

SOCIO-ECONOMIC BASELINE SURVEY REPORT FOR BORNUUR SOUM, TUV AIMAG

SWISS AGENCY FOR DEVELOPMENT
AND COOPERATION
SUSTAINABLE ARTISANAL MINING
PROJECT

HUGJLIIN EZED NGO

FOREWORD

Mining is one of the leading industrial and macro-economic sectors in Mongolia. For past 17 years gold production has been dramatically increased by about 30 times. The "Gold" program, implemented since the middle of 1990s has been significantly contributed to an increase in the level of gold production and also as result of external investment flows into the mining sector, volume of gold production has been grown up to 15,2¹ MT.

The sectorial share in GDP of Mongolia was 10% as in 2002 and for last 5 years the size has been increased by 3 times and reached at $28,2^2\%$ as in 2008. Also mining sector provided employment to 42,000 people (which is about 4% of the total man power) and generated more than $\frac{3}{4}$ of the total export income of Mongolia.

According to the World Bank survey in 2003 it estimated that there were approximately 100,000 artisanal and small scale miners in Mongolia and they sell gold with a value of USD 100 millions in a year. But the report, done by Mining Resource Authority of Mongolia in 2008 said that there were 54,000 artisanal and small scale miners, working at 100 mining sites of 18 aimags. 90% of the total artisanal and small scale miners are gold miners working in primary and alluvial gold mining deposits. However there is still a lack of evidence-based data and survey about the exact number of the artisanal and small scale miners in Mongolia and the main reasons for this limited information are directly related to the specific artisanal mining activity natures such as yield of gold, gold reserves and follow-up migration and temporary residential practices of the mining population.

The Bornuur ASM's socio-economic survey aimed to define the miners' livelihood quality, gold mining and employment status, occupational health and safety environment, contribution towards local economy development, quality and access to health and social welfare services, organizational and institutional structures and partnering in Bornuur.

The application of both quantitative and qualitative methods as well as ensuring the participation of relevant stakeholders are unique characteristics of this survey.

We recommend that the SAM project team, Bornuur ASM NGO people and other key stakeholders use the survey findings as a tool for joint activity planning, project impact monitoring and strengthening cooperation and collaborations of the relevant parties.

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¹ MRAM-Mining sector report 2008

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V. Bertsetseg

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ACRONYMS

MRAM	MINING RESOURCE AUTHORITY OF MONGOLIA
ADB	ASIAN DEVELOPMENT BANK
БОЯ	MINISTRY OF ENVIRONMENT AND NATURE
GDP	GROSS DOMESTIC PRODUCT
WB	WORLD BANK
UNDP	UNITED NATIONS DEVELOPMENT PROGRAM
MCTIC	MONGOLIAN COOPERATIVE'S TRAINING AND
	INFORMATION CENTRE
MNTV	MONGOLIAN NATIONAL TELEVISION
MDG	MILLENNIUM DEVELOPMENT GOALS
NGO	NON GOVERNMENT ORGANIZATION
SAM	SUSTAINABLE ARTISANAL MINING PROJECT
MRS	MINING RESCUE SERVICE
MMRE	MINISTRY OF MINERAL RESOURCE AND ENERGY

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CONVERSIONS AND TERMINOLOGIES

1 troy ounce – 31.1035 grams 1 liang – 37.5 grams 1 tsen – 3.75 grams 1fyn – 0,375 grams

Settled ASM= An ASM who has been engaged in gold mining for a year-round Mobile ASM= an ASM who is engaged in gold mining on a temporary basis



GENERAL SUMMARY

The Research team studied the SAM project's objective, outputs and outcomes and reviewed all relevant material and documentation to develop the Bornuur soum socio-economic survey methodology and generated the following brief conclusions.

<u>SAM project goal</u>: The SAM project will contribute to the development of responsible mining in Mongolia by working together with all stakeholders to ensure that artisanal miners are recognized as responsible members of a key sub-sector of Mongolia's economy, contributing to sustainable rural development.

