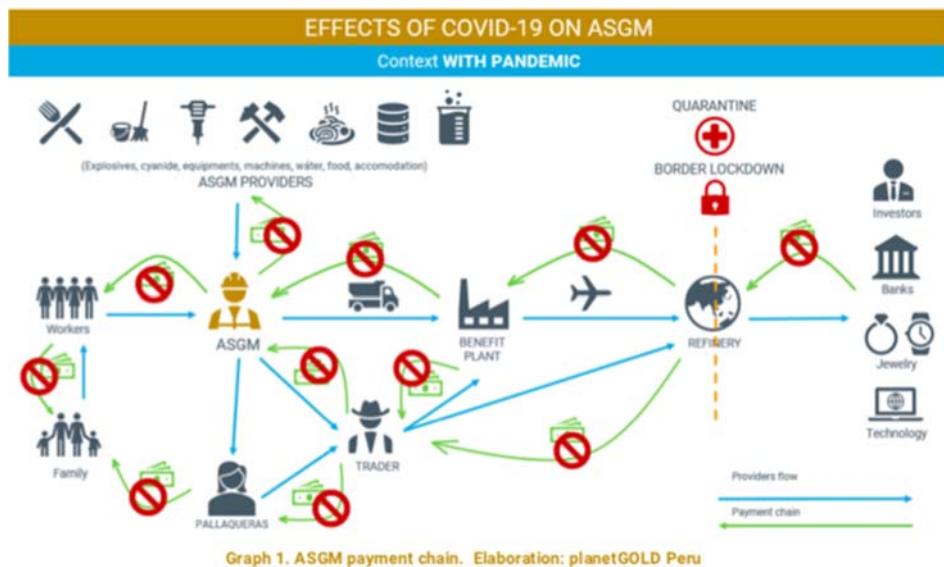


Figure 1. Effects of COVID-19 on ASGM in Peru. Franco Arista, 'ASGM in the Time of COVID-19: How to Reactivate Artisanal and Small-Scale Mining in Peru?' (planetGOLD/UNDP, 27 April 2020) https://www.planetgold.org/sites/default/files/2020-04/ASGM%20in%20the%20time%20of%20COVID-19_planetGOLD_EN.pdf accessed 13 October 2020.

or coordinated health and safety measures, reopening and restarting supply chains is cited as the number one way to safeguard the livelihood of artisanal and small-scale miners.¹²⁰ Put simply, '[t]he best and most important thing that can be done for artisanal gold miners and their dependents is simply to buy their gold', and this includes working to find ways to reconnect gold supply chains and begin trading again.¹²¹

To address this concern, the Artisanal Gold Council has piloted the purchasing of small volumes of artisanal gold. The gold has been purchased at 'near pre-COVID prices', and the minerals have been exported to refineries for the purpose of tracking the real-time legal and logistical challenges of re-starting frozen supply chains during the widespread lockdowns.¹²²

In response to the pandemic, a group of global civil society organisations and community-based associations have called for governments, financing institutions, private actors and others to support the ASGM sector and formalization by adhering to actions in alignment with the Organisation for Economic Co-operation and Development (OECD) Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (hereinafter 'OECD Due Diligence Guidance' or 'Guidance').¹²³ Adopted in 2011, the OECD Due Diligence Guidance is a

¹²⁰ *Ibid*; Telmer, 'Impacts of COVID-19 on ASGM Communities' (n 88).

¹²¹ Blore, Kroll, and Telmer (n 2).

¹²² *Ibid*.

¹²³ 'Emergency Action Needed' (n 6); OECD, 'OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas' (April 2016) <http://www.oecd.org/daf/inv/mne/mining.htm> accessed 13 October 2020.

leading global standard for responsible mineral supply chains.¹²⁴ The Guidance is part of a government-backed, multi-stakeholder collaborative that clarifies how companies can identify and manage risks through the mineral supply chain, from miners, local exporters and mineral processors to the brand-name companies that sell the end product.¹²⁵ The Guidance, which provides a framework for industry to engage in risk-based due diligence in the minerals supply chain, supports supply chains in the development of transparency and integrity.¹²⁶ The Guidance calls for companies engaged in mineral supply chains to ‘respect human rights, observe applicable rules of international humanitarian law in situations of armed conflict, and avoid contributing to conflict’.¹²⁷ In addition, the Guidance supports companies in contributing to sustainable development and responsible sourcing of minerals.¹²⁸

Although Peru is not a member of the OECD, it has pledged adherence to the OECD Council Recommendation and has publicly committed to promote compliance with the Guidance by companies operating within Peru and sourcing minerals from conflict-affected or high-risk areas.¹²⁹ During these COVID-19 times, illegal mining in Peru has surged, bringing with it complications such as increased criminal activity, gang and cartel activity, and violence.¹³⁰ The disruption of the gold supply chain has led to issues concerning human trafficking, labour rights and a negative ripple effect on industries directly or indirectly dependent on ASGM. It is important for governments, industry and other actors to support the resiliency of the ASGM sector at this time.

5. COVID-19 and rising gold prices lead to surge in illegal mining in Peru

Rising gold prices have resulted in an increased demand for illegal mining in the Amazon, including Peru.¹³¹ The World Resources Institute indicates that the shutdown of many other sectors of the economy during the pandemic has further contributed to an increase in illegal mining activities in the Amazon.¹³² Workers who can no longer make a living in other industries are now turning to illegal mining as a source of quick

¹²⁴ OECD, ‘OECD Due Diligence Guidance’ (n 123).

¹²⁵ OECD, ‘A Global Standard Toward Responsible Mineral Supply Chains’ http://mneguidelines.oecd.org/Brochure_OECD-Responsible-Mineral-Supply-Chains.pdf accessed 13 October 2020.

¹²⁶ Louis Maréchal, ‘A Global Initiative to End Support to Conflict Through Mineral Production and Trade’ (ECDPM, July 2017) <https://ecdpm.org/great-insights/mining-for-development/global-initiative-end-support-conflict-mineral-production-trade> accessed 13 October 2020.

¹²⁷ *Ibid.*

¹²⁸ *Ibid.*

¹²⁹ OECD, ‘OECD Due Diligence Guidance’ (n 123); Maréchal (n 126); Extractives Hub, ‘OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas: Summary’ (April 2016) <https://extractiveshub.org/resource/view/id/8856> accessed 13 October 2020, outlining: “The updated version clarifies that the Guidance provides a framework for detailed due diligence as a basis for responsible supply chain management of minerals, including tin, tantalum, tungsten and gold, as well as all other mineral resources. In addition to the 35 OECD Members, 8 non-Members, namely Argentina, Brazil, Colombia, Costa Rica, Lithuania, Morocco, Peru and Romania, adhered to the Council Recommendation.”

¹³⁰ Saffron (n 34); see Yvette Sierra Praeli, ‘Forest Crimes Persist in Peru Following Indigenous Leaders’ Murder’ (Mongabay, 3 August 2020) <https://news.mongabay.com/2020/08/forest-crimes-persist-in-peru-following-indigenous-leaders-murder> accessed 13 October 2020.

¹³¹ Velt and Quijano Vallejos (n 33).

¹³² *Ibid.*

income,¹³³ even with the reduction in gold field prices. Where lockdowns have been mandated, illegal mining has continued to proliferate because of the lack of capacity for governments to enforce the quarantine in remote rural areas,¹³⁴ such as the Peruvian Amazon.¹³⁵

Rising gold prices, coupled with ongoing enforcement against illicit drug trafficking, has incentivised organised criminal groups to engage in illegal mining across the Amazon.¹³⁶ Gold is profitable, and illicit mining is an effective means to launder drug money, as there is minimal government oversight over large swaths of the massive Amazon rainforest.¹³⁷ In Peru, more gold is exported annually than is officially produced within the country each year, a tell-tale sign that ore from illicit mining makes its way into the legal supply chain.¹³⁸ Criminal groups have been a major driver of illicit gold mining over the past several years,¹³⁹ and the devastating fiscal and social consequences of the COVID-19 pandemic have likely made this issue worse.¹⁴⁰ Workers who engage in ASGM are often driven by poverty, making them vulnerable to labour exploitation and human trafficking by mafias and cartels.¹⁴¹

Illegal mining and informal mining, both of which are included in Peru's official definition of ASGM, are defined in Peru's legal framework. Approximately 30,000 miners operate without mining permits or licences in the Madre de Dios region.¹⁴² A former government official from the ASM sector stated in an interview that there are an estimated 400,000 informal miners across Peru, covering around 5000 ASM operations, including gold and other minerals.¹⁴³ In Madre de Dios, there

¹³³ See *ibid*. The Peruvian author stated in an interview (21 August 2020):

Most of the problems of Madre de Dios are not in Madre de Dios, but in Lima (where policies and laws are made), Cusco, and Puno (two areas with high levels of poverty). Since there is no work or opportunity in Cusco or Puno, the people go to Madre de Dios to work in a short term and earn enough money to go back to their home region. As long as the Government does not fight directly against poverty; does not provide adequate schools; does not implement temporary work programs for young people during school vacations; and other initiatives that generate incentives for people to stay; people will continue to migrate to Madre de Dios. (translated from the original Spanish)

¹³⁴ Telmer, 'Impacts of COVID-19 on ASGM Communities' (n 88).

¹³⁵ Velt and Quijano Vallejos (n 33).

¹³⁶ *Ibid*.

¹³⁷ Wagner (n 67).

¹³⁸ Reuters, 'Peru Proposes State-Owned Bank Buys Gold from Artisanal Miners' (7 September 2016) <http://www.reuters.com/article/peru-gold/peru-proposes-state-owned-bank-buys-gold-from-artisanal-miners-idUSL1N1BJ1J6> accessed 28 September 2020. In an interview with a current government official, he highlights the difficulty of tracing the origin of gold ore, as so much of the gold extracted by informal or illegal miners is 'laundered' and legally traded. Interview with government official, 31 August 2020.

¹³⁹ Yvette Sierra Praeli, 'Peru Uncovers Organized Crime Network Laundering Illegally Mined Gold' (*Mongabay*, 23 March 2020) <https://news.mongabay.com/2020/03/peru-uncovers-organized-crime-network-laundering-illegally-mined-gold> accessed 13 October 2020; Praeli, 'Forest Crimes Persist in Peru' (n 130).

