REPORT

Assessing the Gap: Artisanal Gold Miners and Social Services

This report offers a comprehensive overview of the access of artisanal gold miners to key social services in Mongolia, including healthcare, health insurance, social insurance, social welfare, and early childhood education.

30 January 2024 / Version 1.0

Supported by:

The planetGOLD programme is funded by the Global Environment Facility, led by the United Nations Environment Programme, and implemented in partnership with the United Nations Industrial Development Organization, United Nations Development Programme, and Conservation International. The planetGOLD Mongolia is executed by the Artisanal Gold Council (AGC) in partnership with the Government of Mongolia through the Ministry of Environment and Tourism.

The planetGOLD programme seeks to contribute to the elimination of mercury in the artisanal and small-scale gold mining (ASGM) sector through the provision of support for the government to develop and implement policies to enhance the formalization of the ASGM sector, facilitate miners' access to formal gold markets and capital to purchase mercury-free processing equipment as well as to introduce responsible mining, gender, and environmental practices in targeted ASGM areas in Mongolia.

The Artisanal Gold Council (AGC) is a charitable nonprofit organization dedicated to improving the working conditions, opportunities, environment, and health of the millions of people involved in ASGM in the developing world. AGC has a core team of technical and administrative staff based in Victoria, British Columbia, Canada, and has operated in over 30 countries in Asia, South America, and Africa.

Citation

planetGOLD Mongolia. (2024). *Assessing the Gap: Artisanal Gold Miners and Social Services*. Research Publication of Artisanal Gold Council. January 2024. Ulaanbaatar

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Acknowledgment

This assessment was conducted by a research team from the planetGOLD Mongolia project, Contribution Toward the Elimination of Mercury in the Artisanal and Small-Scale Gold Mining (ASGM) Sector: From Miners To Refiners. The project is being executed by the Artisanal Gold Council (AGC) in partnership with the Government of Mongolia through the Ministry of Environment and Tourism.

First, we would like to express our deepest appreciation to the Global Environment Facility (GEF), the United Nations Environment Programme (UNEP), and the United Nations Industrial Development Organization (UNIDO) for their generous support and multiple-year funding towards the development of the ASGM sector in Mongolia.

Our heartfelt thanks go to the artisanal miners, local assistants, artisanal and small-scale mining partnerships, and NGOs in Selenge, Khovd, and Gobi-Altai provinces who participated in and supported us throughout the research and reporting writing processes. Without their support, cooperation, and valuable answers, this assessment would not have been possible. We deeply acknowledge that sharing their experiences, reality, and struggles with access to selected social services was not easy.

Lastly, the project would also like to recognize the contributions of the local government officials who took time from their busy schedules and generously provided their crucial input about the current situation and ways ahead.

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Executive Summary

During the Contextual Study of the planetGOLD Mongolia Project Sites (2021a), the project assessed the current situation of artisanal miners' access to some social services, including health and social insurance and, healthcare to a certain degree. The study revealed insufficient coverage of social and health insurance among miners. Moreover, aside from the behavioral and knowledge barriers observed during the study, institutional and legal obstacles were found in miners' access to healthcare. A lack of access to childcare was also reported by respondents, especially when miner-parents had to migrate to work at mine sites temporarily. Considering these preliminary findings, further in-depth analysis has been recommended to determine miners' needs and difficulties in getting crucial social services.

The feasibility assessment has been conducted by the Artisanal Gold Council (AGC), the executing agency for the planetGOLD Mongolia project, to identify reasons for gaps in access to selected social services for artisanal miners in the research locations and to provide policy recommendations to improve their access to these services. The assessment focused on five social services, including i) healthcare, ii) health insurance, iii) social insurance, iv) social welfare, and v) early childhood education.

Study Design and Methodology

A concept of feasibility (access) was applied to measure different dimensions of access to social services, namely availability, affordability, appropriateness, and accessibility, to look at both demand and supply side factors. Reflecting on the conceptual framework, qualitative research methods were used, including literature review, key informant interviews, and focus group discussions. Accordingly, data was collected from February to April 2023, involving 146 artisanal miners and local government officials (78 women and 68 men) in eight locations from Selenge, Khovd, and Gobi-Altai provinces.

Figure 1. Target areas

Access to Healthcare

For all Mongolians, primary healthcare is available with a standardized interface and infrastructure of medical care and public health providers. The government delivers a variety of essential healthcare to all individuals, without a specific consideration of miners. However, affordability comes into the picture by inhibiting miners' access to healthcare to a certain extent, with high direct (e.g. accumulated health insurance contributions, increasing out-of-pocket expense) and indirect (e.g. long waiting time, referral system, needed travel, loss of opportunity) costs. The study further revealed that the appropriateness of current healthcare can be further tailored considering the miners' increased occupational health risks (e.g. lung diseases) and common diseases. As for accessibility, a gender difference was observed since women miners tend to utilize better preventive, diagnostic, inpatient, and follow-up care. At the same time, male miners tend to access more often to emergency and urgent care when they are injured or get into accidents.

Access to Health Insurance

Health insurance is compulsory in Mongolia and covers a contributory part of healthcare. Through health insurance, 10 packages of healthcare services are available beyond the emergency room. These include inpatient and outpatient services, early detection diagnostics, rehabilitative care, daycare for outpatients, discounted pharmaceuticals, etc. The assessment found that most artisanal miners are covered by health insurance with generally affordable health insurance contributions, unless not accumulated. However, its coverage for artisanal miners was found to be lower compared to other population groups. The inactive ASM sector in the past few years has resulted in miners not paying their insurance contributions. Overall, health insurance is perceived as appropriate as it aims to share the health-related financial burden of all individuals, including artisanal miners. As for accessibility, most artisanal miners are found to have access to most health insurance-covered services. Gender and age-related differences are observed in the accessibility, with women miners using health insurance more than men, due to better awareness, healthcare-seeking behaviors, gender stereotypes, reproductive roles, changing health state owing to age, and lower occupational health risks.

Access to Social Insurance

Social insurance serves as the most important base for Mongolia's social protection, under which numerous social sub-services are available to insure individuals from all types of unforeseen risks (e.g. disability, accidents, sudden deaths) and natural concerns (e.g. pregnancy, aging, and sickness). Under the existing regulatory framework, artisanal miners are subject to a voluntary social insurance scheme. However, their social insurance coverage is insufficient compared to the nation's average, again taking into account gender differences. In fact, women miners were

more insured than men due to sex-specific maternity credits, maternity benefits, and their investments in service-buyback opportunities.

The affordability and appropriateness aspects explain such low coverage In fact, when referring to current characteristics of the ASM sector (e.g. seasonality, irregularity, migration, mobility, and personnel change), there was no miner who considered the amount of social insurance contribution affordable. Moreover, our assessment revealed that most of the artisanal miners rate the appropriateness of social insurance as low. This is due to a multitude of factors, chief among them: i) the high eligibility requirements; ii) miners' perception that they might not live until they reach retirement age; iii) conditions for early retirement inapplicable to miners; iv) unclear procedure for accessing benefits and supports. Despite these systemic factors, personal factors were also found to have an impact on the miners' perception and decision to seek social insurance such as lack of awareness, low perception of inherent and future risks of ASM employment, and various biases towards social insurance-related services.

Access to Social Welfare

Social welfare provides around 100 types of welfare and employment-related services, focusing on ensuring a subsistence livelihood for vulnerable groups. Since artisanal miners are not considered a vulnerable group in Mongolia, there is no social welfare program targeted explicitly to artisanal miners. However, the assessment came across several artisanal miners who belong to a vulnerable group and have access to cash assistance programs. Female miners tend to benefit more from social welfare services in the forms of maternity- and childcare-related cash assistance owing to their reproductive and gender roles. In the meantime, male miners tend to access social welfare disability benefits due to occupational accidents and injuries in ASGM sites.

Access to Early Childhood Education

The assessment on access to early childhood education has focused more on the perception and experiences of artisanal mimers as parents. In general, miners perceive the appropriateness of such services positively in all research sites, with the high coverage and timely enrollment of their children in public kindergartens. Since the government funds all public kindergartens, affordability was perceived as sufficient, with minor exceptions of some indirect costs (e.g. expenses for needed supplies). Despite high accessibility, available alternative education arrangements – a ger kindergarten – can still be improved considering the need of miner parents to work and live close to their children, particularly during the summer, and if such service is stationed at a convenient distance from the ASGM site.

Conclusion

Further consistent and stable policy and local support for the ASM sector are essential to enhance their formalization and improve miners' employment and social security. For effective collaboration and coordination between government authorities, ASM organizations, and other stakeholders to succeed it is equally important to consider miners' experiences and different needs related to social protection policies and programs and their implementation.

List of Abbreviations

Abbreviation/Acronym	Definition
AGC	Artisanal Gold Council
ASGM	Artisanal and Small-Scale Gold Mining
ASM	Artisanal and Small-Scale Mining
ASM NF	Artisanal and Small-Scale Mining National Federation of Mongolia
ECE	Early Childhood Education
FGD	Focus Group Discussion
GAHI	General Authority for Health Insurance
GASI	General Authority for Social Insurance
GEF	Global Environment Facility
HI	Health Insurance
HIF	Health Insurance Fund
IAOD	Industrial Accidents and Occupational Disease
ILO	International Labour Organization
KII	Key Informant Interview
LSM	Large-Scale Mining Sector
MES	Ministry of Education and Science
MLSP	Ministry of Labour and Social Protections
MMHI	Ministry of Mining and Heavy Industry of Mongolia
MRPAM	Mineral Resources and Petroleum Authority of Mongolia
NGO	Non-Governmental Organization
NSO	National Statistics Office
OHS	Occupational Health and Safety

PMT	Proxy Means Test
PPE	Personal Protective Equipment
SAM	Sustainable Artisanal Mining project
SDC	Swiss Agency for Development and Cooperation
SI	Social Insurance
SIC	Social Insurance Contribution
SW	Social Welfare
UN	United Nations
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research

Lexicon

Bagh	Sub-district of soum, small village
Soum	Rural municipality, town
MNT	Mongolian tugrik, the national currency
USD	US dollars
4A	Availability, affordability, appropriateness, and accessibility

Definitions

Artisanal mining: Artisanal and small-scale mining (ASM) means activities carried out by citizens organized, in the form of unregistered partnership as stipulated in article 481.1 of the Civil Code, partnership as stipulated in article 35, and cooperative as stipulated in article 36.4 of the Civil Code, to extract mineral resources in the areas of deposit and areas formed by waste materials as a result of mining and technological operations, which are economically inefficient for commercial production (4.1.23, Minerals Law of Mongolia).

Formalization: A process that seeks to integrate the ASGM sector into the formal economy, society, and regulatory system. It has key components, including i) prospecting and allocating land for ASGM, ii) facilitating miners' organization, iii) licensing and regulating ASGM, iv) organizing the supply chain; v) facilitating access to finance, assistance, and markets, and vi) monitoring and enforcing ASGM regulations, with engagement with local stakeholders and provision of continuous support to ASGM actors as a cross-cutting theme (UNITAR & UN Environment, 2018).

Formal artisanal miner: A formal artisanal miner in Mongolia is a person who is above 18 years old, registered as a citizen of the respective province and soum where she/he is working as a miner. A formal artisanal miner is also a member of either i) a registered partnership, ii) an unregistered partnership, iii) a cooperative, or iv) an ASM NGO. In addition, the formal miner must have a valid contract with the soum governor of the area where the Mineral Resources and Petroleum Authority of Mongolia (MRPAM) has issued a land conclusion, an official document confirming that the land is feasible for ASM extraction. Another form of formal ASM can happen in areas licensed for large-scale mining (LSM) operations as agreed by the license holder company under certain agreements between relevant parties (planetGOLD Mongolia, 2021a).

Land conclusion: A formal document issued by the MRPAM that concluded whether an area requested by a governor of a soum or district can be used for ASM. In other words, it is a document confirming that the selected area meets the legal requirements of ASM operations, specifically: i) whether the deposit or area is formed by waste materials as a result of mining and technological operations and is economically inefficient for commercial production as per provision 4.1.23 of the Minerals Law; ii) whether exploration, prospecting, and use of minerals are restricted or prohibited in that area; iii) whether the area is locally allocated for special needs and reserves; and iv) whether it completely or partially overlaps with the area already granted under a valid license (ASM Regulation No. 296, Minerals Law of Mongolia, and Land Law of Mongolia).

Informal miner: An informal miner is a locally registered citizen who is affiliated with a formal organization but works without any contract with a respective soum governor or has no land conclusion from MRPAM. Although a miner may cooperate with formal partnerships, such a practice should not be considered a formal operation (planetGOLD Mongolia, 2021a).

Social Protection: The set of public interventions aimed at supporting the poorer and more vulnerable members of society, as well as helping individuals, families, and communities to manage risk (United Nations, International Labour Organization Regional Office for Asia and the Pacific & Government of Mongolia, 2015).

Selected social services: For this assessment, it encompasses healthcare, health insurance, social insurance, social welfare, and early childhood education services.

Healthcare: Primary healthcare and services mean family healthcare and services provided by the government based on the health needs of the population and some essential care and services of basic specialization in the territory of jurisdiction with the participation of citizens, families, and enterprises. It is designed to be provided to everyone regardless of territorial jurisdiction (3.1.24, 4.1.4, and 4.2.3, Law of Mongolia on Health).

Health Insurance: Health insurance refers to the act of mandatorily paying contributions in advance to the Health Insurance Fund by an insured, employer, and the government as per law, and purchasing health care and services at different levels of healthcare providers as funded by the corresponding funds (3.1.1, 3.1.6, and 3.1.7, Law of Mongolia on Health Insurance).

Social Insurance: Social Insurance is a set of social security measures including i) collection of insurance contributions from citizens, legal entities, and government as per law; ii) creation of Social Insurance Fund; iii) provision of pensions, benefits, and cost of rehabilitation, as provided by law to an insured directly in the case of retirement, loss of the ability to work, sickness, unemployment, pregnancy or maternity leave, and to his/her dependents in the case of death of a breadwinner; and iv) provision of subsidies, and social insurance contribution reliefs and exemptions to employers for their measures to prevent industrial accidents and occupational diseases (4.1.5, Mongolian General Law on Social Insurance).

Social Welfare: It stands for acts of providing pensions, allowances, and special care services by the government to citizens with special needs who are in a poor state of health, lacking family care, and incapable of living normal lives independently or without other's help and to individual-member of household requiring social welfare assistance or care to meet his/her minimum subsistence needs (3.1.1, Law of Mongolia on Social Welfare).

Early Childhood Education: It refers to activities to nurture and protect young children aged 2-5 years, offer a curriculum aimed at supporting their physical, cognitive, and social development, and prepare them for the school system (3.1, 4.2, and 19.1, Law of Mongolia on Early Childhood Education, and General Education).

CHAPTER ONE: INTRODUCTION

1.1 Background

Known as a sector with low entry barriers and an important livelihood source for remote communities, the artisanal and small-scale gold mining (ASGM) sector employs 10-20 million miners, including 4-5 million women and children, in more than 80 countries across the globe and is producing 20% of the world's gold each year (planetGOLD programme, 2021). Rather than seeing ASGM as a problem that needs to be fixed, the global trend is to recognize the sector as one of the drivers of the local development, and a solution to curb rural-urban migration in rural communities with limited employment opportunities. Thus, countries are supporting efforts to integrate the ASGM sector into the formal economy, introduce mercury-free technologies in their operations, and reduce its environmental and social impacts. It should be noted that such effort is instrumental as it enables the formalization of not only responsible gold production but also each step, component, and actor throughout the gold supply chain.

Compared to its boom back in the 1990s when Mongolia transitioned from a centrally planned economy to a market-driven one, progress has been made despite its challenges and setbacks. Today, the ASGM has evolved into an independent sub-sector, where stakeholders are now talking about the formalization and professionalization of ASGM. Undoubtedly, artisanal miners are an agile population group that creates jobs for themselves to sustain their livelihood. Yet, they are the ones who might not be covered by the social protection policies and whose social security might be left out of the picture. In particular, artisanal miners are not only prone to natural concerns, such as aging, pregnancy, sickness, and death, but also socio-economic risks, such as unemployment, reduced purchasing power of their revenue, income inequality, poverty, and lack of adaptability due to these factors (Davkharbayar & Erdenechimeg, 2013). Therefore, having better access to social services, such as being eligible for pensions and other benefits provided by law, and having ready access to quality healthcare services that are covered and subsidized by health insurance and early childhood education services, is crucial for the overall welfare, quality of life, and resilience of the ASGM communities. Importantly, these social services enable artisanal miners to be protected from any unfavorable and unforeseen risks and incidents that might happen during their employment due to the increased risk of occupational accidents and diseases and prevent end-of-life poverty.

Social protection thus should be an important consideration for artisanal miners as a means for ensuring a sustainable workplace and responsible labor practices in ASGM. Ongoing formalization efforts, in effect since August 2022, are aiming to integrate this sector, which remains largely informal, into the formal economy and increase their tax and insurance coverage to improve their social protection at the policy level. However, the public policy fails to consider

the different features of ASGM, such as seasonality, irregularity, migration, mobility, and change of personnel, which may result in a persistent gap between policy and its implementation.

Consequently, aiming to capture the current reality for artisanal miners on the ground, take stock of best practices available, and provide policy recommendations to relevant government stakeholders, the planetGOLD Mongolia project is conducting an in-depth qualitative study covering five key social services, including i) healthcare, ii) health insurance, iii) social insurance, iv) social welfare, and v) early childhood education services. Especially, it is crucial and time-sensitive to voice up the experiences, concerns, and best practices of the artisanal miners at the policy table due to formalization and taxation efforts under the current ASM regulation.

Photo 1. Miners at the mine site in Tunkhel village, Selenge province, Mongolia (planetGOLD Mongolia, 2020)

1.2 Needs for the Assessment

Social protection is a fundamental human right and should cover and protect every member of any society to ensure their human dignity and value. Yet, according to the International Labor Organization (ILO), the key challenges for the Mongolian informal sector were: i) the absence of social protection, ii) inherent risk and uncertainty, iii) the unavailability of services for business development, and iv) the lack of productive resources (Morris, 2001). Unfortunately, even after two decades, the ASGM is still considered an informal sector and struggling with the aforementioned challenges. Especially, one of the negative impacts of ASGM in Mongolia is found

to be limited access to social services and a lack of social protection for artisanal miners (United Nations Environment Programme [UNEP], 2012), in addition to the inapplicability and lack of maintenance of the Labor Code in the ASGM sector (The Asia Foundation, 2013).

International development projects in the ASGM sector have been paying attention to the social services of artisanal miners. For example, from 2005-2019, the Swiss Agency for Development and Cooperation (SDC)-funded Sustainable Artisanal Mining (SAM) project made a substantial effort to improve the artisanal miners' access to social services through cooperation with key government stakeholders, and agenda-setting, advocacy, and capacity-building activities for local social insurance inspectors to increase artisanal miners' coverage of social and health insurances. One of SAM's notable achievements is having a category of the *artisanal miner* as a form of self-employment under the voluntary insurance scheme in the National Social Insurance Integrated Database in 2015, as well as the National Health Insurance Integrated Database in 2017 (SAM, 2019). However, it might be time to revisit and assess the use, practicality, and further considerations of these classifications.

Please scan the QR code to access the Contextual Study

Furthermore, the planetGOLD Mongolia project has been paying attention to and advocating for artisanal miners' improved social protection and increased access to social services among policymakers, policy implementers, and other stakeholders. Henceforth, the project has produced two thematic studies, namely, the *Artisanal and Small-Scale Gold Mining Sector in Mongolia: A Contextual Study of the planetGOLD Mongolia project sites* (planetGOLD Mongolia, 2021a) and *Gender Mapping in the Artisanal Gold Mining Sector in Mongolia* (planetGOLD Mongolia, 2021b), that have assessed the access of miners to social services to a certain degree.

First and foremost, under its goal to reach universal health coverage, the Mongolian government covers and provides to package of essential healthcare services free of charge for its citizens, including, partial primary care, emergency medical care, pediatric care, medical care for maternal health, epidemiology, and immunization, public health programs, some of rehabilitative, etc. Though these services are offered independently of their insurance status, the healthcare that miners need tends to be based on paid health insurance and additional out-of-pocket expenditures, which end up being high in Mongolia (Jigjidsuren et al, 2019). According to the planetGOLD Mongolia project's previous studies, two-thirds (64%) of miners indicated they have access to healthcare while working at artisanal mining sites, located between a minimum of 1 km and a maximum of 350 km away from the closest healthcare provider (SAM, 2019). In addition, miners reported institutional and legal barriers to access to healthcare, aside from their own behavioral and knowledge barriers, such as occupational health and safety practices, health awareness and education, and health-seeking and healthcare-seeking behaviors (planetGOLD

Mongolia, 2021a). These show certain gaps exist, and miners' differentiated needs may need to be considered in effective healthcare delivery.

Moving on to health insurance (HI), the contributory part of healthcare is based on HI which is compulsory for all individuals for entitlements to beyond-first-step healthcare services. Accordingly, HI has a high population coverage of 89.7% as of the end of 2021 (National Statistics Office [NSO], 2022b). As self-employed in the informal sector, artisanal miners are asked to pay a flat rate contribution of 1% of the minimum wage fixed by the relevant tripartite committee, which was 20 times lower than the average contribution of salaried workers (Jigjidsuren & Oyun, 2022). However, as mentioned in the project's previous studies 63% of the miners pay the HI contribution regularly, with more women paying the HI contributions regularly compared to men (77% vs. 58%) (planetGOLD Mongolia, 2021a). It is a concerning issue as most of the healthcare, especially ones that artisanal miners need, are based on paid HI contributions, aside from creating a burden of accumulated HI contributions debt.

Most importantly, social insurance (SI) is a pivotal vehicle of the social protection system and a prerequisite for various social security benefits in Mongolia. Thus, if we refer to some of the relevant findings of the aforementioned studies, under a voluntary SI scheme applicable for artisanal miners, only 36% of the miners pay the SI contribution regularly. Furthermore, in terms of their formalization status, it was found that SI coverage was higher among formal miners (39%) than among informal miners (27%). An NSO's national survey conducted among artisanal miners in 2021 identified artisanal miners' SI coverage to be 42.9%, with a bit higher coverage in the western region at 48.5%, and lower coverage in central provinces at 27.9% (NSO, 2022a). All these are alarming findings compared to 82.2%, the national average coverage of the Mongolian workforce of employment age (Ministry of Labor and Social Protection [MLSP], 2023). Also, paying SI contributions is regularly used as proof of employment and regular income and facilitates improved access to loans and finance from not only banks and financial institutions but also various public funds.

As for social welfare (SW), artisanal miners are not considered and categorized as a vulnerable group in Mongolia, contrary to the common perception in other countries across the globe. In practice, artisanal miners tend to access SW assistance because of their other identities, such as age, sex, and disability, rather than their employment. Therefore, it might be worth examining the current situation and practices to identify any ways to improve SW policy.

Last but not least, childcare, especially early childhood education (ECE), is another important aspect of social services for artisanal miner parents. Requirement for temporary migration to mine sites and extended stay in ASGM sites by parents are likely to have impacts on children's physical safety, mental well-being, and development. For instance, another challenge for artisanal miners is being unable to give proper and consistent care to their children and meet their developmental needs, risk of neglect for their children's education and health, failure to

enroll their children in formal early childhood education, and lack of traditional support network for informal childcare of their children in the absence of miner parents (SAM, 2019). Correspondingly, it might be necessary to study it further to assess their children's access to ECE, with consideration of the differentiated needs of artisanal miners.

All these highlight the need for a deeper assessment, with considerations of availability, affordability, appropriateness, and accessibility (4A) aspects of social services for artisanal gold miners. Hence, this assessment can take those preliminary findings into account, investigate research gaps from previous studies, define the reasons in depth for low coverage, and provide policy recommendations as providing effective and efficient social protection services requires special considerations and context-specific learnings for policymakers and other stakeholders. By doing so, we can embrace an equitable society and sustainable development in a real sense, as per the Mongolian Government's Vision 2050 and Sustainable Development Goals 2030 principle of leaving no one behind.

1.3 Regulatory Framework and Key Stakeholders

The regulatory framework consists of the below key legislations for the social services concerned, in addition to many other bylaws which are approved in the forms of parliament resolutions, government resolutions, insurance council decisions, ministerial decrees, and regulations and guidelines by the relevant agencies.

Table 1. List of Major Legislations

No.	Social service	Name of the legislation
1	Healthcare and HI	► Law on Health (2011) ► Law on Health Insurance (2015) ► Law on Medical Care and Service (2016)
2	SI and SW services	► Package social insurance laws (as amended in 2023): ► General Law on Social Insurance ► Law on Pensions to be provided by the Social Insurance Fund ► Law on Benefits to be provided by the Social Insurance Fund ► Law on the Pensions, Benefits, and Payments for Industrial Accidents and Occupational Diseases (IAOD) to be provided by the Social Insurance Fund ► Law on Increasing Pension Amount of Some Citizens (2019) ► Law on Social Welfare (2012) ► Law on Defining the Reference Minimum Standard for Living (1998) and yearly Minimum Standard for Living Amount approved by the Head of the NSO
3	Childcare services	► General Law on Education (2023) ► Law on Early Childhood and Basic Education (2023) ► Law on Child Protection (2016) ► Law on Childcare Services (2015) ► Government Resolution No. 49 on the Universal Child Money Programme (2012)

Source: Unified Legal Information System of Mongolia, https://legalinfo.mn/en

As stakeholders are of great importance for intervention through the policy-making cycle, especially for this assessment that aims to provide policy recommendations, the stakeholders were identified as a part of rapid regulatory review. Notably, several stakeholders play different roles in selected social services depending on their respective levels.

- National level policy makers include line ministries and affiliated agencies, namely, the Ministry of Health (MOH), Ministry of Labor and Social Protection (MLSP), Ministry of Education and Science (MES), Health Development Center, National Center for Public Health, General Authority for Health Insurance (GAHI), General Authority for Social Insurance (GASI), General Authority for Employment and Social Welfare, and General Authority for Education.
- Furthermore, provincial-level policy implementers include the social policy division of the provincial governor's office, the local social insurance divisions, local health insurance divisions, local health agencies, regional diagnostics, and medical service centers or provincial central hospitals that provide second-tier healthcare services, local agencies of the employment and social welfare, and local agencies of education and science.
- At the soum level, there are desk officers of service providers, namely, social policy officers of the soum governor's office, social insurance inspectors, medical practitioners of soum or inter-soum hospitals or family clinics, and soum/bagh kindergartens.

In addition, there are the Artisanal and Small-Scale Mining National Federation (ASM NF), provincial ASM associations, and development partners, who can play essential roles in advocacy for necessary changes in the existing regulatory framework.

1.4 Research Goal and Objectives

By delving deeper into the reasons for gaps in access to selected social services for artisanal miners, the assessment aims to take a snapshot of the current situation, take stock of best practices available, identify the challenges, and recommend potential solutions and strategies in the form of policy recommendations to improve artisanal miners' access to and supply of these services. To achieve the research goal, specific objectives were identified as follows:

- Examine the current level of access to selected social services, needs, and problems;
- Assess the artisanal miners' knowledge, awareness, and attitude toward the selected social services;
- Identify the practicality of and ways to meet the artisanal miners' needs;
- Clarify the understanding, expectations, and perspectives of government stakeholders concerning the adequacy of selected social services for artisanal gold miners;

- Determine the underlying reasons for the gaps in access to social services based on 4A dimensions;
- Identify and compile best practices available to share them with relevant stakeholders;
- Conduct a basic gender analysis where there is a gender difference; and
- Provide hands-on recommendations to improve the access to selected social services for the policymakers.

