

Mongolian mining engagement with SIA and ESG initiatives

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ABSTRACT

The shift to a low-carbon future places mineral-rich low- and middle-income countries at the forefront of the green transition. The focus on investment and extraction presents significant domestic challenges as countries endeavour to create viable development agendas. Framed by initiatives including environmental, social and governance (ESG), impact assessment (IA) and Sustainable Development Goals (SDGs), the international community works to improve extractive practices. In Mongolia, the most mining-dependent country in Asia, addressing and mitigating industry impacts is key to continued resource extraction and economic progress. Whilst often a signatory to global programmes, government engagement is limited. Mongolia ranks 157th in ESG and though mining licenses cover 4% of the country, there is no social impact assessment (SIA) legislation. Extensive research on the development of SIA guidelines identified strong community interest yet dilatory official uptake and commitment. Ongoing engagement with civil society has seen regulations advanced and the legislative process initiated. Mongolia's struggle identifies common challenges LMICs face in the implementation of global initiatives. Whilst well-intentioned, without government commitment ESG and IA will remain ambiguous terms for serious social and environmental issues in mining nations.

1. Introduction

Once labelled 'Mine-golia' for its mineral riches, Mongolia faces the task of converting great mineral reserves into economic gain and social progress (Varada, 2022). Similar to other Lower Middle Income Countries (LMICs), creating the essential governance framework for an economy based on herding and mining is a difficult task. The nascent global clean energy transition will be mineral intensive and place LMICs like Mongolia at the forefront of green technology targets (Verrier et al., 2022). Widely renowned for Rio Tinto's > \$20 billion Oyu Tolgoi mine, there are 3000 active mining licenses covering 4% of the country (Sternberg et al., 2022; Purevsuren et al., 2021). Yet mining's poor record on environmental and social performance, typified by Mongolia, represents an ongoing challenge in developing countries (Mijidiorj and Purevsuren 2021; Jiang et al., 2022; Leonida, 2022). The extractive industry identifies such in-country practices and governance issues as their most serious business risk (Jowitt et al., 2020; Bazilian, 2018; Responsible Mining Index, 2022). As Mongolia is the most mining-dependent economy in Asia (Ericsson and Löf, 2019), addressing mining's social and environmental impacts is key to the country's continued resource extraction and economic progress (Johnston et al., 2019).

Mongolia's experience reflects how whilst the green energy transition is global, the immediate social and environmental impacts are local and driven by mineral extraction rather than consumption (Lèbre et al., 2020). Across low and middle income countries the imperative is to ameliorate mining practices and minimise detrimental impacts (IRMA, 2018). Without workable regulations that adequately address environmental, social and governance (ESG) concerns and community impact assessments, in-situ mineral assets are at risk. Jowitt et al. (2020) identify the growing threat of 'resource sterilisation', where, due to unsatisfactory local conditions, minerals become 'sterile' and unextractable (see Sternberg, 2020 for Kyrgyz example). Framed by ESG principles in LMICs, this paper stresses social and environmental impact themes in the Mongolian mining context. Research examines weak national engagement with ESG-related initiatives and recognises the importance of establishing impact assessment regulations. It presents ongoing NGO and academic-driven efforts to pass Social Impact Assessment legislation (SIA) in the country. The study evaluates how Mongolia, though a vibrant democracy and signatory of the Extractive Industries Transparency Initiative (EITI) and the United Nations' ESG and Sustainability Reporting Guidance (Boldbaatar et al., 2019; UNDP, 2022), ranks 157th on the ESG Index (Jiang et al., 2022). Rather than an

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exemplary LMIC Mongolia has become a straggler. Why?

Mining has vast economic impact and is key to an energy transition to a low carbon future (Verrier et al., 2022). Benefits range from investment and tax revenue to employment opportunities, new infrastructure and increased development (Johnston et al., 2019). In fact, achieving several of the United Nation's Sustainable Development Goals (SDGs), including on development, jobs, sustainable production and communities, are related to the extractive industry (Mancini and Sala, 2018). At the same time, mining alters landscapes, contributes to poverty, inequality and conflict, displacement and affects human rights (Lèbre et al., 2020; Ahearn and Namsrai, 2021). The split between capital investment from global markets and mining impact in host nations points to endemic LMIC concerns and constraints. Challenges abound; human and technological capacity, legislation and monitoring combine with inexperience, corruption and weak governance to limit country, community and citizen benefit (Jackson, 2015). Across the Global South the burden is on domestic regulations, laws and enforcement to monitor extractive processes and improve project outcomes (World Bank, 2017). Though some positive examples exist, developing countries face hurdles in controlling extractive processes. This major gap between promise and practice has distressed Mongolia as it sought to move beyond LMIC status.

2. Literature review

ESG, SIA and SDGs lead the quest for improved outcomes from investment and resource extraction. Whilst commonly invoked in the spirit of mitigating mining impacts, each addresses a different sphere and whilst related, are not interchangeable (Corvo et al., 2021). ESG comes from the financial and economic angle that makes a business case that better practices and engagement with mining communities and countries will increase profit and reduce risk (Leonida, 2022). A straightforward ESG definition is 'environmental, social or governance matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign or individual' (European Banking Authority, 2021, p 6). Li et al. (2021, p 1) add that ESG values 'sustainable and coordinated development that takes into account economic, environmental, social, and governance benefits'. Impact Assessments reflect how a project is managed in situ to minimise negative impacts and contribute to identifiable community benefit throughout its lifecycle; SIAs specifically focus on social issues resulting from a project (Vancly, 2020). In a Mongolian mining context, Purevsuren et al. (2021, p 97) write that SIAs are 'aimed at identifying measures to minimise the harm and maximise the benefits from activity in the extractive industry'. In the United Nations' lofty words, the SDGs are a 'shared blueprint for peace and prosperity for people and the planet' (UN, 2023, p 1). They are a series of 17 goals to increase global sustainability by 2030. Monteiro et al. (2019) connect mining to most of the SDGs objectives. Each programme presents itself as beneficial though targeted towards different audiences. The three initiatives have related themes but different focus: ESG derives from investment and finance external to project sites, SDGs from global sustainability goals and SIA from communities and countries hosting extractive projects.

Impact Assessment (IA) is the 'process of identifying the future consequences of a current or proposed action' (cited by Bond et al., 2022, p 1). The detrimental physical impacts of resource extraction have led to concern over mining's significant ancillary damage. Initiated in the 1960s in the US, the concept of Environmental Impact Assessment (EIA) was first legislated in the US; it is now practiced in >100 countries (Jay et al., 2007). Anticipatory in design, the process requires assessment of project impact before construction and extraction. This focus on the environment failed to effectively integrate community issues disrupted by extraction. In time elements of social, health, human rights and indigenous impacts were added to and incorporated into Environmental and Social Impact Assessments (ESIA) (Johnston et al., 2019; Sairinen et al., 2021). However, this approach was inadequate to

address the serious concerns raised. More recently there has been much effort to initiate stand-alone SIA and HIA (health impact assessment) for mining projects (Purevsuren et al., 2021; Vancly, 2020). SIA, the process of managing social issues and concerns resulting from development projects (Climent-Gil et al., 2018), 'represents a shift towards a more human-centred or holistic approach to development' (Parsons, 2020, p 278). To date EIAs are much written about whilst SIAs have received less academic research (Byambaa and de Vries, 2019; Purevsuren et al., 2021). This paper focuses on SIA as an important independent evaluation of mining project impact.

The benefits and detrimental impacts of mining resonate across the Global South. Whilst a stand-alone example in Inner Asia, Mongolia's challenges are similar to and mirror experiences in other nations. Ocaklı et al. (2020) write about community engagement, pollution, poverty and nationalism in the Central Asian mining context. The role of foreign capital, debt, inefficient tax revenue (e.g. elite capture) and weak extractive legal structures are identified in southern and western Africa (Larmer and Laterza, 2017). Across Southeast Asia Nguyen (2021) adds issues of gender equality, education, infrastructure and sustainable communities where mining takes place. The topics echo and re-occur in local guises; each instance shows how shared interest could contribute to a common LMIC vision.