¹⁴⁰ Criminal groups continue to engage in illegal mining despite lockdown measures. Operations against illegal mining have been carried out in several regions of Peru since the pandemic began, including in Madre de Dios and the Huánuco regions. Criminal activity has also led to the death of at least one Indigenous leader and environmental defender. Praeli, 'Forest Crimes Persist in Peru' (n 130).

¹⁴¹ Wagner (n 67); Velt and Quijano Vallejos (n 33).

¹⁴² Mia Bristol, 'Illegal Gold Mining in Peru' (*Panoramas*, 13 May 2020) www.panoramas.pitt.edu/health-and-society/illegal-gold-mining-peru accessed 28 September 2020.

¹⁴³ Interview with former government official, 1 August 2020.

are an estimated 1000 ASM operations.¹⁴⁴ Informal miners in the process of formalisation are registered in Peru's Integral Register of Mining Formalization (REINFO), and nearly 89,000 registrants are pending formalisation.¹⁴⁵ The official suggested that ASM formalisation policy should be reformed to formalise ASM operations instead of only the individual miners themselves, as is the current practice.¹⁴⁶ Benefits of formalisation include access to health and employment benefits, social responsibility, and environmental and labour commitments, as well as technical assistance.¹⁴⁷

Illegal mining in Peru is defined by Legislative Decree 1105, and it describes any ASM activity that utilises prohibited equipment; skirts environmental, administrative or other norms; or is carried out in prohibited areas where mining is prohibited, such as Indigenous reserves or other protected areas. Informal mining, defined by Legislative Decree 1336, encompasses mining activity that is registered with the country of Peru¹⁴⁸ and operates in a permitted area, but may or may not use forbidden equipment and may or may not follow appropriate environmental or social norms.¹⁴⁹

Informal mining takes place inside legally designated mining zones, but such miners operate without a formal government permit, although they are officially registered with the state.¹⁵⁰ Unlike illegal mining, informal mining activities do not take place in natural protected areas, such as national parks.¹⁵¹ Informal miners may use approved mining techniques and mine within a mining concession, but often they do not own the concession and do not have official permission from the state to conduct mining activities.¹⁵² Illegal mining, in contrast, often takes place in environmentally sensitive areas, with operations being conducted in prohibited or protected zones.

In response to reports of an increase in illegal mining operations, Peru's Special Prosecutor's Office for Environmental Affairs, *Fiscalía Especializada en Materia Ambiental*, has enlisted the military and law enforcement to break up illegal mining sites.¹⁵³ The government engaged in nearly 80 interventions against illegal mining operations in Madre de Dios in the first three months of quarantine, between mid-March and early June.¹⁵⁴ Government action included disrupting mining sites and destroying

¹⁴⁴ *Ibid.*

¹⁴⁵ Bnamericas, 'MINEM: Mining Formalization Achieves Progress of 40%' (14 October 2020) <http://www.bnamicas.com/en/news/minem-mining-formalization-achieves-progress-of-40> accessed 14 October 2020.

¹⁴⁶ Interview with former government official, 1 August 2020.

¹⁴⁷ Bnamericas, 'MINEM: Mining Formalization Achieves Progress of 40%' (n 145).

¹⁴⁸ Informal miners who are in the process of formalisation are registered in Peru's Integral Register of Mining Formalization (REINFO).

¹⁴⁹ Legislative Decree 1336; Aubrey L. Langeland, Rebecca D. Hardin and Richard L. Neitzel, 'Mercury Levels in Human Hair and Farmed Fish Near Artisanal and Small-Scale Gold Mining Communities in the Madre de Dios River Basin, Peru' (14 March 2017) 14(302) International Journal of Environmental Research and Public Health <https://pubmed.ncbi.nlm.nih.gov/28335439> accessed 11 August 2020.

¹⁵⁰ Langeland, Hardin, and Neitzel (n 149).

¹⁵¹ *Ibid.*

¹⁵² Valeria Piñeiro, Jenny Thomas, and Pablo Elverdin, *The Agricultural Sector as an Alternative to Illegal Mining in Peru: A Case Study of Madre de Dios* (Discussion Paper No. 1582) (International Food Policy Research Institute, December 2016) <http://www.ifpri.org/publication/agricultural-sector-alternative-illegal-mining-peru-case-study-madre-de-dios> accessed 11 August 2020.

¹⁵³ Saffron (n 34).

¹⁵⁴ *Ibid.*

operating machinery.¹⁵⁵ However, the withdrawal of police and army forces in subsequent months has led to a resurgence in illegal mining in Madre de Dios.¹⁵⁶

Peru's National Society of Mining, Petroleum and Energy reports that legal mining exports dropped 65 per cent in April.¹⁵⁷ As official mining operations had adhered to lockdown restrictions, illegal mining operations have flourished.¹⁵⁸

5.1. *Illegal gold mining, ASGM and environmental degradation in Peru*

Over the last decade, Peru's economy has experienced rapid growth, due in large part to high global commodity prices.¹⁵⁹ As gold prices rose, illegal gold mining skyrocketed,¹⁶⁰ increasing encroachment into protected habitats in the Amazon, within Madre de Dios and elsewhere.¹⁶¹

Illegal mining threatens the biodiversity of the Amazon.¹⁶² The Peruvian Amazon contains some of the world's greatest biological diversity. However, ASGM and illegal mining contribute to many environmental challenges, chief among them being deforestation and forest degradation, mercury pollution and large carbon emissions.¹⁶³ ASGM and illegal mining are some of the largest contributors to deforestation of the Western Amazon, and since 2010, deforestation has increased drastically.¹⁶⁴ Deforestation from these sources has been increasing in recent years, with serious environmental consequences.¹⁶⁵ Illegal mining also leads to major losses in residual forest carbon; severely impacts water quality; causes mercury contamination of the air, water and soil; and leads to loss of ecosystem services.¹⁶⁶

A government official involved in formalisation of the ASGM sector stated in an interview with our research team that understanding the economic impact of illegal mining activities is key to developing public policy around illegal mining and formalisation.¹⁶⁷ Consequences of illegal mining include tax avoidance and economic damage to the natural world.¹⁶⁸ Peru's Ministry of Environment has initiated the calculation of the economic damages of forest loss and other injuries to the environment due to illegal mining.¹⁶⁹ This information will help in

¹⁵⁵ *Ibid.*

¹⁵⁶ Karina Garay, Madre de Dios' environmental prosecutor, has stated the withdrawal of police and military from Madre de Dios to enforce lockdowns and attend to the health crisis elsewhere has resulted in an uptick in illegal mining in the region. *Ibid.*

¹⁵⁷ *Ibid.*

¹⁵⁸ *Ibid.*

¹⁵⁹ USAID, 'Illegal Gold Mining: Peru' <http://www.usaid.gov/peru/our-work/illegal-gold-mining> accessed 28 September 2020.

¹⁶⁰ Mia Bristol, 'Illegal Gold Mining in Peru' (*Panoramas*, 13 May 2020) <http://www.panoramas.pitt.edu/health-and-society/illegal-gold-mining-peru> accessed 28 September 2020.

¹⁶¹ USAID (n 159).

¹⁶² *Ibid.*

¹⁶³ Jorge Caballero Espejo and others, 'Deforestation and Forest Degradation Due to Gold Mining in the Peruvian Amazon: A 34-Year Perspective' (29 November 2018) *Remote Sensing* 10(1903) <https://doi.org/10.3390/rs10121903> accessed 11 August 2020.

¹⁶⁴ *Ibid.*

¹⁶⁵ *Ibid.*

¹⁶⁶ *Ibid.*

¹⁶⁷ Interview with current government official involved in ASM formalisation, 13 July 2020.

¹⁶⁸ *Ibid.*

¹⁶⁹ *Ibid.*

calculating the true impact of illegal mining and drive changes in public policy, as well as on the ground action.¹⁷⁰

Official reports state that illegal mining has intensified in certain protected areas in Peru, including the Tambopata National Reserve,¹⁷¹ a tropical rainforest located in Madre de Dios, thereby increasing fears of environmental degradation in prohibited areas correlated with ASGM and illegal mining.¹⁷² Other indications of illegal mining activity during the lockdown include areas along the Malinowski, Tambopata and Pariamanu rivers.¹⁷³

Public health issues are also implicated in ASGM and illegal mining. Mercury is often used by ASGM operators to extract gold during mineral processing because of its ease of use and low cost.¹⁷⁴ When this processing occurs without proper equipment, mercury vapours are released into the atmosphere, waterways and soil.¹⁷⁵ ASGM is the leading cause of mercury pollution on the planet, accounting for nearly 40 per cent of global annual mercury emissions.¹⁷⁶ In Peru, total mercury emissions from ASGM in 2010 were around 70 tons, and emissions are estimated to be as high as 120–360 tons today.¹⁷⁷ Nearly half of the mercury released into the environment each year originates in Madre de Dios, with nearly 80 per cent of that originating in La Pampa.¹⁷⁸ As ASGM has increased in recent years, so have the widespread effects of mercury exposure.¹⁷⁹ Mercury exposure can result in health issues such as neurological, cardiac, reproductive, genetic or immunological disorders; damage to the central nervous system; or impaired autonomic nervous system functioning.¹⁸⁰

Mercury exposure can occur through the ingestion of fish or other aquatic animals that have been exposed to mercury or methylmercury (an environmental toxin created when inorganic mercury is dissolved in water).¹⁸¹ In Madre de Dios, fish consumption

¹⁷⁰ *Ibid.*

¹⁷¹ Francesca García Delgado, ‘Madre de Dios: La Minería Ilegal de Oro No Da Tregua en Época de Pandemia’ (*El Comercio*, 2 June 2020) <https://elcomercio-pe.cdn.ampproject.org/c/s/elcomercio.pe/peru/madre-de-dios/coronavirus-en-peru-madre-de-dios-la-mineria-illegal-de-oro-no-da-tregua-en-epoca-de-pandemia-informe-noticia/?outputType=amp> accessed 28 September 2020.

¹⁷² Saffron (n 34).

¹⁷³ *Ibid.*

¹⁷⁴ Wieland (n 114).

¹⁷⁵ Nicole M. Smith, “‘Our Gold Is Dirty, But We Want to Improve’: Challenges to Addressing Mercury Use in Artisanal and Small-Scale Gold Mining in Peru” (10 June 2019) *Journal of Cleaner Production* 222 <http://www.sciencedirect.com/science/article/abs/pii/S095965261930767X?via%3Dihub> accessed 11 August 2020.

¹⁷⁶ Caballero Espejo and others (n 163).