1.5 Scope of Assessment

This assessment covered eight research sites, including five soums, and one bagh, in addition to two soums where provincial administrations and provincial-level government officials are based, in Selenge, Khovd, and Gobi-Altai provinces:

1. Tunkhel village, Mandal Soum, Selenge province,
2. Mandal soum, Selenge province;
3. Bayangol soum, Selenge province;
4. Sukhbaatar soum, Selenge province (provincial center);
5. Bulgan soum, Khovd province;
6. Altai soum, Khovd province;
7. Jargalant soum, Khovd province (provincial center); and
8. Yusunbulag soum, Gobi-Altai province (a project site and provincial center).

Furthermore, there are some additional considerations in scoping the issues that need to be covered under the assessment in line with the ASGM context as follows:

- Despite the current formalization efforts encouraging artisanal miners to be covered by the mandatory SI scheme, the assessment focused on voluntary SI in compliance with current legislation and common local practices.
- Of the three-tier public healthcare system, the assessment is focused on primary healthcare, on the ground that, first, adequate access to primary healthcare is of great importance and can significantly reduce the need for secondary and tertiary-level healthcare, and second, the current healthcare system requires a person turn to and access through primary service providers, except for the emergency care.
- Concerning childcare, the assessment is going to prioritize and cover formal ECE services, namely public kindergarten or alternative education arrangements, because early years are crucial for the child's development, and it is more likely to cause a burden for miner parents and may hinder women's representation in ASGM.

1.6 Limitations and Challenges

Inevitably, throughout the research process from a concept note to reporting, the assessment faces limitations and challenges.

- In practice, feasibility or access is a complex and subjective concept that depends on the characteristics and nature of the selected services, their system, service providers, and even users themselves. Thus, a research design was developed by considering the context of ASGM and the different features of the artisanal miners.
- Dimensions of the research design are interconnected and interdependent. Consequently, it was difficult to delineate in some cases and may have had different outcomes for different levels.
- As the nature and objective of each social service varies, 4A dimensions contain slightly different details from one service to another, with consideration of its cause-effect relationship and relevant findings.
- Although the assessment makes efforts to segregate formal and informal miners to identify and analyze the impact of formalization status in access to these services, it was also challenging to delineate their formalization status as there is no single universally agreed clear definition of formalization, and a shift from formal to informal happened in some cases during the research fieldwork and report writing.
- Despite our best efforts, owing to a focus group discussion (FGD) method, there were a few cases of some male miners dominating the whole group, interrupting others, and disrupting the discussion dynamics while other participants were following their leads.
- Some of the government officials were newly appointed or transferred into his/her current role and were not deeply knowledgeable about the given service or ASGM context or both.
- Even though Mongolian ASM produces various minerals and metals, the assessment focused on artisanal gold mining due to the project's priority and gold's dominance in the Mongolian ASM sector. Thus, the terms ASM and ASGM were used interchangeably.
- As artisanal gold miners are not a homogeneous group, the assessment aimed to identify how their different levels of participation and status quo impact their access to services. However, due to a relatively flat organizational arrangement, it was difficult to delineate them in reality.
- Illegal miners and temporary migrants are not covered by the assessment due to their limited availability and approachability as well as their reluctance and secrecy to share their legal status.

- In one of the research sites, artisanal miners were working at a distant ASGM site, and it was challenging to implement a sampling design to ensure a diverse representation of active ASM partnerships.
- Irregularity of the artisanal mining operation and lack of formal and reliable statistics on miners and ASM partnerships on the provincial level has brought a certain challenge to the sampling process.

1.7 Structure of the Report

The report is organized into an executive summary, nine chapters, and four appendices. Chapter One introduces the background, needs for the assessment, regulatory framework and stakeholders, research goal and objectives, research limitations, and challenges. Chapter Two provides the research design, including conceptual framework, relevant dimensions, and research methods. Chapter Three briefly introduces the overview of the ASGM sector and research sites, and general information about formalization and occupational health and safety practices. Chapter Four to Chapter Eight provide a summary and discussion of the results of each specific social service, contemplated according to 4A dimensions. Finally, Chapter Nine presents the conclusion and recommendations based on research findings. Complementary appendices contain details on the availability of three social services and research tools.

Photo 2. The residential camp at the mine site in Tunkhel village, Selenge province, Mongolia (planetGOLD Mongolia, 2020)

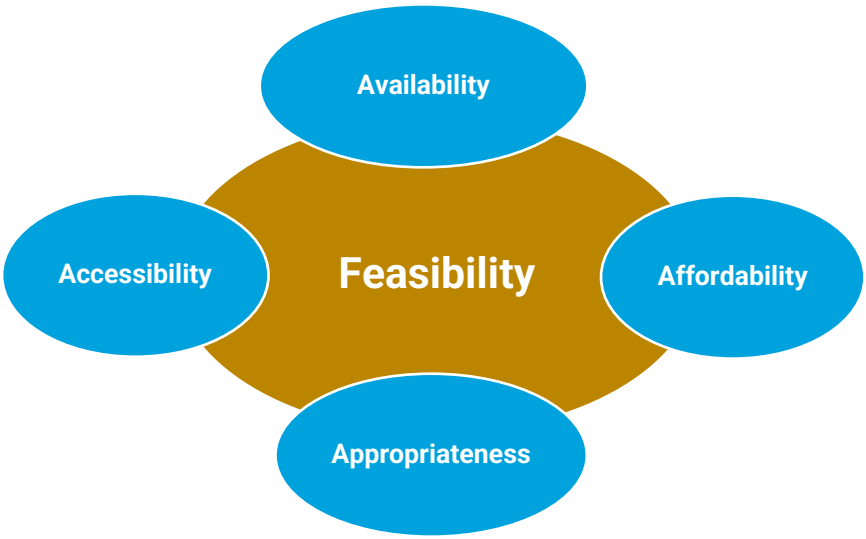
CHAPTER TWO: RESEARCH METHODOLOGY

This chapter will introduce the overall research design, including the conceptual framework, and its dimensions, as well as, research methods, data collection, and analysis management.

2.1 Conceptual Framework

The feasibility of social services is conceptually multifaceted and depends on different dimensions, stakeholders, and their actions and interrelationships. For this assessment purpose, feasibility was defined in simple terms as *the opportunity to have the needs of artisanal miners met for a given social service*. In research practice, access to social services can be conceptualized through various dimensions considering the supply and demand side factors. Based on a framework developed by Levesque et al (2013), feasibility was conceptualized through 4A (Availability, Affordability, Appropriateness, and Accessibility) dimensions that are commonly used for assessing access to similar social services in research communities.

Figure 2. Conceptual Framework



Source: Adapted from Levesque et al, 2013

As stated in the source, this approach starts from the perceived need for healthcare and reveals variations in access by integrating demand and supply-side factors. As characteristics of social services, providers, and systems should be aligned with people, households, and communities' capabilities, the assessment tried to look at both demand and supply side perceptions and experiences.

Therefore, the 4A approach is best suited and consistent with the different features of artisanal miners that are driven by various factors. When conceptualizing the framework, 4A dimensions focus on slightly different information for each social service by reflecting common perceptions,

assumptions, and societal norms for those services. Each of the dimensions is explained in detail below.

Availability means the existence of state-administered social services systems, practitioners, and physical facilities for artisanal miners. Through the availability dimension, on the supply side, it will assess i) services offered; ii) readiness and interface of the service (location, timetable, number of practitioners, equipment base, budget, appointment practice, etc.); and iii) outreach or targeted activities for artisanal miners.

Affordability is about monetary and other costs associated with selected services being economical and affordable for all. Thus, for artisanal miners, it is an ability to pay for i) direct costs (e.g., service charges, fees, and out-of-pocket amount); and ii) indirect costs (e.g., transportation costs, waiting time, loss of income due to long waiting time) that can be associated with a service.

Appropriateness refers to the quality and sufficiency of social services in terms of their benefits and timeliness, as well as meeting the differentiated needs of the artisanal miners. Thus, on the demand side, it will consider the perceived quality and timeliness, differentiated needs, if any, and trust in and satisfaction with these services.

Accessibility is about the actual use and utilization of social services by artisanal miners for the best possible outcome. On the demand side, it will look into the actual coverage, perceived need for service, burdens of occupational and other factors, knowledge and awareness of these services, social service-obtaining activities, preferences, and options, access to different levels of services, relevant behaviors, and challenges. Lastly, it should not be overlooked that the aforementioned three dimensions are interlinked and likely to influence the accessibility dimension in the end.

After careful consideration of conceptual determinants, the research design was developed to define key factors influencing access to these services, as well as the underlying causes and conditions for insufficient access to them, if any.

2.2 Research Methods

Due to the exploratory character of the study, the assessment has chosen and employed a qualitative research method, including:

1. Literature and Regulatory Framework Review: Semi-structured literature review to identify relevant government reports, credible resources from other organizations, scientific publications, and research papers that can inform the assessment. It was accompanied by a rapid review of the legal framework to identify to which social services artisanal miners are entitled. Importantly, researchers also reviewed research designs of similar research and reports produced by previous projects in the sector. Most of them

have used quantitative methods, while Herder's Behavioral Study Towards Social And Health Insurance (International Labor Organization, Maastricht University, and Independent Research Institute of Mongolia, 2022) applied mixed research methods, including qualitative methods of interview. Additional document analysis was conducted on the documentary evidence collected from the key informants to evaluate the current situation, practice, and context-specific empirical information.

2. Key Informant Interview (KII): Through semi-structured interviews, primary data was collected from main stakeholders, with consideration of their responsibility, experience, and engagement with the social services concerned.

3. Focus Group Discussion (FGD): These were semi-structured group discussions with solely artisanal miners. To look at the potentially different impacts of the formalization status and positions held within the ASM organizations, FGDs were categorized into and conducted with 3 different groups, including formal miners, informal miners, and leaders and technical staff of ASM partnerships and NGO executives.

4. Others: When and where necessary, the assessment used in-depth interviews, and other research methods to collect missing information and/or validate the earlier findings.

2.3 Data Collection

Qualitative primary data was collected to understand the problems, difficulties, needs, different opinions, suggestions, behaviors, and feelings of the main stakeholders for a social service concerned. In doing so, taking the sensitive nature of the topic into account, and the intersectionality of artisanal miners, the qualitative methodology of social research was used as mentioned in the previous section. Specifically, the main data collection methods, KII and FGD, were complemented by the ad-hoc document analysis of the documents collected, where and when necessary.

Research tools and guiding questions were pretested among three experienced artisanal miners and trained gender focal points to examine: i) implementation of the chosen strategy and tactics; ii) process of interviewing the person; iii) potential challenges during the interview or discussion; iv) clarity of each guiding question; v) amount of time required; vi) difficulties that might encounter during data collection; and vii) quality of the data collected. As a result of pre-testing, research tools, and guiding questions were improved and finalized for the research fieldwork.

Consequently, a research team of three to four people conducted and handled the data collection. The independent researcher led interviews and discussions while the other researcher was assigned to introduce the project and purpose of the assessment for outreach purposes, in addition to taking notes and observing the participant(s). In addition, one or two research assistants, who are representatives of the ASGM communities, were hired to logistically support

the fieldwork, particularly, the execution of the high-quality purposive sampling from ASGM community members and communications with the artisanal miners. The main fieldwork was conducted in Selenge on February 10-15, 2023, in Khovd on March 20-24, 2023, and in Gobi-Altai on March 24-31, 2023. As an outcome, collected data in audio and text formats are safely stored in the internal database of the planetGOLD Mongolia project in compliance with applicable Mongolian legislation and used for research purposes only.

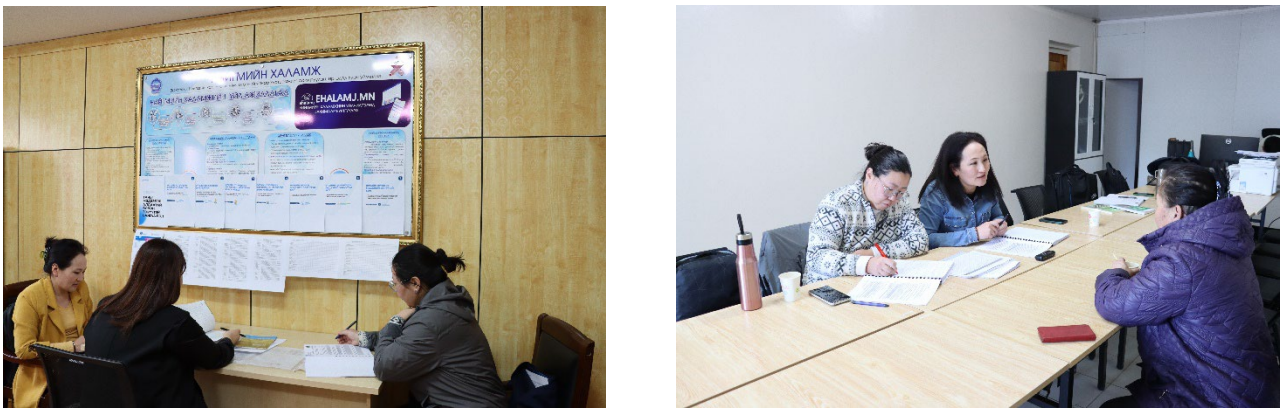


Photo 3. Data collection (planetGOLD Mongolia, 2023)

2.4 Research Tools

Based on the results of desktop research, the research team developed five types of semi-structured research tools, including three KII guidelines, and two FGD guidelines, aside from three other forms, namely, consent form, checklist, and observation notes. These tools contain four main parts: i) instructions for preparations and setting the tone of the session, ii) questions to clarify the personal information, except FGDs, iii) main guiding questions, and iv) closing and thanking remarks. In general, to open up and engage with participants and create a safe and trustful environment, the first two questions were strategically formulated for ice-breaking purposes. Then, it proceeded to the main questions categorized into sub-topics of interest, that follow the general-to-specific pattern. In closing, information on what can be expected as an outcome of the assessment was briefly provided to the participants, as outlined in the research tools. Notably, depending on its semi-structured nature, research tools had instructions to adapt the guidelines, such as questions to skip or additional probing questions for asking details, when and where needed.

2.4.1 Key Informant Interviews

With consideration of the scope of the social services, stakeholders' engagement, and the sensitive nature of topics, three types of KII guidelines were designed for the interviews with four different groups of people, and to study certain topics in a deeper sense. Guiding questions were specifically formulated to get concrete information from the target interviewees (Table 2).

Table 2. Details of KIIs, by target interviewees, and levels

No.	Target interviewees	Remarks on questions
KII1	Government officials in charge of social policy, SI, SW, and ECE services or their delivery at the governor's offices at province, soum, and bagh levels	► Government policy and efforts in identifying a need to deliver SI, SW, and ECE services to self-employed people in the informal sector, including artisanal miners ► Challenges for delivery of these services, if any ► Gap between policy and its implementation which might limit the availability of the services ► Recommendations by local officers on improving access to these social services ► Initiatives to implement any targeted policies on these services ► Perception of government officials about the access to social services by artisanal miners ► Different perceptions toward the provision of SW services for artisanal miners ► Actual access to SW programs ► Results of training and other advocacy activities and other good practices ► Coverage and eligibility of artisanal miners ► Local practice of cooperating or consulting with artisanal miner ► Targeted initiatives from the service providers ► Occupational health and safety (OHS) practices and training in place
KII2	Government officials in charge of health policy and HI, and medical practitioners at province, soum, and bagh levels	► Readiness to deliver primary healthcare, if possible, specifically to artisanal miners, and types of available services ► Awareness of the physical distance, required travel, and time needed for artisanal miners to reach needed services ► Patient handling practices in each step of the service delivery ► Barriers to service delivery and cooperation and coordination practices to overcome such barriers ► Perceived comfort and sufficiency of these services ► System-related factors (e.g., shortage of material resources) if any ► Consultation practice ► Awareness of the different needs of artisanal miners ► Quality control and assurance ► Recommended versus current primary healthcare service for women-miners ► Availability of the targeted public health programs for artisanal miners
KII3	Formal miners from formal partnerships and NGOs	► Feasibility of the steps of accessing the selected social services ► Awareness of available services and their requirements ► Practices and cases of when and where to seek these services ► Artisanal miners' different needs due to occupational risks ► Perceived accessibility of these services ► Affordability of social services ► Options and preferences ► Perceived quality, comfort, and sufficiency of the services ► Reasons for avoiding and rating these services insufficient, if any ► Challenges in accessing these services ► Health-seeking and healthcare-seeking behaviors ► OHS practice in place ► Overall satisfaction and trust with these services ► Behavior towards paid services, if any ► Best practices
KII4	Informal miners from informal partnerships and NGOs	

Source: Research design

To compare and see the impact of the formalization status, the same interview guidelines and guiding questions are used for the KII3 and KII4.

2.4.2 Focus Group Discussions

FGDs solely focus on artisanal miners to get their insights, understand their perceptions and needs, and take a snapshot of their experience related to selected social services. Considering the different levels of engagement with the ASGM sector and their peers, FGDs were categorized into three different groups, as follows.

Table 3. Details of FGDs, by target groups

No.	Target participants	Remarks on questions
FGD1	Formal artisanal miners who are members of formal partnerships (groups of 6 to 10 people)	For both of these groups, the guiding questions are aimed at identifying who and what motivated them to engage in these services, what events and needs led them to such services, and what their agency, capabilities, and contributions were. An emphasis is given to identifying their current practice, awareness, behaviors, and suggestions on potential solutions. It was complemented by a discussion about the level of trust in these services, as well as perceptions of whether these services meet their needs.
FGD2	Informal artisanal miners who are members of informal partnerships (groups of 6 to 10 people)	
FGD3	ASM partnership leaders, technical staff, and NGO executives (groups of 6 to 8 people)	Mainly, it will discuss what ASM NGOs and partnerships can do to make selected social services more accessible. Questions are targeted to identify the perceived bigger picture, best practices, as well as cases where artisanal miners fail to receive these services when needed. Their insights and recommendations are also sought on ways to improve OHS practices. Questions also cover how they can act as role models for their peers for better access to and practice related to selected social services.

Source: Research design

As we can see from the above, to compare and differentiate the impact of the formalization status, the same guidelines and guiding questions are used for the FGD1 and FGD2.

2.5 Quality Control

The AGC's Health Consultant and Researcher Mareike Kroll greatly contributed to the independent review and quality assurance of this assessment from concept note to final report. Also, the project's Monitoring and Evaluation Specialist maintained the internal quality control by joining to Selenge field trip and randomly sampling and reviewing the selected data or discussion notes.

2.6 Ethics Consideration

The research team developed and adhered to a general protocol by the *Code of Ethics* approved by the International Sociological Association, and the *MNS ISO 20252: 2019* research standard approved by the Mongolian Agency for Standard Metrology. Thus, researchers introduced

confidentiality and anonymity commitments as per *Law on Statistics* and *Law on Protection of Personal Information* as well as commitments to use of data for research purposes only without any distortion, both in verbal and written forms. Then, consent to participate in the study was sought in the beginning due to no harm concern, leading to their voluntary participation or refusal. During the data collection, the research team paid extra attention to creating equal power dynamics and trustful relations and respecting the dignity and equal rights of participants.

2.7 Sampling

Due to the specifics of the target participants, their availability, context-specific differences, and lessons learned from previous ASGM-related studies, the assessment used a combination of different sampling methods. For KIIs, both purposive and snowball sampling methods were used to select the interviewees and follow up on certain sub-topics and points in-depth. As for FGDs, judgmental or quota sampling methods were employed for FGD1 while convenience sampling was used for FGD2. Due to a limited number of target participants, snowball sampling was used for FGD3. In addition, researchers made efforts to adopt the diversity principle for their sampling to ensure diversified participants, in terms of their intersectionality of sex, age, years of employment in ASGM, positions held within ASM partnerships, as well as, equal representation of provinces studied. A 30% quota was set at the very beginning to ensure the representation of an underrepresented group. To implement these sampling techniques effectively, one or two experienced representatives of the ASGM communities were hired as local assistants and supported the research fieldwork in communicating with artisanal miners and enrolling the right and diversified participants, in addition to overall logistics support.

2.8 Participants

A total of 146 people were sampled and participated in the assessment, including 78 women and 68 men, of whom 52 (33f/19m) were from Selenge, 48 (20m/28f) from Khovd, and 46 (25f/21m) from Gobi-Altai. Table 4 shows the participants in sex, work, and province-disaggregated manners.

Table 4. Participants, disaggregated by province, occupation, and sex

No.	Indicator	Number of participants, by sex				
		Total	Female	Percent	Male	Percent
1	Total number of participants	146	78	53.4%	68	46.6%
2	Participants, by province					
	► Selenge	52	33	63.5%	19	36.5%
	► Khovd	48	20	41.7%	28	58.3%
	► Gobi-Altai	46	25	54.3%	21	45.7%
3	Participants, by occupation					
	► Artisanal miners	102	47	46%	55	54%
	► Government officials	44	31	70.5%	13	29.5%

As we can see from the above table, 70% of the participants were artisanal miners who were relatively gender-balanced and equally represented from three provinces. Importantly, such equal participation from three provinces helped the research team validate and compare certain findings between the provinces to identify similarities and differences. As for government officials, it was impossible to meet the 30% quota of men despite our best efforts because women are usually pigeonholed as suitable for social services as soft industry and the majority of the government officials in KIIs were women. Also, government officials' gender is not disclosed in their quotes throughout the report to maintain their anonymity.

Table 5. Participants, disaggregated by research methods

No.	Indicator	Number of participants, by sex				
		Total	Female	Percent	Male	Percent
1	Participants, by their type of research methods					
	► KII1 & KII2, government officials	44	31	70.5%	13	29.5%
	► KII3 & KII4, artisanal miners	20	11	55%	9	45%
	► FGDs	82	36	43.9%	46	56.1%
2	Participants in KIIs, by target groups					
	► KII1	33	25	75.8%	8	24.2%
	► KII2	11	6	54.5%	5	45.5%
	► KII3	9	4	44.5%	5	55.5%
	► KII4	11	7	63.6%	4	36.4%
3	Participants in FGDs, by target groups					
	► FGD1	40	14	35%	26	65%
	► FGD2	11	5	45.5%	6	54.5%
	► FGD3	31	17	54.8%	14	45.2%

Table 5 exhibits that 43.8% of participants were covered by KIIs while 56.2% participated in FGDs. Unsurprisingly, FGD covered the most number of participants as each session enrolled 6-10 people. If we also compare KII groups, because KII1 was targeted at main social policy officers responsible for selected services at different levels, its participants outnumbered other KII interviewees. The above data also show that it was challenging to find and attract informal miners due to their preference not to disclose their formalization status, as well as their unwillingness to attend any research activities. The research team encountered a few cases in which artisanal miners and government officials refused to participate in the research.

2.9 Data Analysis

Qualitative data processing and analysis and final report writing were completed in April-November 2023. In doing so, data, which were recorded and collected in the format of voice, were converted into texts using the Chimege[1] platform. Then the data was encoded and categorized for analysis on N-Vivo 14[2] software. Considering its qualitative nature, the data was synthesized and analyzed by comparison and factor analysis to identify similarities and differences. Reliability

1 Artificial intelligence voice-to-text platform at chimege.com
2 Qualitative data analysis software

and accuracy were validated by simple word counting. Also, depending on the characteristics of qualitative data, quotes were chosen and used to reinforce and represent certain ideas, experiences, and attitudes. Based on data analysis, conclusions, and recommendations, which are a crucial part of this report, were formulated.

CHAPTER THREE: OVERVIEW OF THE ASGM SECTOR AND SOME CHANGES

This chapter will look into the historical developments and current situation of the research sites that contribute to shaping the Mongolian ASGM sector and the reality of artisanal miners. Also, the formalization and OHS practices are addressed as these impact miners' social standing and need for and access to all social services studied.

3.1 Historical Developments of the Mongolian ASGM Sector

Artisanal gold mining is said to have taken place in Mongolia for centuries (ASM NF, 2022), yet the last thirty years saw a large influx of people who want to earn a living and ensure their economic and social security. In particular, it was fueled by the economic crisis, fall of industrial production, widespread unemployment, and ushering poverty that happened due to transitioning to a market economy in the 1990s. According to the ASM NF (2022), the number of artisanal miners reached 100,000-120,000 at its peak, supporting the livelihood of another 400,000 people. This indicates that ASGM has become a viable job and source of income for many people.

Today there are active ASM partnerships established among artisanal miners who make not only a living from ASGM but also create jobs for themselves and conduct responsible mining operations. In addition, the sector has been serving as a means to overcome challenges, such as COVID-19 aftershocks, limited employment opportunities, and economic downturns. A recent NSO study (2022) reported that the participants in the ASM sector to be 9,558, including women representing 20%, remained at the same level as in 2016, and of whom, 75.4% are extracting gold and earning 83% of their subsistence income from ASGM.

At the policy level, certain progress has been made in this sector thanks to the Government of Mongolia's efforts to formalize the ASM sector, make its operations responsible, increase livelihood opportunities, and minimize its negative impacts by establishing a legal environment in cooperation with various stakeholders. For instance, the below legislations were approved to regulate this sector:

- Temporary regulation to govern the operations of private mineral miners (2008)
- Amendments to the Land Law and Minerals Law (2010) that legally defined ASM operation and enabled local governments to take certain land for local special needs to accommodating ASM activities
- Regulation on the extraction of minerals through artisanal and small-scale mining was approved under Government Resolution No. 308 in 2012.

- The above regulation was revised and updated under Government Resolution No. 151 in 2017. Also, the Gold Programme had a policy goal to improve gold extraction and processing operations through ASM.
- In 2019, under Government Resolution No. 355 Some measures to be taken about mineral extraction through artisanal and small-scale mining, the issuance of new land conclusion, and the signing of the new contracts in such land suspended.
- In August 2022, ASM regulation was approved and came into effect. Aside from this regulation, there are 13 laws, a resolution of the Finance Regulatory Committee, a government resolution, and three rules, procedures, and methodologies approved under ministerial orders, that are effective in this sector.

According to the ASM NF (2022), coupled with pandemic-driven shock, the suspension of the ASM regulation pushed many people into illegal mining. Between 2019 and 2022, approximately 42,000 people engaged in illegal mining, resulting in 14 deaths and countless injuries due to poor OHS practice, and escalated environmental damage. In addition, for thousands of miners formally engaged in ASM, their livelihoods and social and economic needs were no longer guaranteed. The formalization of the ASM sector is a long-term and ongoing process, and the long-awaited regulation approved in 2022 is meaningful progress for the sector that enabled individuals to engage in responsible ASM activities. However, much more must be done to ensure further formalization of the sector as current government efforts solely focus on legalization. Following the approval of the regulation, 5,620 artisanal miners from 685 ASM partnerships attended the ASM NF's package training[3] and received certifications. Also, as per the MRPAM's Cadastral Database, as of the end of 2022 (MRPAM, 2022), land conclusions were issued for 262 sites covering 1,063.7 hectares of land in the outlying district of the Capital City and 15 provinces for ASM purposes. However, the sector's general outlook is uncertain as the legal environment is unstable, and the positions of responsible government organizations are inconsistent. It can be seen from the inconsistent positions of policymakers who talk about the annulment of the ASM Regulation as the solution for all problems in the sector.

3.2 ASGM Contexts of the Research Sites

a. Tunkhel village, Mandal soum, Selenge province

There are 12 registered and unregistered ASM partnerships, to which approximately 150 artisanal miners belong. However, the number of artisanal miners usually fluctuates due to seasonality and irregularity. In addition, Tunkhel miners are organized and affiliated under their umbrella NGO 'Baatarvangiin Khishig'. After their inactive period in 2020-2022, miners are now

[3] The training covers subtopics of the ASM legal and regulatory framework, labor safety, hygiene, rehabilitation, and traceability of the origin of mineral products extracted by ASM (2.3.4, ASM regulation).

activated and planning to extend their contract to mine at their Bulag site. There is a processing plant on which the planetGOLD Mongolia project is working to improve its technology.