Prior international mining initiatives initiated in LMICs, such as EITI (2021), reflect the struggle to ameliorate national outcomes. SIA practices and learning can be conveyed across states or regions. Democratic and unequal Andean nations present local engagement mechanisms that draw political attention to mining (Dietz, 2019). Research in South Africa found that a gradual improvement in SIA quality was likely 'driven by best practice considerations in the absence of prescriptive regulations' (Hildebrandt and Sandham, 2014). Particularly striking is the growing use and reach of social media to inform, engage and monitor community mining concerns from Ghana (Agbozo and Spassov, 2019) to Kyrgyzstan (Sternberg et al., 2023). Lessons abound, yet limitations of cost, access, distance and language limit LMIC interactions.

A further point notes a research inclination to advance SIA theory, practice, indicators and process with less focus on case studies (Vancly, 2020; Parsons, 2020; Bond et al., 2022; Verrier et al., 2022). Sairinen et al. (2021) provide a framework to study SIA in mining; Mancini and Sala (2018) review indicator frameworks; Corvo et al. (2021) map SIA models for a future research agenda. These are valuable appraisals that enhance knowledge and can be applied to practice. Case study investigations link conceptual advances to the lived experience in mining communities. Mongolian legislators and communities are unlikely to read SIA scholarship yet are reasonably adept at adopting measures, from laws to protest methods, from examples across the Global South. Social media enables the transfer of ideas and practices that residents with a smart phone and internet connection can embrace and apply to their local context.

Innovative insights can be drawn from Indigenous Impact Assessment (IIA) theory that prioritises and integrates indigenous rights and norms (Jolly and Thompson-Fawcett, 2021). The concept of traditional planning and land use is relevant in Mongolia where mobile pastoralism is the dominant livelihood in rural mining communities. Herders, through their effective management of seasonal variability and unpredictable pasture and water resources, are able to continue viable lives in dryland conditions. Mining alters the landscape through land-take (80 km² for Oyu Tolgoi), fencing, vast water use and related infrastructure. Byambaa and de Vries (2019) identify how impact assessment focuses on static (settled) land use and does not adequately recognise nomadic pastoral land use patterns based on uncertainties (e.g. precipitation, temperature, insect invasion, climate change). These factors are incorporated into local decision-making and pasture-based communal land tenure. As noted in Africa, such pastoral practices may be the most sustainable livelihood option (Mosebo, 2017). Recognition and inclusion of this approach would acknowledge community SIA challenges beyond conventional development rubrics.

2.1. ESG & SIA in mining

For extractives, the interest in ESG and SIA initiatives depends on funders, stakeholders and effective regulation. As an assessment and (in the best of cases) a monitoring tool, SIAs address groups least served by investment – the people, landscape and public where extraction occurs. SIA has become commonplace for international development financiers such as the International Finance Corporation (IFC), European Bank for Reconstruction and Development (EBRD), Asian Development Bank (ADB) and makes up a key component of voluntary principles such as the International Council on Metals and Mining (ICMM)'s Mining Principles and the Initiative for Responsible Mining Assurance (IRMA) standards. As Mongolia does not have national legislation requiring a full SIA, there is a significant gap between international standards and national requirements. For numerous mines which do not receive investment from international financiers (often the case of Chinese-owned companies (Ruan and Liu, 2021)) and do not sign on to voluntary standards, attention to social impacts is bypassed in pursuit of mineral profits. This highlights the key role for national regulation and government capacity to monitor mining to strive for protecting human rights, engagement of communities in decision-making and benefit. The power imbalances and divergent interests between investment, mine-site concerns and national interest such as tax revenue, infrastructure, jobs and elite capture, stress the imperative of legislation. Typically LMICs receive guidance from international agencies and advisors, yet states must legislate and implement the laws. The Mongolian example in this paper reflects how even with an interest and inclination towards positive engagement the process is lengthy and troubled.

As part of an investment decision the ESG process uses impact assessment as a way to reduce financial risk. ESG is measured and rated by financial benchmarks at distance from the mines and reported by corporations, not communities. Much knowledge and reportage is second- or third-hand, filtered through the Global Sustainable Investment Alliance and ratings agencies such as MSCI and Sustainalytics that evaluate 75+ ESG funds with \$30 trillion in funds (Thompson, 2019). Concurrently SDGs are a development guideline and aspirational; they do not address specific community problems but suggest what social outcomes should be achieved. Impact assessment recognises the significant social implications mining has for communities over long time periods and at a large scale (Sairinen et al., 2021).

With mining at the centre of the transition to a low carbon future and meeting the UN's Sustainable Development Goals (SDGs), investment in the extractive industry now totals \$14 trillion (Innis and Kunz, 2020). Current environmental and social practice in mining is driven by finance, investment and stakeholder agendas; sustainable extractive processes may be an outcome. The act or perception of sustainability becomes the motivation to engage with ESG principles as this affects financial performance and motivates corporations to consider business threats (Leonida, 2022). Investor interest and funding goes to mining companies with perceived better ESG performance whilst weak ratings identify greater financial risk for companies (Steele-Schober, 2021). The vast amounts funding extraction originate in financial centres such as New York, London and Hong Kong rather than in LMICs. For extractive host nations like Mongolia, the process is externalised and relies on ESG consulting companies, rather than governments, to do the assessments. In Mongolia this depends on the legal requirements of the investors and if companies adopt voluntary standards and implement impact assessments (most do not). The process lacks adequate mine-level engagement on standards and implementation for communities, workers and stakeholders (Responsible Mining Index, 2022).

An additional factor is that whilst mining is key to green energy technologies, the industry is also a major contributor (4–7%) to global greenhouse gas (GHG) emissions, greater than aviation (1.9%) and cement (3%) (Ritchie, 2020). This clear conundrum raises public, investor and financier awareness of the industry's negative footprint and reputational risk. These challenges inform investment decisions and

positions ESG as a response to inherent detrimental impacts and shareholder concerns. Whilst seemingly far-removed from extractive sites, investor ratings services' evaluation of project practice and in-situ viability is a key assessment risk. Responsible production, management and adherence to ESG practices in operations is now considered an extractive industry standard and required for international funding (Davy, 2020). This identifies how large-scale and global-oriented projects amplify focus on ESG principles to reduce investment risk (Leonida, 2022). Projects not dependent on international funding mechanisms, such as those with the China Development Bank, may eschew ESG principles as not relevant nor required for funding (Ruan and Liu, 2021). It is corporations with global investors and stock listings that sign up to ESG and SDG initiatives and join industry initiatives such as the ICMM – the International Council on Mining and Metals, whilst regional and domestic companies may shun such initiatives.

Mongolia and lower middle income countries (LMICs) represent a broad swathe of 54 countries from Bolivia and Morocco to India and Vietnam (World Bank, 2023). Defined by annual income between \$1086 to \$4255, the group includes 3.4 billion people. The LMICs encounter significant development liabilities to overcome gaps in governance and monitoring of major economic investments. These developing countries have the greatest dependence on resources which account for >30% of exports (UN, 2016). Cognizant of the challenges developing countries face, international efforts such as the United Nations Guiding Principles on Business and Human Rights (UNGP) (UNGP, 2011), International Finance Corporation (2012) and OECD Guidelines for Multinational Enterprises (2011) stress proper management of social issues throughout the life of a project with established grievance mechanisms (Vancley, 2020; Lezak et al., 2019; IRMA, 2018). Yet guidelines do not directly translate into improved performance. In this context a country's significant reliance on extractives favours investors and companies over governments and communities.