¹⁷⁷ Ramiro Escobar, ‘Los Alarmantes Niveles de Mercurio en Madre de Dios’ (*Mongabay*, 22 August 2018) <https://es.mongabay.com/2018/08/peru-mercurio-en-madre-de-dios> accessed 11 August 2020; MapX, ‘Mercury Emissions Estimates by Sector [kg], 2018’ (2018) <https://app.mapbox.org/static.html?project=MX-IY9-QCF-ILZ-UV0-07Y&views=MX-NUMTV-X97MG-7POZ1&lat=14.978&lng=16.762&z=1.5> accessed 11 August 2020; Yvonne Sierra Praeli, ‘Vilma Morales: “Bolivia Sería el País de Procedencia del Mercurio que llega a Perú”’ (*Mongabay*, 21 April 2020) <https://es.mongabay.com/2020/04/peru-vilma-morales-mercurio> accessed 11 August 2020. In our interview with one government official, he discussed that large quantities of mercury enter the country through Bolivia. In addition, Peru’s tax authority, SUNAT (Superintendencia Nacional de Aduanas y de Administración Tributaria), has about 400 registered users of mercury, but that number does not capture the reality of the situation. It is estimated that Peru consumes 150–200 tons of mercury a year, and none of it is traceable. Interview with former government official, 1 August 2020.

¹⁷⁸ Praeli, ‘Vilma Morales’ (n 177).

¹⁷⁹ Langeland, Hardin, and Neitzel (n 149).

¹⁸⁰ *Ibid.*

¹⁸¹ Smith (n 175).

has been found to be a main contributor to human exposure to methylmercury.¹⁸² Mercury is often discharged into water bodies which then flow downstream into farming communities, affecting crops and livestock.¹⁸³ Lake Titicaca in southern Peru is the largest lake in South America and is an essential source of drinking water and fishing. In 2012, Lake Titicaca was named the most threatened lake of the year, in part because of mercury pollution from ASGM.¹⁸⁴

During COVID-19, concerns around mercury exposure have been heightened. Some speculate that financial pressures will encourage miners to increase mercury use in order to process and sell gold as quickly as possible.¹⁸⁵ Others worry that miners and community members who have already experienced organ damage from mercury poisoning may be more vulnerable to severe symptoms from the coronavirus.¹⁸⁶

COVID-19 may have both positive and negative impacts on mercury use. Decreased ability to trade mercury may lead to reduced availability but higher prices for mercury.¹⁸⁷ The COVID-19 pandemic may also delay or halt projects that aim to train miners to use alternative processing methods that do not require mercury.¹⁸⁸

6. Social impacts of COVID-19 on vulnerable ASGM populations in Peru

The social impacts of COVID-19 and the resulting lockdown have been critically felt in some of the most vulnerable populations in the ASGM community in Peru.

6.1. Women, including Pallaqueras

Artisanal and small-scale women miners all around the world have been deeply impacted by COVID-19. According to the World Bank, there are over 41 million artisanal and small-scale miners, and an estimated 30 per cent of them are women.¹⁸⁹ Even more millions of women are impacted by the ASM sector when secondary employment activities are factored in – for instance, an estimated 150 million people are directly or indirectly dependent on the ASGM sector alone,

¹⁸² Katy Ashe, 'Elevated Mercury Concentrations in Humans of Madre de Dios, Peru' (16 March 2020) *PLoS ONE* 7(3) <https://doi.org/10.1371/journal.pone.0033305> accessed 11 August 2020.

¹⁸³ Mitra Taj, 'Meet the Women Who Scavenge for Gold at the Top of the World' (*Reuters*, 26 June 2020) <https://widerimage.reuters.com/story/meet-the-women-who-scavenge-for-gold-at-the-top-of-the-world> accessed 11 August 2020.

¹⁸⁴ According to the Global Nature Fund. *Ibid.*

¹⁸⁵ Kenneth Davis, 'Monitoring the Impacts of COVID-19 on Artisanal and Small-Scale Mining' (*planetGOLD*, 1 April 2020) www.planetgold.org/monitoring-impacts-covid-19-artisanal-and-small-scale-gold-mining accessed 28 September 2020.

¹⁸⁶ Kevin Telmer and Marieke Kroll, 'COVID-19 and ASGM Communities – An Early Look at the Crisis' (*Artisanal Gold Council*, 23 March 2020) www.artisanalgold.org/covid-19-and-asgm-communities-early-look-crisis accessed 13 October 2020.

¹⁸⁷ For example, in Zimbabwe, COVID-19 has reduced mercury trade and pushed prices to up to \$10 USD per teaspoon. See Pact Zimbabwe, 'Implications of the COVID-19 and the Recent Lockdown Lift on the Zimbabwean Artisanal and Small-Scale Mining (ASM) Sector' (*Mining Zimbabwe*, 22 May 2020) <https://miningzimbabwe.com/implications-of-the-covid-19-and-the-recent-lockdown-lift-on-the-zimbabwean-artisanal-and-small-scale-mining-asm-sector> accessed 13 October 2020.

¹⁸⁸ This has been the case for multi-stakeholder initiatives in Zimbabwe, for example. See *ibid.*

¹⁸⁹ 'Emergency Action Needed' (n 6).

in over 80 countries across the globe.¹⁹⁰ The price drops in the field with gold is one area where women miners may be more negatively impacted than men – research shows that price drops are generally felt more deeply by women working in ASM.¹⁹¹ This exacerbates the existing wage gap in ASM between men and women, as women tend to be ‘chronically underpaid’ when mining minerals compared to their male counterparts.¹⁹² *Pallaqueras*, traditional women artisanal and small-scale miners who collect residual gold ore on the mountainsides in the regions of Puno, Arequipa and Ayacucho,¹⁹³ are a stark example of the wage gap between genders. Employment information demonstrates that, in the Puno region of Peru, *pallaqueras* work 42 per cent more hours a week than male miners, but they make only \$255 per month on average, compared to the \$420 on average that male miners make.¹⁹⁴ ‘Pallaquero’ (from *pallay*, ‘to collect’)¹⁹⁵ is often the only source of income for many women miners, 75 per cent of whom earn below the national minimum wage, and nearly half of whom live in extreme poverty.¹⁹⁶ As mentioned earlier, the vast majority of working women in Peru (8 in 10) are a part of the informal economy, and women artisanal and small-scale gold miners are no exception.

Pallaqueras have also been affected by the quarantine and compulsory lockdown measures. Statistics demonstrate that nearly 80 per cent of *pallaqueras* have not received any government aid from the pandemic, and over 50 per cent lack health insurance.¹⁹⁷ Seventy-five per cent of these women miners have also been found to lack basic information about COVID-19, including information about ‘symptoms, protocols, and possible contagion situations’.¹⁹⁸ Given that many *pallaqueras* lack access to basic health services, occupational hazards, such as respiratory diseases and other chronic conditions caused by mining residual ore, may make them more vulnerable to COVID-19.¹⁹⁹

Female miners are more likely to be involved in the informal sector in Peru, which means they are less likely to be entitled to unemployment benefits or cash transfers as a result of the lockdown.²⁰⁰ In addition, the lockdown has likely led to a rise in unpaid

¹⁹⁰ *Ibid.*

¹⁹¹ *Ibid.*

¹⁹² *Ibid.*

¹⁹³ Solidaridad, ‘Pallaqueras’ Assistance Platform Provides Humanitarian Aid to Women Miners in Peru’ (19 October 2020) www.solidaridadnetwork.org/news/pallaqueras-assistance-platform-provides-humanitarian-aid-to-women-miners-in-peru accessed 1 February 2020.

¹⁹⁴ Wieland (n 114).

¹⁹⁵ Georg Petersen, *Mining and Metallurgy in Ancient Perú*, p. 68, The Geological Society of America (2010).

¹⁹⁶ Solidaridad, ‘Pallaqueras’ Assistance Platform Provides Humanitarian Aid’ (n 193).

¹⁹⁷ Solidaridad, ‘You Can Contribute to Alleviate COVID-19 Impact on Small-Scale Miners’ (28 July 2020) www.solidaridadnetwork.org/news/you-can-contribute-to-alleviate-covid-19-impact-on-small-scale-miners accessed 11 October 2020.

¹⁹⁸ *Ibid.*

¹⁹⁹ *Ibid.*

²⁰⁰ Celine Salcedo-La Viña, Ruchika Singh, and Natalie Elwell, ‘Rural Women Must Be at the Heart of COVID-19 Response and Recovery’ (World Resources Institute, 21 September 2020) http://www.wri.org/blog/2020/09/rural-women-must-be-heart-covid-19-response-and-recovery?utm_campaign=wridigest&utm_source=wridigest-2020-10-6&utm_medium=email&utm_content=readmore accessed 13 October 2020. Women in Peru are often barred from formal work within the mines because of traditional Andean beliefs about underground mining. See Wieland (n 114); Solidaridad, ‘You Can Contribute to Alleviate COVID-19 Impact’ (n 197).

domestic work for women, such as increased caretaking (including of potentially ill family members), food preparation and household maintenance, as husbands and children are forced to stay home from work and school.²⁰¹ Increased domestic work may also make it more difficult for women to search for paid or formal work during these economically uncertain times, which may leave them in a precarious financial position.²⁰²

According to the Solidaridad Network, ‘South America’s ongoing quarantine is disproportionately affecting the artisanal and small-scale mining sector, especially female miners’.²⁰³ The rise in food prices, a shortage of government aid, a diminishing of income, and an increased risk of infection due to lack of information further puts many women involved in ASGM in Peru in an imperilled position.²⁰⁴

The increase in illicit gold mining in Peru may also have additional negative gender-based impacts. Even before the pandemic, illegal gold mining in Peru resulted in the trafficking of women and children, including for both labour and sexual exploitation, and high levels of gender-based violence.²⁰⁵ In 2017, an estimated 2000 sex workers were employed in the illegal mining town of Delta 1 alone, located in the province of Madre de Dios, 60 per cent of whom were minors.²⁰⁶ Authorities estimate that thousands of young girls from Bolivia and Peru are sex trafficked in illegal mining towns in the province of Puno.²⁰⁷ As illegal mining increases and criminal groups are emboldened during the COVID-19 pandemic, it is likely that such exploitative circumstances may be aggravated. Therefore, it is critical that women and gender-based issues play an important role in the COVID-19 response and recovery agenda.²⁰⁸

6.2. Children

The government of Peru has labelled children as a ‘high-risk’ group during the pandemic.²⁰⁹ Government decrees mandated children to remain at home during the quarantine, with little to no ability to leave their residences.²¹⁰ Most schools and education centres remained shuttered for the majority of 2020.²¹¹ In early 2021, the Ministry of Education is evaluating in-person learning, semi in-person learning and virtual learning as options while facing the ‘second wave’ of COVID-19.²¹²

Closed schools may lead to an increase in exploitative child labour and trafficking within ASGM. According to Human Rights Watch, ‘Economic desperation risks increasing the prevalence of sexual exploitation, gender-based violence and child labour in some mine sites, which may be further exacerbated by school

²⁰¹ Salcedo-La Viña, Singh and Elwell (n 200).