The survey found the following project objective-related circumstances in the target area:

Table 1. Main survey findings

Indicators	Percentage	Comments
Poverty rate	36.8%	Оролцооны аргаар авсан судалгааны үр дүн
Man powers' labor engagement level ²	63.5%	Man power to labor aged population ratio
ASMs' access to legal mining	0%	5-partiate MOU signed, but Temporary regulation-compliant 3-partiate agreement on provision of legal mining land between licence holder, Bornuur governor and Bornuur ASM NGO has not signed yet.
Accidents among ASMs	12.5%	Less serious, heavyish and felonious accidents included.

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² Mongolian Statistics Book 2008

A transparent and straightforward policy and regulatory Outcome 1: framework for artisanal mining is developed and implemented.

Table 1. Expected outcom			
Indicator	Percentage	Comments	
Percentage of ASMs working at legal mining site	0%	5-partiate MOU signed, but Temporary regulation-compliant 3-partiate agreement on provision of legal mining land between licence holder, Bornuur governor and Bornuur ASM NGO has not signed yet.	
Percentage of ASMs making regular social insurance payments	26%	Voluntary social insurance payment is 12,500 ³ tugriks in a month.	
Percentage of ASMs making health insurance payments	65%	Voluntary health insurance payment is 500 tugriks in a month and 6000 tugriks in a year ⁴	
Percentage of ASMs making regular personal income tax payments	10%	Personal income tax payment for uncertain income-earning people is 4000 tugriks ⁵ in a month	

 ³ Social Insurance Law of Mongolia
 ⁴ Health Insurance Law of Mongolia
 ⁵ Personal Income Tax Law of Mongolia

Outcome 2: The formation and operation of institutional structures and organizations within artisanal mining at all levels to be improved.

Table 2. Expected outcom			
Indicators	Percentage	Comments	
An ASM national-level organizational structure that is working for the protection of ASMs' rights that has nation-wide activity networks and close multi-stakeholder partnering	68%	Percentage of ASMs among total survey participants	
Percentage of ASMs with a good knowledge and support of the NGO's activities	85%	Percentage of ASMs among total survey participants	
Addressed one of the immediate priorities facing ASMs at the national and local levels	Good ⁶	Ore processing plant establishment, mining land and other issues aiming to protect ASM's rights have been resolved with full support from Bornuur ASM NGO	
Number of ASMs' unregistered partnerships	65	-	
Number of ASMs organized into unregistered partnerships	196	-	

⁶ Participatory data analysis used quality measurements such as good, medium, bad.

Outcome 3: Improve the capacity of artisanal mining communities to engage in profitable and responsible mining and extended business activities

Table 3. Expected outcome 3			
Indicators	Percentage	Co	omments
Ore processing capacity of HAMO company (daily)	~16 MT	_	mills are operating Il's daily capacity is
HAMO company's gold recovery rate out of 1 MT of ore	~74%	_	o the information MO company's erators
Daily cash income, generated by HAMO company's ore processing plant	~2,160,000 tugs	payment is 1 1 MT of ore	cessing service 100,000 tugriks per and approximately ores are being a day
INDICATORS	Daily	Weekly	Monthly
ASM's income earning days	-	3 days	15 days
Size of the gold mined by ASMs (daily, weekly and monthly in grams)	0,6 gr	1,8 gr	9gr
ASMs' average income (daily, weekly and monthly)	24000 tug	43200tug	360000 tug
Average monthly salary for people working in local businesses and organizations in Bornuur.	-	-	237000tug ⁷

 $^{^{7}}$ The local socio-economic statistics, developed by Tuv aimag's statistics office, $\,$ October 2009

Outcome 4. Artisanal miners and other resource users are empowered to responsibly address and solve existing and potential ecological and social conflicts

Table 4. Expected outcome 4

Indicators	Percentage	Comments
Percentage of criminal cases related to the ASMs	1.9%	According to the local policy statistics
Conflicts related to the gold mining activities	Many ⁸	According to the focus group discussion and key informant interview findings (mining shaft, labor distribution, profit sharing, equipment use and lease and etc).
Ore processing practices using chemical substances that negatively effect ecology and human health (Hg)	None	With a financial support of SAM project, in Febraury 2008 a Mercury free ore processing plant was established in Bornuur soum and since then mercury using ore processing practices have been stopped in Bornuur.
Re-processing practices of the plant tailings	None	No attempts to re-process the plant tailings.
Negative ecological impacts of the gold mining activities	Less	Surroudning environment contamination from household wastes and tree cutting bad practices are in place at Sujigtei mining site.