Photo 4. Tunkhel village, Mandal soum, Selenge province, Mongolia (planetGOLD Mongolia, 2020)

b. Mandal soum, Selenge province

Mandal is one of the most active soums in terms of its ASM operations, with the number of artisanal miners reaching thousand at its peak. Although the formal record says there are around 180 artisanal miners from 11 partnerships, its real number fluctuates seasonally as well. At the Noyot hard rock mine site, 6 partnerships are conducting ASM based on a land conclusion and contracts at the time of the research fieldwork in Q1 of 2023. The majority of the partnerships are affiliated with Duush Mandal NGO. There are 6 active processing plants. The project is improving and introducing mercury-free technology in the plant of the Shijir Khishig partnership.

c. Bayangol soum, Selenge province

Bayangol is known to be one of the pioneer ASM host soums in Mongolia. Since 1997, artisanal miners have started informally extracting gold in the vicinity of the Boroo Gold mine, a large-scale mine located in the soum's territory. According to the Contextual Study (planetGOLD Mongolia, 2021a), there are 108 miners from 27 partnerships in this soum; however, they were inactive in the past two years. During the research fieldwork, it was found that 7-8 partnerships are pursuing to obtain a land conclusion in the area which is acquired for local special needs. Although there is no processing plant in the soum, 10 small mills are operating.

d. Bulgan soum, Khovd province

Bulgan is the second biggest soum in Mongolia. There are approximately 300 artisanal miners belonging to 33 partnerships. They also have a second membership in the Khovd provincial ASM NGO named Altan Uuliin Ezed. Even though there is no official ASM land with MRPAM's land conclusion, they are pursuing the Buduun site, which is registered in damaged and abandoned areas, taking for local needs and obtaining a land conclusion. There is neither a processing plant nor a mill in this soum.

Photo 5. Tsambagarav mountain, Khovd province, Mongolia (B. Rentsendorj/Gamma Photo Agency)

e. Altai soum, Khovd province

There are 110 miners, who belong to 11 partnerships and who also have second memberships in the Khovd provincial ASM NGO named Altan Uuliin Ezed. Two partnerships have concluded contracts in the Mankhan-1 and Mankhan-2 sites that have MRPAM land conclusions. But they have not extended their contracts yet. The partnerships are planning to commission a processing plant soon.

f. Yusunbulag soum, Gobi-Altai province

There are around a thousand formal and informal miners, of whom 890 have membership in and organized under its provincial ASM NGO named Altai Miners' Solidarity Association. Currently,

320 miners from 33 partnerships are operating in the placer gold mine site owned by Marco Polo LLC, an LSM company under a contract. Another 200 artisanal miners from 17 partnerships are about the join them as a result of their contract.

Photo 6. Mother Mountain, Gobi-Altai province, Mongolia (B. Rentsendorj/Gamma Photo Agency)

3.3 Impact of Formalization

The formalization is known to play a crucial role in ensuring the livelihood of artisanal miners across the globe. As illustrated in the following thematic chapters, social service coverage of artisanal miners differs from one location to another depending on the formalization state of a specific location, including allocating land for ASM, obtaining land conclusion, and signing or resigning a contract with the governor. In particular, miners are required to pay health and social insurance to sign and re-enter an annual contract with a soum governor. Any changes in the formalization state directly impact their access to and inclusion of selected social services.

"At the very beginning, when the governor agreed to allocate land for ASM operations, he required us to pay taxes and social and health insurance. Thus, artisanal miners paid it continually for a while."

Female formal miner, Selenge province

"Miners who do not have their own ASM land, and who are not extracting any gold tend to be left out of the SI."

Female leader, informal partnership, Selenge province

"Formal partnerships are insured by the SI and HI while others are on and off when it comes to their payment."

Female leader, formal partnership, Govi-Altai province

Two main reasons for the lack of social service coverage for artisanal miners were: a) current inconsistent policy resulting in discontinuity of ASM operations, and ii) lack of employment opportunities that offer regular income. These two issues can be addressed by making ASM formalized and more responsible. Additionally, the higher the level of formalization, the more ASM partnerships tend to institutionalize a good practice of paying their health and social insurance in an organized manner and being accountable for its continual payment. For instance, at the time of the research, in one location, ASM partnerships were working on a permitted site, thus approximately 220 formal miners started paying insurance, irrespective of their gender. Meanwhile, formal miners in Selenge stopped paying their insurance owing to a delayed land conclusion.

The assessment also clarified a case of formal ASM partnerships that used to be registered as business entities in Selenge province. Such partnerships were burdened with SI-related requirements, such as monthly submission of SI reports, arranging health and social insurance payments for their members, being indebted to SI organizations, etc. In contrast, in the western province where ASM is still at its initial stage, there is no practice or experience among ASM partnerships to pay for their health and social insurance in an organized manner.

Local government officials also confirmed that the status of the formalization influences their delivery of selected services. In particular, they pointed out that the central government's inconsistent policy direction and unclear stance towards ASM formalization are causing challenges in their communities.

"If artisanal miners are informal, we cannot talk about them formally. We communicate and interact with them according to the law. If the police are there to stop them, simply we cannot go there and deliver public services. Personally, I support artisanal miners. We used to have an ASM-oriented project. At that time, vulnerable people worked for ASM and we produced a study to enroll them in social protection assistance and services. Since ASM is forbidden now, we cannot do anything about artisanal miners and have no special considerations for ASM. If the sector is formalized, government actors will probably support them."

Soum employment officer, Khovd province

Last but not least, regional difference was observed in the formalization process. For instance, Selenge has more active formalization efforts than other provinces. However, ASM operations in

Selenge were irregular due to struggles in signing and resigning the annual contracts with governors and changes in the availability of ASM lands. In the western provinces, formalization is slow owing to inconsistent support from the local government and high dependency on the decisions of the central government. All these put miners in dire situations regarding continual access to social services. Nevertheless, there are early signs that local government actors are looking to and encouraging formalized ASM partnerships to be registered as business entities and transition into compulsory social and health insurance and taxation.

3.4 Occupational Health and Safety Practices and Challenges

OHS practices are an essential aspect of responsible ASM to prevent accidents, injuries, and occupational illnesses, which can cause deaths and disabilities. Therefore, the current ASM regulation requires artisanal miners to attend training, obtain a certificate from a professional ASM organization, and adhere to safety rules in their daily operations, while government stakeholders are obliged to enforce and oversee the proper implementation of the OHS legislation and provide hands-on guidance and training for miners. However, OHS is mostly taught as a subtopic of the package training covering general ASM-related topics.

3.4.1 General Perception

Overall, it was observed that there were no cases of negligence or taking OHS lightly. Artisanal miners are most likely to acknowledge the high occupational hazards and risks; however, their expressions and behaviors show somewhat different stories. Prioritizing and implementing the OHS practices is relatively better among formal miners than informal miners.

3.4.2 Access to Occupational Health and Safety-related Training

Generally, the frequency of the OHS awareness-raising activities and workplace-based OHS workshops was found to differ from one site to another. In Selenge province, artisanal miners had higher numbers of OHS training compared to other provinces. These training sessions are mainly organized by external organizations or development projects in direct communication with miners. In some cases, local government officials attend such trainings. It should be noted that the planetGOLD Mongolia project conducted OHS training for both government officials and artisanal miners in the target areas. Hence, the OHS training experience of the assessed participants is not representative of the whole ASM sector.

Overall, the local governments conduct general OHS activities to which miners are invited. However, it appears miners do not participate in such activities as they prefer ASM-specific knowledge. Also, it was found that local government organizations do not plan or implement any OHS-related activities specifically targeted at artisanal miners and leave them in the hands of professional ASM associations, despite being legally obligated to do so as per ASM regulation.

"Although these partnerships run micro-scale mining operations, they are not provided with quality OHS training and advocacy activities to prevent risky conditions as per law."

Labor inspector, Gobi-Altai province

At the local level, there is a non-permanent multidisciplinary mechanism consisting of government officials from different public organizations. There is an OHS branch council at the provincial level, consisting of the Administration Head of the Governor's Office, a legal officer from local administration, the head of the labor and welfare service agency, its labor and safety inspectors, a representative of the Labor Union, and representatives of the large employers. At the soum level, a similar sub-council exists consisting of similar officials but at a lower level. For daily responsibilities, labor and safety inspectors from the local agencies of labor and welfare service, who were formerly affiliated with local agencies for specialized inspection, were said to conduct advising and assisting sessions for ASGM-ers on the sidelines of their monitoring missions in LSM companies.

Photo 7. During the training session to educate artisanal miners for rescue operations, Selenge province, Mongolia, 2023 (planetGOLD Mongolia, 2023)

These officials mostly focus on conducting OHS training, supervision, and coaching activities for LSM companies, government organizations, and other private sector entities; thus, they do not have a practice of working with artisanal miners, except for a few information sessions. Furthermore, a labor and welfare officer, who is concurrently in charge of OHS, tends to be overburdened with many other responsibilities (e.g. OHS employment, social welfare, etc.) at the soum level, thus she/he prefers to deal with large companies and businesses rather than ensure the participation of artisanal miners in such capacity-building activities. As initiated by MLSP and logistically supported by the provincial governor's offices, the OHS Awareness Month campaign takes place annually sometime between April and May. Usually, with financial support from the IAOD Fund, a capacity-building seminar is conducted by an accredited training institution. It tends to be attended by representatives of LSM companies, OHS focal points of local government organizations, members of OHS sub-councils, and seldomly artisanal miners.

Inevitably, there are some challenges, such as poor quality control of such training activities and their lack of coordination and coverage depending on the local context and capacity. These challenges are driven by multiple reasons, including, remote ASGM site locations (e.g., nearest 20

km and farthest 100 km), irregular or erratic activities, potentially prolonged stay at the mine sites, and lack of commitment and participation in the case of male miners. As a result, artisanal miners perceived their access to capacity-building activities and transfer of learning differently.

"I have attended OHS training for many years. Often, I go for industrial training. As for occupational risks, I work to prevent alcohol consumption and not wearing masks during work."

Female leader, informal partnership, Selenge province

"Several of our people were trained in OHS, but I doubt the depth of their understanding of the topic."

Male leader, informal partnership, Selenge province

Also, better coordination and training coverage is evidenced in provincial centers of the remote provinces, aside from the central province. In other soums of remote provinces, access to OHS training can be rated as poor, owing to the lack of coverage and the needed frequency of such training, especially for informal miners. For instance, there were informal artisanal miners in remote soums of western provinces who had neither heard nor applied OHS practices.

"We tend to wear what we have (e.g., masks and hats) rather than personal protective equipment (PPE)."

Female informal miner, Khovd province

Across all the ASM communities covered by the assessment, their access to training is directly linked to the commitment and ownership of the ASM partnership leaders and ASM NGO executives, in addition to their formalization status.

3.4.3 Existing Occupational Health and Safety Practices

Overall, OHS practices in place are found to be insufficient among artisanal miners, with varying practices of compliance with and control of the OHS rules and regulations, providing safety induction to the miners, providing PPE, taking ownership of OHS responsibilities, and demanding miners to prioritize safety in ASM. This can be supported by the below findings.

First, deaths and disabilities related to ASGM have been observed in all locations and sites as per interviewees. However, there are no official statistics on such cases at the local level, and neither social protection nor health institutions have a designated registry and monitoring database for accidents related to ASGM.

"As these people are not covered by SI, they are not aware of the requirement to report and document any industrial accident within 24 hours. Thus, they have not reported any to us so far."

Labor inspector, Gobi-Altai province

Although it is impossible for qualitative assessment to determine the exact number of such cases, the risks of industrial accidents remain high in the ASGM sector according to the interviews with

artisanal miners and responsible government officials. It is mainly due to: i) poor or non-existent OHS practices (e.g., lack of conscious efforts, commitment to comply, biased risk assessment), ii) increased illegal mining operations due to the suspension of new ASM land allocations, and iii) miners' behavior of hiding minor accidents and injuries (e.g., avoid registering accidents in their site).

Second, there are evident cases of workplace injuries for artisanal miners at all locations. The type of injuries differs by the type of ASGM operations. For hard rock mining, common accidents include hitting his/her head with a rock and crush injuries of the hand and foot, while head injury due to falling into a hole and broken leg or arm is common in the placer mine.

But, it does not mean all partnerships have insufficient OHS practice. In Selenge province, there is a formal partnership with a good practice of managing OHS in their workplace by hiring a professional engineer under a contract, training, and appointing an OHS focal point for each shift, conducting an internal assessment of OHS practices in their processing plant, carrying out awareness-raising and capacity-building activities in the ASGM site, and training all members by bringing artisanal miners from ASM site to urban areas. This partnership is well-established and has ten years of experience since its incorporation. Transitioned into a business entity, this partnership has a smaller number of family-oriented members compared to their hires.

The assessment found that ASGM formalization is an important factor in institutionalizing the OHS practices well in their operations, but it is not a standalone favorable condition for better OHS practices. Mostly, a difference in OHS compliance is observed for formal versus informal miners. Informal miners generally have poor OHS practices compared to formal miners. We met many informal miners who do not have sufficient OHS knowledge and understanding, or who have never heard about occupational diseases. Despite previous attendance in OHS training, it was visible that informal miners tend not to apply their learnings to their jobs. As for the formal miners, they tend to follow OHS requirements to provide occupational safety instruction before entering any shaft, attend OHS training, use complete sets of PPE, such as earmuffs, masks, vests, and workwear, operate machinery and other equipment adequately, and checking their fastening. Another factor was that formal miners are legally obliged to follow OHS rules and can lose their access to the ASM land if a formal site is in breach of OHS rules. Nevertheless, formal miners seem to still experience minor injuries many times which can be due to the failure to consistently adopt these practices by all miners.

"The arrangement of partnerships depends on people's motivation on how to operate in compliance with the regulatory framework… This might be because performance appraisal is not conducted for annual contracts with the governor."

Female leader, formal partnership, Selenge province

In addition, the quality and supply of PPE (e.g., hard hats, gloves, ear safety, respirators, safety workwear, boots, protective caps) and fastening materials might be different for each partnership

or even for individuals. Also, it was evidenced that artisanal miners who prioritize, comply with, and make efforts to institutionalize occupational safety practices diligently and carefully are the ones who have worked in ASM for 10 years or more. Thus, in addition to formalization, miners' work experience, commitment, and ability to transfer and apply their learnings are another important factors.

Furthermore, the most common OHS practice among formal miners is providing safety instructions and getting their signatures on the relevant sheets before proceeding to their work. Because of this practice, many miners perceive that accidents happen due to a lack of responsibility of an individual miner and do not consider the interconnectedness of various safety measures.

"If a person works without fastening, or proper instructions, or acts strong-headedly, this person is exposed to high risk."

Male leader, formal partnership, Khovd province

"Miners might be exposed to risks owing to their carelessness… The risk is minimal for those who received their OHS instructions. Any accident is totally up to the individual. For example, being hit by a rock when he/she forgets to wear a hard hat… Sometimes when we need to work in the evening, we become very cautious and call it a day not long after dusk."

Female formal miner, Gobi-Altai province

"It is most important for a working person to ensure his/her safety."

Male leader, formal partnership, Gobi-Altai province

3.4.4 Risk of Chemical Exposure

Cyanide is highly regulated and under strict scrutiny in Mongolia. As it is very hard to get a permit to use cyanide in ASGM, the assessment did not cover the topic of cyanide use.

However, mercury exposure is worth considering as there is clandestine mercury use in hard rock gold processing despite the formal ban on mercury in 2008. In particular, the assessment came across medical practitioners who confirmed that they witnessed a few cases of mercury exposure. According to their statements, such incidents mainly date back to 6 or 7 years ago. Also, there were a few past cases of above 50-year-old miners whose mercury concentrations were tested to be above normal under the SAM project. These people revealed that they used toxic substances near their children or by themselves because of their lack of awareness, mainly before its ban. During FGDs and KIIs, female miners expressed that miners might be still using it secretly for better gold recovery rates but miners need to eliminate its use.

3.4.5 Challenges

Generally, the main challenge was the lack of OHS leadership and ownership by stakeholders. For the ASM partnerships, the lack of retention of a trained workforce was found to be challenging. Subsequently, a lack of proper knowledge about better OHS practices, occupational hazards and diseases, and negligent behaviors is also posing a challenge for artisanal miners, especially male miners who are much more exposed to high occupational risks. Inevitably, a different need is observed between formal and informal partnerships for OHS capacity development. Formal miners perceive that they have to hire an OHS officer and/or formally appoint an OHS focal point responsible for ensuring the safety of miners and reporting about ongoing OHS tasks. Informal miners are in great need of understanding its importance and institutionalizing the OHS rules and instructions first. These different needs also highlight the need for external assessment and supervision of OHS compliance among artisanal miners, which might be also difficult. Another challenge for OHS compliance in the hard rock ASM sites is the unpermitted use of blasting to extract the ore in some cases. The assessment revealed that the need for blasting is directly linked to the ASGM operations not being economically feasible due to fluctuating yield.

Driven by all these factors, it is difficult for artisanal miners to comply with the OHS rules and have proper OHS practices in a consistent, continual, and controlled manner.

CHAPTER FOUR: ACCESS TO HEALTHCARE

This chapter explains the findings on artisanal miners' access to healthcare from availability, affordability, appropriateness, and accessibility aspects.

4.1 Availability of Healthcare

Box 1: Background

Healthcare in Mongolia is provided through a combination of a universal state-funded scheme, a health insurance (HI) scheme, and other sources. Under the universal scheme, Mongolian citizens are provided with a package of essential healthcare services free of charge, including most of the primary and emergency medical care, maternal and pediatric healthcare, services for infectious and chronic diseases, relevant epidemiological and disinfection services, and immunizations, public health measures, and others (Law on Health, 2011) (please see Column A, Appendix 1). The complementary but majority of the healthcare services, including in- and out-patient services, and specialist care at referral levels (ILO, 2016), are covered by the HI system, which is compulsory.

Overall, Mongolia has a three-level healthcare system including primary clinics and hospitals and secondary and tertiary-level healthcare providers that are considered referral levels. Accordingly, healthcare providers are organized according to the administrative divisions, and there are primary-level family clinics and soum hospitals, secondary-level provincial and district central hospitals, and tertiary-level specialized hospitals in Ulaanbaatar. Specialist care is mainly available at the referral-level hospitals based on a referral letter namely the *13A Health Form* from the primary care provider that is issued for the patient's specific case. Aside from these public clinics and hospitals, a great number of private specialized practices are available for in-demand paid services in urban areas, such as provincial centers and Ulaanbaatar. The private sector operations are well-regulated and under the same quality scrutiny and assurance

Primary healthcare providers covered under the assessment are located in provincial centers and densely populated soum centers and bagh, with varying distances of 20-100 km from ASGM sites. With consideration of the distance barriers, these providers deploy a mobile health service based on a call made by the residents in remote communities. The distance of such services was 5-25 km in the central province and 15-45 km in the western provinces; however, their capacity to reach remote locations varies due to road, vehicle, and climate conditions.

In research sites, these primary clinics and hospitals provide many types of tests (e.g., blood, urine, biochemical tests), physical examinations and consultations, daycare for outpatients, traditional medicine, palliative care, home visits, emergency room, and ambulance, in addition to mobile care. Their medical practitioners run some tests on blood sugar, cholesterol, hepatitis B and C viruses, as well as helicobacter pylori, and red blood cell count for some hospitals in case of a suspected cardiovascular disease.

As mentioned earlier, there are two types of primary healthcare providers, family clinics and soum hospitals.

Starting with family clinics in central and remote provinces, these clinics tend to have 13-15 medical staff, including 4-5 doctors, 3-5 nurses, and other support staff, and their buildings are relatively new and conveniently furnished to meet service standards. While nurses tend to be responsible for and specialize in maternity care, daycare for outpatients, immunization, rehabilitation, and traditional chiropractic, there are a few support staff, e.g., reception, public health officer, or registrar. However, these clinics lack some equipment, such as radiology, sonography, and spirometer. In routinely offering mobile healthcare, family clinics have portable ultrasounds and doctor's bags that practitioners use for their mobile and ambulance services in the central province.

As for soum hospitals, they are relatively well equipped with the necessary technology, such as ultrasound and X-ray, and have 50-80 medical staff, including almost all types of specialist doctors in some of the populous soums. To share the load and interface, a patient has to be referred to the soum hospital from a family clinic. Soum hospitals offer in-patient services within their given bed capacity.

Concerning the budget, at the time of the assessment fieldwork, all primary healthcare providers had the necessary financial resources to provide medical services as they had already received their funding from the previous year based on their capitation and case-based costs. Even in one case, one soum hospital annually gets an additional budget of MNT 10-15 million (approx. USD 2,900 - 4,400) from the Local Development Fund, in addition to funding from the Health Insurance Fund.

In terms of timetable, these primary healthcare providers operate from 09:00 to 17:00 on weekdays, excluding an hour lunch break, as well as, certain hours over the weekend with a doctor working on shift. In the meantime, family clinics in the provincial centers are open from 09:00 to 16:00, with varying open hours over the weekend. All family clinics and soum hospitals have well-furnished facilities and a comfortable environment. Building on the information provided by the medical practitioners, it can be thus concluded that these primary care providers are well prepared and meet the requirements to provide necessary healthcare.

Under the public health programs, there are outreach and targeted activities are available to local community members. However, these are currently limited to celebrating open days, global health days, and relevant health campaigns only. Occasionally, nationwide preventive diagnostics or special campaigns are initiated by health policymakers, e.g., the Whole Liver Mongolia National Program in 2017, and the Healthy Mongolian National Program in 2022, based on testing and examination capacity of provincial and soum hospitals in all provinces. Yet, there is no specific healthcare program or targeted health screening available covering miners' differentiated needs in a systematic and OHS-informed way.

Photo 8. Healthcare center, Selenge province, Mongolia (planetGOLD Mongolia, 2023)

Healthcare information dissemination and health education opportunities are insufficient among artisanal miners, especially male miners. Although it might be partially due to male miners' lack of effort, it is directly related to the fact that such information dissemination and outreach activities are designed for the general public, not specifically for artisanal miners, thus male miners might be left behind. In addition, it was found that such outreach and dissemination activities prioritize the elderly, children, and women in semi-urban areas, such as provincial and soum centers, instead of local community members in remote areas.

"Provincial diagnostics and health screening initiatives tend to cover elderly people only. None targets middle-aged people. I missed such an opportunity because I was away working at the ASGM site."

Male formal miner, Gobi-Altai province

Nevertheless, it should be noted that primary service providers do not provide some specialist diagnostics, e.g., computer tomography; thus, it often causes a diagnostic delay and requires miners to seek referral-level healthcare in the provincial center or even in Ulaanbaatar by traveling long distances.

"Under the nationwide early screening program, we are asked to travel to the provincial center (i.e. nearly 310 km) to be covered by free medical examinations."

Male and female informal miners, Khovd province

Consequently, it is natural for artisanal miners to rate the availability of healthcare differently, probably due to many factors detailed throughout this chapter.

4.2 Affordability of Healthcare

Regardless of the number of healthcare services available to artisanal miners, affordability comes into play for ensured access to these services. As there are cost-sharing arrangements, co-payment requirements, and ceilings of coverable costs in place, individuals are required to cover a certain amount of medical costs out of their pocket. For example, a patient has to mandatorily cover 10%-15% of the case cost in advance to receive inpatient services, and even sometimes needs to purchase the necessary medications during inpatient care, when there is no stock available. Although the patient is entitled to ask for reimbursement of such medications from medical institutions, navigating through the medical bureaucracy tends to lead them not to pursue the reimbursement.

Due to the features and characteristics of ASGM, artisanal miners' ability to afford direct and indirect healthcare costs is different from those of the general public and other rural community members. In general, the assessment found that the artisanal miners' ability to pay for healthcare services without getting into financial hardships varies significantly.

First, direct cost is the most important aspect of healthcare affordability. Not only medical practitioners but also artisanal miners themselves openly shared that miners usually lack financial resources when they require medical attention. Although affordability is believed to be partially dependent on an individual's financial responsibility, we consider that insured artisanal miners can afford healthcare costs to a certain extent, and besides it is compulsory for individuals to pay HI contributions to receive healthcare services. However, they often fail to pay it and are unprepared to get healthcare in their respective locations. Thus, healthcare costs are causing financial burdens for the artisanal miners as their jobs are seasonal and irregular and they often fail to work even during warm months. Cost-wise, the assessment found that the main barriers are unpaid and accumulated HI contributions and the out-of-pocket payment requirement of case cost, which is even more burden for informal miners. When miners go to a hospital with unpaid HI, they are asked to pay it as soon as possible, through various means, such as the e-Mongolia virtual public service platform and its application, and/or physical visits to insurance offices. While some miners are aware or advised by hospital staff about such an easier way of paying it, others may need to visit an insurance inspector in person. It appears unpaid HI might be limiting the miners' access to healthcare beyond the emergency room.

"Even though I have paid for HI contributions for six months, the hospital refused to provide healthcare to me. Instead, they asked me to pay for at least a year to be entitled to get service from them… Depending on the illness, we have to pay a daily fee (10%) for the necessary inpatient care. Henceforth, it is easier for us to buy medicine and self-medicate."

Female informal miner, Khovd province

During the FGDs, artisanal miners had a long conversation about the required amount of HI contributions that they need to pay to qualify for available healthcare. Thus, it was visible that it was an important topic and concern for every miner.

Second, the assessment also found that there are indirect costs, such as long wait times for appointments, arrangement of a referral letter, the 13A Health Form, between health institutions, lengthy waiting and queuing at hospitals despite appointments, needed travel from ASGM site to hospital, long-distance travel to referral level hospitals, and loss of daily income, as commonly shared by artisanal miners. These challenges were especially true for miners in distant western provinces owing to distance factors. Specifically, it emerged that the wait time for inpatient services in a soum hospital is of great importance and concern for miners in rural communities.

"When I request inpatient care in a hospital, I wait for a period from 10 days up to 1 month, as there is a shortage of hospital beds."

Female informal miner, Khovd province

The longest wait time was due to the referral system and needed appointments. For instance, when primary healthcare practitioners refer some patients to secondary-level hospitals for specialized diagnostics in the provincial center, they cannot make an appointment in several cases due to limited slots available and the uncertainty of the appointment system. It was causing a problem and delays in patients' timely diagnostic care and necessary treatment. For instance, there was a case of a patient who was waiting over a year for an endoscopy.

"I could not send two people to the provincial hospital for three months for an endoscopy. Because we are required to book an appointment for a patient by around the 20th of each month only, and when I call around that date, I have been informed a few times that I was late, and the slots are already full."

Doctor, Family clinic, Selenge province

Additionally, opportunity costs should be of consideration. Although some informal miners can get inpatient and/or follow-up care, there are cases of delaying or limiting their chance to get treatment because they prefer not to lose their daily income to support their livelihood. Moreover, it is not that affordable for artisanal miners to travel long distances for sole medical purposes. In addition, there are also unforeseen burdens such as figuring out an appointment system, arranging other household chores and childcare to make it on time, especially for women, and waiting in a queue for a doctor's consultation. Most female miners agreed that artisanal miners

avoid long waits and standing in queues, which might be partially inhibiting their access to healthcare.

"Our people (miners) do not like to go to the hospital. When I encouraged them to get examined once every year, they answered that it would be such a hassle to wait and stand in a queue, and they would not make an effort for themselves."

Female healthcare volunteer and artisanal miner, Gobi-Altai province

With such perceptions of high direct and indirect costs of going to public hospitals, it appears artisanal miners resort to two options: i) self-medication, and ii) paid private healthcare. As artisanal miners tend to prioritize the quick fix to their illnesses and pains, they are accustomed to resorting to self-medication or self-treatment by using over-the-counter drugs and underregulated traditional medicine based on information that may or may not come from a reliable source when they are sick and are struggling with recurrent chronic illness.

"Sometimes when my kidney hurts, I ask for informal advice from doctors with whom I am acquainted. And I buy some medicine and intravenous therapy and administer them at home. Besides, I do not trust my local hospital as the hospital has poor diagnostic care in my opinion."