²⁰² *Ibid.*

²⁰³ Solidaridad, ‘You Can Contribute to Alleviate COVID-19 Impact’ (n 197).

²⁰⁴ *Ibid.*

²⁰⁵ Wagner (n 67).

²⁰⁶ *Ibid.*

²⁰⁷ *Ibid.*

²⁰⁸ Salcedo-La Viña, Singh and Elwell (n 200).

²⁰⁹ US Embassy in Peru, ‘COVID-19 Information’ <https://pe.usembassy.gov/covid-19-information/> accessed 11 October 2020.

²¹⁰ *Ibid.*

²¹¹ *Ibid.*

²¹² Ministry of Education, ‘El Año Escolar 2021 Se Iniciará el 15 de Marzo en las Escuelas Públicas’ (17 December 2020) www.gob.pe/institucion/minedu/noticias/321316-el-ano-escolar-2021-se-iniciara-el-15-de-marzo-en-las-escuelas-publicas accessed 28 January 2021.

closures'.²¹³ In rural communities with poor access to reliable energy, Internet access may be limited or non-existent.²¹⁴ This will make any form of home schooling difficult, and in the most severe cases, some children may never return to school.²¹⁵ Children may also be more likely to be called upon to work in order to supplement falling family incomes, thereby further limiting their schooling.

Ministerial Resolutions No. 160-2020-MINEDU and 229-2020-MINEDU established provisions for at-home learning (or, in the case of rural areas with zero cases of COVID-19, in-person learning) at the primary and secondary education levels, but their efficacy may be limited, given the issues affecting children in rural ASGM communities cited above.

6.3. Indigenous people

Other vulnerable populations that have been negatively impacted by the spread of COVID-19 are the Indigenous peoples of the Amazon. Across the nine countries that comprise the Amazonian rainforest, over 65,000 cases of COVID-19 have been confirmed, with nearly 2000 fatalities as of October 2020.²¹⁶ According to the Coordinator of the Indigenous Organizations of the Amazon Basin, as of 25 August 2020, in Peru there were 12,043 confirmed cases of the novel coronavirus and 387 deaths of Indigenous people from COVID-19 in the regions of Madre de Dios, Loreto, Amazonas, San Martin, Ucayali, Cusco, Huánuco, Junín, Pasco and Cajamarca.²¹⁷ By October, there were over 15,000 confirmed cases of Indigenous people who had contracted COVID-19 in Peru, with total deaths nearing almost 400.²¹⁸

The migration of people who have lost jobs in other parts of the country to the Peruvian Amazon to engage in illegal mining has been cited as the foremost reason for the spread of the deadly virus to Indigenous populations.²¹⁹ This influx of workers can also lead to the displacement of the local population, a loss of traditional livelihoods and a rise in crime, including human trafficking, child labour, money laundering, intimidation, and drug smuggling.²²⁰ Criminal groups involved in illegal mining and other activities, such as illegal coca production and land-grabbing, have also led to crimes against Indigenous peoples and environmental defenders, including the death of at least one Indigenous leader since quarantine began.²²¹

²¹³ 'Emergency Action Needed' (n 6).

²¹⁴ Blazquez-Lopez (n 63).

²¹⁵ *Ibid.*

²¹⁶ Coordinadora de las Organizaciones Indígenas de la Cuenca Amazónica, 'Impacto del COVID-19 en los Pueblos Indígenas de la Cuenca Amazónica' (10 October 2020) <https://drive.google.com/file/d/1isGrREHrf1iI9ZejJ1APr2fo0Cr1B7qs/view?fbclid=IwAR1AOqQPgsFiH-VvrSw-ZWFDYb3mlanVTsxlGiTpsDityJvDmy7P8kLpyQ> accessed 15 October 2020.

²¹⁷ Coordinadora de las Organizaciones Indígenas de la Cuenca Amazónica, 'Impacto del COVID-19 en los Pueblos Indígenas de la Cuenca Amazónica' (01 September 2020).

²¹⁸ (Coordinadora de las Organizaciones Indígenas de la Cuenca Amazónica (n 216). Legislative Decree 189 establishes actions for the protection of indigenous or native peoples in the framework of the Health Emergency declared by COVID-19.

²¹⁹ Saffron (n 34). This spread is happening across the Amazon to Indigenous tribes. In Brazil, COVID-19 likely entered the Yanomami indigenous territory through illegal miners. Velt and Quijano Vallejos (n 33).

²²⁰ *Ibid.*

²²¹ Indigenous leader Arbildo Meléndez Grandes of Peru's Huánuco region was murdered earlier this year, a sign that, despite lockdown measures, criminal groups continue to engage in environmental and

LSM has also had an impact on the spread of the novel coronavirus among Indigenous populations. Because LSM was deemed an ‘essential’ activity by the Peruvian government, the industry was largely allowed to continue operating, under certain conditions. Reports state that during the viral outbreak, ‘extractive, oil and forestry-related activities represent a risk that exposes the Amazonian populations to contagion, as well as indigenous peoples’.²²²

6.4. *Migrants*

ASM typically involves a large migratory workforce, which lends itself to widening the spread of COVID-19.²²³ A major motivator for ASM is families seeking economic refuge, ‘including marginalized groups such as women, youth, and displaced persons’.²²⁴ Many of the same issues affecting other vulnerable groups may plague migrant workers, including labour exploitation by cartels and criminal gangs, increased exposure to COVID-19 because of unsafe ASGM working conditions, and lack of access to government subsidies and other sources of supplementary funding.²²⁵

7. Effect of COVID-19 on ASGM and formalisation

In 2012, the administration of former President Ollanta Humala implemented a formalisation strategy with two goals: to formalise informal mining and to eradicate illegal mining. The push to formalise was in part motivated by the drastic environmental degradation ASGM had caused in recent years.²²⁶ Despite the push for formalisation, informal mining is attractive to miners in Peru for several reasons. Informal miners often make more money than formal ASGM miners do.²²⁷ The six-step process of formalisation has been noted to be costly, to contain burdensome bureaucratic requirements, and to take years of delays before being completed.²²⁸ Some researchers suggest the ASGM formalisation requirements have simply been extrapolated from LSM requirements, which do not necessarily transfer easily to the context of small-scale or artisanal mining.²²⁹

human rights violations against Indigenous peoples and their lands. Praeli, ‘Forest Crimes Persist in Peru’ (n 130).

²²² Quoting a report from the Civil Society Platform on Business and Human Rights (la Plataforma de la Sociedad Civil sobre Empresas y Derechos Humanos). Servindi (n 79).

²²³ ‘Emergency Action Needed’ (n 6).

²²⁴ Wieland (n 114).

²²⁵ See ‘Emergency Action Needed’ (n 6).

²²⁶ Wieland (n 114).

²²⁷ *Ibid.*

²²⁸ Under Peruvian law, informal mining may be regulated to become formalised through a six-step process that includes submitting an affidavit of intent, negotiating an exploitation agreement with a mining concession owner, obtaining surface rights, filing a water authorization, conducting a ‘rapid environmental impact assessment’ and obtaining a licence to operate. Wieland (n 114). Interviews with the ASM author (21 August 2020) and government official (21 September 2020) revealed that the lack of success in mining formalisation may in part be because the legislation enacted for mining formalisation was made from the central government, without a view of the realities and on-the-ground issues surrounding ASM operations in Peru.

²²⁹ Wieland (n 114).

Interviews with former and current government officials, and comments made by several current and past legislators, detail the need to establish a new mining law. A new mining law would ideally create a separate legal framework and requirements for ASM that are even more customised and differentiated from LSM, per ASM's unique regulatory context and needs.²³⁰ There is currently a draft in Congress for amending the General Mining Law, but there is some resistance from LSM. A key issue under discussion is access to the mining title, which may create uncertainty or legal instability for ongoing LSM operations.

Where ASGM is conducted outside of the formal legal framework, miners and communities are vulnerable to instability and lack of legal protection. Informality denies workers access to legal and law enforcement protection; employment benefits; health insurance; environment, health and safety regulations; labour and employment rights; formal training and equipment; bank services and loans; and retirement benefits, among other things. Now, the entire process of ASM formalisation has come under threat due to restrictions put in place to combat COVID-19.

In line with limitations implemented during Peru's state of emergency, the Ministry of Energy and Mines has in effect suspended the formalisation process.²³¹ On 21 June 2020, the Ministry of Energy and Mines enacted Supreme Decree 015-2020-EM.²³² In the context of COVID-19, and the suspension of activities and lockdown provisions, miners in the process of formalisation have been prevented from submitting their required environmental documents in a timely manner.²³³ This new regulation extended the term until 31 December 2020.²³⁴

Another factor affecting the ASM formalisation process is that, in Peru, regional governments are responsible for controlling and enforcing ASM legislation, as well as overseeing the formalisation process. The pandemic has seen some regions better equipped to request national government support for ASM than others. Take for example Arequipa, which has a more successful formalisation record and more ASM workers embedded into the country's legal frameworks, in contrast to Madre de Dios, where illegal mining is ubiquitous.

²³⁰ For more information on the social and environmental aspects of the proposed mining law, see Mining Journal, 'Peru Mining Law Changes to Respond to Social Need' (5 September 2019) www.mining-journal.com/leadership/news/1370897/peru-mining-law-changes-to-respond-to-social-need accessed 14 October 2020; Bnamericas, 'Peru's New Mining Law Targets High Social, Environmental and Economic Standards' (23 August 2019) www.bnamicas.com/en/interviews/perus-new-mining-law-targets-high-social-environmental-and-economic-standards accessed 14 October 2020.

²³¹ Vila Benites and Bebbington (n 41).

²³² This decree amended Article 7.2(b) and (c) of Supreme Decree 001-2020-EM, which established provisions related to Peru's Integral Register of Mining Formalization (REINFO), the official database wherein artisanal and small-scale miners are registered as they proceed through the process of formalisation.