⁸ Participatory data analysis used quality measurements such as good, medium, bad.

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1.1. Introduction

There is a continuous demand for gold and its price continues to rise in the world market and South African countries, USA, Canada, Russia and China lead in terms of gold mining. In Mongolia, the Government programs "Gold 1" since 1990 and "Gold 2" since 2000, have encouraged domestic and foreign investment in gold mining.

For last 17 years gold production of Mongolia has been increased by 30 times. However, significant amendments by Parliament of Mongolia, made to the Mineral Law in 2006 and Windfall tax law of Mongolia have hegatively impacted on mining sector, specially gold production sector. Consequently volume of gold production has been continuously decreased from 24.1 MT as in 2005 to 15, 1 MT as in 2008.

According to the report of Mineral Resource Authority of Mongolia, there are 54,000 artisanal and small scale miners working at 100 mining sites of 18 aimags. 90% of the total artisanal and small scale miners are gold miners working in primary and alluvial gold mining deposits. However there is still a lack of evidence-based data and survey about the exact number of the artisanal and small scale miners in Mongolia and the main reasons for this limited information are directly related to the specific artisanal mining activity natures such as yield of gold, gold reserves and follow-up migration and temporary residential practices of the mining population.

Since 2005 Swiss Agency for Development and Cooperation and Mineral Resource Authority of Mongolia have started to implement the Sustainable Artisanal Mining Project with a aim to contribute to the development of responsible mining in Mongolia by working together with all stakeholders to ensure that artisanal miners are recognized as responsible members of a key subsector of Mongolia's economy, contributing to sustainable rural development.

Under the agreement with the Sustainable Artisanal Mining project, Hugjliin Ezed NGO carried out the Bornuur ASMs' socioeconomic baseline survey.

1.2 OBJECTIVES AND OUTPUTS OF THE SURVEY

1.2.1. Objectives of the survey

The objectives of the study were to assess the socioeconomic conditions in Bornuur soum, to identify how local ASMs' activities and income they derived from gold mining contributed to local economic development and to assess the environmental impact of their mining activities.

1.2.2. Outputs of the survey

- A Study of the Bornuur ASMs' socio-economic conditions and assessment of the ASM's activity impacts on ecology and environment.
- A calculation of the amount of gold mined by ASMs, a study of the ASMs' market trend and the prevailing market price for gold and an analysis of ASMs' income and expenditures.
- 3. Identification of the ASMs' contributions to the socio-economic development of the soum.
- 4. A Comparitive analysis of the ASMs' and total soum population's livelihood situations
- 5. A study of ASM's health and occupational safety conditions and their reliance on the use of toxic substances.
- A description of the types of ASMs' partnering and organizational structures
- 7. Identification of the public perception about ASMs' contribution to the local economic development and environmental impact assessment

1.3. TIMELINE OF THE SURVEY AND METHODOLOGY

Under the agreement with the Sustainable Artisanal Mining project, the Hugjliin Ezed NGO's research team conducted the survey by developing methodologies, taking samples, collecting and processing data, analyzing the data and producing final report, covering the period between December 07, 2009 and January 11, 2010. The Sustainable Artisanal Mining Project team members advised on processing and interpreting data, developing results, writing reports and assessing information accuracy and reliability.