International agencies advise exploiting natural resources whilst simultaneously working to improve governance whilst in LMICs this is a battle for day-to-day accomplishments. Degradation, corruption, lack of infrastructure, skills shortages, over-ambition and resettlement embody some of the myriad obstacles that trap LMICs. Each LMIC encounters distinct tribulations on their development path. Across the global South often extractive-driven countries are troubled by underdevelopment, political and social instability, corruption and discord (Myadar and Jackson, 2019). Mongolia's journey into a land of mining riches has been rerouted through the IMF and massive external debt (278%) (IFFE, 2020). Despite once being labelled 'the next Qatar' for its mining-driven 17% GDP growth rate, small population and vast mineral resources (Economist, 2012), Mongolia's mining-fueled development trajectory has been rocky. In fact, it has the ignominious distinction of being promoted to Middle Income Country status by the World Bank only to be demoted back to a LMIC in 2016 where it has languished (Witte et al., 2019). The country exemplifies the struggle to advance and develop from extractive resources.

2.2. Mongolia

As an isolated democracy in Inner Asia, Mongolia makes a stimulating mining case study that presents an unusual perspective to common conditions in developing countries (Fig. 1). Its transition from a communist state to market economy in 1990 has been remarkable. The country has achieved lower-middle income status and been identified as the third free-est nation in Asia and ranks above the US (Freedom House, 2023). It is well integrated into the global community and lauded for its 'Third Neighbour' foreign relations policy that builds ties with Japan, Korea, India, EU and US to balance its superpower neighbours Russia and China (Bayasgalan, 2021). The country engages with multi-lateral donor institutions and is a signatory to the United Nations' Sustainable Development Goals (SDGs) and progressive UN initiatives on climate change (UNFCCC), biodiversity (UNCBD) and desertification

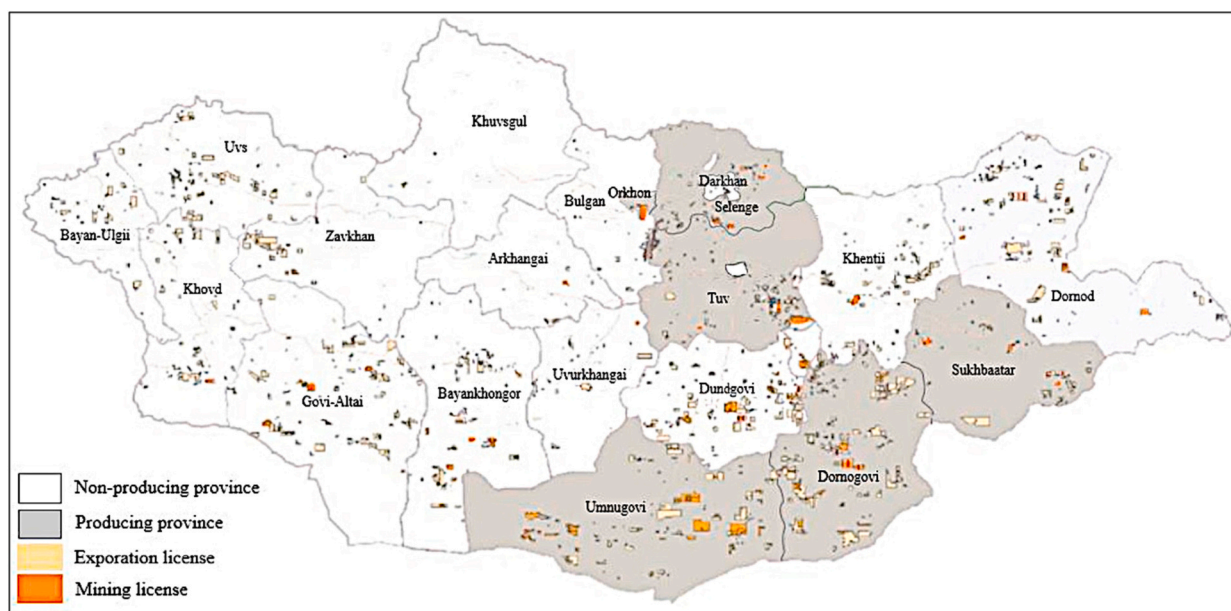


Fig. 1. Map of main producing provinces (Mineral Resources and Petroleum Authority of Mongolia MRPAM, 2020; Batdelger and Zagdbazar, 2022). Major minerals include copper, coal, gold, silver, fluorspar, molybdenum, rare earth elements, iron ore, phosphate and zinc (Gerel et al., 2021). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

(UNCCD). Such openness and engagement suggests a forward-looking approach to development in the country - thus Mongolia's poor 157th ESG index ranking is disappointing (Jiang et al., 2022). This is matched in how, despite official discussion, the country lacks SIA legislation (Purevsuren et al., 2021). Sairinen et al. (2021) stress the value of academic research, fieldwork and analysis for SIA, as in this study.

The importance of extractive social and environmental impacts in Mongolia are emphasized by its position as the most mining-dependent nation in Asia (Table 1). Since 2000, the continent's 104% increase in mining now accounts for 60% of global production (WMD, 2021). In this time Mongolia has had increases of 650% in coal production, 370% in copper and 160% for gold (NSO, 2023). The country is the global leader for value of production as a percentage of GDP and tops Asia for mining as percent of exports and mineral rents as a share of GDP (Ericsson and Löf, 2019). The dominance of mining in the economy is all-encompassing; it accounts for ~30% of GDP, 90% of exports and 26%

of tax revenue (Mineral Resources and Petroleum Authority of Mongolia, 2017; Zandariya, 2022). Yet the social benefit for citizens and rural regions is less clear as mining comprises just 3.6% of jobs. This creates a potential disconnect between the central government's embrace of mining and high expectation of mineral royalties and the local implications and the trade-offs mineral production entails. Host communities feature mobile pastoral livelihoods that present unique challenges for effective impact assessment (Byambaa and de Vries, 2019). In this context, Social Impact Assessment is key to safeguarding communities from risks, protecting human rights and ensuring some benefit accrues in mining districts. 'Local communities are mining stakeholders, they deserve equal rights, power and participation in decision making' (Purevsuren et al., 2021, p 2). As Myadar and Jackson (2019) stress, negative impacts may outweigh positive benefits.

Landlocked Mongolia is the top supplier of coal to China and exports 90% of goods and materials through China. Whilst Rio Tinto's Oyu Tolgoi and state-owned Erdenet and Tavan Tolgoi are the largest mines, Chinese companies own or control >70% of foreign mining investment and fund additional extraction (Global Data, 2022; MRPAM, 2023). Their financing is sourced domestically; the Chinese rubric rarely ascribes to nor requires consideration or implementation of ESG principles and impact assessments. Ruan and Liu (2021) identify how Chinese favour rapid economic growth, do not guarantee truth and objectiveness in disclosure and fail to appreciate how ESG information can reduce financial risk. Whereas western corporations face funding and shareholder jeopardy, without host government regulation and monitoring Chinese investment is unburdened by ESG and SIA obligations. This squarely places the ESG and SIA burden from Chinese investment on the host country, a condition repeated across LMICs. Control and regulation of SIA and ESG thus depends on monitoring and enforcement of effective national laws to mitigate impacts of mining investment.

3. Methods

Research in Mongolia from early 2020 to spring 2023 focused on efforts to establish SIA as a legal requirement in Mongolia. This involved extensive desk and field research, training workshops, ongoing stakeholder consultation, debate within and between government ministries and piloting of draft SIA guidelines and methodologies at an existing

Table 1

Global top ten mining countries by % exports, production % GDP and mineral rent % GDP.