²³³ Supreme Decree 015-2020-EM has impacted the timeline by which ASM workers seeking formalisation may submit their required environmental management instrument (IGAFOM).

²³⁴ The extension also applies to the requirement of having a registration number (called an RUC) at SUNAT (the Tax Authority).

8. Government responses to COVID-19 and formalisation of the ASGM sector: spotlight on Zimbabwe, Colombia, Bolivia and Chile

8.1. Zimbabwe

As of 24 January 2021, Zimbabwe had 32,000 confirmed COVID-19 cases and more than 1000 deaths.²³⁵ As in Peru, miners in the ASGM sector in Zimbabwe have been negatively impacted by COVID-19, receiving lower prices despite the rising price of gold in the international market.²³⁶

In response to issues with gold pricing, the Government of Zimbabwe's only gold buyer, Fidelity Printer and Refineries, established a new gold buying framework to improve prices.²³⁷ This framework set a flat fee of US\$45 per gram of gold for miners in the ASGM sector.²³⁸ While this move resulted in better prices for the ASGM sector, it has been criticised by the Zimbabwe Miners Federation (ZMF), a small-scale mining organisation, for not being aligned with the higher prices in the international market. It has also been criticised by the Zimbabwe Environmental Law Association (ZELA) for incentivizing increased gold deliveries from the ASGM sector without a corresponding increase in support for formalisation of ASGM.²³⁹

The mining sector is a primary driver of economic development in Zimbabwe, contributing over 60 per cent of export receipts and 13 per cent of Zimbabwe's GDP.²⁴⁰ In 2019, ASGM contributed about 60 per cent of the gold produced in the country.²⁴¹

Despite the importance of Zimbabwe's ASGM sector to economic development, the government's initial response to COVID-19 did not classify ASGM as an 'essential' sector. Instead, ASGM was classified as a 'non-essential' sector and placed on lockdown.²⁴² ZMF helped over 200 miners apply for an exception, which was granted.²⁴³ The advocacy of miners and other stakeholders for an exception due to the importance of the ASGM sector to economic development and sustainability eventually led to all mining operations in Zimbabwe being granted permission to operate.²⁴⁴

The COVID-19 lockdown in Zimbabwe limited or completely eliminated access to mercury in some districts of the country, driving prices up to US\$10 per teaspoon in some instances.²⁴⁵ These circumstances have increased the cost of operation in the

²³⁵ This was an increase from 8010 confirmed COVID-19 cases and 230 deaths a mere three months earlier, in October 2020. US Embassy in Zimbabwe, 'COVID-19 Information' <https://zw.usembassy.gov/covid-19-information-2> accessed 28 January 2021.

²³⁶ Donald Nyarota, allAfrica, 'Zimbabwe: Gold Price Increase Will Not Curb Illicit Trade' (1 June 2020) <https://allAfrica.com/stories/202006010570.html> accessed 10 October 2020.

²³⁷ *Ibid.*

²³⁸ *Ibid.*

²³⁹ *Ibid.*

²⁴⁰ Mining Zimbabwe, 'ZELA Conducts Research on Formalisation of Artisanal Miners' (29 June 2020) <https://miningzimbabwe.com/zela-conducts-research-on-formalisation-of-artisanal-miners> accessed 10 October 2020.

²⁴¹ *Ibid.*

²⁴² Pact Zimbabwe (n 187).

²⁴³ *Ibid.*

²⁴⁴ *Ibid.*

²⁴⁵ *Ibid.*

ASGM sector but have also increased adherence to the Minamata Convention, which aims to restrict mercury trade.²⁴⁶ Pact Zimbabwe is working with Zimbabwe's Ministry of Mines and Mining Development, Zimbabwe's Environmental Management Agency, the United Nations Development Programme (UNDP), and ZELA to pilot a mercury-free plant for artisanal and small-scale gold miners, but this project has been stalled by the COVID-19 pandemic.²⁴⁷

While Zimbabwe has made some positive shifts in the ASGM sector in the course of its responses to COVID-19, the sector continues to suffer many negative impacts of the pandemic. Miners in Zimbabwe's ASGM sector, like those in many other parts of the world, face food insecurity and health concerns that are exacerbated by COVID-19.²⁴⁸ They are working in close proximity in areas that are often poorly ventilated, leaving them prone to respiratory diseases and compromised immune systems, and highly vulnerable to COVID-19.²⁴⁹ Miners and traders often travel from site to site, amplifying the risk of contracting or spreading COVID-19. Miners in the ASGM sector often rely on income from mining just to access food, and many do not qualify for government assistance programmes or have any form of health insurance coverage.²⁵⁰

8.2. Colombia

COVID-19 is currently widespread in Colombia, where there remains a high level of risk for transmission.²⁵¹ As of 28 January 2021, the country had over 2 million confirmed cases and more than 50,000 deaths.²⁵² The country has been under strong social distancing and quarantine measures.²⁵³ These measures have disrupted Colombia's informal economy, including the livelihoods of over 400,000 miners in Colombia's ASM sector.²⁵⁴ In Colombia, ASGM provides approximately 60 per cent of the country's gold production.²⁵⁵ The country's ASM sector is comprised of workers in remote areas with low levels of education, female heads of household with little to no savings or access to financial services, and a high concentration of Afro-Colombian

²⁴⁶ *Ibid*; Zimbabwe was one of the first signatories to the Minamata Convention in 2013, but the country has yet to ratify the convention. See United Nations Environment Programme, 'Parties and Signatories' (n.d.) <http://www.mercuryconvention.org/Countries/Parties/tabcid/3428/language/en-US/Default.aspx> accessed 09 October 2020.

²⁴⁷ Pact Zimbabwe (n 187).

²⁴⁸ *Ibid*.

²⁴⁹ *Ibid*.

²⁵⁰ *Ibid*.

²⁵¹ Centers for Disease Control and Prevention, 'COVID-19 in Colombia', <https://wwwnc.cdc.gov/travel/notices/warning/coronavirus-colombia>. accessed 15 October 2020.

²⁵² This is a 100% increase in confirmed cases and a nearly 200% increase in deaths from 15 October 2020 (at that time, statistics showed 930,159 confirmed cases and 28,306 deaths). CoronaTracker, 'Colombia Overview', www.coronatracker.com/country/colombia accessed 28 January 2021.

²⁵³ Alliance for Responsible Mining, 'Impact of COVID-19 on Artisanal and Small-Scale Mining', www.responsiblemines.org/en/2020/04/impact-covid-19-artisanal-small-scale-mining accessed 15 October 2020.

²⁵⁴ *Ibid*; J. Seccatore and others, 'An Estimation of the Artisanal Small-Scale Production of Gold in the World,' (2014) 496 *Science of the Total Environment* 662–667.

²⁵⁵ MITD-Lab, 'Building Inclusive Economy with Small Scale Miners – Colombia' <https://d-lab.mit.edu/innovation-practice/inclusive-regional-economies/building-inclusive-economy-small-scale-miners> accessed 15 October 2020.

communities.²⁵⁶ Many of these individuals are victims of conflict and most experience extremely vulnerable living situations.²⁵⁷

In response to COVID-19, Colombia's President issued Decree 457 of 2020, which authorised continuation of activities necessary to ensure 'the supply logistics chain, supplies for the production, sourcing, import, export, and provision of minerals' during the country's quarantine.²⁵⁸ However, the Alliance for Responsible Mining reports that this decree has not been applied to all mining sectors.²⁵⁹

Miners in Colombia's ASM sector have been denied access to extraction sites due to COVID-19 social distancing measures and have been excluded from formal markets due to travel restrictions and other COVID-19 measures.²⁶⁰ Despite efforts of initiatives such as the Swiss Better Gold Association's Better Gold Initiative, which has provided over US\$100,000 in emergency support to Colombian small-scale miners,²⁶¹ the sector needs additional support. Lack of access to formal markets drives miners to sell minerals on the black market, where prices are 30 per cent lower and do not result in taxes and royalties for the government.²⁶² The ASGM sector in particular faces issues in the global marketplace, as many gold buyers have suspended their operations due to COVID-19 and related logistical issues that disrupt transportation of gold.²⁶³ In many cases mining activity in the ASM sector has come to a complete standstill, along with income that miners in the sector rely on to meet daily subsistence needs.²⁶⁴

The Colombian government has included a strategy for formalisation of the ASM sector in its 'National Development Plan 2018 to 2022'.²⁶⁵ The strategy includes creating an entity to manage the formalisation process, facilitate the commercialisation of minerals, and add value to assets and services related to mining activities.²⁶⁶ The National Mining Agency leads the mining formalisation process in the country,²⁶⁷ which has successfully eliminated the use of mercury at 71 beneficiation plants in Colombia, benefitting over 39,000 miners;²⁶⁸ has developed and promoted a 'Mining Formalization Subcontract' between large-scale mines and small-scale miners; and has supported the creation of formal ASM companies, including the Calimineros gold company in Santander, with 160 associates and an agreement with the large-scale Minesa Soto Norte gold mining project to access 30 per cent

²⁵⁶ Alliance for Responsible Mining (n 253).

²⁵⁷ *Ibid.*

²⁵⁸ *Ibid.*

²⁵⁹ *Ibid.*

²⁶⁰ *Ibid.*

²⁶¹ Swiss Better Gold Initiative, 'COVID-19: 100,000 Dollars Emergency Support for Colombian Small-Scale Miners' (6 May 2020) www.swissbettergold.ch/new-at-sbga/covid-19-100000-dollars-emergency-support-colombian-small-scale-miners accessed 15 October 2020.

²⁶² Alliance for Responsible Mining (n 253).

²⁶³ *Ibid.*

²⁶⁴ *Ibid.*

²⁶⁵ Departamento Nacional de Planeación, *Plan Nacional de Desarrollo 2018–2022: Pacto por Colombia, pacto por la equidad. Resumen* (2019) p. 147. Bogotá DC, Colombia <https://colaboracion.dnp.gov.co/CDT/Prensa/Resumen-PND2018-2022-final.pdf>.

²⁶⁶ *Ibid.*

²⁶⁷ Agencia Nacional de Minería, 'ANM entrega avances de legalidad minera en seis departamentos', República de Colombia (2019) www.anm.gov.co/?q=anm-entrega-avances-de-legalidad-minera-en-seis-departamentos.