Male formal miner, Gobi-Altai province

As for the option of paid healthcare services, there seems to be a different pattern. Although it is hard to get clear data, almost all participants have experience of turning to private providers because of various reasons. The artisanal miners who sought paid healthcare services from private hospitals beyond primary providers are mainly partnership leaders and their female family members who are also artisanal miners, as well as, informal miners. As for the amount, partnership leaders paid MNT 0.5-3 million (approx. USD 150-860) out of their pocket while informal male miners paid a much lower amount for healthcare. This shows that formalization status and seniority within the ASM entity might be at play for the difference in the affordability of artisanal miners. Notably, age is also a factor in requiring increased access to diagnostics and repeated follow-ups for chronic conditions. For instance, there are cases of senior partnership leaders who have self-initiated visits to tertiary-level private hospitals for diagnostics and are admitted to secondary-level private hospitals for emergency care (for example, surgery).

"Public hospitals are very bureaucratic and have long waiting times. I have to attend to my wife, as well as my children. When they are suffering or in excruciating pain, we turn to private hospitals to get necessary healthcare as fast as possible. If we can afford it, health problems can be quickly taken care of."

Male leader, informal partnership, Selenge province

4.3 Appropriateness of Healthcare

Appropriateness is about whether current healthcare services are meeting artisanal miners' differentiated needs or not. In general, artisanal miners have diverse perceptions about the appropriateness of current healthcare, which can be summarized as follows.

First, it appears their evaluation of healthcare services can be rather subjective due to varying levels of healthcare knowledge and their healthcare-seeking behaviors. This conclusion can be made as per miners' common perceptions of insufficiency after sharing their experiences of seeking and obtaining healthcare. It should be noted that miners reported they did not receive adequate healthcare service when needed, which might be common for rural communities.

"Notwithstanding the doctor's physical examination in a hospital, I feel that I can not get high-quality services. For example, I called for an ambulance a week ago and the doctor wrote me a prescription only. Then, I bought the necessary pills and intravenous medications out of my pockets… When I requested inpatient services, I was told that I was young. Because I am young, I cannot get the necessary healthcare in a hospital when I am sick."

Female informal miner, Khovd province

With consideration of miners' healthcare-seeking behavior, primary care seekers can be divided into three groups.

1. Artisanal miners who obtain preventive, diagnostic, and regular checkups, and pursue next-level referral care periodically
2. Artisanal miners who seek healthcare occasionally when they are sick or when a family member is in need
3. Artisanal miners who do not seek healthcare at all.

Mostly female miners fall into the first category and most of them have family connections with the male miners as miners work in families in ASGM. As per our assessment, the majority of those who were under doctor's follow-up care at soum hospitals, who were diagnosed and treated for diseases such as cancer and gout through early detection, and who got regular inpatient care for lung problems were women miners. Being aged 39-64, these people hold various positions within her partnership, such as leader, shift supervisor, processing plant supervisor, and regular miners.

Next, most miners fall into the second category. In particular, they are relatively young and represent both men and women. As for female miners, it is because female miners have to go to hospitals during their pregnancy and delivery for prenatal and post-natal health check-ups due to their reproductive roles while male miners tend not to go to a hospital because they do not think it is necessary or they do not believe they will get high-quality and adequate services.

Men of all age groups fall into the third category. These people tend not to get healthcare services from primary care providers. Instead, they directly go to the next-level hospital when their health deteriorates, when they need emergency care, or when they are at risk of losing their life.

Additionally, the geographical reach tends to impact the healthcare-seeking behavior of the artisanal miners as ASGM sites are usually located in rural areas to which miners migrate and live temporarily. Besides, it was revealed that miners commonly postponed their doctor's visits when they needed medical attention at the ASGM site, except for emergency care. Thus, a differentiated need of the miners can be a preference for timely organized care or mobile healthcare service at the ASGM sites. Moreover, the assessment has identified that artisanal miners have differentiated healthcare needs compared to other population groups, including but not limited to:

- Need for specialist examination and diagnosis due to many years of employment in ASGM, and occupational hazards;
- Need for follow-up tests and examinations due to individual-specific illnesses with awareness of their working condition and occupational risks;
- Need for diagnosis and treatment of common injuries and illnesses due to accidents in ASGM.

The evidence suggests that current healthcare can be further improved with consideration of these differentiated needs, experiences, and realities of the artisanal miners.

Second, it appears that artisanal miners have different occupational risks and resulting common and chronic diseases that should be considered in d elivering appropriate healthcare. All stakeholders agreed that miners are more exposed to a high risk of occupational hazards and industrial accidents compared to the general public due to poor or non-existent OHS practices or relevant challenges.

Furthermore, it was evident that when artisanal miners got critically injured or got into accidents due to workplace hazards, such as falling into a shaft or being buried under dirt and rock due to mine collapse, miners tend to perform rescue operations, drive to hospitals by themselves, and provide first aid without waiting for an ambulance, which might not be the best emergency response and are in best interests of an injured miner. This might be due to, on the one hand, attempts to arrange medical care for an injured immediately with consideration of the distance factor but without considering the level of healthcare needed. On the other hand, it might be due to practices of avoiding to wait for an ambulance in an accident or injury location, getting others' attention, and registering industrial accidents in their ASGM site. Nonetheless, this situation indicates that miners would highly benefit from First Aid capacity-building sessions that respective soum governors are required to conduct for artisanal miners as per current ASM regulation.

Moreover, artisanal miners are required to disclose their medical history accurately to get appropriate care. However, it was confirmed that when artisanal miners seek primary healthcare, they rarely disclose their work in ASGM and they avoid explaining their health problems in connection with their job, as shared by doctors in primary care providers in densely populated research sites. This might be partially because of persistent societal bias of ASM not being a respectable and viable job. For example, in seeking emergency care, artisanal miners often choose the self-employment category. Also, on the supply side, hospitals and family clinics covered in the assessment did not have a specialized registry of artisanal miners, except for a project site in the Selenge province. Artisanal miners confirmed during an FGD that the hospital has organized several targeted health screenings at their local community and ASGM site. Such nondisclosure therefore may have a consequence on the appropriateness of the healthcare they are getting. It was also found that medical practitioners who provide primary care in distant soum and baghs had more experience and awareness of the health problems, lifestyle, and work conditions of the artisanal miners on account of their closeness to the community members.

Evidently, all these occupational risks cause certain health conditions and common diseases among artisanal miners who worked for ASM for around 10 years and are middle-aged or above. Although some of them might not be specific to miners only and might more depend on geographical factors, e.g., hypertension in the western province as living in high altitudes and with a high-salt diet, such conditions are worth considering for making healthcare more appropriate and needs-based. It should be noted that back pain is common in all provinces while lung diseases are more common in Selenge because the central region has deeper shafts and the miners spend more time underground. As for chronic conditions and diseases, artisanal miners frequently mentioned back pain, kidney disease, cardiovascular diseases, hypertension, and pancreatic diseases. These were followed by thyroid dysfunction and musculoskeletal diseases related to bone and joints, such as gout. Alternatively, medical practitioners mostly named hypertension, kidney diseases, hand, and back pains, as well as, less frequently mentioned cardiovascular diseases, respiratory diseases e.g., pulmonary bronchitis, digestive diseases, and allergies as being more prevalent among artisanal miners.

Third, artisanal miners tend to have different levels of trust and satisfaction towards the quality of healthcare services available in their communities. Generally, miners in the central province rated their healthcare relatively sufficient in terms of its benefit and timeliness while miners in western provinces openly criticized the quality of healthcare concerning its equity and inclusiveness. In these locations, it appears miners prefer referral-level hospitals rather than primary clinics as they value their quality and fast service delivery; and medical practitioners' communication was rated satisfactory and reasonable in these secondary-level hospitals. In one location in a remote province, artisanal miners have rated healthcare services as far less than sufficient. Accordingly, it leads them to travel and seek healthcare in a provincial hospital or a different soum hospital that provides better services. Reasons for refusing a medical service in

his/her soum are poor communication of doctors, bureaucracy, and lack of needed medicine and treatment. Although miners mention these reasons at the surface, the real underlying cause was dissatisfaction and distrust with the diagnostic and consultation capacity of their local hospitals as evidenced by the assessment.

With consideration of the above factors, miners prefer to be involved in a comprehensive health screening and check-up together at one stop, without any lingering wait, and if possible, at their ASGM site via mobile clinics. Henceforth, targeted health screenings and outreach sessions should be tailored to consider these aspects to meet their differentiated needs and occupational risks, rather than general medicine. In particular, artisanal miners are in great need of preventive examination and diagnostic care for lung diseases, e.g., silicosis, and chronic obstructive pulmonary diseases, caused by dust and dirt. Although miners talk about lung diseases, it is interesting that they did not specifically mention silicosis. It has been observed in other ways that lung diseases can be a sensitive topic for artisanal miners because of the social stigma around such diseases.

4.4 Accessibility of Healthcare

The assessment found a gender difference in inclusion in terms of the type of healthcare miners seek. Although it is not specific to ASGM, female miners get more preventive and diagnostic care, follow-up and inpatient services, and discounted pharmaceuticals from their primary care providers, if we consider the type of services and frequency. Whilst male miners tend to access more to emergency and urgent care when they are injured or get into accidents or in case of gastrointestinal toxicity. Despite ambulance and emergency services being rated as fast and relatively good in all sites, it should be noted that medical practitioners also confirmed that there are several cases of deaths of artisanal miners due to ASGM accidents after failing to get ambulance care or right after first aid. For instance, in the central province, a young male miner was buried in the dirt after a shaft collapse. Although soum hospital's ambulance arrived at the mining site and provided first aid, an injured miner died later after delivery to the National Trauma Center in Ulaanbaatar. Moving on to specialist care, it appears both male and female miners seek medical services in secondary and tertiary-level public hospitals when needed.

The above difference can be explained by another underlying factor, which is on the hand of artisanal miners, namely their insufficient health-seeking and healthcare-seeking behaviors. As for their health-seeking behavior, artisanal miners said that they try to consume healthy food (e.g., curd and sea buckthorn) daily and medicinal herbs. Also, most male miners said that they try to avoid occupational diseases and bad habits on their own. For example, experienced male miners responded to be cautious about lung diseases and quit or reduce drinking and smoking. Also, formal miners in the central province use dust masks and replace their filters regularly to protect themselves from dust exposure at work. Even a male artisanal miner expressed his opinion that they should be mandatorily covered by medical examinations every quarter owing

to lung disease risks. In general, women's understanding of health-seeking behavior was better and deeper with consideration of the needs of various specialist care at health facilities. In addition, there was a best practice of partnership-initiated routine health screenings and training on emergency care from a health professional in the Selenge province that was proposed and implemented by a female leader of a formal partnership. Thanks to such an initiative, some miners were able to detect some diseases in their early stages while others were screened for and were able to mitigate the risk of occupational diseases. Unfortunately, this practice was discontinued during the pandemic years and has not been resumed due to erratic ASGM operations.

Artisanal miners, in general practice, are found to have poor healthcare-seeking behaviors, especially male miners, with a lower perceived need for healthcare service, which can be seen from their common answers, including i) they do not need and have not received any healthcare services from hospitals recently, ii) their health condition is good, and iii) they have not visited a hospital as their children have grown. It is quite common among miners to have an attitude that they will see a doctor only if they are seriously sick. Doctors of the family clinics confirmed that miners tend to seek healthcare during the acute period rather than earlier stages. For example, there was an insufficient number of cases of artisanal miners intentionally seeking early detection and diagnostics. Such behavior was confirmed by the death cases of miners due to tuberculosis and cancers that were diagnosed at a later stage, and a few cases of worsening illnesses in secondary-level hospitals. Soum medical practitioners also added that male miners are reluctant to get the healthcare they need or participate in health awareness programs.

"To be honest, whenever we invite them to medical examinations and awareness-raising sessions, they tend not to come. Even when they say yes, they usually do not show up. It takes extra effort as we have to find their telephone number and call their relevant family clinics. We have to persistently demand them to come to the hospital."

Medical practitioner, Soum hospital, Selenge province

"…During the nationwide health program to detect Hepatitis B and C viruses, our soum people were so lazy. They did not come despite we summoned them many times. Therefore, in most cases, we had to visit their homes to collect hepatitis panels from them."

Doctor, Soum hospital, Khovd province

However, artisanal miners tend to explain that they are left behind as they are working in ASGM sites if such services are not offered in their worksites located up to 100 km away. Also, such preventive care is offered differently depending on the initiation and commitment of the local administrations and health institutions. Importantly, there is a practice of mobile healthcare in one project site that was mentioned above. Specifically, when ASM partnerships were actively organized, formalized, and operated stably for a short period, a team of government officials including medical practitioners, visited the ASGM site to conduct a physical examination and

consultation in a central province. Artisanal miners who got healthcare at that time rated it as effective and expressed their need to get such service, at least once a quarter, to make it accessible for them.

Another crucial aspect of healthcare-seeking behaviors is how miners deal with serious and minor injuries. Generally, in cases of critical and serious injuries, artisanal miners are typically very confident about how to proceed with the hospital system and say that an ambulance arrives immediately or they see a doctor on shift. But they said such injury is rare. As we can see, there is a discrepancy in their words, which might be due to their reluctance to reveal their accident and injury cases openly. The assessment also revealed miners' practice of dealing with minor injuries on their own. In cases of foreign bodies in their eyes, smashed fingers, and finger cuts, artisanal miners treat them by using bandages and medicines from their first aid kit, and they hardly ever travel to soum centers to seek medical attention. Their vehicle first aid kits typically contain painkillers, blood pressure medications, sanitizer, and bandages. In other cases of young male miners who are not interested in getting healthcare services, we encountered many cases of resorting to alternative treatments, such as massage therapy for back pain and musculoskeletal disease and the self-medication of over-the-counter painkillers for others.

Photo 9. Shijir Khishig Partnership's mining site, located 30 km away from the soum center connected with a dirt road, Selenge province, Mongolia (planetGOLD Mongolia, 2022)

As for awareness, healthcare-related information and health education differ from one miner to another. In particular, it was found that male artisanal miners are less aware and less knowledgeable when it comes to healthcare, except for urgent care. It might be partially because of artisanal miners' attitude to perceive their needs for health education and information, and participation in the outreach and public health activities organized by health institutions as very low.

Nevertheless, on the supply side, there were three considerations that might impede accessibility, i) appointment, ii) referral practice, and iii) limited bed capacity of local medical institutions. Despite initiatives to ease the interface of healthcare services, such as e-appointment, and telephone appointments through hotlines, the assessment revealed that artisanal miners are still struggling with appointments. The use of the e-appointment system is common among artisanal miners in the central province while it is rare for miners in distant soums to make an appointment and the majority of them have never made an appointment before. As for referral practice, when provincial and soum hospitals referred rural community members to the next-level hospital for diagnostic purposes, it was challenging for them to get tertiary healthcare in Ulaanbaatar. Precisely, at the referral level, artisanal miners mentioned the main barriers were the long wait time, the required stay in Ulaanbaatar for waiting for their next appointment, or the need for frequent travel for their follow-ups at the public hospitals in Ulaanbaatar. Thus, artisanal miners choose to get services, such as x-ray, and computer tomography in private hospitals in Ulaanbaatar. We can, thus, conclude that artisanal miners, like all rural populations, are likely to have an accessibility problem for secondary and tertiary-level healthcare, and consequently, they tend to seek paid services at the referral levels. For instance, ASM partnership leaders and informal miners got paid services from private hospitals. However, formal miners prefer to get healthcare services in their soum hospital and hardly ever pay for services of private practices. Conversely, it was more frequent for informal miners to get paid services from private hospitals.

"I suffered from a disk hernia, impaired vision, and loss of hearing. In addition to treatment at the soum hospital, I usually got paid healthcare from private hospitals for this pain."

Female Leader, informal partnership, Selenge province

"I got computer tomography in private practice in Ulaanbaatar and was diagnosed with bone cancer."

Female informal miner, Selenge province

Commonly, limited bed capacity in rural hospitals is causing various problems in accessibility, such as long wait times, delayed treatment, self-medication, worsening health situations, and so on.

Lastly, we can identify some important challenges to address. Nowadays, healthcare is considered a personal issue for artisanal miners, thus men are often left out of preventive care due to gender stereotypes of not expressing discomfort and pain and toughening up. Female miners warned that in the central province, where ASGM has been taking place for a relatively long time, the health conditions of male miners have deteriorated, and cases of occupational diseases have become common for pioneer miners. As a result, chronic diseases may have gotten more serious and prevalent, causing loss of life, and deteriorating health; thus, their family may face significant financial hardships. It is noteworthy that our assessment came across plenty of young men with hearing loss. It might be partially up to miners who do not pay attention to their lifestyle and habits, understand and seek the different levels of healthcare they need, and follow the doctor's advice consistently. However, in utilizing the services offered by the service providers for the best outcome, artisanal miners may have challenges in accessing the same or similar level of health education, healthcare knowledge, participation, and commitment, compared to other population groups, due to their socio-economic identities, such as low education, working conditions, and migration in rural areas.

In conclusion, both miners and service providers may need to raise their awareness of health problems and healthcare needed for artisanal miners. On the service providers' side, it will make a great difference to have a specific registry of the artisanal miners, consider their occupational risks, and offer targeted screening and first aid training at the ASGM site under its public health component. At the artisanal miners' side, partnership leaders should take measures to get their members insured in the HI system, initiate partnership-based health screenings periodically, encourage their health-seeking behaviors, and enroll their members in OHS training and other healthcare-related initiatives.

4.5 Conclusion

Generally, artisanal miners have mixed perceptions about the feasibility of healthcare. On the supply side, medical practitioners believe that their standardized services are feasible for everybody, with minor exceptions of the affordability aspect. Healthcare providers, other than doctors and other professionals at soum and bagh clinics and hospitals, tend not to pay attention to how the people in need can access or utilize their services because service providers evaluate access only by the number of services delivered and the types of available diagnoses and treatments. The aforementioned medical practitioners at the frontline tend to understand the differentiated needs of the artisanal miners, but their management does not communicate and encourage their practitioners to tailor their healthcare services to meet miners' different needs. Hence, it can be concluded that miners' healthcare need is considered and met partially.

On the artisanal miners' side, it emerges that their gender and age were the most influential factors in their health-seeking behavior, healthcare-seeking behavior, and awareness, which were the main drivers for their healthcare-related decisions. Thus, it was revealed that

behavioral differences should be considered in assessing the miners' access to healthcare. Overall, artisanal miners tend to lack the ability to identify their healthcare needs and seek and utilize available healthcare services, especially for male miners. This can confirmed by their common answers that they have not sought healthcare on their own since the last partnership or NGO-initiated health screenings. In particular, it was evidenced through the assessment that there is a practice of partnership leaders to initiate health screenings for their miners for preventive purposes; however, such practice was discontinued due to formalization efforts being on hold and the COVID-19 pandemic-related slowdown. In addition, miners' expectations about cure and treatment are quite subjective and most of them tend to be dissatisfied with the healthcare they receive when needed. Therefore, it is essential to have a mediator who understands and is aware of miners' needs to deliver quality healthcare. The assessment established that health social workers cannot perform this role in their current capacities. However, if there are buy-ins and commitments from local government actors at all levels, best practices of mobilizing mediators can be realized with the help of middle-aged or young female advocates, in addition to partnership leaders.

CHAPTER FIVE: ACCESS TO HEALTH INSURANCE

This chapter explains the findings on artisanal miners' access to health insurance (HI) from availability, affordability, appropriateness, and accessibility aspects.

5.1 Availability of Health Insurance

Box 2: Background

Health insurance (HI) is mandatory for all Mongolian citizens and is based on the solidarity principle that aims to share the financial burdens for insured people despite the amount of HI contributions they pay. The HI covered 89.7% of the population by the end of 2021. With a policy focus on reaching universal health coverage, the Government of Mongolia fully subsidizes HI contributions of 67.5% of the population (National Statistics Office, 2022b), including, children under 18 years old, pensioners, parents taking care of children under two years old, prisoners, military staff, and others who need social assistance.

In addition, as a major source of healthcare financing, it serves as a basis for access to Mongolian healthcare services, except emergency care and other selected services (See Healthcare chapter). To date, there are 10 types of general healthcare services available that are funded under the HI scheme (See Column B of Appendix 1). However, HI does not cover all services, as there is a cost-sharing arrangement, case-based co-payment requirement, and a ceiling of coverable costs in the healthcare system, not to mention out-of-pocket expenses for medicines and private healthcare practices. In addition, private HI is available from major insurance companies but has low niche coverage.

In general, the role of HI is increasing from one year to another with recent changes to establish the General Authority for Health Insurance (GAHI) as a single purchaser of health services with funds pooled under the Health Insurance Fund (HIF), as well as a policy shift towards an output-oriented model. In further, changes have been made to increase the range of services available within the healthcare package covered by the HIF, as well as, increase the amount of allocations for the primary healthcare providers.

To get healthcare services, an individual is required to pay a certain percentage of their reported income as HI contributions in advance. While informal sector workers are subject to a flat rate equal to monthly 1% of the annual minimum wage fixed by the relevant tri-partite committee, formal sector workers are required to pay a mandatory contribution of 4% of their monthly salary or income, equally shared by employers and employees. In the case of unpaid HI, a person has to pay HI contributions retroactively since 2019.

First and foremost, out of nearly 10 HI-funded package services, the assessment scope was limited to several services that are more relevant to the artisanal miners. Specifically, it covered inpatient services, ambulatory/outpatient services, early detection diagnostics, rehabilitative care, daycare for outpatients, and discounted pharmaceuticals, with the consideration of the demographic characteristics of artisanal miners, excluding care related to communicable disease, prenatal care, and palliative care.

Due to the cost-sharing arrangement, there are diagnostic-related group tariffs in place that define the coverable cost from the HIF which varies from one healthcare to another. Because of the nature of their work, the partial tariff covered by the HIF that artisanal miners mostly engage

in is one related to medical services during emergencies and accidents. For major injuries due to accidents and occupational risks, up to 90% of the cost of surgery due to such accidents and injuries is covered by the HIF, regardless of whether the patient is insured or not while the patient has to pay the remaining amount out of his/her pocket. As for minor injuries, MNT 43,000 (approx. USD 12.5) is provided by the HIF to medical institutions per case for providing emergency services to clients with minor injuries, such as hand cuts and scrapes, finger smashes, and injuries in the head and eyes.

As primary service providers were of specific interest to us, the assessment looked into HI-funded healthcare services available under primary healthcare. So far, there have been four types of services available under the current output-based funding scheme, namely, daycare for outpatients, diagnostic tests, rehabilitative services, and home visits, which are reimbursed from the HIF based on the number of patients or the number of services delivered. Also, since July 2022, primary care providers have started to get funds for their inpatient services, emergency care, ambulance services, and dental care provided, at the same amount as referral-level hospitals. This change improved the HI-covered services available in rural communities, including artisanal miners.

Photo 10. Service window at the health center, Ulaanbaatar, Mongolia (B. Rentsendorj/Gamma Photo Agency)

Another waiver available to artisanal miners is the government's subsidy of HI contributions for vulnerable families. If any household is determined as in need of social assistance through the

Household Integrated Database Survey (scored below 409 via Proxy Means Test (PMT) scoring), the government covers the HI contributions of all members of such family. Although it is regulated that the MLSP conduct the livelihood survey on a periodical basis, this nationwide survey has not been conducted since 2017. Then again, it was observed that artisanal miners refuse to admit and disclose that they belong to vulnerable groups.

As for the interface of the services, there is a provincial health insurance division, an agency under the mandate of the provincial governor, that is also vertically affiliated with the GAHI. As the HI used to be under the umbrella of social insurance, frontline service, and revenue collection are still in the hands of SI inspectors at the provincial and soum levels. In addition, to further ease the service interface, there is an e-service platform connecting the GAHI, local HI actors, and healthcare facilities, even larger private practices. Accordingly, as health institutions have access to this database, neither paper proof nor document is required from the insured when she or he approaches service providers for healthcare services.

Last but not least, regarding available outreach and advocacy activities, in the HI system, artisanal miners are registered under the category of self-employed. As the HI revenue collection is mainly planned under the category of the herders and unemployed, no specific target for enrolling more artisanal miners is set at the local level. Although this might be partially due to HI being mandatory, the assessment revealed that local government administrations and SI organizations tend to prioritize and focus on outreach, training, and advocacy activities targeted at increasing HI and voluntary SI coverage of herders, without specific consideration of artisanal miners.

5.2 Affordability of Health Insurance

The most substantial HI-related direct cost is the payment of its contribution. As artisanal miners fall under the category of self-employed insured in the informal sector, the monthly HI contribution is set at a flat rate of MNT 5,500 (approx. USD 1.6) per month in 2023, one percent of the minimum wage fixed by the relevant tripartite committee in 2023. However, the monthly amount is subject to change in connection with the update in the minimum wage. Overall, it can be concluded that the HI contribution is affordable for artisanal miners as miners tend to pay whenever they have money.

"It is okay as I pay the amount for a whole year at once. When I have money, I go there and pay."
Female informal miner, Selenge province

"When we remind artisanal miners that their insurance has not been paid, they simply pay it one way or another."
Medical practitioner, Soum hospital, Selenge province

Photo 11. Ultrasound scan in a health center, Mongolia (B. Rentsendorj/Gamma Photo Agency)

Most of the artisanal miners who participated in the assessment are aware that they paid MNT 50,400 (approx. USD 15) for their HI contributions back in 2022. Referring to their income indirectly, it can be established that miners can afford HI contributions. In particular, although male miners were reluctant to accept the incidents requiring healthcare, the assessment revealed that they got necessary healthcare in serious cases, which explicitly indicates that they paid the HI. Also, artisanal miners who are family members confirmed that when miners earn some money, they pay HI contributions for both husband and wife. Importantly, the schedule on which miners pay their HI may differ depending on their revenue flows from ASGM, depending on their different periodicity and lengths of stays on site, different levels of experience, fluctuations in gold yielding, seasonality of ASGM, and irregularity of their income.

"I pay my HI contributions quarterly."

Female informal miner, Khovd province

However, there were a few cases of male miners opting not to pay HI contributions, despite being able to afford it.

"I spent MNT 20,000 (approx. USD 6) for service at a private practice. My wife has been paying HI for the last two years. For me, I am not interested in paying HI contributions at all."

Male informal miner, Gobi-Altai province

From here, we can conclude that non-payment of HI depends on personal views and choices rather than revenue in some cases. Like any other citizen who has the capacity for work, non-payment of mandatory HI and not ensuring his/her right to get healthcare is a conscious choice.

Furthermore, on the supply side, doctors and medical practitioners perceive the miners' affordability of HI differently and encourage relevant actors to look at other aspects of the HI scheme beyond its contributions that tend to impact high out-of-pocket costs.

"Even when it is covered by HI, the out-of-pocket amount is still quite high in case of broken hands and fingers. If the total fee is MNT 3-4 million, 10% will be MNT 300 thousand (approx. USD 87) which must be paid by the patient. As gold is easily traded for money, artisanal miners pay in cash. There was no case of financial incapability or seeking support."

Traumatologist, Provincial hospital, Gobi-Altai province

"An example of the simplest service is appendicitis. When we diagnose and recommend appendectomy, they do not have HI. Then, they somehow manage to pay before the surgery. Money seems to be a problem for these people who identify themselves as self-employed. Even after surgery, it is difficult for them to pay their daily service charge."

Head of emergency care unit, Provincial hospital, Gobi-Altai province

Another important aspect of direct cost is the requirement of the retroactive HI contribution payment, as the HI fund system is being separated from the SI framework with its separate revenue collection and expenditure management. Currently, self-employees including artisanal miners, have been required to retroactively pay HI contributions for five years since 2019, which equals MNT 255,600 (approx. USD 74) at the time of the assessment. As the assessment came across a few artisanal miners whose HI contribution is accumulated owing to non-payment, this can cause occasional financial burdens for artisanal miners. Thus, it can be concluded that artisanal miners have limited capacity to pay this amount at once in their current financial strain exacerbated by their current situation, such as migration to the ASGM site with their equipment and machinery, high operational expenses, susceptibility to bad weather conditions, and economic insecurity.