	Mining, %		Production value, %		Mineral Rent, %
	Exports		GDP		% GDP
Botswana	92,7	Mongolia	14,7	Suriname	24
Sierra Leone	88,2	New Caledonia	14,4	Mauritania	22,3
Congo, D. R.	86	Congo, D.R.	11,6	Liberia	22,1
Mongolia	82,5	Papua New Guinea	10,2	Mongolia	21,5
Burkina Faso	78,3	Australia	10,1	Congo, D.R.	13,2
Zambia	75	Guinea	9,79	Togo	11,9
Mali	74,7	Botswana	9,09	Guyana	11,8
				Papua New Guinea	11,3
Nauru	72,1	Mauritania	7,89	Guinea	10,9
Guinea	61,6	Suriname	7,14	Zambia	10,9
				Burkina Faso	10,3
Peru	61	Chile	7,04		

Ericsson and Löf, 2019

mine site. Its purpose was to develop regulations and methodologies for conducting social impact assessments in the country. A team of Mongolian experts was convened to examine SIA themes and processes, both in Mongolia and internationally. Virtual group discussions took place during the Covid lockdowns to develop a detailed methodology for conducting SIA and a legal analysis of existing laws, rules and procedures and their implementation related to SIAs in Mongolia (see Tegshbayar et al., 2020).

Fieldwork was undertaken in mining-intensive Sukhbaatar and Omnogovi Provinces, then followed in Dornogovi Province. Sites are in an arid region where mobile pastoralism is the principal livelihood. Working with government ministries and Bayarsaikhan Namsrai, Director of the NGO Steps without Borders, an official Working Group was established on SIA in mining (Government Order No. 28 dated 14 February 2020). The group was headed by Munkhtseren Sharav, who at the time was the Chief of Strategic Management and Coordination Department within the Cabinet Secretariat. Additional members included individuals from the Ministry of Mining, Natural Resource Management Department, Geology and Mining Inspection Department, Ministry of Labor and Social Protection, the Ministry of Health, and the Ministry of Environment. Whilst in-person NGO interaction continued throughout, research in mining communities was constrained by variable Covid-19 restrictions. Periods of fieldwork were matched with official Working Group meetings in the capital.

4. Results: Social impact assessment in Mongolia

Here we present research from ongoing efforts to introduce SIA legislation in Mongolia. The most significant impacts of mining are on people who live closest to mining sites in Mongolia (Sternberg et al., 2022). Typically these are mobile pastoralist herders or residents of rural counties – *soum*. Rural *soum* settlements have experienced limited public investment since the collapse of the socialist system in the 1990s. The resulting weak capacity of local government alongside a lack of transparent information and unwillingness of higher-level government authorities to engage with local government and citizens regarding planned mineral developments contributes to poor ESG and SIA outcomes. Extensive coordinated efforts between civil society, stakeholders and government ministries have worked to institutionalise SIA guidelines and methodologies in the country.

Mongolia currently has a legal environment which emphasises broad human rights guarantees and acknowledges a space for citizen participation in decision-making. Mongolia is party to the UN's International Convention on Economic, Social and Cultural Rights (ratified in 1974) and the International Convention on Civil and Political Rights (ratified in 1974). These are core international human rights instruments which protect against forced displacement and the deprivation of individuals of their own "means of subsistence." The basic principles of these conventions are to ensure equality, human rights, and to create a favourable environment for human rights (Tegshbayar et al., 2020).

In current mineral licensing and extraction practices, the existing legal protections for human rights are loosely applied. During the OHCHR's Universal Periodic Review (UPR) of Mongolia at the 36th session of the UN Human Rights Council in May 2020, the UN Committee on Economic, Social and Cultural Rights raised serious concerns regarding land acquisition for mining license areas. Their report stated, "The Committee urged Mongolia to carry out human rights and environmental impact assessment processes before the mining licences were granted and to ensure that all stakeholders affected by such projects effectively participated in the assessment processes" (UNHCR, 2020, p.3). Likewise, the EU Special Incentive Arrangement for Sustainable Development and Good Governance ("GSP+") assessment of Mongolia (European Commission, 2020) emphasized that additional actions are needed in environmental standard and protection, and further action is needed to ensure an in-depth assessment of new major gold mining projects, as well as the need to appoint an Environmental Ombudsman.

The Rapporteur recommended that Mongolia needs to make progress in protecting the environment, amend laws to reduce the severe impacts of mining and coal burning of Mongolia, make information more transparent, and set up a grievance mechanism for herders and citizens. These points reflect the IA context to be addressed in Mongolia (Bond et al., 2022).

There are ongoing efforts to improve transparency and social accountability in governance, including Mongolia's ratification of the UN Convention on Anti-Corruption in 2005 and the recently established Law on Public Information Transparency in 2021 and the Anti-Corruption Law. A 2007 World Bank Report identified legal protections in the Constitution for access to information from public bodies however a continuing "political culture of non-transparency" (Beck et al., 2007, p 13) and often adversarial relationship between civil society organisations and government bodies have been obstacles in implementing these legal guarantees. A recent study of information transparency in the mining sector in Mongolia (Boldbaatar et al., 2019) revealed that despite significant efforts to improve digital data disclosure through EITI and government agencies and programmes, much of this data remain inaccessible to local stakeholders who may lack internet connectivity, data literacy or knowledge of how to find data via existing online portals. In January 2020, the IFC published "Data in Action: Natural Resource Disclosures for People and Progress," which included a review of Mongolia (IFC, 2020). They found that data and information on natural resources fail to reach end users (i.e. communities and affected people), data quality is poor or not accurate, accessibility is limited, end user capacity to read technical data is limited and communities distrust information disclosed by private companies. Although these issues were flagged with reference to the mining sector, the more general problem of information disclosure and citizen engagement in major development projects is apparent. Lack of transparent engagement with communities alongside rushed resettlement processes and impacts on pasture resources have resulted in a growing number of complaints and court cases, as well as public outcry from households directly impacted by forced displacement and lack of information about planned development in their places of residence.

Mongolia's legal system does acknowledge the need for national regulation for social and health impact assessments as well as safeguarding of national cultural heritage. Article 7.7 of the Law on Environmental Impact Assessment, which was amended in 2012, states that "The Government shall approve the procedure and methodological guidelines for the conduct of environmental impact assessments, and the procedure and methodology shall govern the issues concerning the environmental impact assessments, appraisal and review of assessments, terms of reference of the Technical Board, and regulations for social and health impact assessments." This stipulation in the EIA law signals that the government has a duty to approve both social and health impact assessments. There was a significant push to develop Health Impact Assessments with the "Methodology for Health Impact Assessment" approved by Order No.413 of the Minister of Health in 2014. Johnston et al. (2019) reflect on and assess a capacity building effort to institutionalise HIA in Mongolia and support assessment skill development amongst professionals in government, NGOs and academics. They note many positive impacts from the capacity building efforts, including strengthened networks and the development of HIA courses within the Mongolian Health Sciences University (Johnston et al., 2019, p.65). They also noted institutional constraints, including the difficulties of implementing HIA and changing work patterns within the implementing Ministry; "for the departments that maintain ultimate oversight of the impact assessment – i.e., within the Ministry of Environment – implementing and monitoring HIA policy and legislation and its extended health mandate may not yet be a priority" (Johnston et al., 2019, p.66).

These issues were also reflected in the efforts of our project to develop official guidance on SIA methodologies in Mongolia. High turnover of Ministry officials, limited government capacity, siloed Ministry agendas and lack of knowledge or prior consideration of social research

as a policy tool – much less the specifics methodologies of SIAs – created a complex institutional environment to enact change. As part of this process, funding from the Oxford Policy Engagement Network (OPEN) was awarded to enable capacity building and extensive stakeholder engagement meetings and workshops both in Ulaanbaatar and in sites of significant mineral extraction, such as Dalanjargalan soum of Dornogovi province.

In dialogue with the Government Working Group, a team of four Mongolian experts with a background in legal analysis, human rights and transparency initiatives, and ESG work were assembled to work closely with Bayarsaikhan Namsrai and the team based at the School of Geography and the Environment at the University of Oxford. This team did extensive research on international SIA processes, key principles and critical debates and issues related to implementation. The key consideration for the team was to tailor the Mongolian SIA guidelines and related methodology to the particular conditions faced by mobile pastoralist livelihoods which mining predominately impacts. As rural land outside of urban areas is classified as public property, land acquisition processes for large scale development projects can have a range of major impacts on mobile pastoralists, including forced displacement from communally used land and natural resources.