²⁶⁸ Departamento Nacional de Planeación (n 265), pp. 701–702.

of their mining concession to develop small-scale mining.²⁶⁹ Despite these innovations, Colombia continues to face many challenges in its ASM sector that are exacerbated by COVID-19. When Diego Mesa was appointed as Colombia's Minister of Energy and Mining in July 2020, he stated his intention to address these challenges, including a goal to formalise 27,000 miners and provide them with technical assistance.²⁷⁰

8.3. Bolivia

By the end of January 2021, Bolivia had 208,074 confirmed cases and 10,167 deaths from COVID-19.²⁷¹ The country has ongoing national quarantine measures and has closed all land, river and lake borders, with air borders open for international and domestic transport.²⁷²

ASGM is an important driver of economic development in Bolivia. Gold production in the country is carried out by 1400 mining cooperatives that benefit 42,000 people directly and more than 250,000 people indirectly.²⁷³ COVID-19 has brought mining activity to a halt across the country.²⁷⁴ In the ASGM sector, small cooperatives reported losses of approximately US\$136,500 per month, and large cooperatives reported losses totalling US\$1,024,000.²⁷⁵ Overall, quarantine losses across cooperatives totalled over US\$25 million by the close of 2020.²⁷⁶

Although the Government of Bolivia has created supports such as access to bonds and reduction of electricity rates, the drop in mineral prices for miners in the ASM sector has led to decreased mineral production.²⁷⁷ As experienced in other countries, although the price of gold in the international market has risen during the pandemic, decrease of commercial activity due to COVID-19 restrictions has had impacts across supply chains, from access to fuel necessary for gold extraction to access to markets.²⁷⁸

²⁶⁹ Portafolio, '160 familias mineras pasan a la formalización en California (2020) www.portafolio.com/mas-contenido/legalizacion-de-mineros-en-california-santander-544699 accessed 15 October 2020.

²⁷⁰ Plataforma Integral de Minería a Pequeña Escala – PIM, Colombia. Nuevo Ministro De Minas Y Energía: 'La Meta Es Formalizar a 27 Mil Mineros', Lima, Perú (2020) www.plataformaintegraldemineria.org/es/noticias/colombia-nuevo-ministro-de-minas-y-energia-la-meta-es-formalizar-27-mil-mineros accessed 15 October 2020.

²⁷¹ These numbers are an increase from 139,141 confirmed cases and 8377 deaths as of 15 October 2020. CoronaTracker, 'Bolivia Overview', www.coronatracker.com/country/bolivia accessed 28 January 2021.

²⁷² US Embassy in Bolivia, 'COVID-19 Information' <https://bo.usembassy.gov/covid-19-information> accessed 15 October 2020.

²⁷³ United Nations Industrial Development Organization – UNIDO, 'The Government of the Plurinational State of Bolivia and UNIDO Take First Steps to Provide Technical Assistance to More than 10,000 Artisanal and Small-Scale Gold Miners' (18 August 2020) <https://www.unido.org/news/government-plurinational-state-bolivia-and-unido-take-first-steps-provide-technical-assistance-more-10000-artisanal-and-small-scale-gold-miners> accessed 10 October 2020.

²⁷⁴ Cumbre del Sajama SA & Solidaridad, 'Impact of Coronavirus (COVID-19) on Artisanal and Small Scale Mining in Bolivia (2020) www.plataformaintegraldemineria.org/sites/default/files/2020-06/Diagnostico%20COVID%20mineria%20artesanal%20Bolivia_INGLES%20%282%29-min.pdf accessed 15 October 2020.

²⁷⁵ *Ibid.*

²⁷⁶ *Ibid.*

²⁷⁷ *Ibid.*

²⁷⁸ *Ibid.*

Bolivia has enhanced its support for the ASGM sector by forming strategic partnerships. In August 2020, the Bolivian government and the United Nations Industrial Development Organization virtually launched ‘Global Opportunities for the Long-Term Development of the Artisanal and Small-Scale Gold Mining Sector’.²⁷⁹ This programme aids miners in the ASGM sector to take part in planetGOLD, a programme focused on sustainable mining and formalisation of the ASGM sector.²⁸⁰

The nonprofit organisation Solidaridad partnered with the Bolivian company Cumbre del Sajama and the Government of the Netherlands to produce a booklet with good hygiene and disinfection recommendations, aimed to control COVID-19 risks at work or when travelling to and from the workplace.²⁸¹ The booklet recently received the official support of Bolivia’s Mining and Metallurgy Ministry.²⁸²

As in Peru and Colombia, Bolivia’s ASGM sector benefits from support from the Swiss Better Gold Association’s Better Gold Initiative.²⁸³ This initiative works with the Government of Bolivia to simplify the process for miners to become formalised.²⁸⁴ The work of the initiative is ongoing during the pandemic and recently provided 570 food parcels to Bolivian gold miners experiencing work stoppage due to COVID-19.²⁸⁵

8.4. Chile

Chile experienced ‘uncontrolled and widespread community transmission’ of COVID-19, with over 700,000 reported cases as of January 2021.²⁸⁶ Chile’s National Mining Company (ENAMI) is a 60-year old state-owned company that promotes small- and medium-scale mining in more than 40 locations across the country.²⁸⁷ ENAMI has responded to impacts of COVID-19 on the small-scale copper and gold mining sector by focusing on protecting the health of its workers and collaborators, supporting operational continuity of mine facilities and establishing measures for the direct benefit of the country’s small-scale mining producers.²⁸⁸ Chile’s legal framework for the mining sector divides small-scale mining into ‘small-scale mining’

²⁷⁹ UNIDO (n 273).

²⁸⁰ *Ibid.*

²⁸¹ Solidaridad, ‘You Can Contribute to Alleviate COVID-19 Impact’ (n 197).

²⁸² *Ibid.*

²⁸³ State Secretariat for Economic Affairs – SECO, ‘Better Gold Initiative for Artisanal and Small-Scale Mining Fact Sheet’ (2020) www.seco-cooperation.admin.ch/dam/secocoop/de/dokumente/themen/handel/factsheet-bgi-for-asm.pdf.download.pdf/Factsheet%20Better%20Gold%20Initiative%20for%20Artisanal%20and%20Small-Scale%20Mining.pdf accessed 15 October 2020.

²⁸⁴ *Ibid.*

²⁸⁵ SBGA – Swiss Better Gold Association, ‘COVID-19: Better Gold Initiative Provides Emergency Support to Bolivian Gold Miners’ (2020) www.swissbettergold.ch/new-at-sbga/covid-19-better-gold-initiative-provides-emergency-support-bolivian-gold-miners accessed 15 October 2020.

²⁸⁶ As of 14 October 2020, Chile reported 485,372 confirmed cases. US Embassy in Chile, ‘COVID-19 in Chile: Information for American Citizens’ (28 January 2021) <https://cl.usembassy.gov/covid-19-information> accessed 28 January 2020.

²⁸⁷ ENAMI, ‘Sobre ENAMI’ <http://www.enami.cl/SobreEnami> accessed 14 October 2020.

²⁸⁸ Atacama Noticias, ‘ENAMI Reinforces Its Commitment to Small-Scale Mining and Highlights the Execution of Promotion Programs’ (30 June 2020) www.atacamanoticias.cl/2020/06/30/enami-refuerza-compromiso-con-la-pequena-mineria-y-destaca-ejecucion-de-programas-de-fomento accessed 14 October 2020.

and ‘small-scale artisanal mining’.²⁸⁹ Challenges Chile is facing in bringing more miners into the formalised ‘small-scale mining’ sector include low access to mining property and mineral rights; lack of access to financing mechanisms; and lack of access to technological resources that could increase production levels and decrease production costs.²⁹⁰

ENAMI works with stakeholders to overcome challenges to formalisation. ENAMI promotes the development of small and medium-scale mining by providing purchasing, processing and marketing services.²⁹¹ This support enables small and medium-scale miners to access markets under competitive conditions.²⁹² ENAMI has also activated resources from Chile’s Copper Price Stabilization Fund to aid small-scale miners during the COVID-19 pandemic. Gold producers can receive a 50 per cent advance payment of value on sale, plus an additional 25 per cent 12 days later.²⁹³ In March 2020, ENAMI started a Production Support programme that offers emergency financing of up to US\$5,000 for relatively minor difficulties that may have long-term consequences for mine operations, and a Reactivation of Mining Works and Program Support programme that provides loans up to US \$35,000 for small-scale miners.²⁹⁴ As of March 2020, US\$700,000 had been approved for about 54 initiatives, with an additional US\$1 million in the process of execution.²⁹⁵ As of 30 June 2020, ENAMI had approved over US\$3.1 million to bolster small-scale mining in Chile.²⁹⁶

The Government of Chile has also taken steps to protect small-scale miners by delaying mining registry renewal deadlines.²⁹⁷ This provides more flexibility for miners, alleviates pressure on the registry office that is operating with partial staffing due to COVID protocols, and circumvents the possible spread of COVID-19 that may result from miners travelling to the registry office and waiting in long, crowded lines.²⁹⁸

9. Recommendations

In June and July of 2020, the Government of Peru slowly phased in ASGM activities, beginning with requiring the mining organisations of Arequipa, Piura and Puno to develop a ‘plan for the surveillance, prevention, and control of COVID-19 at work’.²⁹⁹ Plans were submitted to the proper regional authority for approval.³⁰⁰

²⁸⁹ Constanza Espinoza and others, ‘Chilean Artisanal Mining: A Gambling Scenario’ Apr./June 2020 73 (2) REM, Int. Eng. J. Ouro Preto (e-pub 17 April 2020) <https://doi.org/10.1590/0370-44672019730067>.

²⁹⁰ *Ibid.*

²⁹¹ ENAMI (n 287).

²⁹² *Ibid.*

²⁹³ Arista (n 45).

²⁹⁴ Bnamericas, Chile’s Mining Industry Struggling to Contain COVID-19 (20 July 2020) www.bnamicas.com/en/news/chiles-mining-industry-struggling-to-contain-covid-19 accessed 15 October 2020; Atacama Noticias (n 288).

²⁹⁵ Atacama Noticias (n 288).

²⁹⁶ *Ibid.*

²⁹⁷ Arista (n 45).

²⁹⁸ *Ibid.*

²⁹⁹ planetGOLD, ‘Update on COVID Impacts on ASGM and planetGOLD Peru’ (December 2020) www.planetgold.org/sites/default/files/2020-12/planetGOLD%20Peru%20update%20on%20COVID%20impacts%20on%20ASGM%20and%20planetGOLD%20dec2020.pdf accessed 1 February 2020.