"When I injured my hand due to smashing, I received inpatient services for 14 days in a tertiary-level hospital. To get this service, I retroactively paid the required HI and another MNT 70,000 (approx. USD 20) for the inpatient care."

Male formal miner, Selenge province

Herders and self-employees often request to pay HI for 2022 and 2023 only as they did not get any services in 2019. However, as it is a requirement of health institutions, we ask them to pay retroactively since 2019. If it is permitted, of course, we want them to pay less, for example, only for 2022 and 2023. However, this is a legislative requirement.

Social insurance inspector, Selenge province

Moreover, on the supply side, the healthcare reform is limiting the number of services available for uninsured individuals and encouraging people to pay HI contributions even more. For the time being, there is a mixed financing system in place, including i) capitation cost per citizen from the HIF, which is provided based on the number of residents and temporary migrants in a given administrative unit, and ii) output-based financing which is being provided based on case numbers of services provided to an insured from primary healthcare providers. Thus, if an uninsured artisanal miner gets healthcare beyond the first step of medical services, the HIF will give any reimbursements to medical institutions for the services they provide.

"Two years ago, when healthcare was being fully financed from the state budget, we were able to provide primary and/or inpatient care and treatment to a person regardless of his/her unpaid HI. We cannot do that now, beyond an emergency room."

Doctor, Soum hospital, Selenge province

"As healthcare is now subjected to HI financing, we require a person to retroactively pay his/her HI since 2019 to get inpatient and outpatient services."

Manager, Soum hospital, Khovd province

As for the awareness of the HI-related direct cost, FGD revealed that some artisanal miners were not that aware of HI e.g., HI-covered healthcare services, benchmark prices, their cost-sharing percentages, and cost ceilings, out-of-pocket expense share, etc; rather miners were interested in its amount only.

Last but not least, an insured person becomes eligible to receive HI-covered services based on his/her e-medical history, whenever and wherever needed regardless of his/her residential address. Thus, its indirect cost can be concluded as relatively low.

5.3 Appropriateness of Health Insurance

As per the research design, the quality and sufficiency of HI-funded services are about meeting the needs of artisanal miners in a timely and effective manner. As HI is closely connected to healthcare, these aspects overlap with and are covered in the previous chapter. Being mandatory since 2016 and covering most essential healthcare services, it is beneficial for artisanal miners to be insured instead of paying the full price of care in case of medical emergencies.

"We explain that paying HI is much cheaper than paying full price for healthcare services. I believe artisanal miners know that it is less costly to pay the HI contribution."

Medical practitioner, Soum hospital, Selenge province

However, regardless of its need, there are differing thoughts on its perceived benefits. Some miners are doubtful about the benefits of HI depending on various factors, such as healthcare quality, including long waiting times and inadequate follow-up care. For example, during the

FGDs, some male miners expressed their doubts, and opposition about the benefits of paying HI, which was supported by their male peers.

"Although I paid for HI, I am not benefitting from it. When I got tertiary-level care in Ulaanbaatar, the doctor asked me to come back after two months for a follow-up. It is hard for me to travel again two thousand km for a sole medical purpose."

Male leader, informal partnership, Khovd province

"I have never got service from a hospital. I am not benefitting even though I am paying my HI."

Male formal miner, Gobi-Altai province

Almost no women expressed such a position. It should be added that most of the male miners were young men, except five or six retired and elderly ones. Thus, male and young miners tend to be reluctant to acknowledge the mandatory need for HI-funded services.

Photo 12. An information board on HI, placed in the Soum hospital, Selenge province, Mongolia (planetGOLD Mongolia, 2023)

Moreover, as e-health insurance service is up and running online regardless of the administrative location of the insured and the same rules and regulations apply within the territory of Mongolia, there is a low chance of facing major challenges and burdens in the HI-funded service delivery due to service providers, insurance inspectors, and overall system. Additionally, the improved HI-integrated database and its web-based software, which is operational across Mongolia, helped the data accuracy and timeliness of the HI-funded services.

"Our software was updated in 2021 thanks to which we became able to see payment or non-payment of the HI contributions."

Social insurance inspector, Khovd province

Besides, artisanal miners are found to have relatively similar needs to those of the general population in rural communities when it comes to HI.

5.4 Accessibility of Health Insurance

The most important determinant of accessibility is inclusion. The assessment found that the majority of artisanal miners are covered by HI, except for a small percentage, with seemingly no gender difference.

"Most of the artisanal miners are covered by HI, without any significant difference between women and men. HI coverage is relatively good in my province."

Social insurance inspector, Selenge province

In cases of the uninsured, it was mainly due to the inactive ASM sector and the suspension of new ASM land allocations for the last three years in most sites. Most of the uninsured artisanal miners responded that they would have paid their insurance if their work was continual. This shows how formalization impacts on health and well-being of miners by limiting or facilitating their access to HI and healthcare services.

Nevertheless, if we look deeper into inclusion, it emerges that gender and age might be at play in prioritizing and accessing HI-funded services. In fact, some personal and intersectional factors influence the accessibility of HI-funded services, which is mainly driven by the healthcare-seeking behavior of an individual.

In general, artisanal miners are benefitting from 7-9 HI-covered services at varying levels. It was found that miners are accessing key HI-funded services more, specifically, outpatient examination and diagnostics, inpatient services, rehabilitative care, and discounts on pharmaceuticals. To understand the gendered difference in their behaviors, let's look at their accessibility by type of key HI-funded services.

- For inpatient care, compared to other types of self-employees, it was visible that artisanal miners have less access to it. This might be due to a lack of awareness of some necessary steps and medical history, such as the record and documents of previous outpatient and diagnostics services for his/her deteriorating health condition. Male miners lack the knowledge to prevent illnesses and injuries, in addition to poor inpatient care-seeking practices. Also, it was observed that it might be difficult for them to spare time for a hospital stay and to wait for the hospital's unclear admittance.
- In outpatient services, there is a gender difference observed. Women miners have access to various medical care (e.g., diagnostics, emergency care) regardless of their age. Thus, it can be concluded that their accessibility to HI-funded outpatient services is sufficient compared to male miners. As for follow-up care, their accessibility to HI-funded services on an ongoing basis is also sufficient. Conversely, the assessment came across very

few male miners who received this service. For example, when male miners see an outpatient doctor once or twice a year, they avoid follow-up care due to hospital bureaucracy or unpleasant communications with the doctors.

- As for rehabilitative care, only two participants have ever gotten sanatorium care and both were aged above 50 years old. Key informant miners also were not aware of reimbursement of the cost related to the sanatorium care and have never received this service. Rarely, only female miners were aware of such service. Therefore, rehabilitative care is less accessible among artisanal miners despite their differentiated needs driven by occupational risks.
- Next, as for discounts on pharmaceuticals, mostly women tend to use this service. For example, out of key informants, female miners aged 43-64 accessed this service, mainly due to lifelong medication for blood pressure and head injury caused by car accidents. Other participants said that they get discounts on their pharmaceuticals whenever needed. As male miners tend to avoid taking any pills or lack early diagnosis of any chronic conditions, they tend not to benefit from this service, unless prescribed due to serious or critical illness or prescriptions for their children. In addition, group discussion revealed that both men and women miners are well aware of the discounts on pharmaceuticals.

In addition, elderly female and male miners have a greater need for most types of HI-funded services. In such cases, miners in remote provinces and soums tend to face a challenge in getting accessible healthcare services beyond primary care.

"As I have a serious heart condition, I am insured and get medical services… When I travel to the provincial center for medical purposes, I get a service from private practice rather than HI-funded secondary-level hospitals to avoid long waiting."

Male leader, informal partnership, Khovd province

The government's subsidy of HI contributions can be an important support for artisanal miners. Such reliefs can help miners to improve their access to healthcare services without worrying about their irregular income. We came across a few miners who benefit from this subsidy, which means miners have access to this service at the nexus of HI and SW. However, it appears artisanal miners would greatly benefit from information on how to apply for this subsidy (e.g., checking eligibility, applying, checking their HI status, and getting reference letters), as well as facilitation.

"I got an appendectomy in a private hospital in Ulaanbaatar. As I and my spouse's only income source is ASM, our household is considered vulnerable. Thus, the government covers our HI. Rather than food support, the most important one is the HI subsidy. I pursue it on my own. I believe we really should ask for and pursue such support."

Male informal miner, Selenge province

This kind of social protection is essential for vulnerable artisanal miners, as also confirmed by medical practitioners. Even after emergency care at the secondary-level hospital, such as surgery, patients need follow-up care in most cases. In such cases, HI is required for all types of follow-up and treatments.

"When we receive a patient in an emergency room, we conduct physical examinations and tests and provide necessary medications. Then we refer her/him to the next level. Clearly, next-level hospitals will require a HI payment. The harsh truth is that a person without HI money is likely to be left out."

Doctor, Family clinic, Selenge province

"The opportunity of getting healthcare without HI is minimal now. Half of the vulnerable people cannot access such subsidies. Accordingly, all their health problems need to be handled through emergency care for which they spend two or three days. In the meantime, their illness worsens. A simple example can be an appendicitis."

Head of emergency care unit, Provincial hospital, Gobi-Altai province

Photo 13. Healthcare center, Selenge province, Mongolia (planetGOLD Mongolia, 2023)

5.5 Conclusion

Overall, the feasibility of HI can be concluded as feasible based on the availability and nationwide interface of major HI-funded services, access to subsidies and waivers, and universal health

coverage goals. Although HI contributions were perceived as generally affordable, accumulated HI contributions and increasing out-of-pocket expenses were a concern for artisanal miners due to the varying levels of formalization efforts. No major obstacles were found in their accessibility to these services. Notably, miners are found to have access to most needed services as covered by HIF. Regardless, artisanal miners' experience of benefitting from HI varies significantly depending on their needs and exposure to the sector. Again, artisanal miners can be divided into three groups due to their HI-funded service-seeking behaviors, as follows:

1. Group No.1: Artisanal miners who have access to subsidies and waivers on healthcare funded by HI. If we look deeper into each type of service, there is a need to improve overall access to inpatient services and discounted pharmaceuticals for artisanal miners in remote communities due to their monopolized supply.
2. Group No.2: These artisanal miners usually seek medical care in case of emergency due to injuries and pains, as well as, rarely diagnostic care. These miners are fully covered by the subsidies and reliefs of HI, but whether they are aware of SW assistance via subsidy of HI contribution is another issue. Specifically, artisanal miners who were diagnosed with and recovered from serious and chronic illnesses thanks to preventive checkups have rated their access to HI-funded services as good and they are not getting paid services. This serves as a ground for us to conclude that HI and its relevant services are feasible.
3. Group No.3: These miners usually have access to the closest soum hospital when they are in a healthwise risky situation and need emergency care. However, if they are in such need in a location close to a secondary-level hospital, they have access to it directly.

CHAPTER SIX: ACCESS TO SOCIAL INSURANCE

This chapter explains the findings on artisanal miners' access to social insurance (SI) from availability, affordability, appropriateness, and accessibility aspects.

6.1 Availability of Social Insurance

Box 3: Background

A contributory SI scheme is an important part of the Mongolian social protection system. In general, sickness, unemployment, employment injury, pregnancy and maternity benefits, old age, disability, and survivor's pensions are covered by the SI system. Particularly, SI has five types, namely, pension insurance, benefits insurance, health insurance, industrial accident and occupational disease insurance, and unemployment insurance. Importantly, there are two forms of SI, namely compulsory and voluntary. Depending on the kind of risks insured people are protected from, these forms have different coverage from the above five types of insurance.

Under compulsory insurance, employees are required to pay a social insurance contribution (SIC) equal to 11.5% of their gross income, including 8.5% for pension insurance, 0.8% for benefits insurance, 2% for health insurance, 0% for industrial accident and occupational disease insurance, and 0.2% for unemployment insurance. On the other hand, employers must pay additional SIC of 12.5% to 14.5% of the employee's gross salary, including 8.5% for pension insurance, 1% for benefits insurance, 2% for health insurance, 0.5-2.5% for industrial accident and occupational disease insurance, and 0.5% for unemployment insurance (General Law on Social Insurance, 2023). The individuals employed under all types of agreements with business entities and organizations of all forms of ownership are subject to compulsory SI.

Self-employers, including artisanal miners, herders, and the unemployed, can be mostly covered by the voluntary SI. The voluntary SI covers pension insurance (11.5%), benefits insurance (1%), and industrial accident and occupational disease insurance (1%), resulting in insured individuals paying 13.5% of their reported income. Voluntary insureds can choose to sign an insurance agreement on a monthly, quarterly, or yearly basis. By paying SIC on a fixed schedule, individuals will have access to these insurance services. The voluntary insured must pay the SIC for the first month of a given year to make the agreement effective and its duration starts from the day payment was made. The below services are available under voluntary SI:

Pension insurance fund: Old-age pension, disability pension, and survivor's pension

Benefit insurance fund: Temporary incapacity (sickness) benefits, pregnancy and maternity benefits, and funeral cost

Industrial accidents and occupational disease (IAOD) insurance fund: Disability pension, survivor's pension, incapacity benefit, payment related to rehabilitating one's working capacity, pension insurance contributions, reimbursement for transportation costs for going to and returning from the sanatoriums, and occupational disease-related rehabilitation centers, and expenses for medical care and services for occupational disease rehabilitation sanatoriums.

Please see Appendix 2 for details of voluntary SI-related services, including, their types, eligibility criteria, and available benefits.

First and foremost, artisanal miners are subject to voluntary SI under the existing regulatory framework and all aforementioned SI services are available to them to ensure a basic level of social and economic security. Thanks to the SAM project's effort, the dedicated category "artisanal miner" was added to the list of self-employed insured in the SI system and database. However, it was found that this category is not being utilized for actual service delivery, data collection, and reporting purposes. Regardless, artisanal miners are found to be eligible for different categories within voluntary SI. In particular, the herders' category is a preferred option for miners because herders are provided with more favorable conditions and supplements compared to other population groups, such as reduced retirement age and a government's 50% waiver of SIC for the period up to 5 years. Besides, as miners tend to do animal husbandry as a complementary livelihood in rural communities, this opportunity was available to some miners (planetGOLD Mongolia, 2021a). With consideration of its importance, the assessment delved into the availability of SI services in depth from the below three aspects.

6.1.1 Interface and Readiness of Social Insurance Services

The interface of SI services is quite standardized across Mongolia and is solely administered by government actors. In all research sites, there are SI divisions in provincial centers and SI units in soums that are implementing SI-related policies and delivering relevant services. Provincial SI divisions are affiliated with the GASI while soum SI units are affiliated with the provincial SI divisions. However, as these organizations are also horizontally affiliated with the local administrations, 1-3 inspectors are working at the soum governor's office or bagh administration. The provincial SI division has a certain organizational structure and personnel. At the frontline, soum, or village SI inspectors are responsible for delivering all types of SI services to the population. In addition, SI-related services are available through an e-service platform and application, including registration, SIC payment, and reference services.

An important factor of the interface was the practice of government officials when it came to the engagement and interaction with artisanal miners. In all sites, SI inspectors and employment officers tend to collaborate and provide information sessions for miners when ASM-focused development projects organize training activities for artisanal miners. In Selenge province, there is a practice of SI units communicating with the executives of ASM NGOs and signing a tripartite contract between the soum governor, SI unit, and formal miners. Such practice was temporarily discontinued due to formalization efforts being on hold and the pandemic outbreak. Moreover, it was also found that government officials at all levels tend to prefer communicating and interacting with artisanal miners through formal channels and at the NGO level, due to i) it is hard for government organizations at higher levels to differentiate miners from other population groups as there is no official database or registry; ii) soum or bagh level officials tend to be in charge of multiple agendas, such as SI, employment, social welfare, and other insurance concurrently, and iii) local government officials tend to execute their advising or advocacy roles within limited financial and human resources in short period and in a traditional way.

6.1.2 Outreach Activities by the Government Actors

Despite the SI division conducting open days or other outreach activities once or twice per year to raise public awareness of SI legislation at a provincial level, it was revealed that artisanal miners barely participate in such activities. In general, local government organizations work towards achieving a policy goal to provide accessible services to all of its citizens and deliver needed services to target groups[4] in areas of SI. Also, government officials in charge of social policy shared that almost none of their activities specifically target artisanal miners regardless of the local administrations having the capacity to support them, leading to an absence of policy support for organized artisanal miners.

In addition, it was found that the SI divisions and local departments of labor and welfare service tend to work in silos, with a lack of cross-sectoral coordination and any joint efforts to advocate and seek increased SI coverage among artisanal miners. Therefore, local government actors do not plan specific activities targeted at artisanal miners, other than being concurrently included in their general mining-related agenda. As a result, the practice of public administration and public service organizations to cooperate and undertake targeted activities or initiatives for artisanal miners is also quite rare. On the other hand, local government officials lack the authority and motivation to mobilize financial resources to deliver better outreach activities for artisanal miners.

However, there seem to be a few past experiences involving government officials in reaching out to artisanal miners. First, as initiated by the ASM NF, a package of training is offered to artisanal miners in provinces during which local government officials are often invited to provide SI, taxation, and OHS-related information to artisanal miners.

Photo 14. Social insurance inspector delivers information to artisanal miners on SI in Khovd province, Mongolia (planetGOLD Mongolia, 2023)

[4] Refers to population groups that are entitled to these services as per relevant legislation.

"Back in 2019, the chairperson or managers of the ASM NF used to contact us and have their artisanal miners trained on OHS. These people have not approached us for the last two or three years, and ASM operations are inactive now."

Head of provincial Social insurance division, Khovd province

Second, there are past cases of a team of government officials being deployed to reach out to rural baghs and their community members to deliver public services. During such missions, government officials provide information about their relevant agenda or within their responsibility areas to rural community members, including artisanal miners. For example, it was found that such teams have organized outreach activities at ASM sites in two research locations in Selenge province and one location in Khovd.

"We used to visit ASM sites to enroll artisanal miners into the SI system, in cooperation with the local governor's office. Then, when ASM was inactive for some time, we did not undertake any work to increase the SI coverage of the artisanal miners. However, we will resume providing SI information from this year."

Soum Social insurance inspector, Khovd province

According to their information, a team consisting of medical practitioners, bagh meeting members, environmental inspectors, and labor and social welfare officers had visited the ASGM site where approximately 40 miners were working. This information was confirmed during an FGD with artisanal miners in this location. Currently, it should be added that a SI inspector in a remote province also shared that they have planned to conduct SI training for artisanal miners in some soums where gold is being extracted.

We can conclude from these experiences that any SI outreach and awareness-raising activities only target formal miners to a certain extent. Also, responsible officers may need to tailor their information and messages with consideration of the different needs of artisanal miners, e.g., voluntary SI, available benefits, eligibility criteria, documentation requirements, and how to apply and get these services in time of need.

6.1.3 Availability of Special Arrangements

Based on the SI system, the government occasionally offers exemptions and subsidies to relieve the financial burden of social insurance payers during challenging times. An example of such exemptions could be a case of the government reducing the SIC rate during the COVID-19 pandemic. For instance, the voluntary SIC rate was reduced to 0% in April-September 2020, 5% in October-December 2020, and 8.5% in the first half of 2021 from its approved rate of 13.5%. The last such initiative was the 50% refund of the paid SIC from May to December 2022 to support the

livelihood of the low-earning population. The assessment came across only a few miners who have benefitted from such an arrangement.

Moreover, the government sporadically enables an SI service buyback opportunity to allow retroactive payment of the SIC for the target populations to increase their pension vesting years and facilitate their pension regardless of their contributory service. For instance, the government enacted a one-time arrangement to accommodate the service buyback of herders, self-employers, and informal workers to buy service years based on relevant proofs, e.g., livestock census and income taxpayers' registration in 2020-2022. Even long before this, to ease the impact of economic transition, deeply discounted service buyback arrangements were made available in 2012 and 2017 to workers and retirees who had not been employed from 1990 to 2000 due to job shortages and structural unemployment. Specifically, under such arrangements, individuals were able to receive service credit in 1991-1995 at no cost, as well as a service credit for 1996-2000 at a cost equal to 10% of the minimum wage applicable during those years (Dorfman et al, 2018). All these exemptions and buybacks were available to artisanal miners. Especially, last one was found to have helped several miners to retire as 10 years is a huge chunk (50%) of the service years requirement (i.e. 20+ years).

6.2 Affordability of Social Insurance

The biggest direct cost related to the SI services is its contribution. Under current regulatory frameworks, artisanal miners are subject to voluntary SI which requires them to pay 13.5% of their reported income. The reported income is up to a voluntary insured and can start from MNT 550 thousand (approx. USD 158.5) and capped at MNT 5.5 million (approx. USD 1,585.1) per month in 2023. Based on the minimum wage fixed by the Tripartite National Committee for Labor and Social Partnership, the amount of voluntary SIC remains the same or increases proportionately in connection with the increases in the minimum wage.

Thus, in 2023, the amount of SIC is equal to MNT 74.2 thousand to MNT 742.5 thousand (approx. USD 21.4 – USD 214) monthly depending on the reported income that was chosen by an insured. Previously, the monthly minimum SIC was MNT 43.2 thousand (USD 12.5) in 2019 and MNT 56.7 thousand (approx. USD 16.34) in 2020-2022. It was found that most artisanal miners tend to pay the SIC at a minimum amount.

The first and most influential factor for the affordability of the SI is revealed to be the sufficiency of artisanal miners' income. When miners have irregular income or are under financial strain, paying SIC causes a certain burden for them. This is because their income fluctuates depending on gold output, and thus it is not always sufficient to pay the SIC. If we consider their average income, it appears that miners can afford the voluntary SIC; however, they always face a financial challenge as their cashflows are sudden and irregular.

"We used to pay SIC even when we did not have much income. We managed it because we were working regularly at that time."

Female informal miner, Selenge province

Such insufficiency is further fueled by the seasonality of their income. Coupled with ever-changing gold outputs, labor-intensive extractions in ASGM sites depend on the season and weather, in addition to many other challenges, such as long distances to ASGM sites (e.g. 20-100km), needed travel, bad road conditions, etc.

"When the weather became cold around November, artisanal miners paused their operations. They tend to resume their activities in March."

Environmental officer, Govi-Altai province

"We extract gold from May till October. We do not work during winter months, thus we tend to run out of money."

Male formal miner, Selenge province

Furthermore, miners tend to have poor personal finance management practices. To pay their monthly SIC, miners may need to improve their capacity to manage their finances by accessing finance education.

"As we do not have savings, we easily run out of money when we arrive in urban areas. If we do not manage our finances well, we can spend our earnings just in a day on food. We might be bad at managing our money."

Male formal miner, Selenge province

Aside from the lack of knowledge of personal finance, many reasons are inevitably leading artisanal miners to financial challenges that can be grouped as follows:

- *First,* extracting gold, especially investing in shaft drilling, puts miners in financial difficulties as gold yield is not guaranteed. There were partnership leaders who were struggling financially as they had invested all their money in the purchase of necessary tools and equipment, supplies, and shaft opening.
- *Second,* due to a lack of money, even when they have an open shaft, artisanal miners tend to borrow money from others to cover their daily operational costs, such as fuel, food, and other supplies at an ASGM site. When they earn money from ASGM, they use it to pay back their borrowings which causes them to be stuck in a vicious cycle of indebtedness.
- *Third,* artisanal miners tend to struggle financially due to loans to finance the education of their children, specifically, higher education.

Subsequently, the assessment found that almost no miner finds the SIC amount affordable, except two female miners who are highly educated or well aware or have started paying their SI before

joining the ASGM. Unhomogenically, we came across a case of a male artisanal miner who has paid his SIC continually for 7 years and who shared that miners can afford to pay the voluntary SIC.

Almost all participants commonly shared that they lack financial means as their income is insufficient or only people with a regular job can afford SI or the current SIC rate is too high. Even, it was observed that miners who do not earn extra money from other sources tend to be unwilling to pay SI. Otherwise, artisanal miners tend to make their best attempts not to fail in terms of the continuity of their SIC payment.

"Paying SI has been required since we organized in the form of partnerships. Yet, we have not paid any SIC. New legislation requires us to pay SI, so we will pay it from now on."

Female formal miner, Selenge province

"I try to pay SI continually. If we cannot find any gold, we have to make a difficult choice to pay SI or buy food."

Male informal miner, Selenge province

Another aspect worth considering is the financial strain caused by the personnel factor of the ASM partnerships. Family members working together in the ASGM sector is a common practice. However, the more family members work together for the same ASM partnership, the more likely they will struggle financially to pay the SIC.

"There are many cases of family members working for a partnership. If parents and a young adult from the same family are working together for an ASM partnership, around MNT 220 thousand (approx. USD 63.4) per month and around MNT 2.7 million (approx. USD 778) per annum must be paid for these three people. It is a lot of money for a family."

Female leader, formal partnership, Govi-Altai province

The other side of affordability deals with indirect costs for SI services. To receive SI services, eligible miners must prepare and submit the required documents within a predetermined timeframe. Thus, to arrange these documents, miners tend to face an indirect cost of loss of their and accompanying persons' daily income, psychological costs of navigating through the service desks and bureaucracy of multiple organizations, loss of time waiting in queues, required travel, etc.

6.3 Appropriateness of Social Insurance

The appropriateness is about whether current SI services meet the different needs of the artisanal miners and their perceptions towards ways to improve the current SI scheme or services. In general, self-employers including artisanal miners do not prioritize meeting the eligibility criteria

for SI services in advance due to various reasons. Under this dimension, we will look at the below two aspects.

6.3.1 Type of Applicable Social Insurance Scheme

On the supply side, it was found that the type of SI, applicable to artisanal miners, might be at play for the appropriateness dimension to a certain extent, as shared by government officials.

"Although we promote legal protections available in case of health damage due to social risks and accidents, we can not force artisanal miners to be insured as they are subject to voluntary SI."
Social insurance inspector, Selenge province

"When we visit an ASM site, their working condition is very difficult. So, we provide information instead of demanding them to pay SI. I believe when they have money, they may prefer to spend it on their livelihood. Thus, we provide information about available SI benefits."
Social insurance inspector, Khovd province

Photo 15. A booklet of SI (B. Rentsendorj/Gamma Photo Agency)

Under the formalization effort, there are early signs and expectations of looking to and requesting formal miners to be registered as a business entity and be covered under the compulsory SI which requires both employees and employers to equally pay the SIC. However, due to the flat organizational structure of the ASM partnerships and the equal power dynamic between its members, it is hard to delineate and consider the concept of employer and employees in the ASM

context. Besides, as mentioned previously, the labor code is not maintained in the ASGM sector. With upcoming formalization on its way, it might be time to address and clarify this issue at the policy-making level.

6.3.2 Perceived Benefits

Artisanal miners who have been insured with SI have varying perceptions of the SI benefits. Some gender differences were observed in the perceived benefits of the SI. In general, miners tend to be dissatisfied with the SI scheme mainly due to lower perceived benefits as follows.

First, most artisanal miners rated the benefits of their SIC payment low as it is hard for them to meet the eligibility requirements to get SI-related services. An example can be the continual payment requirement. As we can see in Appendix 2, insureds are required to pay SIC continually for a predetermined period e.g., 3 or 6 months to benefit from a given SI service. However, owing to different features of ASGM, e.g., seasonality, unstable mining operations, and fluctuating revenue due to the quality of the ore, miners often fail to pay their SIC continually and benefit from SI-related services in case of sickness and injuries. Thus, we can conclude that the current SIC monthly payment (e.g., fixed schedule) practice fails to consider different features of the artisanal miners.

"Since I missed some months, my previous payment is of no use."