The detailed methodology and legal analysis were submitted to the Working Group in September 2020. The process of writing the materials took approximately 6 months including consultations with civil society representatives, existing companies doing EIA in Mongolia, lawyers and environmental experts, civil servants from across government ministries, representatives of the Working Group on Business and Human Rights of the UNDP, and herders, civil servants and local representatives from Dalanjargalan soum and Airag Soum of Dornogovi province. In the development of the Government Working Group on SIA methodology, 136 comments from over 100 people were collected during consultation session and addressed in the methodology. Consultation sessions were supplemented with hybrid and in-person training courses and attended by government officials in ministries, NGOs, and ESG practitioners in Mongolia.

During field consultation in July 2020 in Dalanjargalan soum – which had 100 confirmed licenses according to the Citizen's Representatives Council – it was found that local government employees did not have adequate information about the mining companies operating in their local area and did not know their role or rights in relation to cumulative impacts of the different mines operating in their territory. Companies operating locally had diverse 'community relations' practices, often making ad hoc agreements to resolve complaints or demonstrate so-called "social responsibility." For example, in Dalanjargalan, herders and the Citizen's Representative Council requested companies to donate winter hay for herder households due to complaints regarding the reduced availability of pasture suitable for grazing livestock. Such examples abound in rural Mongolia, where SIA has not been incorporated into mining licensing and government processes. This results in frequent conflicts between local goals for development in rural settlements – where mobile pastoralism remains an important livelihood – and company pressure to maximize export and profits.

As part of our research in the summer of 2021, while the SIA methodology was on the desks of government officials, we visited the construction site of the Tavantolgoi-Manlai-Hangi road, which is designed to run approximately 477 km from the Tavan Tolgoi mine site to the Khangi port in Dornogovi aimag. The concession contract was awarded to the company Takhilt Hairhan Trans in 2019 for a road from the Tavan Tolgoi mine in Tsogtsetsi to the Mongolia-China border. Herders and the local government were opposed to this road. The local government told us that they were not notified of the specifics of the project and herders explained that one day bulldozers showed up and started to dig up their pasture area. Herders we interviewed mentioned that they were not provided with any specific information, for example, projections regarding the number of trucks per day expected to travel on the road or other information that would impact their lives and

livelihoods. One of the herders stated, "They didn't notify us before they build the roads, build their mining camps, and operations. If they did, we could've gotten involved in the conversation. Like, is this a good route to build the road? How many people will be impacted? How many animals are to be impacted? Can they establish the routes along the pasture boundary, not through the middle? Can they build it there, not here? They didn't address our concerns." (A. Ahearn, personal communication, 2021). In this instance, the lack of engagement between project developers and higher level government licensing authorities with local government and residents affected by the project resulted in an ongoing court case contesting the road.

A second example from research in 2023 reflects how efforts at community engagement can become a corporate box-ticking exercise. At a uranium mine in Dornogov Province a required community impact consultation took place between mine staff and local residents. Even with civil society organisations present for monitoring, the process was not consultative. Rather, the company presented points and refused to take questions, at one point yelling at the audience to shut up. After several minutes of frustration residents, aware of their rights, walked out *en masse* to protest the lack of engagement. Without a quorum this nullified the meeting, meaning the event would need to be repeated. However, the company representatives continued to speak to the empty room. What was reported to the corporate office in the capital is unknown. The community continues to wait for genuine corporate engagement in their homeland. Even after three years of work, SIA in Mongolia is at its infancy with further training and capacity building required at all levels of government and civil society.

Despite the Government of Mongolia Working Group's efforts to develop a clear set of guidance and methodologies to be used as a national standard, which would fulfil the promises laid out in Article 7.7 of the Law on Environmental Impact Assessment, significant challenges remain. From January 2021 to February 2023, the guidance and methodologies produced were in a state of limbo where they were debated and discussed by the Ministry of Environment and the Ministry of Labor and Social Protection. Several sticking points included: 1) should the guidance and methodology be expanded beyond the extractives sector to cover all projects with potential social impact?; 2) which Ministry or agency would implement the SIA?; 3) how would the SIA be evaluated within or alongside the existing EIA processes, and what specialists would be needed to do so? These questions remain unresolved, but on 8 February 2023, the Cabinet Office instructed the Ministry of Environment to finalise the standards in the first half of the year.

Social impact assessment, when done well, takes account of a wide range of potential impacts; frameworks such as Smyth and Vancley's (2017, P 65) Social Framework for Projects has been developed to facilitate holistic and in-depth assessments including 'people's capabilities, abilities and freedoms to achieve their goals', livelihood impacts, changes to the built environment, social support system and political context as well as changes to the living environment. To do this well, assessors should be skilled researchers and have the time and financial resources to conduct the assessments. With companies designated as the primary entity responsible for carrying out SIAs and the lack of appetite amongst companies to spend money on ESG, a risk in Mongolia is that these assessments could become a box-ticking exercise. This is the current situation with EIAs in Mongolia, where quality is questionable. An informant from the Ministry of Environment who reviewed EIAs submitted to the Ministry admitted that many of the assessments were poor quality and some even copied from previous reports. A key concern is that even if SIA is implemented in Mongolia, will it change the current culture of mining in Mongolia developed over the last two decades?

Whilst findings indicated Mongolia's ongoing SIA challenges, they also highlight a positive progression towards legislation. The engagement with civil society groups reflects the government's openness to external voices and differing viewpoints. This can encourage more research and collaboration between the state and public sphere, the strengthening of government administrative capacity and greater urban

understanding of rural dynamics. Fieldwork shows the ability for investigation by knowledgeable Mongolians to assess local mining conditions could be expanded. Drawing on the experience of fellow LMICs through outreach and international fora, including with countries diplomatically represented in the Mongolia (e.g. India, Vietnam), offer a pathway to exchange knowledge and work towards gradual improvement. The community's steadfast support for SIA guidelines is commendable; it suggests the motivation to undertake citizen-driven evaluation of mining impacts. Though communities are inexperienced in documenting mining impact, with external organisational support (e.g. the NGO role in the Oyu Tolgoi case) and technological assistance (equipment, training) a systematic pastoral-driven local assessment of mining would be feasible. This strategy could deliver a 'citizen's SIA' that engenders attention and government recognition of extractive concerns.

Progress on SIA legislation should be noted. After a dormant period, partly ascribed to Covid-19 restrictions, government direction was forthcoming. In February 2023, the Cabinet Office instructed the Ministry of Environment to finalise the standards in the first half of the year. This starts a route towards presentation and promulgation of the proposed law to Parliament, before elections set for summer 2024.

5. Discussion

Mongolia's engagement with global initiatives reflects a contested narrative over mining, environment, people and development. Similar to other LMICs, documented efforts at improving SIA and ESG practices in the country have disappointed. As an open society that enables civic engagement Mongolia presented a laboratory to examine implementation of international initiatives. Case study analysis found that the process of integrating land-based pastoral and extractive livelihoods was slow and laborious even in a country aware of current concepts and extractive standards. Research identified an ongoing struggle to integrate and regulate SIA in a way meaningful to communities. Tracking the gradual progress towards legislation by the government's SIA Working Group indicates recognition of the problem, desire to improve conditions and the importance of citizen and civil society efforts to enhance mining outcomes.

Well-intentioned schemes fostering ESG, SIA and SDGs may translate poorly *in situ* in developing countries: the terms and concepts had limited relevance to daily lives in our study. The country's veneer of participation and lengthy public discussion through election cycles does not ensure and may not address or resolve national mining issues. Similar to other LMICs, Mongolia embodies the continual struggle to ameliorate national conditions through, or despite, recommended extractive development trajectories. Outcomes from across the Global South can be instructive, such as how to improve SIA quality (South Africa), strengthen local engagement (South America) and enhance sustainability whilst maintaining traditional culture (Southeast Asia). Addressing common challenges through understanding practice and experience in other nations adds knowledge and insight to strengthen SIA outcomes. For this a comparative process can highlight useful practices, skills and capacity building, organisational methods and the procedures and actions that contribute to SIA improvement.