During August, September and October 2020, ASGM was reactivated in the main regions of the country, but the economic and labour force was greatly reduced relative to before the pandemic.³⁰¹

The recommendations below focus on efforts to formalise the ASGM sector and optimise sustainable development benefits, even in the midst of the COVID-19 pandemic or future crisis. Importantly, these recommendations do not constitute legal advice. National and subnational circumstances vary widely and must be uniquely and carefully considered, taking into consideration the advice of experts in the relevant jurisdiction as well as the input and objectives of a broad cross-section of local stakeholders.

9.1. Key ASGM and COVID-19 recommendations

9.1.1. PROTECT WORKER HEALTH AND SAFETY

Governments should prioritise worker health and safety, advancing this objective through partnerships and dedicated resources, as noted in the examples from Bolivia and Chile above. Screening for COVID-19 and other infectious diseases should be established at ASGM sites.³⁰² Access to basic supplies such as soap, water, sanitation facilities, hand sanitiser and other sanitary supplies should be provided.³⁰³ Personal protective equipment, gloves and other essential safety equipment should also be provided.³⁰⁴ The government and LSM companies can work in collaboration with local hospitals and clinics to ensure that health and safety procedures are in place to provide basic necessities and stop the spread of disease at ASM sites.³⁰⁵

A Peruvian partnership including Solidaridad, planetGold Peru, Alliance for Responsible Mining, Artisanal Gold Council, Instituto de Redes de Desarrollo Social (Institute of Social Development Networks), MEGAM (Improvement of the Environmental Management of Mining and Energy Activities in Peru), and the international nongovernmental organisation Pure Earth launched the campaign ‘ASM without COVID-19’ that circulated a booklet on worker hygiene to stop the spread of COVID-19.³⁰⁶ Similar to the booklet Solidaridad and other partners produced in Bolivia, this booklet provides recommendations for travelling to and from the workplace and for limiting contamination in workplace facilities, common areas and cargo transportation areas, and also provides recommended procedures to follow for suspected or confirmed cases of COVID-19.³⁰⁷ These booklets have been shared among miners through WhatsApp, Facebook groups and text messages.³⁰⁸ They are expected to reach around 300,000 to 400,000 artisanal and small-scale miners in

³⁰⁰ *Ibid.*

³⁰¹ *Ibid.*

³⁰² See Mtisi and others (n 37).

³⁰³ See *ibid.*

³⁰⁴ See *ibid.*

³⁰⁵ See *ibid.*

³⁰⁶ Solidaridad, ‘You Can Contribute to Alleviate COVID-19 Impact’ (n 197).

³⁰⁷ *Ibid.*

³⁰⁸ *Ibid.*

2020, displaying the notable power of technology to assist in implementing positive policy change in the ASM sector.³⁰⁹

9.1.2. PURCHASE GOLD FROM THE ASGM SECTOR AT FAIR PRICES

As noted in examples above, fiscal stimulus plans are another tool that can protect and stabilise ASGM livelihoods. Governments can use monetary policy and cash supports to bolster lagging markets, improve the economy, and preserve and expand employment opportunities.³¹⁰ One option from the examples above is to set a fair price for gold from the ASGM sector. A temporary framework could be established whereby express agreements are signed with new gold trading companies to purchase gold from the ASGM sector at fair prices.³¹¹ Such a scheme, supervised by national authorities, can provide much needed liquidity to ASGM producers.³¹² To determine a fair price, pre-COVID-19 margins could be considered, taking into account any new expenses that may be incurred due to COVID-19.³¹³

Mining Assets is a public company based in Peru. ASGM experts in Peru recommend this company for the role of signing agreements with new gold trading companies for acquisition of gold from the ASGM sector at a fair market price. The General Directorate for Mining Formalization (DGFM) could supervise transactions at training points. Tax or mining incentives could be provided for beneficiation plants and gold trading points that collect from the ASGM sector at a fair market price and exhibit ‘good commercial behavior’. Gold from the ASGM sector could also be bought through a one-time deal with the Central Reserve Bank of Peru (BCRP), which would address the over-supply of gold from the ASGM that has accumulated during the COVID-19 pandemic.³¹⁴

By promising to buy artisanal gold, the Peruvian government could benefit from effectively supporting the ASGM sector while also combating the negative economic impacts of COVID-19.³¹⁵ Peru can learn from the experience of the governments of Zimbabwe and Chile noted above. Instead of financing economic ‘handouts’, the Peruvian government could establish contracts to buy artisanal gold,³¹⁶ which could then be sold to generate revenue. Government purchasing of artisanal gold would drive much-needed money into vulnerable communities, thereby benefiting miners in the ASGM sector and the communities that depend on them.

As recommended by ZELA in the example from Zimbabwe noted above, price supports for gold from the ASGM sector should be provided with corresponding support for formalisation efforts. This will help ensure that stakeholders are moving towards formalisation within a framework that supports sustainable management of the ASGM sector. As noted in the example from Colombia, aiding miners with

³⁰⁹ *Ibid.*

³¹⁰ Telmer, ‘Impacts of COVID-19 on ASGM Communities’ (n 88).

³¹¹ UNDP Peru (n 42).

³¹² *Ibid.*

³¹³ According to Kevin Telmer at the Artisanal Gold Council, ‘Aiming for pre-COVID-19 [price] margins would mean that livelihoods would be less impacted by collapsing markets and impacts would be limited mostly to production decreases due to shutdowns or other restrictions on the ability to work’. Telmer, ‘Impacts of COVID-19 on ASGM Communities’ (n 88).

³¹⁴ Arista (n 45).

³¹⁵ See Telmer, ‘Impacts of COVID-19 on ASGM Communities’ (n 88).

³¹⁶ *Ibid.*

formalisation and access to formal markets is also beneficial for the government, as the government can then receive needed tax and royalty payments from sales of gold in formal markets.

9.1.3. RECOGNISE THE ASGM SECTOR AS ‘ESSENTIAL’

In countries like Peru, the ASGM sector contributes substantially to the livelihoods of individual miners and mining communities and to national economic development. The example from Zimbabwe above underscores the necessity of recognising work in this sector as ‘essential’, while not overlooking the need to protect worker health and safety at the work site and when travelling to and from the work site. As noted in examples discussed above from Peru, Chile, Zimbabwe and Colombia, miners in the ASGM sector are particularly vulnerable to negative impacts of any work stoppage due to their subsistence livelihoods, pervasive food insecurity, lack of access to financial services, and other factors. Negative impacts of work stoppage can be particularly harsh for women in the ASGM sector, exacerbating existing gender inequalities.

On 17 March 2020, Peru’s Ministry of Finance issued OFICIO 059-2020-EF/10.01 to include the mining sector as a ‘critical operation’ under Supreme Decree 044-2020-PCM. It is unclear to many stakeholders whether this general reference to the mining sector includes both LSM and ASM, but many interpret the OFICIO to apply only to the LSM sector. The definition of ‘the mining sector’ under the OFICIO should be clarified to ensure that the ASM sector is specifically and clearly classified as a critical operation.

9.1.4. LEVERAGE DECREASED ACCESS TO MERCURY DURING COVID-19 AS AN OPPORTUNITY TO ADOPT ALTERNATIVE PROCESSING METHODS

Miners in Peru, as in Zimbabwe and many other countries, are experiencing reduced availability of mercury for processing gold, due to travel and transportation restrictions and other COVID-19 measures. This presents an ideal opportunity for the Government of Peru and other stakeholders to introduce alternative processing methods that are more socially responsible, less environmentally harmful and in line with the UN’s Minamata Convention on Mercury, a global treaty implemented to ‘protect human health and the environment from the adverse effects of mercury’. The Government of Peru can benefit from the experience of Colombia’s National Mining Agency to successfully eliminate the use of mercury at beneficiation plants in efforts to formalise the ASGM sector and advance the sustainability of the sector.³¹⁷ The Government of Peru can leverage its partnerships with nongovernmental organisations and other stakeholders, as exemplified in examples from Zimbabwe, Colombia and Bolivia above, to conduct community education and technical assistance initiatives that eliminate use of mercury in the ASGM sector and accelerate shifts to alternative processing methods.

³¹⁷ Colombia made mercury illegal, thereby forcing miners to eliminate mercury from use at beneficiation plants.

Contacts on the ground report how challenging it is for travellers to get to rural areas in Peru because of COVID-related travel restrictions. This may complicate efforts to roll out programmes supporting alternative processing methods. Several past initiatives to introduce mercury-free processing technologies in Peru have failed. Therefore, any introduction of such technology must be accompanied by proper education, training and, most importantly, effective implementation.

9.1.5. ADDRESS GENDER-BASED IMPACTS OF ASM AND COVID-19

The UN estimates 15 million people work in the ASGM sector globally, including 4.5 million women and more than 600,000 children.³¹⁸ Given that women in many areas have been disproportionately impacted by the negative effects of COVID-19 on the ASM sector, it is imperative that any policy or legislative responses include a gendered perspective.³¹⁹ As in Colombia and beyond, female miners in the Philippines report gender inequalities that existed before the pandemic have been exacerbated, and that quarantine and other lockdown measures have been especially hard on women, given the increased demands of unpaid housework and limited options for alternative employment outside the ASM sector.³²⁰ Women who are pregnant or taking care of young children may have decreased access to essential medical care and medication.³²¹ Any coordinated response to COVID-19 should ensure access to maternal and youth healthcare and be responsive to the unique needs of women and children; provide alternative sources of income and employment opportunities, taking gender and its considerations into account; and include awareness of and strategies to combat the gender inequalities that existed before COVID-19 and have become more apparent during lockdown.³²²

9.1.6. DEVELOP A STABILISATION FUND TO ASSIST STAKEHOLDERS WITH CURRENT AND FUTURE ECONOMIC DOWNTURNS

As noted in the example from Chile above, the country's Copper Price Stabilization Fund has provided much-needed financial support for miners in Chile's ASGM sector. These financial resources have been critical for artisanal and small-scale miners who live subsistence livelihoods and otherwise might not survive the difficult circumstances of COVID-19. Peru should follow this model by developing such a fund that will be available for stakeholders not only during a pandemic or other national or subnational emergency, but over the course of dramatic commodity price fluctuations that are regularly experienced in the mining sector.

³¹⁸ UN Environment Programme, 'Towards a Mercury-Free Future in Mongolia and the Philippines' (5 April 2019) www.unenvironment.org/news-and-stories/press-release/towards-mercury-free-future-mongolia-and-philippines accessed 14 October 2020.