In line with predetermined survey guidelines, quantitative and qualitative survey methodologies were employed to facilitate the collection of the data. The following methodologies were used:

- Observations
- Comparisons
- Mapping
- Village visit
- Screening
- Focus group discussion
- Key informant interview
- Case studies
- Questionnaires
- Quarterly calendar keeping

Content of the questionnaire:

- Introduction (Part 1)
- Family livelihood condition (Part 2)
- Migration, local registration (Part 3)
- Gold mining and employment (Part 4)

- ASMs' income and expenditure (Part 5)
- ASMs' health condition and access to health services (Part 6)
- Social welfare and social insurance (Part 7)
- ASMs' organizational structures and partnering (Part 8).

90% of the questions were multiple-choiced questions.

Target groups of Interview:

- Soum governor and authorities
- Social welfare department officers
- Soum's hospital doctors
- Soum's policy officer
- Environment Inspectors
- Khaan Bank
- Petrol station
- Traders and service entities
- Artisanal small scale miners
- Others

1.4. SURVEY SAMPLING

The population of Bornuur soum, aged above 18 was used as a general sampling group, with survey participants selected via random sampling.

Taking into account seasonal fluctuations and area-specific geographic difficulties in calculating the exact number of ASMs, there was a 5-percent probability of error. On the basis of these calculations, the survey targeted 100 ASMs working in Sujigtei site of Bornuur soum.

Of the 100 miners who took part in the survey questionnaire, 93% were Bornuur soum's native people and 7% were miners from other parts of Mongolia, such as Zuunkharaa, Bayankhongor, etc.

1.5. DATA ANALYSIS

The Statistical Package for Social Survey (SPSS-17) program was used for quantitative data entries, impact analysis and data processing.

In terms of qualitative data analysis, Simple text analysis and matrix analysis were used for impact analysis and data processing.

1.6. PROCESSING DIFFICULTIES ENCOUNTERED DURING THE SURVEY

- It took a considerable amount of time to calculate the incomes and expenditures of ASMs as they have poor budgeting and expensecalculation skills.
- Most of the survey participants were men, who were unprepared to provide accurate information about family accounts and expense breakdowns;
- Due to the close celebration of the New Years' Festival and extremely cold climate, there were few miners working at Sujigtei mining site.
- Because some private questions, like family income and expenditurerelated questions were included in the survey, some participants misunderstood the purpose of the survey and were reluctant to respons openly; and
- Some ASMs were not comfortable to give information as they were afraid of someone else and they provided limited information.



2.1. GEOGRAPHICAL LOCATION, DEMOGRAPHICS AND SOCIO-ECONOMICS-RELATED GENERAL INFORMATION

Tuv aimag's Zuunmod city is located 45km south east from Ulaanbaatar. In 1923 the city was founded under the name of Bordkhan Mountain aimag. The aimag has a total land area of 74,8 thousands square km and 16,4% of the total land area are covered by forestation, 36,5% are steppes. In terms of the geographical location, tha aimag is part of the Khangai, Khentii mountain ranges and Dornod Mongolian steppe ranges. The aimag has an altitude of 200-1,500m. The northern parts of the wide mountain ranges are very suitable for agriculture for its brown and black soil and the southern parts of the aimag territory are steppes. The Mongolian capital city Ulaanbaatar is located in the aimag territory and the aimag has well-developed industrial infrastructure such as communication, auto and railway networking.

Figure 1. Tuv aimag's geographical location



In terms of administration unit, the aimag is divided into 27 soums and 102 bags. As of 2008 Tuv aimag has 86,800 population from 25,100 households. Of the total population, 51,8% or 44,962 were men, 48,2% or 41,837 were women. Of the total households, 19,5% or 4,894 households were vulnerable poor, 23% or 5,773 were poor families and there were 2,646 women-headed

households. Of the total population, 15% were pre-school aged children under 7 and 34,4% were children aged 8-16 years old.

The aimag is the main agricultural zone of Mongolia and also rich in gold, coal, granitic rocks, iron ore, plumbum, tungsten steel, crystal, fluorspar, turquoise, lazurite, chalcedony, stannum, etc.

As of 2008 there were 4,644 exploration and exploitation licences in the Mongolian territory. 22,8% or 1,060 out of 4,644 licences were exploitation licences and the remaining 3,584 were exploration licences.