Male informal miner, Selenge province

"We could not pay SIC for a few months. Thus, we have to restart the payment as we failed the continual payment requirement. I believe nobody has been able to pay SIC since ASGM's work was suspended."

Female informal miner, Selenge province

Second, there is a common belief that the ever-increasing retirement age is impeding miners from being covered by SI and benefiting from the existing SI system. Specifically, male miners do not believe that they will reach retirement age and get a pension in the future, referring to the underground working environment they are working in and the shorter life expectancy of Mongolian men. Moreover, male miners tend to express more diverse thoughts and opinions about the non-coverage and challenges of paying SIC, ultimately all leading to their disbelief in reaching retirement age. Or they tend to avoid this topic.

"The law requires men to retire at 65 years. As our work conditions are dusty and difficult, it is doubtful that we will retire someday by paying SI."

Male informal miner, Selenge province

"Not only for our province but also the nationwide average life expectancy is 50-60 years for men."

Male formal miner, Gobi-Altai province

In all research sites, respondents commonly shared and confirmed the opinion that it is almost impossible for male artisanal miners to reach legal retirement age as their working conditions are harsh and difficult. Further, miners perceived that the pension vesting period (e.g. service years increasing from 20 years) and the continual wage reference period (e.g. fluctuating from 5 to 7 years) requirements are too long for artisanal miners if their working conditions are considered. Consequently, male miners of all ages responded that they are not insured by voluntary SI, have not paid SIC for more than 10 years, or have never paid SIC before. Also, it was common for male miners who share such opinions to conclude that it is better to pay either HI or SI, not both.

"It is a sensitive topic for us. If the age eligibility requirement is at least 56, we will pay SI with the hope of retirement. Otherwise, it is unlikely that we will benefit from it as we are working in harsh and difficult conditions."

Male informal miner, Selenge province

In addition, similar to other population groups, a tendency to actively pay SIC when they get close to retirement age is observed among female miners e.g. 48 or above years old.

Photo 16. Information board at the Social Insurance Division, Selenge province, Mongolia (planetGOLD Mongolia, 2023)

Third, artisanal miners believe that the current SI scheme does not offer any incentives and supplements for paying the SIC under the category of self-employers. Currently, because there is

no clear differentiation between unemployees and self-employers within the SI system, voluntary SI insured have limited access to various loans and other kinds of funding support. Hence, miners tend to choose not to be insured in many cases. Based on their experience of SIC payment not serving as proof of regular income and failure to get loans from banks and financial institutions, miners were openly questioning the realistic and existing benefits of paying voluntary SI.

"When miners pay SIC under the self-employment category, we are not eligible for various waivers and soft loans available to herders and public servants. When we say we work in ASM, people tend to question the existence of our work."

Female leader, informal partnership, Selenge province

"I have been paying for voluntary SI for 12 years. However, I cannot borrow money from banks and financial institutions as my SIC payment will not serve as proof of income."

Female formal miner, Gobi-Altai province

"I can get a loan based on my livestock."

Male informal miner, Gobi-Altai province

Also, referring to its disinheritance practice and SI-fund embezzlement scandals, miners tend to perceive the SI benefits as low, with considerations of potential earlier death cases and loss of money in their notional accounts. Accordingly, their preferred option was savings.

"As the money that we paid for SI is not being inherited, it will be our loss if we die before pension age."

Male formal miner, Gobi-Altai province

"There are many cases of losing money by paying the SI. If a person gets into an accident and dies while paying SI, the state takes his/her paid SIC."

Female informal miner, Khovd province

"It is better to open a savings account and save MNT 70 thousand in the name of my children instead of paying it for SI. It is not guaranteed whether we will get a pension."

Male formal miner, Gobi-Altai province

Fourth, artisanal miners voice their concerns that they should be entitled to facilitated/earlier retirement due to their underground working conditions, under the same terms and conditions as LSM employees. The current regulatory framework allows miner men, who have 20+ years of service and worked in underground mining conditions for 10 or more years, to retire at 50 years old without any benefit reduction. This arrangement does not apply to artisanal miners for the time being. In addition, it is sex-specific and may have started causing problems as more and more women are joining the underground mining jobs in LSM. Even, the assessment came across

several female artisanal miners who claimed to have worked underground in ASGM. On the other hand, although there is a designated category of artisanal miners in the insured, it does not offer any benefits or advantages whatsoever up to now. Thus, artisanal miners believe that they should be eligible for facilitated retirement arrangements based on their category of insured and all-known working conditions.

"It is not like you go there and bag the ore. It is a difficult job, and we are doing it because we do not have any other job or income."

Male informal miner, Selenge province

"Our work should be treated as harsh and difficult working conditions. If our work is to be treated this way, for example, my husband would have already retired under facilitated conditions."

Female leader, informal partnership, Selenge province

Fifth, due to the structural features of ASM partnerships, artisanal miners are facing certain feasibility limitations in some of the SI services. For instance, artisanal miners tend to make a verbal agreement within their partnerships rather than a written employment contract. Thus, it is almost impossible for miners to prove that their temporary incapacity and occupational diseases are caused by their working conditions. We could not find any miner who has ever got temporary incapacity benefits or industrial accidents and occupational disease-related support available under the voluntary SI scheme.

"No miner has ever approached us for incapacity assessment as he or she got into accidents and injured while being voluntarily insured."

Medical inspector, Khovd province

6.4 Accessibility of Social Insurance

Under the accessibility dimension, the artisanal miners' inclusion and some factors shaping their SI-related experiences are addressed. In all research sites, SI coverage of artisanal miners is revealed to be insufficient, compared to other rural population groups. A gender difference is evidenced in the SI inclusion, with male miners less insured than their female counterparts. However, it was found that male miners could have better benefitted from the SI system as their health conditions started deteriorating earlier than other rural population groups and their reduced working capacity due to exposure to high occupational risks, especially in the Selenge province. In the meantime, higher coverage of the women miners was partially due to substantive service buy-back arrangements and the sex-specific maternity credit in place since 2020 that provides 1.5 service years per child, earlier retirement opportunity for mothers with 4 or more children, as well as a 50% waiver on the 3-year SIC of mothers who are taking care of their children aged up to 3 years old. These arrangements incentivize women miners to actively pay their SIC more and benefit from these supports.

"Women who have 4 children are entitled to retire at 50 years old. The main thing is that they must meet the requirement of minimum service years. Thus, women are interested in paying voluntary SI. Also, women are much more aware of and understand SI. Thus, the majority of them pay voluntary SI."

Voluntary social insurance inspector, Selenge province

"The sex ratio of the voluntarily insured is 60:40. Women tend to be more insured because their service years will be added based on the number of children they have, and their retirement age is younger than men. Men also tend to let their wives pay SI before themselves."

Social insurance inspector, Selenge province

6.4.1 Access to Social Insurance Sub-services

To understand the accessibility in depth, it is necessary to look at miners' access to specific SI services available under the voluntary SI scheme. Certain differences were observed in their accessibility depending on the type of services.

1. As for the pension insurance, the old age pension was of immense importance for the assessment. In all research sites, there were more retired female miners covered by the assessment. However, it should not be overlooked that the assessment came across a few retired male miners in a western province, while no male retired miners were sampled in the Selenge province. It was due to a certain percentage of the artisanal miners in the western provinces having livestock and being insured under a herder category to benefit from better pension conditions. Regardless, both male and female miners responded that they have struggled to confirm their service years to vest their pensions.
2. In terms of disability pension, we came across a few cases of SI disability pensioners due to ASM accidents and occupational hazards, especially in the Selenge province where ASGM operations started back in the 1990s.
3. For survivorship pension, it was evidenced that artisanal miners often fail to meet a requirement of min 3 years of SIC payment, thus their families could not access this benefit in case of loss of a breadwinner's life.
4. In terms of benefit insurance, it emerges that artisanal miners are not benefitting from temporary incapacity benefit, nor they are aware of this benefit sufficiently. Next, women miners are found to have good access to pregnancy and maternity benefits, similar to the general population. As for the funeral cost, a certain percentage of the miners, especially male and/or informal miners, is left without any such support as they are covered by neither SI system (i.e. fail to meet a requirement of a minimum of 3 years SIC payment) nor SW system (i.e. not reaching seniority age).

5. Regarding support from industrial accidents and occupational disease insurance, it appears miners have a lack of awareness and access. Their awareness tends to be limited within support related to stays in rehabilitative sanatoriums only. As for the first part of industrial accident-related supports, while SI inspectors were sharing such cases, artisanal miners superstitiously avoided this topic and said there were almost no cases of losing lives and becoming disabled due to industrial accidents or similar incidents. Again, as for the second part of occupational disease-related supports, artisanal miners tend to struggle to prove their diseases are caused and exacerbated by occupational hazards as ASM remains largely informal and does not have the practice of entering employment agreements in writing.

6.4.2 Awareness

Inevitably, miners' varying level of awareness is found to be at play for SI enrollment. It can be concluded that artisanal miners know about voluntary SI in general; however, they are unaware of what kind of coverage they have and what risks are being mitigated. Nevertheless, most miners are aware that they belong to a category of self-employment and voluntary SI, and they were able to remember the approximate amount of SIC. However, only a few people knew the details of SI, such as the current and past exact amount and its increase. These people were mainly female miners, except for a male partnership leader. It was also observed that female miners were more responding to the questions about SIC payment, SI eligibility requirements, available benefits, and how to apply for them, while male miners had pointed out general issues in the ASGM context as impediments to their SI coverage, such as unstable mining operations and irregular revenue. As shown in previous sections, such gender differences can be partially explained by to lower perceived benefits of SI and the lower education level of male miners.

Also, a geographical difference was observed in SI awareness. Formal artisanal miners in the Selenge province have a better awareness of SI compared to western provinces, except miners in the age group of 35-40 years old. This was confirmed by miners' more diversified knowledge, including, unemployment insurance and unemployment benefits, a requirement of shorter service years for law enforcement employees, the provision of temporary incapacity benefits based on a doctor's confirmation, etc. Whilst, in the western provinces, both partnership leaders and regular miners are not sufficiently aware of SI and its benefits. Specifically, formal, and informal artisanal miners, without any gender difference, commonly responded that they have to comply with a legal requirement to work in ASM rather than referring to its benefits.

In general, artisanal miners' understanding of SI's benefit tends to be limited to the pension only and they have a limited knowledge about the other SI services available. One interesting finding is that miners are unaware of the exact rate of the SIC and what percentage goes to which fund. Of course, few people were aware of the SI percentage and its connection to the minimum wage as confirmed during the FGD with leaders and formal miners. Lastly, it was revealed that miners

tend to rely on mouth-to-mouth information and social networks rather than seeking reliable information from a formal source when it comes to SI-related information.

Photo 17. Information board about several types of social services, Selenge province, Mongolia (planetGOLD Mongolia, 2023)

6.4.3 Practice within the Partnerships

Internal practice within ASM partnerships can be a crucial factor on the demand side. The assessment found that regardless of their formalization status artisanal miners still lack the practice to converse and discuss SI with each other formally and informally, except for signing their contract with a respective soum governor at the beginning of a year. For example, miners in all research sites responded that partnership leaders demand them to pay SI, but it is hard for them to pay it when they are not working. On the other hand, leaders have diverse perceptions: I) they demand peers to pay, but it is up to miners as they are adults, ii) miners are likely to benefit from training and advocacy activities on this topic, iii) leaders cannot actually force them, and iv) miners are already aware of SI but their job is not secure yet, so it is pointless to talk about it. Regardless, partnership leaders can play a key role in advocating for the need for SI and institutionalizing the practice of paying SIC in an organized manner.

6.4.4 Personal Social Insurance-seeking Behavior

Undoubtedly, personal beliefs and behaviors are influencing the accessibility dimension of SI services to a certain extent. In general, artisanal miners have mixed perceptions about the need and usefulness of voluntary SI. Burdened by a continual payment requirement, artisanal miners tend to intentionally choose not to be insured, especially young and healthy miners thinking that

they have enough time till retirement age. Besides, it appears that miners tend to prioritize their today's subsistence over the guarantee for their future livelihood.

"Although we advocate that SI helps to bear the natural concerns and unforeseen risks, it is hard to convince middle-aged people who are 45 or below. These people tend to be a population group who have never benefitted from it. Therefore, it is unlikely that they will listen to us despite our best efforts to reach out and explain."

Head of Social insurance division, Khovd province

Due to a lack of such future-oriented thinking, artisanal miners tend to underestimate the need for a backup plan to sustain their economic security to meet their basic needs and avoid potential financial difficulties owing to deteriorating health and/or old age. In their senior years, miners tend to approach SI inspectors seeking any potential support from SI funds, without any gender differences.

6.5 Conclusion

The SI is an unarguably essential consideration of a sustainable workplace and responsible labor practices in ASM. However, the current SI services are not feasible for artisanal miners, making artisanal miners more susceptible to economic and social insecurities. Although there is a range of SI services available, artisanal miners are insufficiently benefitting from them, mainly due to factors in affordability and appropriateness dimensions. On the one hand, because of the informality and seasonality of ASM, artisanal miners face several affordability challenges and have been failing to be insured. On the other hand, certain aspects of the SI system should be improved with consideration of the different needs and realities of the artisanal miners and the different features of the ASM. Ultimately, all these intertwined aspects led to a lack of SI coverage and accessibility issues among artisanal miners.

From a gender perspective, male miners are less covered by SI and fail to maintain its continuity while women miners aged 50 and above are mostly insured. Notably, there is a growing generation of middle-aged and aged male miners who might be left without any access to crucial SI services. Particularly, such a phenomenon might be at an alarming level in the central province, where ASGM operations have started earlier than in other provinces and have been prominent for the last two decades. Coupled with potential disability, deteriorating health, and early deaths mentioned in the healthcare chapter, this situation makes both male and female miners prone to end-of-life poverty and lower quality of life. Such gendered issues are even more visible if we group and examine behaviors and practices of artisanal miners based on SI old-age pension, as follows:

1. **Group No.1**: Artisanal miners who reached retirement age and have started benefitting from the SI old-age full pension. It should be noted that they were mostly women miners and rarely senior male miners. These women miners tend to benefit from the SI system

due to maternity credit in place and service buy-back opportunities. At the same time, these female miners are found to have certain advantages, such as higher education, better awareness, agility to seize opportunities, and better compliance practices.

2. **Group No.2:** Artisanal miners who are middle-aged and senior (ie. 40 and above) and who have started preparing for their retirement. Most male miners and a substantial percentage of women miners tend to fall under this group. From them, female miners have started approaching SI inspectors to ask about SI eligibility requirements and have started paying their SIC intensively to meet service year requirements. Nevertheless, some of these miners have become eligible for SI partial pension (i.e., 10-20 service years and reached retirement age) at reduced pension amounts and have started considering retiring under this option while others bought back certain service years by retroactively paying their SIC and have been continuing to pay SIC to be eligible for a full pension. As for male miners, it can be concluded that they failed to pay SIC for many years and are unlikely to meet the service year requirement to retire at this point. Moreover, male miners whose health deteriorates at an early age before retirement may opt for a SW old-age pension, which is less than the SI pension in amount. Also, it was revealed that they tend to have poor awareness of SI and its services, compared to women miners.
3. **Group No.3:** Young miners whose SIC payment depends on the formalization status of their partnerships and their revenue flow. A tendency observed for them to prefer short-term benefits, and prioritize their today's livelihood over long-term benefits, e.g. pensions. This group includes young women miners who were SI-insured due to pregnancy and maternity benefits and other forms of gender-specific support. On the other hand, young male miners are likely to decide to be insured by following their role models and weighing the pros and cons of the SI. Otherwise, young male miners tend to underestimate the SI benefit and choose not to be insured. Miners in this group are likely to benefit from targeted SI awareness-raising and advocacy activities.

As we can see from above, the underlying causes of the lack of SI coverage are many and multifaceted. At a systematic level, the formalization helps artisanal miners to be insured and have ready access to SI services, however, it is not the only factor. Personal behaviors and perceived benefits tend to be at play for their SI-related choices. All these indicate that there is a gap in the regulatory framework on how to approach and integrate ASM effectively in the SI system in an orchestrated manner.

CHAPTER SEVEN: ACCESS TO SOCIAL WELFARE

This chapter explains the findings on artisanal miners' access to social welfare (SW) from availability, affordability, appropriateness, and accessibility aspects.

7.1 Availability of Social Welfare

Box 4: Background

Social welfare is an instrumental part of the Mongolian social safety net. The Law of Mongolia on Social Welfare (2012) aims to provide social pensions, essential allowances, and services to individuals who are in poor health, lack family support, and are not capable of living on their own in the market-driven economy to support their subsistence livelihood. As of 2021, Mongolia allocates 7% of its GDP and 19.24% of the State Budget for 72 types of SW services, including 58 services for vulnerable groups and 14 types of general cash assistance, under the government-approved programs (see Appendix 3). Aside from welfare services, the SW framework has an employment support agenda and component. Thus, MLSP implements state policy and programs to support 27 sub-categories of target populations to improve their employability and facilitate their access to the labor market. In addition, the government pledged to implement local context-specific employment support programs to provide soft loans, interest-free and collateral-free loans, and short-term fintech loans to self-employers and small business owners in provinces to help them create more jobs in rural communities (Sarkhad, 2022).

At the provincial level, there is a local labor and welfare service agency that has a designated SW division with seven or eight officers who are responsible for food stamps, child money, social pension and other benefits, allowance, and discounts for the elderly, and discounts and support for persons with disabilities. At the soum level, there are one or two officers at the soum government who are responsible for delivering all types of SW, labor relations, and employment-related services, and they are also vertically affiliated with the provincial labor and welfare service agency and MLSP. In the case of a populous soum, there were two officers, one responsible for social welfare and the other responsible for labor relations. One of the concerns raised was the big workload of frontline officers due to being responsible for different duties concurrently, such as employment, and OHS at the soum level, in addition to SW.

Overall, it was found that soum SW officers tend to be aware of the artisanal miners and their social standing. However, SW officers at the provincial level have poor awareness of ASM activities and the emergence of ASM partnerships driven by formalization efforts, and these officers commonly perceive artisanal miners as illegal gold miners who are neither organized nor formalized. This may be because they are not obliged to provide information and assistance and encourage people to be covered by SW services unless the intended people are the target population groups and are actively seeking SW. Rather they focus on implementing SW legislation by reviewing whether an applicant is eligible for SW services based on their applications.

In addition to in-person frontline services, an online SW services platform is available to general populations at https://ehalamj.mn/, especially covering the application steps of these services. Accordingly, local officers can process these applications submitted by individuals virtually within the required time. Also, the e-government services, known as e-Mongolia, provide 31 types of welfare services online that are also available through a web platform, mobile applications, and e-Mongolia public service kiosks. The assessment revealed that users who can get electronic services from the e-Mongolia are artisanal miners aged below 50, and who get various references related to SW and insurance benefits. In general, most of the miners perceive that the interface of the e-Mongolia platform is easy and feasible to use.

The number of SW assistances and categories available to rural community members varies due to specified entitlements. Out of all 72 SW programs available, SW services were offered by 49 SW programs in the central province. All these SW services are provided for the general public, without specific considerations of the artisanal miners. The amount of the allowances is based on the minimum standard of living and differs from one service to another depending on individuals' vulnerability dimensions. For example, if a person has lost his/her work capacity by 70% or more, he or she is to be provided with MNT 325 thousand (approx. USD 94) while the amount of SW benefit is MNT 288 thousand (approx. USD 83) in case of a person who lost his/her capacity for work by 50% to 69%.

Photo 18. Social welfare information board, Selenge province, Mongolia (planetGOLD Mongolia, 2023)

From a gender perspective, in addition to SI benefits, a few SW allowances are available to mothers, including female miners and spouses of male miners, as follows:

- Pregnancy allowance is provided to women every month, from the 5th month of pregnancy until the birth of a child.
- Salaried parenthood - childcare allowance is provided to mothers who are taking care of their children aged 0-3 years old.
- One-time allowance is provided to parents who are taking care of multiple birth children (e.g., twins and more);
- Cash allowance is provided to Mothers Glory medalists who have four or more children.

As for the outreach activities by the government actors, SW-related information is occasionally disseminated during open-door events and public awareness-raising initiatives in cooperation with other local actors. Such activities target the general public in rural communities, including artisanal miners. It should be noted that SW officers tend to intentionally engage with targeted population groups, such as the elderly, pregnant women, mothers, single parents with many children, rural poor, etc., based on their population database on hand. For example, at soum and bagh levels, SW officers cooperate with family clinics and bagh social workers to ensure that appropriate SW services are being provided to target vulnerable populations. Also, it appears provinces studied have experience in reaching out to artisanal miners to provide information about the SW services.

"We used to conduct outreach and information dissemination sessions for artisanal miners from time to time. We have not done any in the last 2-3 years."

Social welfare officer, Gobi-Altai province

7.2 Affordability of Social Welfare

Since the SW system is based on principles of meeting human basic needs and achieving equality, it can be concluded that there is no or limited direct cost implication for artisanal miners to have their differentiated needs met. However, for some of the SW discounts and exemptions, individuals have to pay a certain amount out of their pocket first and they can apply for a refund of a certain percentage of the cost later which varies from 50% to 100%. For example, persons with disabilities are entitled to a 100% refund of the orthopedic equipment and supplies produced locally once every three years, in compliance with the pre-approved reference price of prosthetic and orthopedic equipment. This might have a cost implication and might limit the access of individuals' access to some SW services, especially for artisanal miners who lack hard cash in rural communities. Due to the standardized interface and administration across Mongolia, the indirect cost of SW services is found to be relatively low and affordable for artisanal miners.

7.3 Appropriateness of Social Welfare

Conceptually, as SW services are designed for vulnerable population groups who need SW services, there is no SW service specifically targeted at artisanal miners. Contrary to a common belief that artisanal miners are perceived as a vulnerable group (e.g., unemployed in rural communities with limited employment opportunities) in countries around the world, artisanal miners are not specifically considered a target group within Mongolian SW programs. On the other hand, there is no SW target population group based on their identity of employment or occupation, except herders. This shows current SW system lacks an intersectional lens beyond sex and age, and it appears local government officials are not aware of the need to consider artisanal miners as a target group for SW programs, not even for employment support programs.

Besides, most of the artisanal miners are perceived to be of either working age or retirement age, and thus the latter are getting a certain pension or benefits, they are not considered as a population group that needs a separate SW service or program. Miners are bound to the same terms and conditions as other population groups if they want to get SW services. In general, artisanal miners aged 65 years and above, who fail to pay their SI contributions and do not meet eligibility requirements for SI-funded pensions and benefits, are eligible for SW pension.

Compared to other social services studied, it appears that artisanal miners do not face many difficulties in having their differentiated needs met and access to SW assistance. However, people who are covered by the SW programs claim that the amount of SW benefits and assistance is not enough for their subsistence living, so such individuals often turn to ASGM to improve their livelihood.

"In my observation, single parents, persons with disabilities, and individuals from households who are eligible for food stamps tend to turn into ASM for additional income."

Social welfare officer, Gobi-Altai Province

"Some people cannot retire despite their old age (e.g., close to 60 years old). These people choose to go to ASGM sites to improve their livelihood. But, in reality, I do not see their lives improving significantly. They barely take care of themselves, without asking for help from others."

Bagh officer, Gobi-Altai Province

The appropriateness of the existing employment support programs is a different story. It was evidenced that ASM organizations and artisanal miners are covered by neither provincial nor soum-level employment support programs, which are managed by the local agencies of labor and welfare services. As per the information provided by responsible officers at the local administrations and local agencies of labor and welfare services, there are plenty of projects or programs to provide soft loans or interest-free loans to support local SMEs, create more jobs, and help small businesses to improve their manufacturing capacity and material supply. These supports are mainly being provided to self-employers who have crop production, fruit farming,

carpentry, welding and auto repair, hairdressers, and beauty salon businesses, not to ASM, despite artisanal miners always facing financial difficulty in arranging their working capital and necessary equipment. In rare cases, miners were able to access employment support programs, but they did not get these supports as artisanal miners, rather they got such support based on their alternative businesses or herder status. From this perspective, the artisanal miners are left out of employment support programs to support neither their salaried employment nor alternative livelihood nor their self-employment despite their efforts to create more jobs and sustain themselves.

7.4 Accessibility of Social Welfare

Actual inclusion is a great determinant of real accessibility. In general, the eligibility for certain SW services depends on a score generated by the Proxy Means Test (PMT) for a given household to assess their living standards. This scoring method was first introduced and calculated during the Household Integrated Database Survey in 2013. Later, the database of 80% of households was updated by adding more data from other national databases on real estate, civil registration, and automobiles in 2017. For example, households that scored less than 310 are eligible for food stamps while households that scored less than 409 can get SW allowances and exemptions of HIC payment.

The assessment came across several artisanal miners who belong to a vulnerable group and have access to SW services (e.g. waiver of HI contribution, SW pensions due to disability, and old age) based on their low PMT score. Individuals who have never worked or are unemployed or self-employed and who are ineligible for SI services are transferred into or advised access to these non-contributory SW pensions. As for miners, it is worrisome that there is a generation of pioneer miners who have started retiring under SW pensions of minimum income security (i.e., approximately USD 80 per month) due to the failure to pay SI contributions for the required vesting period, particularly in Selenge.

"My husband got into an accident and injured his eyes and fingers. As he did not have vesting years for SI pension, he got SW disability pension."

Female informal miner, Selenge province

"From my generation, plenty of miners are retired with SW pensions due to the lack of SI pension vesting period."

Female informal miner, Selenge province

However, artisanal miners commonly doubt whether SW programs are fairly reaching their target population. Miners shared that they face discrimination when they seek SW services and only people who have connections can access SW services. Such a statement was more frequent in the Selenge province also.

"There are many poor and struggling artisanal miners, who are not covered by the SW benefits. We have not got any other sources of income."

Male informal miner, Selenge province

Furthermore, another factor that impacts the accessibility of social services is the varying levels of awareness and knowledge of the artisanal miners. Overall, female miners are much more aware of SW services and shared who is getting food stamps, and SW disability and old age pensions. It was found that they gained such awareness mainly from media channels, and social media, as well as, thanks to their proactive participation in open doors, other public events, and their visit to one-stop service centers in their respective communities. For example, women miners often named diverse SW services, such as survivorship benefits, benefits for the caregiver of elderly persons, child money, and pregnancy allowances. Conversely, male miners are found to have limited awareness of SW services. Consequently, it was revealed during the assessment that some artisanal miners could not benefit from the existing SW system due to their limited awareness of various SW programs. For example, there was a miner whose wife could not get pregnancy and maternity allowances for their first child due to his poor knowledge. It was also confirmed by the SW officer in remote communities that some people might have left out of SW services owing to their lack of awareness.

Notably, there were a few cases of artisanal miners being eliminated from SW services owing to various reasons. For instance, the paid parenthood allowance was discontinued for a male miner as he was considered employed because he started paying his voluntary SI as required by an ASM partnership despite inactive mining operations. A miner who is a single mom was eliminated from the Food Stamp Program two years ago and still could not resume it. The reason was that the SW unit was going to update her PMT score. No scoring has been performed so far. Also, a male miner who has seven children and whose spouse is unemployed was eliminated from the Food Stamp program because he has livestock and a car to his name. This might be due to the current government policy and initiative *From Welfare to Employment* that aims to minimize the number of SW beneficiaries, as shared by a SW officer in a remote province.

Ultimately, it can be concluded that accessibility of the SW services is generally sufficient among artisanal miners, with some exceptions and gender differences. Aside from being more aware of the SW services, overall rural women tend to benefit more from the SW services due to their reproductive and gender roles. Precisely, women miners are found to have access to not only SI pregnancy and maternity benefits but also SW pregnancy and childcare allowances. Necessary information and advice are provided to women when they start their pre-natal check-ups at family clinics. In the meantime, male miners tend to access SW disability benefits due to occupational accidents and injuries in ASGM sites. Thus, when miners get into an industrial accident and lose their capacity to work, their main resort tends to be SW pensions.