³¹⁹ Jacklyn Belo-Enricoso and Shyne S. Catedral, 'Women and COVID-19 in an Artisanal Gold Mining Community: Gender Impacts in the Philippines' (*Artisanal Gold Council*, 14 May 2020) www.artisanalgold.org/2020/05/women-and-covid-19-the-philippines accessed 14 October 2020; Salcedo-La Viña, Singh and Elwell (n 200).

³²⁰ *Ibid.*

³²¹ *Ibid.*

³²² Belo-Enricoso and Catedral (n 319).

9.2. Key recommendations specific to ASGM and formalisation

9.2.1. PROVIDE SIMILAR BENEFITS TO ASM AND LSM WORKERS

Given the immense impact ASGM has on the global economy, to the tune of at least 10 million artisanal and small-scale miners in over 80 countries, producing nearly 20 per cent of the world's gold,³²³ governments should acknowledge the importance of the ASGM sector and provide the same fiscal and social benefits to the ASGM sector as they provide to other sectors. The COVID-19 pandemic presents the Government of Peru with a rare opportunity to fast-track the formalisation of artisanal and small-scale miners by providing incentives for informal miners to formalise under Peru's legal framework.³²⁴ However, the modified formalisation process may minimise environmental impact assessment, so the pros and cons of fast-tracking, and the effect this may have on the health of the environment, must be weighed.

One way to protect artisanal and small-scale miners during this time is to ensure they have access to the subsidies and credits the Peruvian government is administering to individuals and businesses in need. The Peruvian government has succeeded in ensuring formalised miners are eligible for income subsidies³²⁵ in the form of 'bonos'. However, miners who are not formalised often do not have access to these benefits. Access to these credits should be extended to the nearly 90,000 artisanal and small-scale miners who are currently pending formalisation.³²⁶

Legislative Decree 1336, 'Establishing provisions for the integral formalization process', was enacted in January 2017 and includes provisions for a mining fund to support the mining formalisation process.³²⁷ This mining fund, if activated, would provide credits³²⁸ for the nearly 89,000 artisanal and small-scale gold miners currently registered with Peru's Internal Registry of Mining Formalization.³²⁹ The activation of this mining fund would also directly incentivise these miners to continue to engage in the formalisation process.

Currently, Peru has effectively suspended the formalisation process in response to the pandemic. However, there is room for the government to take advantage of this opportunity as a chance to expand, rather than contract, the ASGM formalisation process. To do so would have a positive impact on post-COVID-19 sustainable development, with marked improvements in artisanal and small-scale miners' earning capacity and working conditions.³³⁰ As noted in the recommendation above regarding the elimination of mercury use, the COVID-19 pandemic also presents a unique opportunity to mitigate the negative environmental impacts of ASGM.³³¹ As the country explores establishing a new mining law, it should consider creating a separate legal framework for ASM that addresses some of the challenges with the current

³²³ Blore, Kroll, and Telmer (n 2).

³²⁴ Telmer, 'Impacts of COVID-19 on ASGM Communities' (n 88).

³²⁵ Arista (n 45).

³²⁶ UNDP Peru (n 42).

³²⁷ Peru Legislative Decree 1336, Art. 21.

³²⁸ UNDP Peru (n 42).

³²⁹ Bnamericas, 'MINEM: Mining Formalization Achieves Progress of 40%' (n 145).

³³⁰ 'Emergency Action Needed' (n 6).

³³¹ *Ibid.*

formalisation process.³³² Any updated formalisation process should continue to take into account the unique social, environmental and economic considerations that characterise the ASM community.

9.2.2. PROVIDE BENEFITS TO *PALLAQUERAS* AND *CACHORREROS*

In addition, the Government of Peru should consider benefits for *pallaqueras* (and for *cachorreros*, their masculine counterparts). Residing mostly in the Puna region of the country,³³³ there are approximately 12,000 of these ‘manual gold handlers’ registered with the state of Peru.³³⁴ These groups are particularly vulnerable due to their informal status.³³⁵ Many *pallaqueras* and *cachorreros* are registered, either through the Ministry of Energy and Mines or through the registry of *pallaqueras* associations in the National Superintendence of Public Registries in Peru.³³⁶ These registries could be used to facilitate direct access to stimulus and other forms of economic and social support for these vulnerable populations. The COVID-19 pandemic opens many opportunities for a formalisation process that integrates strategies to address the unique experience of poverty, inequality and human rights violations that in some ways have defined the ASGM experience.³³⁷ The Peruvian nonprofit Red Social, in partnership with Solidaridad, has established a crowdfunding campaign to support between 200 and 1000 *pallaqueras*, including through a call centre sharing information about COVID-19 prevention; a capacity-building programme that helps women adjust work and home routines to the realities of the pandemic; and a food-purchasing programme to support the women and their families.³³⁸

9.2.3. PROMOTE COLLABORATION BETWEEN LSM COMPANIES AND THE ASM SECTOR

The Government of Peru can also promote positive relationships between the LSM sector and the ASM sector. On a general level, national and subnational governments can work with companies to ensure that public engagement continues through all available channels, balancing the need for safety and social distancing with the need to retain rights such as the access to grievance mechanisms, access to information about the project and its impacts, and community input on and participation in decision-making processes. On a more specific level, to promote increased formalisation, the Government of Peru can follow the example from Colombia, where the government developed and promoted a ‘Mining Formalization Subcontract’ between large-scale mines and small-scale miners, supporting the creation of formal ASM

³³² Some government officials suggest formalisation reform should include formalising the ASM operations themselves.

³³³ Arista (n 45).

³³⁴ Supreme Decree No. 018-2018-EM for the first time recognised these workers as part of the formal gold production chain. Plataforma Integral de Minería a Pequeña Escala, ‘The Potential of Gold Marketed by Puno Pallaqueras and Cachorreros’ (21 January 2019) www.plataformaintegraldemineria.org/en/news/opinion-potential-gold-marketed-puno-pallaqueras-and-cachorreros accessed 1 February 2021.

³³⁵ UNDP Peru (n 42).

³³⁶ *Ibid.*

³³⁷ *Ibid.*

³³⁸ Solidaridad, ‘You Can Contribute to Alleviate COVID-19 Impact’ (n 197).

companies and agreements between large-scale mines and small-scale miners to allocate a portion of the LSM concession to small-scale mining activity.

Other roles LSM companies can take to support the ASM sector include supporting governments and other actors in promoting the formalisation process; recognising artisanal and small-scale miners as stakeholders throughout environmental and social impact assessments, social investment programmes and community engagement endeavours; working with governments and other stakeholders to address human rights abuses that may occur relative to ASM; and implementing international best practices, such as the UN Guiding Principles on Business and Human Rights and the Voluntary Principles on Security and Human Rights, in their interactions with ASM communities, including through the provision of appropriate grievance mechanisms.³³⁹

9.2.4. SUPPORT MORE TRANSPARENT ASGM SUPPLY CHAINS

COVID-19 has provided the opportunity for a re-evaluation of ASGM supply chains, in Peru and beyond. In addition, breakdowns in the payment chains to artisanal and small-scale miners and the communities that depend on them demonstrate the importance of ensuring those financial transfers remain intact in the event of future crisis. The spike in illegal mining that has been observed across the Peruvian Amazon, some of which is being carried out by organised crime units, may put ASGM communities, including women, children, Indigenous people and migrants, at increased risk of exposure to violence, labour exploitation or trafficking.

Peru and other governments should consider renewing their commitment to more secure, transparent and accountable gold supply chains, including by promoting the global standard outlined in the OECD Due Diligence Guidance for Responsible Supply Chain of Minerals from Conflict-Affected and High-Risk Areas. Companies, governments and multi-stakeholder groups should work to support responsible sourcing of gold at this time, including programmes to assess trading hubs and transportation routes; establish traceability or chain-of-custody mechanisms to enable data collection on all gold for assessed ASM sites;³⁴⁰ and incentivise completion of the formalisation process for those artisanal and small-scale miners for whom formalisation is pending.

The OECD Guidance has an appendix dedicated to supporting economic and development opportunities for artisanal and small-scale miners, including promoting the formalisation of ASM.³⁴¹ The guidelines state any effort to formalise ASM should concentrate on supporting ‘secure, transparent and verifiable supply chains from mine to market and enabl[ing] due diligence for legitimate artisanal and small-scale mining’.³⁴² Transparent supply chains can be strengthened by enforcing the payment of moderate export royalties and complying with the sourcing standards of

³³⁹ World Gold Council, ‘Artisanal and Small-Scale Gold Mining’ (n.d.) www.gold.org/about-gold/gold-supply/responsible-gold/artisanal-and-small-scale-gold-mining accessed 11 October 2020.

³⁴⁰ OECD, ‘OECD Due Diligence’ (n 123).

³⁴¹ OECD, ‘A Global Standard Toward Responsible Mineral Supply Chains’ (n 125).

³⁴² *Ibid.*

the OECD Due Diligence Guidance.³⁴³ Pre-existing supply chains can also be used to transport essential health assistance, including personal protective equipment.³⁴⁴

10. Conclusion

Peru is one of the world's leading sources of artisanal gold, and also has one of the world's highest mortality rates from COVID-19. The issues that plagued the ASGM sector before the pandemic have been exacerbated, including rising inequality, fiscal vulnerability and lack of access to adequate healthcare. The COVID-19 crisis has in many ways exposed the social, environmental and economic challenges fundamental to the ASGM sector, in Peru and beyond.

Due to the nature of ASGM work and widespread informality, many workers are left vulnerable to the adverse impacts and serious abuses that may occur along all aspects of the gold supply chain, from the extraction, transport, trade and handling to the export of gold. Due to the importance of ASGM to the global economy, and the impact it has on the 100 million people it supports worldwide, it is imperative for governments, companies, communities and other stakeholders to continue to work towards formalisation and an ASGM supply chain that is more equitable, just and transparent for all.

Disclosure statement

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³⁴³ Blore, Kroll, and Telmer (n 2).

³⁴⁴ Shyne Catedral, Michelle Manza and Abigail Ocate, 'Philippines: The Artisanal Mining Sector during the COVID-19 Pandemic' (*Artisanal Gold Council*, 13 April 2020) www.artisanalgold.org/2020/04/philippines-protecting-the-artisanal-mining-sector-during-the-covid-19-pandemic accessed 14 October 2020.