Isolated by distance and history, the case study presents Inner Asian experiences that are seldom documented. Recent independence (1990), landlocked location between superpower neighbours Russia and China, lowest population density and short development trajectory make Mongolia a stand-alone example. As the main rural livelihood, herding presents additional SIA challenges as customary mobility and pasture access may be restricted by mine sites. This raises additional social issues such as resettlement, access to diverse water sources and continued ability to migrate with livestock. Positives may be the ability to change political and legal conditions, a vibrant civil society, the embrace of social media, a reasonably well informed public and contested elections. Findings identify steps towards SIA legislation that, if implemented,

would be exemplary for the Global South. Concurrently, a lack of mining company and government accountability, weak implementation of global initiatives, high national debt and repeated protests over management and corruption show the task at hand (Dierkes, 2022; Economist, 2022). This contested narrative discerns how Mongolia has become a development straggler.

Across the region, China's massive consumption of minerals has led to a mining boom. As a core feature of China's Belt and Road Initiative (BRI) this has underwritten billions of dollars in investment in coal, copper, gold, iron, etc. that have been presented as a programme of 'shared benefit' for Mongolia (Mining Lifecycles, 2021; Ahearn and Sternberg, 2022). Such funding, often labelled as part of BRI, drives the Mongolian mineral sector. Yet this investment does not embrace and advance ESG, SIA or SDG agendas (Ruan and Liu, 2021), affecting Mongolia's engagement with these initiatives. Dependence on autocratic neighbours for extraction, infrastructure and export makes mining problematic and subject to political vagaries such as coercion and border closures. Systematic analysis identifies recognition of limitations, drawing insight from other LMICs and continued national effort can strengthen SIA processes.

Recent regional research in Inner Asia highlights two divergent directions mining disputes in LMIC can take. In August 2019 a long-running protest at Zinhua gold mine in Solton Sary, Kyrgyzstan turned violent as the community stormed the mine site, leaving several miners hospitalised (Sternberg, 2020). To date the company has withdrawn, the mine remains closed and no assailants have been imprisoned. The event is considered a success by the local community. This is a textbook example of Jowitt et al. (2020) identification of 'resource sterilisation', where minerals are not able to be extracted. More positively, the 7-year struggle between the Khan Bogd, Mongolia community and Rio Tinto's Oyu Tolgoi mine was resolved in 2019 through mediation and compromise on both sides (Sternberg et al., 2020). Trumpeted by NGOs and the media as 'the Mongolian herders who took on a corporate behemoth – and won' (Guardian, 2019), the outcome was more nuanced. The mine remains open and the community continues to experience rapid changes and upheaval as it adjusts to the lasting circumstances (Battsengel, 2021). These two cases of public demand for mine regulation and benefit show the vacuum where SIA could be. Through stages of awareness, legislation and implementation conflict can be lessened, investment risk reduced and communities better integrated into development.

This study examined the factors shaping political and social change transition towards improved SIA policy and outcomes in Mongolia. It identifies and breaks down the challenges encountered when creating a legal pathway to address detrimental mining impacts. Research stresses the role of dialogue and engagement in a gradualist approach that built trust between officials and civil society for work towards a shared goal. The three-year process documents slow progress but not a final resolution. It identifies how policymakers, mining company representatives, experts and rural communities each bring different expectations and strategies to the discussion. The significance is the engagement and drive to improve mining impact on ordinary lives and communities, something shared with LMICs. It shows the ability of civil society and academics to initiate a Working Group for SIA legislation in Mongolia, done through crafting a partnership and common vision with officials and working within existing structures towards the legislative goal. Continued effort of all parties is needed to finalise work and implement legislation, an uncertain outcome. Presenting a little-studied context and country expands SIA scholarship and contributes Inner Asian experience to the large community of developing nations reliant on mining.

This paper evaluates how Lower Middle Income Countries like Mongolia enhance standards, governance, monitoring and benefit by embracing global initiatives. ESG, driven by investment, is detached from mining sites. The SDGs provide general guidance but not obligation for action. Missing in conceptualisation are the practical, achievable steps LMICs can take and the international support to improve extractive

outcomes. Experience with mining from the Global South points to a continued struggle to balance state and company advantage with community benefit. In Mongolia there is first a need for SIA legislation; then for effective mechanisms for monitoring and enforcement. Reporting requirements, local government engagement, stakeholder oversight and international monitoring could increase channels for scrutiny of mining investment and impact. However, experience with EIA shows the weakness of the state in establishing government oversight and implementing legislation.

In many ways, Mongolia represents a striving LMIC where voice and action are possible and can be effective (cf Oyu Tolgoi case above). Citizens vent anger *'against unequal distribution of costs and benefits of mining. On one hand, local community concerns about mining affect and fuel counternarratives to unrealized promises of resource wealth. . . Public resentment is directed toward the disparity between the very few whom mining benefits and the third of the population trapped in poverty'* (Myadar and Jackson, 2019, p 367). These words resonate across the Global South and show the pan-LMIC scope for dialogue and cooperation on SIAs. Research reflects the contradictory tone between global initiatives, mining investment and community concerns. Mongolia's slow progress towards SIA legislation reflects this struggle. The challenges, mirrored elsewhere, would benefit from long experience in other mining nations. With continued effort by all parties SIA legislation may be enacted, with implementation and monitoring to follow.

6. Conclusion

For a country that is 'the richest in the world in terms of per capita mineral resources' (Avirmed, 2021, p 63), Mongolia has much work to do to improve mining outcomes. Research identifies the slow uptake and attention to Social Impact Assessment in the country. It also stresses the lack of relevant research and national debate on current global initiatives. ESG, SDG and SIA are frameworks for progress, but only if the country chooses to engage with the principles. Mongolia's positives – openness and election cycles, citizen participation, gradual progress towards SIA legislation and international engagement – offer possibilities. Yet powerful companies, state strategies to extract benefit with resulting corruption, unresolved protests and limited effective guidance, regulation and experience make Mongolia a mining straggler.

Beyond a signatory of intent, Mongolia has a weak record of regulation and implementation of global agendas. Innovative new collaboration between the government, civil society and academics offers a route to SIA legislation. Channelling public interest, even mandate, for betterment, such as initiating a 'herder social impact assessment', would make Mongolia a dynamic example for mining-dependent nations. The documented progress, from initiating an official Working Group to assigning a legislation timetable for implementation, marks Mongolia as a reforming country. Though a remote LMIC, Mongolia provides an example of working to improve mining outcomes. As their pathway to SIA moves forward, continued effort by civil society will be vital to legislation and implementation.

Author statement

Troy Sternberg conceived, organised, researched and wrote the paper.

Ariell Ahearn conducted research, co-wrote the paper and organised funding.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that has been used is confidential.