"In my soum, five men applied for health incapacity evaluation and got SW pensions. Two of them recovered and were eliminated from SW pensions. Some of them paid their voluntary SI contributions and transferred into the SI pension scheme which provides a higher pension than SW one."

Social welfare officer, Selenge province

"More men come to us to apply for SW pensions as they are not eligible for the SI pensions."

Social welfare officer, Selenge province

In addition, one of the concerns worth underlining is that male miners often suffer from occupational diseases and their ability to work deteriorates relatively early or at a young age. For these people, regardless of their poor health and decreased work productivity, male miners may have not reached the required level of health incapacity to be eligible for the SW services. For example, many of the male and relatively young participants had hearing impairment or lung diseases but could not access SW services as it was hard for them to have their incapacity evaluated and confirmed because of their age. Henceforth, in the nexus of the SW and healthcare services, male miners might have benefitted from a more targeted approach of combining frequent medical check-ups and SW awareness-raising activities.

Last but not least, it was assessed that informal miners might be at higher risk of vulnerability. As informal miners or members of unregistered partnerships tend to fail to pay voluntary SI and to be registered as local unemployed, they are likely to pursue SW pensions. Especially, it appears that there is less access to SW support for funeral costs because a person has to be covered by one of the SW pensions or a minimum 36 months' payment of benefits insurance. Thus, many artisanal miners tend to be left out of this service and their families could not get funeral costs, as confirmed by a SW inspector. This concern was commonly echoed by informal miners during the FGD who believed that this is a form of discrimination.

7.5 Conclusion

Overall, the SW services were assessed as feasible. Although the same terms and conditions apply to artisanal miners as rural community members, there were cases of artisanal miners having difficulties accessing SW services when they were in need. Coupled with deteriorated health before retirement age and difficulty to continue working in the ASM, miners tend to face more challenges in supporting their families if they do not have other income sources and cannot find different jobs. This situation disproportionately impacts artisanal miners, in particular, informal miners who might be at multiple disadvantages of lack of SW awareness and job insecurity.

On the other hand, fueled by the inconsistent and unstable ASM policy and varying levels of formalization efforts for provinces studied, the lack of SW services to support their alternative livelihood and help them transition to different sectors and different jobs make artisanal miners

susceptible to income insecurity, financial vulnerability, and a vicious poverty cycle. This gap in policy may need to be addressed in a cross-sectoral and coordinated manner, with a clear political commitment.

CHAPTER EIGHT: ACCESS TO EARLY CHILDHOOD EDUCATION

This chapter explains the findings on artisanal miners' access to formal early childhood education (ECE) from availability, affordability, appropriateness, and accessibility aspects.

8.1 Availability of Early Childhood Education

Box 5: Background

According to the Law of Mongolia on Early Childhood and Basic Education (2023), the ECE system offers a four-year formal kindergarten service for children aged 2-6, with a mandatory enrollment of 5 years old for secondary-school readiness purposes. Due to its population policy, Mongolia is one of 6 countries that enroll 2-year-old children in formal ECE. Public kindergarten services are offered free of charge for the population. In the school year 2022-2023, nationwide 1,413 kindergartens are operating, including 985 state-owned and 428 private ones (MES, 2023).

State-run kindergartens are open 8 hours a day for 5 days a week from September through May every year, with funding from the state budget to cover their fixed and variable costs. Meanwhile, private kindergartens can operate flexible hours throughout the year with transfers from the state budget and tuition fees from parents. In addition, to fill any remaining gap in access to ECE, private micro childcare service providers have been made available since 2018. These service providers are subject to mandatory training, standards, per caregiver requirements, ceiling on tuition, and oversight of government actors.

Considering the needs of the population, 24-hour care is offered by public kindergartens for children of herders and targeted families (e.g. semi-orphan and orphan, families living under the poverty line) although not many. Moreover, to increase access to and inclusion of children of hard-to-reach populations e.g., nomadic herders, and other vulnerable children, there are alternative education arrangements, such as Ger kindergarten and Family-based services, available in rural communities. It is regulated that public kindergartens periodically organize the Ger kindergarten services for children from remote communities by deploying existing teachers and by covering their expenses from the state budget.

Reaffirming the importance of ECE in the development of any child, the Mongolian government undertakes the No Child Left Behind Closed Door policy to increase equal inclusion and enrollment of children into formal ECE. Accordingly, the nationwide ECE enrollment rate reached 92%, and the enrollment of 5-year-olds in a 200-hour secondary-school readiness course is 95% in the school year 2022-2023. However, the children's group size is relatively large, with a national average of 30 children per classroom.

The assessment approached staff members of ECE service providers in two research sites as the assessment is more focused on the perception and experiences of miner parents. In terms of interface, the number of kindergartens and their capacity varies between 1 and 3 kindergartens with 150-370 children capacity, per soum. Public kindergartens were available in territorial administrative centers in all research sites. For instance, there was a kindergarten with a capacity of 198 children of 7 age groups managed by 32 staff members in a village in the central province, while there were two kindergartens in the populous soums of the western province. Also, 24-hour

care services were available from the public kindergarten in the central province to provide ECE to the children of the herders and vulnerable population groups. Moreover, private kindergartens were also available in a densely populated community in the central province.

As for the alternative education arrangement, it was confirmed that Ger kindergartens are available in 1 or 2 locations or bagh centers during summertime, by mainly choosing areas where more children can involved. As these targeted services require additional resources, the cost coefficient for staff payroll and current expenses is high and allocated from the state budget.

To bridge the remaining gap at the local level, there were attempts to provide micro private childcare services upon initiatives of the private citizens. However, such services did not succeed mainly due to funding issues.

"Two people tried to provide private micro childcare services in our soum. They discontinued their services due to the failure to transfer the subsidy from the state budget."

Social welfare officer, Khovd province

As for outreach, kindergarten staff members tend to get relevant information on children who need to be covered by the ECE for a given year from the local administrations and register children in their formal programs. If not enrolled, kindergarten staff tend to follow up on children out of concern that someone might be left behind. Although not intentionally studied in depth, there were no special ECE services for children with disabilities and only a few children were included in a regular children's group.

Photo 19. Kindergarten yard, Selenge province, Mongolia (planetGOLD Mongolia, 2023)

8.2 Affordability of Early Childhood Education

As the majority of the population is covered by the public kindergarten system in Mongolia, the direct cost of ECE services is found to be quite affordable. Out of research sites, private

kindergartens provide ECE services in one populous location in the central province where a major road goes through, thus leading to potentially high livelihood costs. In all other research sites, as private kindergartens and private micro childcare providers are underdeveloped, public kindergartens dominate and provide such services based on their regular curriculum. In the aforementioned central province location, tuition fees for private kindergartens vary between MNT 80-280 thousand (approx. USD 23-81) according to artisanal miners.

While the majority of miners did not mention any tuition for kindergarten, there was information worth noting. For example, a young male miner said he pays MNT 50-70 thousand (approx. USD 14-21) monthly for other non-mandatory necessities, even though his child goes to a public kindergarten. Another miner parent also shared that he paid a certain amount to enroll his kids in the mobile ger kindergarten in the provincial center of a remote province. Although it is regulated that all costs must be covered by the State, such cases can indirectly cause a financial burden for artisanal miners. From the service providers' perspective, kindergarten teachers and other staff members perceive that paid kindergarten services are difficult for miner parents as people easily run out of hard cash in rural communities.

Furthermore, some miners mentioned the occasional burdens of indirect costs of ECE services, such as clothing and entry fees for children's competitions, etc. In addition, it is a common practice of ECE providers to ask parents to purchase and bring necessary supplies for children, such as stationery and sanitary items, at the beginning of the school year for cost-sharing purposes.

8.3 Appropriateness of Early Childhood Education

In general, artisanal miners perceive the sufficiency and overall quality of the ECE services positively in all research sites, with the high coverage and timely enrollment of their children in public kindergartens. It was observed that miners have trust in their local ECE providers, and the comfort of the learning environment and curriculum quality of the kindergartens are generally rated as sufficient by miner parents.

However, a concern arises for meeting the differentiated needs of the artisanal miners. It was found that relatively young and middle-aged miners need to enroll their kids in kindergarten as per information provided by the kindergarten teachers and staff members interviewed for the assessment. Interestingly, certain difference is observed in the parents' general childcare practice in relevance to ASGM by location. In the central province, key informants confirmed that wives of the artisanal miners tend to stay at home to take care of their children despite their children being enrolled in formal ECE service providers; while there were common cases of both spouses working as miners in the remote province. This observation was also respectively confirmed during the interviews with artisanal miners in these research sites. For example, young male miners in the central province commonly responded my wife stays at home to take care of our

children, one of us tends to stay back as a caregiver while others work to earn, and one of us thus has to drop off and pick up our children from kindergarten, and both of spouses cannot work in an ASGM site. Participants who answered such tend to have two or more young children. Thus, their biggest challenge was the current practice of not accepting 0-2-year-old infants and toddlers to public kindergarten, not to mention limited employment opportunities for stay-at-home spouses. Conversely, in a border soum of the remote province, middle-aged parents, both of whom are working as artisanal miners, often struggle to drop by and pick up their children on time due to their ASGM work site location.

"Sometimes, nobody comes to pick up their children in the evening. When I asked about the reason, they answered that they went to the ASGM site. In such cases, we leave miners' children with our security guard, and miner parents somehow arrange a pick up by one of their relatives. In rare cases, teachers accompany and deliver such children to their homes and it happens that their older siblings forget to pick up their young ones in the absence of their parents."

Kindergarten teacher, Khovd province

As we can see from above, the distant location of the ASGM site and the needed travel from and to a mine site might cause a burden for artisanal miners, coupled with the worry of not being present and close in the upbringing of their children. Thus, ger kindergarten might be a crucial option for meeting their differentiated needs as its location can be flexible. Public kindergartens in all research sites offer 1-2 mobile ger kindergarten services for approximately two months during the summer when kindergartens and schools are on summer break. Usually, mobile ger kindergartens open in the bagh center of remote communities, which might be located up to 60 km from the ASGM site. When choosing a location for a prospective ger kindergarten, service providers tend to employ different approaches. For instance, in the western province, the service providers tend to choose the bagh with less ECE enrollment rate or have many children who are of the ECE required age. Whilst, in the central province, service providers are likely to choose a bagh with many children who have never been enrolled in kindergarten and are about to reach elementary school age. In such cases, within alternative education initiatives, service providers are more likely to organize shifting short classes to reach out, teach, and develop children who do not have ECE experience to prepare them for the formal school system. In the remote soum of a western province, a kindergarten handles mixed-age (i.e., 3-5 years old) groups of up to 35 children between 9 am and 4 pm during the day. The service providers believed that their mobile ger kindergartens were welcoming to the children of the artisanal miners. Yet, artisanal miners tend to face location problems as their mine sites are located in the territory of a different soum instead of their registered one or are located 100 km away from the administrative center, which limits their possibility of having their children enrolled in such services. Besides, it's challenging for miner parents to pick up their children at 4 pm.

Also, in the central province, a 24-hour kindergarten group is available in two research sites to take care of children on a 24-hour basis on weekdays and provide ECE for them. According to a

kindergarten teacher interviewed in the central province, this group has the capacity to enroll 25 children of the target population, including children of herders residing in neighboring rural communities, and orphans and semi-orphans; thus, service providers have a condition not to accept children from urban communities in such care service. But, in the remote provinces, kindergartens do not have 24-hour care groups. As for miners, they do not perceive that they need 24-hour care as they prefer to rely on their relatives or support network. The practice of public kindergartens closing during summer, which is a peak time for ASGM operations, puts pressure on miner parents to arrange childcare for their children. Thus, there is a need for childcare assistance for middle-aged miner parents, both of whom work in the ASGM and do not have a support network to rely on when it comes to childcare.

8.4 Accessibility of Early Childhood Education

In all research sites, both kindergarten staff members and artisanal miners rated that ECE services are accessible. As Mongolia has a relatively young population and the number of children is increasing from one year to another, the government is taking measures to build and operate more kindergartens to make formal ECE accessible for all children. Coupled with the low population density in the provinces, ECE services might be relatively accessible and better in rural communities. For example, for a research location in the central province, a new building of kindergarten put into use in 2019, so the kindergarten has now expanded capacity of 7 groups compared to its previous 3 groups.

As for the awareness leading to better accessibility of various ECE services, miners both male and female are generally knowledgeable about the ECE services. Further, one interesting observation is that male miners tend to drop off and pick up children from kindergartens when they are not at the ASGM site and are satisfied with the kindergarten services.

"Parents who work in ASM might have equal contributions. In the afternoon, fathers tend to pick up their children while I assume mothers are taking care of other household errands. It also should be added that a learning lag is not observed for children of miner parents."

Kindergarten teacher, Khovd province

During the assessment, it emerged that male miners talked more about the accessibility of the kindergarten services. But, for the young miners, although not many, there were cases of miners not sending them to kindergarten as grandparents were looking after their children. Miners in all research locations have too generic information about the ger kindergarten and their children rarely get such service. Thus, it seems miners may not have a need to enroll their children in this service or the current service may not meet their needs. As mentioned in the appropriateness section, the location of the ger kindergarten seems to be a problem in its accessibility.

"There is a ger kindergarten in the summer camp area. However, its location is inaccessible. If the soum and local administrations allocate a piece of land for us, it is possible to establish a ger kindergarten."

Male informal miner, Khovd province

"It is impossible to send our children to public kindergarten and do full-time mining jobs… Even if the kindergarten service is offered on a paid basis, we can pay and enroll our children to work… Since we are earning, we are willing to pay to avoid letting them play in the dangerous shafts…"

Miners during the FGD, Selenge province

"In the provincial center, there is a ger kindergarten available during the summer. I have enrolled my children and I think the accessibility is reasonable in my province."

Male informal miner, Gobi-Altai province

The case of enrolling their children in the ger kindergarten services is rare among artisanal miners, only observed in a remote province. Besides, it might be related to having a support network to rely on when it comes to dropping off and picking up children at such a distant service. Otherwise, the majority of miners propose to solve this issue by running their ger kindergarten. Specifically, partnership leaders shared that they are aware of and studied the example in an eastern province for setting up the ECE services at their ASM site and shared that it is possible to apply this practice in their localities. Precisely, they expressed ideas and plans to establish and furnish a ger kindergarten in a designated settlement area that is located at an appropriate distance from the placer gold ASM site, to increase access to the mobile kindergarten service. If such ideas turn into reality, it will appropriately arrange and improve the rare but existing practices of artisanal miners bringing their children to the proximity of the ASGM site.

It is quite concerning as miners in all research sites are aware of cases of themselves or other miners bringing their children to an ASM site when they cannot arrange care for their children. This was also confirmed by the environmental inspectors and rangers. However, an OHS engineer of a formal ASM partnership with best practice shared that if miner parents bring their children into a site, he demands them to stop working and go back to their home.

In the central province, young artisanal miners are aware of the existence of the 24-hour kindergarten, they do not use this service as their spouses are usually unemployed and stay at home to take care of their children. This might inhibit some women's employment and women's representation in the ASGM. In a bagh covered by the assessment, a key informant shared that kindergarten used to enroll children from two families and both spouses work in the ASGM. However, there were not any children of miners covered by 24-hour care at the time of the assessment. This can be due to an access problem related to the preference of children from target families rather than artisanal miner families.

Furthermore, there is a best practice though not specific to artisanal miners of offering alternative education programs via mobile or visiting teachers which was available to the herders' children in a soum of a remote province. Despite being financially challenging to ensure the salaries of the visiting teachers, relevant actors tried to continue this practice by delivering training materials via soum/bagh governors. Thus, it is visible that government actors may need to support similar initiatives, such as ger kindergarten specifically targeted at miners.

8.5 Conclusion

Access of artisanal miners' children to the ECE services is generally sufficient thanks to the government's initiative to cover all children in ECE. When miners work in the ASM site, they tend to rely on their parents or other relatives to take care of and send their young children to public kindergarten. Nevertheless, the assessment reveals that access to ECE may need to be improved in all research sites of the remote provinces for such purposes. Precisely, as public kindergartens close for a long period during summer, and miners' access to mobile ger kindergarten is limited, an alternative education arrangement of ger kindergarten can be a viable option if it is set up at a permitted distance from the ASGM site. Coupled with summer being the peak time for artisanal mining in Mongolia, miners' differentiated needs may need to be considered in some locations of remote provinces with this option.

CHAPTER NINE: CONCLUSIONS AND RECOMMENDATIONS

In a review of all data and findings collected, the Feasibility Assessment has been drawn below general conclusions and created a list of recommendations to foster positive change in the ASM sector. The report identifies several areas of challenges and opportunities to consider the different needs and experiences of the artisanal miners to improve the delivery of the selected social services.

No	Area	Findings and Conclusions	Recommendations	Relevant stakeholders
1	Formalization	Overall, it was found that the formalization directly impacts artisanal miners' access to all social services assessed, except early childhood education. Currently, due to the government's inconsistent policy and local support towards the ASM, the sector has remained largely informal and inactive in most research locations. Despite their best efforts to create more jobs and sustain themselves, such a situation is leading miners to be stuck in a vicious cycle of joblessness, incomelessness, failure to pay for social and health insurance, and poor access to social services.	► Have consistent and stable pro-ASM policies and pro-formalization stances at the central and local government levels; ► Examine ways to allocate ASM land entitlements for longer periods, similar to LSM, to sustain miners' employment and social security; ► Establish a cross-sectoral coordination mechanism at the central level that is responsible for the formulation and implementation of ASM-related policies; ► Improve coordination between central, provincial, and soum-level government actors to share their learnings about artisanal miners and their experiences; ► Conduct training on formalization for government officials at all levels to improve their understanding of the responsible ASM, and supply chain; ► Include a social service-related section into the package training offered by the ASM professional organization (i.e., Artisanal and Small-Scale Mining National Federation);	Ministry of Mining and Heavy Industry, Ministry of Environment and Tourism, Mineral Resources and Petroleum Authority of Mongolia, provincial governments, and Artisanal and Small-Scale Mining National Federation
2	Healthcare	The primary healthcare service is undoubtedly essential for the well-being of the artisanal miners. Despite there being nine types of essential healthcare services available free of charge in all research	► Improve the cooperation and coordination between healthcare and other social service providers to make healthcare more accessible and inclusive:	Ministry of Health, General Authority for Health Insurance, Health Development Center, National

		locations, artisanal miners perceive the feasibility of primary healthcare differently. A regional difference is observed in miners' perception of primary healthcare which was rated as sufficient in Selenge and as insufficient in western provinces. Regardless, access to inpatient services at all healthcare levels, occupational disease-related rehabilitation centers, and referral practices for specialist care is found to be challenging for artisanal miners in terms of the direct (e.g. increasing out-of-pocket payment) and indirect (e.g. long waiting time, needed travel, opportunity cost) cost aspects. Additionally, in all locations, there were evident cases of deaths and disabilities due to accidents and poor OHS practices in place. In such cases, miners could not receive emergency care and/or first aid on time. Thus, this issue should be studied further. Furthermore, artisanal miners tend to have low health-seeking and healthcare-seeking behaviors, and low health awareness, especially male miners. Accordingly, it is common for them to have certain occupational diseases, both minor and major injuries, and chronic illnesses. It leads them to resort to self-medication, alternative traditional medicine, and supposedly healthy diets. This might be partially due to societal norms and common gender stereotypes that men must be tough and are socialized not to express their pains and discomforts. Whereas, women miners were better at seeking, navigating through, utilizing, and following up healthcare services because of their reproductive and caregiving roles and better awareness. Inevitably, age was	► Mandate social workers at bagh administrations and primary healthcare providers to register artisanal miners and create their database to consider and cover more miners in the healthcare and its policies; ► Allocate resources for and periodically deploy mobile clinics to ASM sites to enroll male artisanal miners in targeted health screening and preventive care; ► Encourage and ensure public service providers make synergetic efforts to improve artisanal miners' health education and healthcare-seeking behaviors; ► Promote, scale up, and institutionalize the best practices of deploying a team of medical practitioners to reach out to and provide needed healthcare services to artisanal miners; ► Aside from monitoring and supervision, conduct ASM-focused advocacy and information services at the ASM sites; ► Cooperate with local education NGOs and civil society organizations to develop a curriculum for and train professional workforce (e.g. OHS, health advocates, first aid focal points) for ASM; ► Assist artisanal miners to prevent and mitigate their health risks: ► Study the impact of the current scoping and targeting practices of public health activities; ► Enroll artisanal miners in miners' day and first-aid events that are being conducted at provincial and soum levels; ► Ensure existing healthcare meets the different needs of the artisanal miners: ► Take measures to include artisanal miners in health screenings semiannually with	Center for Public Health, Artisanal and Small-Scale Mining National Federation, and development partners

		also a factor in their healthcare-seeking behaviors. The older the miner gets, the more likely he or she is to turn to medical practitioners and healthcare providers. Coupled with different features of the ASM sector (e.g. seasonality, irregularity, migration, distant worksite, high occupational risks), these factors should be considered in improving and delivering appropriate primary care for artisanal miners to meet their differentiated needs.	consideration of their high exposure to occupational hazards and risks to prevent certain diseases and other chronic health complications; ► Enable spirometry at the primary care providers, as well as include it in doctor's bags for mobile use, especially in ASM communities; ► Strengthen the diagnostics capacity (e.g., x-ray, other technologies to diagnose heart diseases) of the family clinics and soum hospitals to detect some common diseases early;
3	Health insurance	The contributory part of healthcare is based on health insurance (HI), which is a pillar of healthcare financing. Currently, there are around 10 types of package services available as covered or subsidized by the Health Insurance Fund (HIF) through their provincial health insurance divisions and inspectors concurrently in charge of HI at the soum level. To further ease the interface and data management of HI services, there is a mobile application and electronic service to which all medical facilities and even large private practitioners are connected. Generally, the miners' access to HI-covered services was assessed as feasible and sufficient in all locations. In particular, it was found that artisanal miners were able to get HI-covered preventive and diagnostic care and treatments for chronic diseases and injuries in case of accidents in ASM sites. However, artisanal miners' experience of benefitting from it varies significantly depending on their needs and familiarity with the sector. Also, HI insurance is based on the solidarity principle and covers a major portion of almost all healthcare services beyond the first step, it was perceived as appropriate, except for a few concerns in	► Conduct training and re-training for public health practitioners to increase the personnel supply in rural communities; ► Examine and look for ways to identify and include the ASM-related cause category into the accidents and injuries in medical questionnaires, such as falling into a shaft, mine collapse, flying rock during drilling, and accidents on the way to or from ASM sites, to facilitate miners' entitlements to temporary incapacity benefits; ► Promote OHS focal points at ASM partnerships to act as health advocates to encourage, advise, and guide their male peers to seek healthcare services; and ► Examine opportunities to ease the requirement of 5-year retroactive payment of HI contributions for miners.

		the affordability and accessibility dimensions. As for affordability, HI contribution is found to be generally affordable, if not accumulated. The assessment identified that unpaid HI and its multiple-year retroactive payment requirements and out-of-pocket cost-sharing requirements are bringing certain challenges for the miners, which might impede miners' access to necessary healthcare services, resulting in delayed diagnostics and potential health deterioration. As for accessibility, the behavior-driven gender difference was observed that might impact their access to HI-funded healthcare. Thanks to their better awareness and better health- and healthcare-seeking behaviors due to their reproductive and caregiving roles (e.g. pregnancy, labor and delivery, and childcare), women miners tend to benefit more from available services, e.g. inpatient services, follow-up care, and discounted pharmaceuticals. On the other hand, special attention should be paid to male artisanal miners who tend to be neither insured nor sufficiently benefiting from the HI owing to their poor health knowledge and poor healthcare-seeking behaviors, especially informal miners.		
4	Social insurance	Overall, the social insurance (SI) system is an instrumental vehicle of the Mongolian social protection system. With a standardized interface, frontline services, and ongoing electronic service initiatives, it encompasses 12 types of services to mitigate and manage various natural concerns and risks, e.g., sickness, pregnancy, old age, disability, industrial accidents, occupational diseases, or even death.	Study the possibility of introducing the below arrangements to improve the existing regulatory framework: ► Make retirement entitlements of the voluntary insured miners the same as herders or LSM employees who are working in abnormal working conditions; ► With consideration of their irregular income and past absence of the ASM regulation, provide a service buyback window of opportunities for the miners to help them make up their	Ministry of Labor and Social Protection, General Authority for Social Insurance, Artisanal and Small-Scale Mining National Federation, and development partners

However, unlike other services studied, the SI was perceived as infeasible mainly due to affordability and appropriateness concerns. Generally, artisanal miners are subject to voluntary SI and are keen to be insured. However, despite being able to choose the lowest possible amount of SIC, it is challenging for miners to afford and pay it continually due to irregular and seasonal ASM operations, unstable revenue, and inconsistent formalization efforts. Consequently, SI coverage and benefits are found to be insufficient among artisanal miners compared to other rural population groups, again with a gender difference. Women miners tend to have relatively higher inclusion in SI, e.g., pregnancy, and maternity benefits, and old-age pension, because of their investment in previous service buy-back arrangements and the sex-specific maternity credits in place. Despite men making up 70% of the ASGM workforce, male miners are less insured than their female peers. However, they are the ones who need SI services more as their health conditions and capacity to work tend to deteriorate in young to middle age as a result of exposure to high occupational risks.