The total licenced areas were 44,810,000 ha of land, which was 28% of the total Mongolian territory. Out of 1,060 exploitation licences, 462 or 44% were gold exploitation licences. The heavier licenced aimags were Tuv, Selenge, Dornogobi, Umnugobi and least licenced aimags were Gobisumber and Orkhon aimags.

There were 536 exploitation and 174 exploration licences in the aimag territory. In terms of the licenced land size, 1230,714 ha of land fell under exploitation licenced areas and 44,140 ha fell under exploration licenced areas. The heaviest gold mining licenced aimags were Tuv, Selenge, Bayankhongor and Darkhan Uul aimags.

In 2008 52,8% of the total aimag budget revenue came from taxes, dues, fees and charges. Of the total tax and due packages, 21,5% were mineral resource use payments and 10,4% were natural resource use payments and dues.

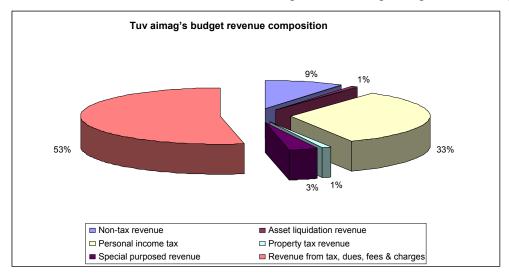


Figure 2. Tuv aimag's budget revenue composition

As of November 2009, an average budget revenue per a capita was 69,000 tugriks and an average budget expenditure per a capita was 243,980 tugriks. According to the budget expenditure breakdown analysis, 57,27% of the total budget were spent for government workers' salaries, 29,93% spent for local

government organization's operating costs such as rent, stationaries, communication, per-diem, publication, uniforms, etc and the remaining 12,8% spent for investment, social insurance payment, allowances to students, other one-time allowances and renovation works.

The aimag has 32 secondary schools and there were about 15,000 children in the secondary schools. In terms of health service quality, there were 394 patients per a health worker. An average health worker's workload was very high as compared to the state average.

In 2005 there were 647 business entities and as of December 2008 number of business entities was increased by 721⁹.

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⁹ Statistics Yearbook, 2008

2.2. BORNUUR SOUM'S GEOGRAPHICAL LOCATION, DEMOGRAPHICS AND SOCIO-ECONOMICAL SITUATION

Bornuur soum is located in the northern part of Tuv aimag and shares a border northwards with Selenge aimag's Bayangol, Mandal soums, southwards Tuv aimag's Jargalant, Bayantsogt and Bayanchandmani soums. The soum is located 100 km from Ulaanbaatar city and 150 km to the north-west from Zuunmod city of Tuv aimag. The soum has a total land area of 114,000m². The soum has an altitude of 900-1,500m; the highest area is Gunan river basin (1,728m). It prevails continental climate in the soum territory and annual precipitation is 265mm, an average winter temperature is -35C, summer temperature +25°C to +30°C. The population density of the soum is higher than the other soums and there were 4 people in every 1km² of land.

Tuv aimag's Bornuur soum has a population of 4,677 people from 1,315 households. An average family size is 4.8 people. In terms of administration unit, the soum has 4 bags; Uguumur, Nart, Bichigt and Mandal. There were 1,402 people of 414 households in Uguumur bag, 986 people of 265 households in Nart bag, 1,220 people of 342 households in Bichigt bag, 1,069 people of 294 households inMandal bag. Of the total soum population, 64,8 percents were working age population. Of the working age population, 48.9 percent were women and 51.1 percent men.

Of the total soum population, 27,4 percent or 1,282 were children, aged 0-14 years, 68,2 percent or 3,192 were children, aged 15-64 years, 4,34 percent or 203 were people over 65. There were 945 unemployed people in the soum. There were 1 kindergarten with a capacity 100 children, 1 secondary school with 987 children, 1 dormitory with a capacity of 75 children, 1 library and 1 cultural centre in the soum.