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References

- Agbozo, E., Spassov, K., 2019. Social media as a trigger for positive political action: the case of Ghana's fight against illegal small-scale mining (Galamsey). *Afr. J. Sci. Technol. Innov. Dev.* 11 (5), 611–617.
- Ahearn, A., Namsrai, B., 2021. Filling a hole? Compensation for mining-induced losses in the South Gobi. In: *The Impact of Mining Lifecycles in Mongolia and Kyrgyzstan*. Routledge, pp. 76–93.
- Ahearn, A., Sternberg, T., 2022. Ruins in the making: socio-spatial struggles over extraction and export in the Sino-Mongolian Borderlands. *Eurasian Geogr. Econ.* 1–24.
- Avirmed, D., 2021. Mineral resources of Mongolia as a driving force of the country. *Mong. J. Int. Aff.* 61–66.
- Batdelger, T., Zagdbazar, M., 2022. Does mining improve rural livelihood?: evidence from Mongolia. *Res. Policy* 78, 102794.
- Battsengel, L., 2021. Notes from the field: The Tri-partite Council for dispute resolution in Khan Bogd, Mongolia. In: Sternberg, T., Toktomushev, K., Ichinkhorloo, B. (Eds.), *The Impact of Mining Lifecycles in Mongolia and Kyrgyzstan*. Routledge, pp. 90–91.
- Bayasgalan, S., 2021. Third neighbor policy concept in Mongolia's geopolitics. *Mong. J. Int. Aff.* 81–98.
- Bazilian, M.D., 2018. The mineral foundation of the energy transition. *Extract. Indus. Soc.* 5 (1), 93–97.
- Beck, L., Mendel, T., Thindwa, J., 2007. *The Enabling Environment for Social Accountability in Mongolia*. The World Bank, Washington, USA.
- Boldbaatar, D., Kunz, N.C., Werker, E., 2019. Improved resource governance through transparency: evidence from Mongolia. *Extract. Indus. Soc.* 6, 775–787.
- Bond, A., Pope, J., Morrison-Saunders, A., Retief, F., 2022. Exploring the relationship between context and effectiveness in impact assessment. *Environ. Impact Assess. Rev.* 97, 106901.
- Byambaa, Bayarmaa, de Vries, Walter T., 2019. The needs of nomadic-pastoral land users with respect to EIA theory, methods and effectiveness: what are they and does EIA address them? *Environ. Impact Assess. Rev.* 74, 54–62.
- Climent-Gil, E., Aledo, A., Vallejos-Romero, A., 2018. The social vulnerability approach for social impact assessment. *Environ. Impact Assess. Rev.* 73, 70–79.
- Corvo, L., Pastore, L., Manti, A., Iannaci, D., 2021. Mapping social impact assessment models: a literature overview for a future research agenda. *Sustainability* 13 (9), 4750.
- Davy, A., 2020. A New ESG Mining Standard will Help Drive Responsible Production. *Financial Times*. Available at: <https://www.ft.com/content/190aea6c-4f4a-11ea-95a0-43d18ec715f5>.
- Dierkes, J., 2022. Mass Protests in Mongolia Decry 'Coal Mafia,' Corruption. *The Diplomat*. <https://thediplomat.com/2022/12/mass-protests-in-mongolia-decry-coal-mafia-corruption/>.
- Dietz, K., 2019. Direct democracy in mining conflicts in Latin America: Mobilising against the La Colosa project in Colombia. *Rev. Can. Etudes. Dev.* 40 (2), 145–162.
- Economist, 2012. Mine, All Mine. Available online: www.economist.com/briefing/2012/01/21/mine-all-mine.
- Economist, 2022. Mongolians Brave the Cold to Decry Corruption. Available online: <https://www.economist.com/asia/2022/12/15/mongolians-brave-the-cold-to-decry-corruption> Accessed 8.1.2023.
- EITI (Extractive Industries Transparency Initiative), 2021. Mongolia Fifteenth EITI reconciliation report 2020. Mongolia extractive industries transparency initiative. Ulaanbaatar 2021. Available at: <https://eiti.org/documents/mongolia-2020-eiti-report> Accessed 8.1.2023.
- Ericsson, M., Löf, O., 2019. Mining's contribution to national economies between 1996 and 2016. *Miner. Econ.* 32 (2), 223–250.
- European Banking Authority, 2021. EBA report on management and supervision of ESG risks for credit institutions and investment firms. European Banking Authority. Available at: www.eba.europa.eu/sites/default/documents/files/document_library/Publications/reports/2021/1015656/EBA%20Report%20on%20ESG%20risks%20management%20and%20supervision.pdf Accessed 16.11.2022.