In addition, it can be concluded that artisanal miners have insufficient awareness in accessing and benefiting from a majority of the SI services, due to both SI systemic bottlenecks and personal factors. At the systematic level, there are certain areas to improve and better integrate artisanal miners into the SI system, with consideration of different features of the ASM sector and intersectional identities of the artisanal miners. At a personal level, the

service years for old-age pension;

- Facilitate the artisanal miners' entitlement to survivorship and disability pensions in case a voluntarily insured artisanal miner dies or loses his/her capacity for work more than 50% due to various accidents;
- Make efforts to differentiate the voluntary insured and unemployed insured in the current system to improve the financial proof aspect of the self-employers;
- Operationalize the insured category of artisanal miners for reporting, decision-making, and targeted service-delivery purposes;
- Study and find solutions for the obstacles inhibiting miners to benefit from the temporary incapacity benefits;
- Enforce and institutionalize a practice of registering the cases of losing one's capacity for work due to minor and major injuries caused by industrial accidents in the ASGM sites, to facilitate miners' access in getting pensions and benefits from the Industrial Accidents and Occupational Disease (IAOD) fund;
- Clarify and propose solutions for the employment agreement-related obstacles for miners to facilitate their access to occupational-disease-related benefits;
- Make reference wage ceiling flexible for voluntary insureds to allow them to pay SI contributions at their desired amount;
- Provide partial SI contribution subsidies for miners who are identified as vulnerable groups according to their Proxy Means Test (PMT) scores;
- Introduce innovative approaches in the SI service delivery to increase its coverage:

		below factors are revealed to influence miners' low perceived benefit of the SI and poor SI service-seeking behaviors: ► Tendency to underestimate his/her livelihood-related risks and their impact on their health and capacity for work; ► Tendency to prioritize their today's subsistence over future benefits; ► Common beliefs among male miners that they will not reach retirement age due to high occupational risks; ► Tendency to pay SI actively when they get closer to retirement age; ► Limited awareness of SI (e.g., limited to pension only) and lack of awareness of other SI services; and ► Poor personal finance management practice and financial illiteracy due to relatively lower level of education.	► Send a notice to voluntary insureds to remind them that their SI agreement needs to be renewed or to pay SI contributions; ► Extend the timetable of SI hotline services to provide necessary information for artisanal miners; ► Encourage, monitor, and recognize local government officials' efforts to conduct training and advocacy activities to enroll more rural community members in the SI system; and ► Produce and disseminate simple paper-based communication products with inclusive language for miners.	
5	Social welfare	Social welfare (SW) is the main social safety net in Mongolia. On the whole, there are 72 types of SW services and 27 employment and labor relations-related assistance programs, targeting vulnerable groups. Similar to the other social services studied, the frontline service desks and e-service platforms are available in all locations. As artisanal miners are not specifically considered a vulnerable group in Mongolia (e.g. unless miners are scored as low-income earners according to their PMT score), there is neither a specific SW service nor a program targeting them. One interesting finding is that a low amount of SW cash assistance leads vulnerable groups to turn to ASM to sustain their livelihood. Also, as SW targets vulnerable populations and is serving as a	Further, enhance the miners' access to the SW programs: ► Improve the current practice of deploying a team of all local government officials to soum and bagh localities at the same time. For greater awareness impact, such trips can be grouped into two separate trips for artisanal miners: i) Employment, OHS, and SI services; and ii) State registration, taxation, and social welfare services; ► Attract and include artisanal miners in the OHS Month campaign every year to improve their OHS capacity and practices; ► Cooperate with leading members of provincial NGOs and/or active ASM partnerships in conducting OHS training and advocacy activities; ► Update the PMT scoring of the necessary rural population,	Ministry of Labor and Social Protection, General Authority for Employment and Social Welfare, Occupational Safety and Health Center, Artisanal and Small-Scale Mining National Federation, and development partners

		last resort for individuals who are not eligible for the SI system, appropriateness and affordability were assessed as sufficient, except for the employment support agenda. Indeed, it should be highlighted that artisanal miners tend to be left out of employment programs to support neither their salaried employment nor alternative livelihood nor their self-employment. In addition, there is a certain gap at the nexus of SI and SW services. An example could be funeral costs as some deceased miners, especially male and informal ones, are left without any such support. All the above factors impact the accessibility of SW services, which was assessed as relatively sufficient when miners are or become in need. The assessment came across several artisanal miners who have or used to have access to the different SW services. Again, the varying levels of awareness and gendered differences were at play, with women being accessible to more maternity and childcare-related SW services while men accessing SW disability benefits due to accidents and injuries in ASM sites. Lastly, informal miners were found to be at increased risk of vulnerability as they tend to be covered by neither SI nor SW.	with consideration of pandemic-driven shock; ► Look for ways to fill the gap in the provision of funeral costs; ► Create a registry of local artisanal miners to enroll miners in the employment, and social protection policies; ► Include and target artisanal miners in the local employment support programs; ► Disseminate and communicate SW-related information to economically vulnerable populations; and ► Introduce and enable a different scoring approach for the PMT assessment for the artisanal miners to eliminate vehicles from their scoring with consideration of their different needs to own vehicles, aiming to support their job creations in the ASM.	
6	Early childhood education	Formal early childhood education (ECE) is pivotal for not only artisanal miners but also their children. Essentially, access to ECE is perceived as feasible by the artisanal miners. To be precise, a few forms of standardized ECE services are available in all locations through mostly public kindergartens, with ready access, quality assurances for curriculum, and a standardized learning environment. Also, thanks to the government's	Improve access to ECE for miners' children: ► Increase the overall coverage of the ger kindergarten in rural communities; ► Study options for operating an alternative ECE service in the proximity of the distant ASGM sites; ► Local government and education sector actors to support the partnership-led initiatives to establish and operate summer ger	Ministry of Education and Science, General Authority for Education, Artisanal and Small-Scale Mining National Federation and development partners

consistent policy to take over, and sustain ECE services free of charge, the affordability and appropriateness were rated well. Also, unlike the capital city of Ulaanbaatar, ECE services were perceived as accessible by miners in the provinces studied. The only area that can be improved is related to the seasonality, distance, and migration characteristics of the ASM. Particularly, public kindergartens close during summertime which is a peak period for artisanal mining. Hence, miners who do not have relatives and support networks to rely on tend to struggle and worry about the upbringing of their young children. A ger kindergarten, a form of alternative education arrangement, can be an option to meet such differentiated needs of miners if it is operated and located at a permissible distance from ASM sites.	kindergartens in the form of the 'micro childcare service'.

The assessment emphasizes the importance of consistent policy support and effective collaboration and coordination among government and non-government stakeholders to formalize the ASM sector at large. The informality of the sector made thousands of artisanal miners susceptible to several challenges, including financial insecurity, social stigmatization, lack of social protection, poor OHS practices, susceptibilities to occupational risks, and gender-related vulnerabilities. Addressing these challenges requires a holistic approach, encompassing targeted interventions, and small but meaningful updates in the current regulatory procedures and practices of social service providers. The insights obtained from this assessment offer a roadmap for relevant stakeholders to improve collaboratively social protection policies that enhance the social well-being of artisanal miners. Besides, considering the diverse needs and experiences of artisanal miners in social protection initiatives is essential to ensure that these interventions are effective, inclusive, and responsive to the specific challenges faced by miners. Also, in moving forward, the artisanal miners should put efforts into initiatives aimed at social services awareness-raising, and education, improvement of their OHS practices, environmental stewardship, financial literacy and planning, community engagement, advocacy for their legal rights, and responsible supply chain practices. Lastly, the formalization of the sector will not only reduce various vulnerability and multi-dimensional risks of artisanal miners but also create many social and economic opportunities in the local development.

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Appendices

Appendix 1 Healthcare, Disaggregated by its Funding Source

State-funded essential healthcare services:	Health insurance-funded healthcare services:
► Expenses of obstetric care and services related to pregnancy, childbirth, and post-delivery ► Some of the pediatric care and services provided by the public hospitals ► Epidemiological and sanitation measures for communicable diseases, including disinfection and routine immunization ► Public health services and measures, and health care services provided during disasters and infectious disease outbreaks ► Treatment of individuals who have been injured or become ill while saving the lives of others under emergency or unavoidable self-defense situations ► Some of the treatments for tuberculosis, cancer, and mental illness ► Some drugs for diseases that require lengthy treatment and palliative care ► Medical and psychosocial rehabilitation services for victims and/or survivors of physical and sexual abuse and exploitation ► Emergency and urgent medical care, diagnosis and treatment of communicable diseases, and some assistance and services provided at the primary level of families, districts, and villages/baghs	► Inpatient services ► Outpatient services, follow-up, diagnostics, tests and treatment ► Daycare for outpatients ► Care and services provided by health institutions, such as palliative care centers, sanatoriums, rehabilitation centers, and nursing centers ► Discount on pharmaceuticals prescribed by medical doctors at family clinics, soum or village health centers, clinics, maternity hospitals, province- or district-level central hospitals, emergency centers, occupation-based special hospitals, and specialized hospitals ► Some rehabilitative, home, daycare for outpatients, diagnostic, and testing services provided by family, soum, and village/bagh health centers ► Day case care for cancer chemotherapy and radiotherapy ► Treatment of associated diseases preceding the 37th week of pregnancy and the post-natal period ► Remaining portions of healthcare services that are not covered by the universal scheme ► Isolation and treatment of individuals and their contacts with communicable diseases that may pose a public health hazard ► Forensic outpatient assessment and post-mortem examination services ► Prevention, early detection, or routine diagnostics, tests, and immunization against communicable diseases scheduled based on age, sex, and health risk of individuals.

Appendix 2 Voluntary Social Insurance Services, and Their Eligibility Requirements

Types of Insurance	Concerns or risks	Sub-categories of the benefits	Eligibility requirements	Additional conditions and remarks	Relevance to voluntary SI
Pension insurance	Old age	Old-age pension	In general, it is required to meet the sex-specific requirements of the retirement age, and service years, which are different for each individual depending on her/his birth year and retirement year. As per the government-approved SI reform plan, the retirement age is gradually increasing to reach 65 years old for both men and women while service years to vest pension are going to reach 25 years by 2037. ► Accordingly, if an individual has 20+ service years with SIC payment and reached a predefined retirement age, he/she is eligible for a full pension. ► On the other hand, if an individual has service years of 10 to 20 years and reached a predefined retirement age, he/she is eligible for a partial pension.	Supplements related to working conditions: Individuals who have worked in below abnormal working conditions are eligible for early/facilitated retirement. ► underground ► high heat ► hazardous conditions ► difficult conditions. Specifically, men who have 20 years of service, with more than 10 years of underground mining work experience, and who have paid SIC can retire at 50 years old without any benefit reduction. Supplements for mothers: Generally, 1.5 years per child is added to the service years of the mothers when they retire. Also, mothers who have brought up 4 or more children and who have 20 years of service can retire at 50 years old, if they wish. Supplements for herders: Due to their important role in keeping cultural heritage, herders can retire 5 years earlier than the general population. Precisely, male herders who have paid SIC under a herder category for not less than 15 years can retire at 55 years old, while female herders who have paid SIC for not less than 12.5 years as a herder can retire at 50 years old. In addition, it is regulated that the government is to waive 50% of their SIC for a period of up to 5 years.	► The full and partial pensions are applicable to the voluntary SI, but supplements related to underground working conditions do not apply to voluntary insureds. ► It applies to all mothers who have children, including voluntarily insured. ► As herders are considered self-employees, they are subject to voluntary SI.
	Disability	Disability pension	An individual has to meet one of the below	Incapacity for work has 2 levels. As per	► It applies to voluntary SI.

			requirements and has faced more than 50% of incapacity for work to be eligible for a full disability pension. Specifically: ► Has paid the SIC for not less than 20 years period OR ► Has paid SIC for 3 years out of 5 years before his/her disability Comparatively, if an individual has paid SIC for not less than 3 years and has 50% incapacity, he/she is eligible for a partial disability pension.	assessment and accreditation by a designated committee, if an individual has lost her/his capacity for work by 70% or more, he/she is considered as a full permanent disability. If one has lost her/his total capacity for work by 50-69%, he/she is considered to have partial permanent incapacity.	► It applies to voluntary SI.
	Death of a breadwinner	Survivor's pension	A deceased has to meet one of the below requirements, so his/her dependents with incapacity for work will be eligible for a full survivors' pension. ► Has paid the SIC for not less than 20 years period OR ► Has paid SIC for 3 years out of 5 years before his/her disability. Alternatively, if a deceased has paid SIC for not less than 5 years and continually paid SIC for the last 12 months, his/her dependants are eligible for a partial survivorship pension.	A variety of dependents is defined to be eligible for this benefit depending on their age, ability to work, and relationship with and dependence on the breadwinner.	► It applies to voluntary SI.
Benefit Insurance	Temporary incapacity due to regular sickness and household accidents	Temporary incapacity benefits	An individual is required to have paid SIC for a 3-month or more before a case of such temporary incapacity.	It has to be provided based on the hospital's confirmation for the needed inpatient treatment, with a predetermined maximum length of stay based on diagnostics, until his/her capacity for work is fully restored.	► It applies to voluntary SI.
	Pregnancy and maternity	Pregnancy and maternity benefits Funeral cost	To be eligible for pregnancy and maternity benefits for 4 months, a woman is required to meet the below requirements. ► Has paid SIC for not less than a year in total, of which the last 6 months	If both mandatory and voluntary insured mothers deliver another baby during her maternity leave, the same amount of benefits will be provided to her. For a mandatorily insured mother, her	► It applies to voluntarily insured mothers with a mentioned difference.

			have been a continual payment. Has delivered a full-term baby or has delivered a premature baby after 196 days of germination or a viable baby.	employer is required to continue paying her SIC payment while she is on pregnancy and maternity leave for up to 2 years. Meantime, 50% of the SIC of voluntarily insured mothers who are taking care of their children aged 0-3 years is covered by the government based on the minimum SIC amount.	
	Death		It is required that the deceased must have paid SIC for at least 3 years.	If an insured has died due to IAOD, service years shall not be considered.	► It applies to voluntary SI.
Industrial Accidents and Occupational Disease Insurance (IAOD)	Disability, death of a breadwinner, and temporary incapacity due to industrial factors during employment	Various pensions, benefits, and assistances from the IAOD fund	Any health damage and injuries due to accidents that happened at one's workplace, during the preparations for and after his/her workday while tidying up one's workstation and tools, or commuting to and back from the workplace. It is based on the percentage of incapacity owing to the abovementioned accidents and occupational diseases, which is assessed and defined by the hospital's labor accreditation committee.	If an insured has died or has become temporarily incapable or permanently disabled due to IAOD, a variety of assistance is provided regardless of his/her service years, as follows: ► Disability and survivorship pensions ► Benefits for temporary incapacity ► Cost to rehabilitate one's capacity for work (e.g. prosthetics or orthopedic devices, cost of medical treatment abroad, if necessary) ► Coverage of pension insurance contributions of person who become disabled ► Costs of rehabilitative sanatoriums and 2-way travel ► Cost of preventive measures	► It applies to voluntary SI.

Appendix 3 Existing Social Welfare Services

SW categories	Target beneficiaries/Service types	Types of available support	Periodicity
SW assistance and services for vulnerable population groups			
SW pensions	► Men aged 60 and women aged 55 years old or above who do not qualify for SI pensions ► A dwarf person 16 years old and above ► A person with disabilities aged 16 years old and above who has lost 50% or more of his/her capacity to work ► A child under 18 years old who lost their breadwinner ► A single mother aged 45 years old or above or a single father aged 50 years old or above with four or more children under 18 years old	5	Monthly
SW benefits for caregivers	Caregivers who are taking care of individuals who need permanent care, including: ► A person with disabilities aged 16 years old and above ► An elderly person ► A child aged up to 16 years old who needs permanent care Caregivers of orphans, including, including: ► An individual who legally adopted an orphan ► An individual who is acting as a legal guardian of an orphan Caregivers of vulnerable children according to provision 25.5 of the Family Law and children who need emotional and physical protection due to violence, including: ► An individual who fosters a child of a jail inmate ► An individual who fosters an orphan ► An individual who fosters a child whose parents are deemed to have lost their legal capacity or whose parental rights are restricted or terminated ► An individual who fosters a child of individuals who are hospitalized long-term ► An individual who fosters a child who is exposed to emotional and physical harm due to violence and who needs protection. Caregivers of single and elderly persons or persons with disabilities who do not have family or relatives to take care of themselves ► An individual who is taking care of a person with disabilities in his/her home ► An individual who is taking care of an elderly person in his/her home.	12	Monthly
SW benefits for funeral costs	In case of death, funeral costs are provided to: ► A deceased elderly person who is not eligible for the funeral cost under the SI legislation ► A child with disabilities ► A person with disabilities	3	One time
SW benefits for special cases	Individuals who are considered special cases, including: ► An individual aged 18-24 who became an orphan before his/her 18th birthday; ► A member of a household who lost their homes or whose homes became inhabitable due to	4	One time

	unprecedented or unpredicted events, accidents, or other emergency causes, OR who lost their sources of livelihood ► A family member or individual who is released from jail and needs SW assistance due to homelessness ► A homeless single parent who has 4 or more children aged below 18 years old and who is in great need of SW support and assistance		
SW cash allowances for livelihood support	Cash allowance for livelihood support, including: ► Quarterly allowance for a person with disabilities who needs permanent care ► Monthly allowance for a child aged up to 16 years old who needs permanent care ► Quarterly allowance for an elderly person who needs permanent care	3	Quarterly or Monthly
Community-based care services	A member of a targeted household or an individual from a vulnerable population, who can greatly benefit from: ► Training ► Counseling/legal assistance ► Rehabilitation services ► Temporary placement and care for an abused person and children in a difficult situation ► Daycare service for children in difficult situations, persons with disabilities, and elderly persons ► Home care services ► Other SW services based on the individuals and their families ► Confidence building with documentation support for a homeless person ► Socialization, community building, and livelihood support, and life skills training	10	Annually, or when needed
Institutional care services	Individuals, who are not eligible for community-based care services: ► An alone and incapable elder who does not have a child or family support, or whose child is found invalid or too old to take of his/her elderly parents ► An alone and incapable elder who can not live on his/her own or whose caregiver committed violence against him/her ► A single person with disabilities who can not live on his/her own ► A single person with disabilities who needs professional care and a special condition ► A child in difficult situations, such as one specified in provision 25.5 of the Family Law or whose parents are disabled and under permanent care ► Multiple birth children aged up to 4 years old whose parents requested to put their children in a specialized care center	4	When needed
Social development services	► Educational support: Discounts on school supplies, textbooks, and uniforms for children in various vulnerable conditions ► Health support (monthly): Partial and full exemption from HI contribution for members of a target household who need SW assistance in terms of their livelihood ► Food and nutrition support: Food stamps for members of a target household who need SW assistance in terms	3	Annually or Monthly

	of their livelihood, and provision of hot meals for homeless persons		
Supports and discounts for the elderly	Elderly people are entitled to 11 types of support and discounts for: ► Orthopedic and prosthetic devices ► Stays in and travels to and back from sanatoriums ► Support for public transport ► Support for medical purposes travel ► Fuel support ► Rental fee support ► Voucher for sanatorium ► Other support for the elderly, etc.	11	Annually or when needed
Assistance and discounts for persons and children with disabilities	Persons and children with disabilities are entitled to 16 types of support and discounts for: ► Orthopedic and prosthetic devices ► Stays in and travels to and back from sanatoriums ► Support for public transport ► Transport support for medical purposes travel ► Fuel, and rental fee support ► Kindergarten fee, and transport support for travel to and from school and kindergarten ► Travel to reside in the provincial center or capital city during their study ► Voucher for enrollment in children's summer camp ► Rehabilitation and hydrotherapy treatment ► Communication and portal services ► Cash support for medalists from Olympic, continental, and world-class sports games and tournaments	16	Annually or when needed
General cash assistance			
Additional allowances and discounts for the elderly with state merits	Elders who have been awarded state honors and medals for their merits	6	Monthly or when needed
Old age endowment	Elders aged above 65 years old who are eligible for 4 levels of allowances	1	Semi-annually
Cash allowance for mothers and single parents who have many children	Allowance for mothers on pregnancy and maternity leave, multiple birth children, and single parents who have many children	3	Monthly and quarterly
Salaried Motherhood Program	Mothers who are taking care of the children aged 0-3 years old	1	Monthly
Cash allowance for Mothers Glory medalists	Women who have given birth to 4 (Mother's Glory II) and 6 or more (Mother's Glory II) children	1	Annually
Benefits for reindeer people	Reindeer herders who are acting as a custodian of their cultural heritage	1	Monthly
Child Money Program	Children aged 0-18 years old	1	Monthly
Support for multiple birth children	Assistance for parents of multiple birth children aged up to 4 years old who are growing healthy	2	Onetime

Source: Social Welfare e-Service system (ehalamj.mn) and Sarkhad (2023)

Appendix 4 Research Tools

A. Key Informant Interview No.1: Guiding questions

Existing social protection policy

1. Does your organization have a policy goal to include self-employees, including artisanal miners, more in social protection services? If so, can you please share any such goal that your organization is achieving or struggling with?
2. Can you please share your planned activities to increase the artisanal miners' inclusion in the SI and SW programs?
3. Which SI and SW services do miners tend to seek and benefit more?
4. What are the eligibility criteria for miners for retirement? Does facilitated retirement due to underground working conditions apply to artisanal miners? If not, what could be the obstacles?
5. What kind of services do women miners seek and receive from SI and SW programs?

Industrial accidents and occupational diseases and healthcare service

6. How often do industrial accidents and injuries happen among artisanal miners? What kind of support and relief do you provide to miners in such cases? How? Do you face any problems in providing SI or SW benefits to them in such cases? If so, what are those?
7. About enforcing OHS rules and regulations in ASM operations, what data is available at your organization?
8. Does your organization have responsibility for undertaking preventive measures against industrial accidents and occupational diseases? If so, what activities does your organization mostly undertake? How often?
9. Do you cooperate with any other organizations or groups in undertaking these activities?
10. Does your organization provide policy support in providing appropriate emergency care to artisanal miners?

Challenges and opportunities

11. In your opinion, what are the biggest challenges for artisanal miners in accessing social protection, including SI and SW services?
12. How can social policy be improved with consideration of the experiences and realities of artisanal miners?
13. Does your organization conduct any outreach activities targeted at artisanal miners? If so, how do you deliver training and advocacy activities to miners who are working at the ASGM site?

14. Is there any good practice in your province or soum to deliver SI and SW services to informal sector employees?
15. Is there any gender difference in SI/SW/HI coverage between male and female self-employees, in general? If so, why do you think there is a gender difference? Is it any different for artisanal miners?
16. How can ECE services be improved for artisanal miners' children?
17. Do you have any additional comments or questions?

B. Key Informant Interview No.2: Guiding questions

General healthcare practice and service availability

1. How many people and households do your soum/bagh have? How many of them are children and elderly people? How many of them do you think are artisanal miners?
2. Have you received your funding from HIF for 2022? When was the last transfer? What are the main difficulties in healthcare financing? Why?
3. How many employees does your clinic or hospital have? What healthcare services are available at your clinic or hospital? Are these services all covered by HI?
4. Do you have a designated public health specialist? If so, what is the role of your public health specialist? How does he/she communicate with local community members?
5. What is the capacity of your hospital for inpatient care?

ASM and healthcare

6. Have you noticed any difference between artisanal miners and other local community members in terms of their health situation and disease burden? If yes, what are those? Why is that?
7. Last year, did your clinic or hospital provide any medical assistance to people who were injured while working in ASM? What services did such a patient get? Was there any case of exposure to chemicals?
8. What kind of tests and examinations should artisanal miners take regularly to avoid high-risk and occupational diseases? Do you screen miners for silicosis and musculoskeletal injuries? Are these examinations covered by HI?
9. Have you ever seen a patient who showed symptoms of mercury intoxication?
10. How do you provide healthcare to rural community members, including herders, artisanal miners, and other residents? What are the main challenges in doing so?
11. Is there any healthcare initiative that especially targets artisanal miners or remote communities in general (e.g., mobile healthcare services in the ASM site)? Is there any good

practice or example that has been implemented successfully and that could be useful for improving overall service delivery to artisanal miners?

12. Do you know any ASM partnership leaders? Have you ever collaborated with them? Will you cooperate with them in the future, if the opportunity avails itself?

Others

13. In your opinion, is it necessary to make healthcare more accessible to some high-risk groups of the population, with specific consideration of the local context? If so, who could be the target population?
14. Are individuals required to make an appointment to get a service from your clinic or hospital? How do you check the HI status of a patient? What kind of information is available in the HI database?
15. Have you seen an artisanal miner who requires specialist care beyond the emergency room but could not get it because he/she is not insured? What do you do in such a case?
16. As far as you remember, what has been the most successful national health program or intervention in your locality? Why do you think it was successful?

C. Key Informant Interview No.3 and No.4: Guiding questions

Icebreaker

1. Whom do you live with?
2. How long have been living in this locality? Are you registered in your soum and bagh?

Health- and healthcare-seeking behavior

3. Do you get healthcare services from your soum hospital and bagh family clinic? If so, what services do you usually seek? How often do you get them?
4. Do healthcare providers remind you to come to their clinic or hospital for preventive or follow-up care? What kind of information was given to you at that time?
5. How satisfied are you with the healthcare that you are getting from your family clinic or soum hospital? Are you satisfied with how medical practitioners communicate with you?
6. Did you make an appointment? How was it? If it was difficult, why?
7. Do you feel that you have different health challenges and risks compared to other population groups? Do you feel that the health sector caters to these needs? If not, what would you like to be improved?
8. Have you ever paid for a healthcare service? Did it feel reasonable? Do you plan to see a private practitioner again?

9. How do you take care of your health? Are there any special precautions that you take as an artisanal miner to stay healthy?

ASM job, occupational health risks, and OHS practices

10. What do you usually do at the ASM site? Do you work in a processing plant as well? How far is your ASM site?
11. Have you ever heard about industrial accidents and occupational diseases? In your current job, do you think that you face the same occupational risks as other rural populations?
12. Are you worried about having an accident and not being able to work?
13. What should you and your partnership do to reduce the risk of ASM operations?

Health and social insurance

14. Do you have HI? How much do you pay? What is the percentage of your HI contribution? How did you get HI?
15. Do you get HI-covered healthcare services (e.g., discounted pharmaceuticals, sanatoriums, inpatient services, specialist care, blood, and urine tests, hearing aids, etc.,)? Which one do you get more often? Why?
16. Are you insured by the SI? If so, why? If not, why?
17. Are you aware of different types of SI? What are these? What services are available within the voluntary SI scheme?
18. Are you aware of any case that your peers within the same ASM partnerships avoid paying for SI? Why was that?
19. Did you face any other challenges in getting SI services? What were those?
20. How are you planning to handle your SI in 2023? If you have already renewed your agreement, when and how did you do it? How much do you pay for SI?
21. Do you use an online SI service, such as e-Mongolia? Is it user-friendly?

Social welfare and others

22. What SW services do you get? Where do you get information about available social SW services? Do you face any challenges?
23. Do you have a young or school-age child? Is your child enrolled in a kindergarten? Who takes care of your child when you work at the ASM site? How do you contact your children from the ASM site?

24. Would it be useful if there was a childcare service available at the ASM site? What if it's a paid service?
25. How does the ASM job contribute to your life? Are your earnings enough for your livelihood? If you stopped working at ASM, what financial challenges will you face?
26. Who will you turn to if you need a large amount of money for family needs or medical urgency?

D. Focus Group Discussion No.1 and No.2: Guiding questions

Healthcare and differentiated need

1. In general, from where do you usually get healthcare when you need it?
2. If you need urgent ambulance care, for example in an ASM site, can a doctor come to the site and see you? When, why, and how did you get such services?
3. Are there any challenges in obtaining healthcare? Are you able to get quality healthcare? Why?
4. Do you feel that as artisanal miners you face specific health risks (e.g. accidents, injuries, coughing due to dust exposure (silicosis), hearing impairment, health complications due to mercury)? If so, which ones?
5. Has anyone among you ever become temporarily incapable of working (e.g. had an accident at work and couldn't work for a while), or sick? If so, have you got a doctor's confirmation and temporary incapacitation benefits? If so, how difficult was it? If not, why couldn't you?

Social and health insurance

6. Do you have SI? If so, what type of insurance?
7. What are the benefits of getting covered by SI? What about the cons?
8. Where did you get this information about benefits?
9. Do you think the SI contribution amount is reasonable?
10. Has your partnership ever asked you to pay SI contribution? If so, did it feel like pressure?
11. Why is it difficult to be insured by SI?
12. Have you ever witnessed discriminatory treatment at various social service centers because you are an artisanal miner?
13. What is the difference between SI and HI in terms of its benefits?
14. It seems that it is common for artisanal miners to pay health insurance but not social insurance. Do you agree with this statement? If so, why?

Social welfare and others

15. What kind of SW services are you receiving? Where did you get information about these services?
16. Do you think that SW services meet your needs? If not, what kind of SW services and cash assistance do you want?
17. For a miner with young children, is formal early childhood education service accessible? How do you arrange your childcare when you work at the ASM site for an extended period?

E. Focus Group Discussion No.3: Guiding questions

ASM job-related risks

1. Compared to herders, is your access to these social services the same or different?
2. What are the needs for getting artisanal miners insured by SI?

Social and health insurance

3. Does your partnership advise its members to have SI? In general, how do artisanal miners perceive SI?
4. How many of your peers from the ASM partnership are insured by SI?
5. How do miners pay for their HI and SI contributions?
6. How motivated are partnership members to pay their SI and HI? Do you have to ask and demand many times? Do they request to delay the payment? How do you explain and justify it to them?
7. Are there any family members working together for your partnership? Are their spouses covered by SI?
8. According to the experiences of insured miners, what are the pros and cons of SI? When do artisanal miners feel that SI is useful? Is there any age difference? What about gender differences? If so, why?
9. What should be done to make ASM safer and socially just?
10. How does the local government support ASM partnerships and artisanal miners? Does formalization status matter?

Social welfare and early childhood education

11. Is it possible for formal miners to get SW services? For instance, what kind of SW services do they get regularly? What kind of social welfare services do they often fail to get?
12. How do parents with young children arrange childcare? Does a partnership do something about it? What do you do if a miner brings a child to an ASM site as he/she has nobody to look after his/her child?

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