2.3. BORNUUR SOUM'S MINERAL RESOURCES, MINING SECTOR'S PRESENT SITUATION, ARTISANAL AND SMALL SCALE MINING DEVELOPMENT STAGES

In terms of geographical location, the soum is located in the favorable climate region with fertile soil and rich in forestation, water, gold, iron ore, volfram, abundant supplies of high quality sand and gravel and other minerals. Specially Tuv aimag is also rich in granitic rocks, iron ore, plumbum, tungsten steel, crystal, fluorspar, turquoise, lazurite, chalcedony, stannum, etc.

Tuv aimag is one of the heaviest exploration and exploitation licenced aimags of Mongolia. Tuv aimag has 536 exploitation, 174 exploration licences. In terms of licenced area size of Tuv aimag, 1,230,714 ha of land fall under exploitation licenced areas and 44,140 ha of land fall under exploration licenced area. The biggest licence holder of the aimag is the Canadian invested "Centerra Gold" company. The Centerra Gold company's licenced area was 600 ha of land. Since 1997 the company has started gold mining operations in the aimag's territory. Also there were many other gold mining companies in the aimag, namely "Gunbileg" gold mining exploitation licence holding company operating in "Khargant" primary gold mining deposit of the aimag.

In socialist times the soum's development focus was the agriculture and livestock farming. Due to the socialist system collapse, frequently occurring natural disasters; dzud and droughts, herders and farmers have faced hardships to continue their agricultural and livestock farming business and activities. Consequently some local people have left the soum to the city for seeking alternative income generating opportunities in order to survive their livelihoods and remaining people have started to do gold mining for earning their livelihoods. Illegal gold mining activity arrival stages were shown in the below figure ¹⁰.

Gold mining activities have created many positive and negative consequences to the society, which of them was a mercury use at hardrock deposit. According to the 1995-2005 survey material review, it said that there were about 400 artisanal

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^{10 03} WB Overview of artisanal mining in Mongolia

and small scale miners in Bornuur soum and one miner recovered 223,8 grams of gold by using 400 grams of mercury in one year. As stated above, amount of mercury, used by artisanal and small scale miners in Bornuur was very high. Of the total amount of mercury, used by the ASMs, 85 percent were imported from China.

The remaining percent were procured under different supply chains, such as hand to hand deals of leaked mercury in Boroo river.

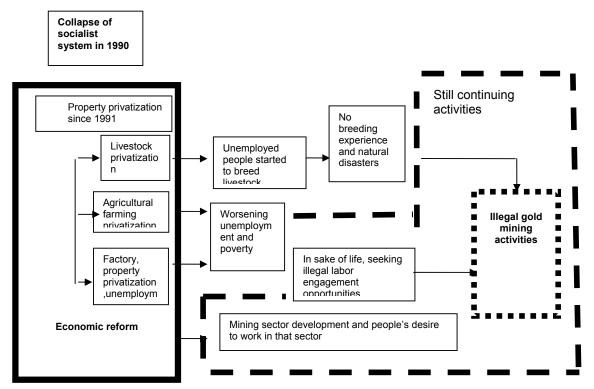


Figure 1. Artisanal and small scale mining arrival history

Due to the excessive use of chemical poisonous mercury in primary gold mining activities and careless transportation and storage of the chemicals, in 2007 under the order of prime minister of Mongolia, the State Inspection Agency carried out visual inspections and examinations in the implementation of Chemical Poisonous and Dangerous Substance Law and as a result 147 mercury using mills were confiscated and discarded.

On one hand this decision was significantly sypportive measure to address immediate priorities to human health and environment, however on the other hand it abolished livelihood making sources of thousands of people and hit their

life and livelihoods. Therefore the artisanal and small scale miners in Bornuur initiated and established an ASMs' NGO with purposes of protecting their rights, legalizing their work places and income under existing legal framework.

The Bornuur ASMs' NGO has started its operations under the call of mercury free life and work and organized "Mercury-free Life" consultative meeting in Bornuur soum. As a result of the meeting, a "mercury-free ore processing plant" concept paper was operationally and financially supported. The project was implemented by the HAMO company, initiated and founded by Bornuur ASM NGO and mercury free ore processing plant has started operating since 2008.