- European Commission, 2020. The EU Special Incentive Arrangement for Sustainable Development and Good Governance ('GSP+') assessment of Mongolia covering the period 2018–2019. European Commission, Brussels, Belgium.
- Freedom House, 2023. Global Freedom Scores. Available at: <https://freedomhouse.org/countries/freedom-world/scores> Accessed 15.1.2023.
- Gerel, O., Pirajno, F., Batkhisig, B., Dostal, J. (Eds.), 2021. Mineral Resources of Mongolia. Springer.
- Global Data, 2022. Mongolia. Available online: <https://www.globaldata.com/data/> Accessed 15.4.2023.
- Guardian, 2019. 'An example to all': The Mongolian Herders Who Took on a Corporate Behemoth—And Won. Available online: www.theguardian.com/global-development/2019/apr/08/mongolian-herders-corporate-behemoth Accessed 15.3.2023.
- Hildebrandt, L., Sandham, L.A., 2014. Social impact assessment: the lesser sibling in the South African EIA process? *Environ. Impact Assess. Rev.* 48, 20–26.
- IFC, 2020. Data in Action. International Finance Corporation, Washington, USA, Natural resources disclosure for people and progress.
- IFFE (International Finance Facility for Education), 2020. The Impact on Debt Sustainability in LMICs. Available at: <https://educationcommission.org/wp-content/uploads/2020/07/IFFE-and-Debt-Sustainability-in-LMIC-June-2020.pdf> Accessed 6.4.2023.
- Innis, S., Kunz, N.C., 2020. The role of institutional mining investors in driving responsible tailings management. *Extract. Indus. Soc.* 7 (4), 1377–1384.
- International Finance Corporation, 2012. Performance Standards on Environmental and Social Sustainability. Washington, DC, USA, p. 72.
- IRMA, 2018. Standard for Responsible Mining. Available at: https://responsiblemining.net/wp-content/uploads/2018/07/IRMA_STANDARD_v.1.0_FINAL_2018-1.pdf Accessed 15.5.2023.
- Jackson, S.L., 2015. Imagining the mineral nation: contested nation-building in Mongolia. *Natl. Pap.* 43 (3), 437–456.
- Jay, S., Jones, C., Slinn, P., Wood, C., 2007. Environmental impact assessment: retrospect and prospect. *Environ. Impact Assess. Rev.* 27 (4), 287–300.
- Jiang, P.C., Feng, G.F., Yang, H.C., 2022. New measurement of sovereign ESG index. *Innovat. Green Dev.* 1 (2), 00009.
- Johnston, L., Davison, C., Lkhagvasuren, O., Janes, C.R., 2019. Assessing the effects of a Canadian-Mongolian capacity building program for health and environmental impact assessment in the mining sector. *Environ. Impact Assess. Rev.* 76, 61–68.
- Jolly, D., Thompson-Fawcett, M., 2021. Enhancing indigenous impact assessment: lessons from indigenous planning theory. *Environ. Impact Assess. Rev.* 87, 106541.
- Jowitt, S.M., Mudd, G.M., Thompson, J.F., 2020. Future availability of non-renewable metal resources and the influence of environmental, social, and governance conflicts on metal production. *Commun. Earth Env.* 1 (1), 1–8.
- Larmer, M., Laterza, V., 2017. Contested wealth: social and political mobilisation in extractive communities in Africa. *Extract. Indus. Soc.* 4 (4), 701–706.
- Lèbre, É., Stringer, M., Svobodova, K., et al., 2020. The social and environmental complexities of extracting energy transition metals. *Nat. Commun.* 4823 <https://doi.org/10.1038/s41467-020-18661-9>.
- Leonida, C., 2022. Building better mining companies through ESG. *Eng. Min. J.* 223 (6), 34–39.
- Lezak, S., Ahearn, A., McConnell, F., Sternberg, T., 2019. Frameworks for conflict mediation in international infrastructure development: a comparative overview and critical appraisal. *J. Clean. Prod.* 239, 118099.
- Li, T., Wang, K., Sueyoshi, T., Wang, D., 2021. ESG: research progress and future prospects. *Sustainability* 13 (21), 11663.
- Mancini, L., Sala, S., 2018. Social impact assessment in the mining sector: review and comparison of indicators frameworks. *Res. Policy* 57, 98–111.
- Mineral Resources and Petroleum Authority of Mongolia, 2017. Report 2016. Available at: www.mrpam.gov.mn Accessed 24.11.2022.
- Mining Lifecycles, 2021. In: Sternberg, T., Toktomushev, K., Ichinkhorloo, B. (Eds.), *The Impact of Mining Lifecycles in Mongolia and Kyrgyzstan: Political, Social, Environmental and Cultural Contexts*. Routledge.
- Monteiro, N.B.R., da Silva, E.A., Neto, J.M.M., 2019. Sustainable development goals in mining. *J. Clean. Prod.* 228, 509–520.
- Mosebo, M.B., 2017. The value of pastoralism and mining: balancing futures in Karamoja, Uganda. *Extract. Indus. Soc.* 4 (3), 539–547.
- MRPAM, 2020. The computerized mining cadastre system. Mineral Resource and Petroleum Authority of Mongolia. Available at: <https://cmcs.mrpam.gov.mn/cmcs#?c=Map> Accessed 4.5.2023.
- MRPAM, 2023. Mineral Resources and Petroleum Statistics 2023/07. Mineral Resources and Petroleum Authority. <https://mrpam.gov.mn/public/pages/196/2023.07.stat-report.eng.pdf> Accessed 26.5.2023.
- Myadar, O., Jackson, S., 2019. Contradictions of populism and resource extraction: examining the intersection of resource nationalism and accumulation by dispossession in Mongolia. *An. Am. Assoc. Geogr.* 109 (2), 361–370.
- Nguyen, N., 2021. A review of social license to operate in southeast Asian mining. *Extract. Indus. Soc.* 8 (2), 100841.
- NSO, 2023. National Statistical Office. Mongolian Statistical Yearbook. Available at: https://www.1212.mn/en/statistic/statcate/573060/table-view/DT_NSO_1100_01_3V1 Accessed 12.4.2023.
- Okachi, B., Krueger, T., Niewöhner, J., 2020. Shades of conflict in Kyrgyzstan. *Int. J. Commons* 14 (1), 191–207.
- OECD, 2011. OECD Guidelines for Multinational Enterprises. OECD Publishing.
- Parsons, R., 2020. Forces for change in social impact assessment. *Impact Assess. Proj. Apprais.* 38 (4), 278–286.
- Purevsuren, B., Darambazar, T., Lkhagvasuren, P., 2021. Social impact assessment in Mongolia: Development and trends. In: *The Impact of Mining Lifecycles in Mongolia and Kyrgyzstan*. Routledge, pp. 97–119.
- Responsible Mining Index, 2022. RMI Report 2022. Available at: responsibleminingindex.org/en Accessed 16.11.2022.
- Ritchie, H., 2020. Sector by sector: where do global greenhouse gas emissions come from. In: *Our World in Data*, 18. Available at: <https://ourworldindata.org/ghg-emissions-by-sector> accessed 12.12.2023.
- Ruan, L., Liu, H., 2021. Environmental, social, governance activities and firm performance: evidence from China. *Sustainability* 13 (2), 767.
- Sairinen, R., Sidorenko, O., Tiainen, H., 2021. A research framework for studying social impacts: application to the field of mining. *Environ. Impact Assess. Rev.* 86, 106490.
- Smyth, E., Vanclay, F., 2017. The social framework for projects: a conceptual but practical model to assist in assessing, planning and managing the social impacts of projects. *Impact Assess. Proj. Apprais.* 35, 65–80.
- Steele-Schober, T., 2021. The importance of Esg for mineral reporting. *J S Afr I min. Metall* 121 (6), viii–xi.
- Sternberg, T., 2020. Conflict and contestation in Kyrgyz mining infrastructure. *Extract. Indus. Soc.* 7 (4), 1392–1400.
- Sternberg, T., Ahearn, A., McConnell, F., 2020. From conflict to a community development agreement: a south Gobi solution. *Commun. Dev. J.* 55 (3), 533–538.
- Sternberg, T., Mayaud, J.R., Ahearn, A., 2022. Herd it in the Gobi: deserting pastoralism? *Land* 11 (6), 799.
- Sternberg, T., Tchoroev, A., Toktomushev, K., 2023. The role of mining in Kyrgyzstan's social acceptance of protest. *Res. Policy* 85, 103794.
- Tegshbayar, D., Baigalmaa, P., Purevdulam, L., Sanchir, J., Bayarsaikhan, N., 2020. Report for the Government Working Group (Established by Order No. 28 of 2020 of the Cabinet Secretariat of Mongolia) on Social Impact Assessment Methodology and Legal Review and Recommendations for Social Impact Assessment. Ulaanbaatar, Mongolia. Available at: <https://gobiframework.ouce.ox.ac.uk/wpcontent/uploads/2022/06/SIA-methodology-2020-MGL-translation-to-English.pdf> Accessed 9.5.2023.
- Thompson, J., 2019. ESG Rating Agencies Fulfil the Need for Knowhow. Available at: <https://www.ft.com/content/2cd37df8-a973-3f94-b498-09ee1a6ba53b> Accessed 12.4.2023.
- UN, 2016. Like it or not, poor countries are increasingly dependent on mining and oil & gas. Available at: <https://www.wider.unu.edu/publication/it-or-not-poor-countries-are-increasingly-dependent-mining-and-oil-gas> Accessed 29.4.2023.
- UN, 2023. The 17 Goals. Available at: <https://sdgs.un.org/goals> Accessed 15.4.2023.
- UNDP (United Nations Development Programme), 2022. ESG and Sustainability Reporting Guidance for Mongolian Companies. Available at: www.undp.org/mongolia/publications/esg-and-sustainability-reporting-guidancemongolian-companies Accessed 14.11.2022.
- UNGP, 2011. United Nations Guiding Principles on Business and Human Rights: Implementing the UN "Protect, Respect and Remedy" Framework. Report of the Special Representative of the Secretary General on the Issue of Human Rights and Transnational Corporations and Other Business Enterprises. United Nations. New York.
- UNHCR, 2020. Compilation on Mongolia: report of the Office of the United Nations High Commissioner for human rights. Available at: https://www.upr-info.org/sites/default/files/documents/2020-05/compilation_un_mongolia_english.pdf Accessed 4.5.2023.
- Vanclay, F., 2020. Reflections on social impact assessment in the 21st century. *Impact Assess. Proj. Apprais.* 38 (2), 126–131.
- Varada, P., 2022. Mongolia: on the verge of a mineral miracle. *Harv. Int. Rev.* 43 (1), 6–11 (Available online: hir.harvard.edu/mongolia-on-the-verge-of-a-mineral-miracle Accessed 15.2.2023).
- Verrier, B., Smith, C., Yahya, M., Ziemiński, M., Forbes, G., Witt, K., Azadi, M., 2022. Beyond the social license to operate: whole system approaches for a socially responsible mining industry. *Energy Res. Soc. Sci.* 83, 102343.
- Witte, S.S., Burnette, D., Aira, T., Myagmarjav, S., 2019. Global social welfare academic research partnerships: lessons learned from two studies in Mongolia. *Global. Soc. Welf.* 6, 145–154.
- WMD (World Mining Data), 2021. World Mining Data 2021. Austrian Federal Ministry of Agriculture, Regions and Tourism. Available online: <http://www.world-mining-data.info/wmd/downloads/PDF/WMD2021.pdf> Accessed 12.1.2023.
- World Bank, 2017. Oil, Gas, and Mining: A Sourcebook for Understanding the Extractive Industries. World Bank, Washington, D.C.
- World Bank, 2023. Country classifications by income level: 2022–2023. Available at: <https://blogs.worldbank.org/opendata/new-world-bank-country-classifications-income-level-2022-2023>. Accessed 29.4.2023.
- Zandariya, B., 2022. Improving the policy framework for financial assurance for mine closure in Mongolia. *Res. Policy* 77, 102628.