However, the results of observations and discussions indicated that enabling legal environment for regulating small scale mining activities was incomplete and missing at some extent. Also the study showed that legally-sound small scale mining could generate numerous work places, reduce unemployment and poverty and contribute to the local sustainable development. For last decades, the government of Mongolia has adopted numbers of small-scale mining-related legal acts and policies:

- Government Resolution No 28, Regulation of artisanal and small scale miners' activities
- 2. Mongolian Government's Sub-program of "Small-scale mining development upto 2015"
- 3. Government Resolution No 72, Temporary Regulation of artisanal and small scale mining activities.

As a result of implementing these acts and policies, there were many positive progressions in the small-scale mining technical and technological advancements.

And accordingly there were many positive changes to improve ASMs' organizational structures, legalize income sources and work places of ASMs, ensure occupational health and safety operations and coordinate other social relations and interactions.

PART 3. BORNUUR SOUM'S ASMs' DEMOGRAPHY AND SOCIO-ECONOMIC SITUATION

Part 3 is designed to illustrate the characteristics of ASMs in Bornuur soum based on such factors as age, gender, marital status, educational background and migration.

3.1 DEMOGRAPHIC SITUATION

Of the total number of ASMs working in Bornuur, 68 percent were men and 32 percent women, making the gender ration 2.1 or 1 woman to 2.1 men. The main reasons for the greater mail presence are the difficult nature of work and the tough working condition.

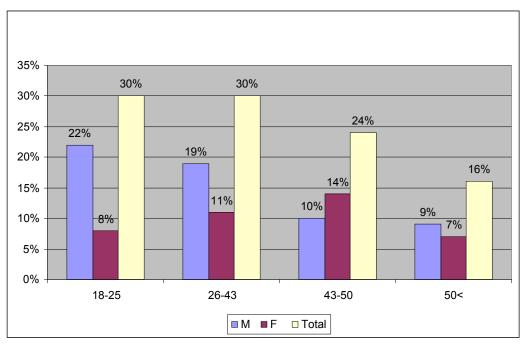


Figure 2. Gender and age breakdown of the ASMs in Bornuur

The age and gender breakdon shows that the most prevalent age group is the 18-25 age bracket for men and 26-43 age bracket for women. According to the age pattern analysis, male ASMs aged from 18-25 represented 22% of the total number of miners and those aged 26-43 made up 19 percent. It is reasoned that the number of younger miners is due to discontinuation of university education after completion of secondary schools and lack of work places at local level in Bornuur. Also partnership leaders prefer to select the 18-25 aged healthy and shok workers due to the demanding physical hardships involved in primary gold mining.

The 18-25 aged women were involved in household chores such as cooking, washing and cleaning, rather than gold mining activities. However, during the observation and discussion it was learnt that single women in the 43-50 year age

bracket performed the same tasks-gold mining as men for the sake of earning their livelihoods.

Case -1

Table 1

Crushing rocks by hand tools, lifting heavy rocks out of the hole, while working in freesing cold, dark and deep underground hole are very tough job not only for women, but also for men too. It is impossible to find jobs locally due to the limited work places and unfair workers' selection practices. Due to the financial shortages I can not do agricultural and livestock farming and other extended business activities. In sake of earning livelihoods, I am forced to work at mining site under severe climate extremes and pressure.

Miner L, 41-year old, women

3.2. MARITAL STATUS OF BORNUUR ASMs

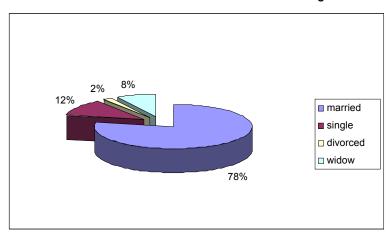
According to the marital and family status analysis, a total of 78 percent of the survey participants were officially married, 12 percent were not yet married, 8 percent were widows and 2 percent were divorced.

Table 6. ASMs' selected indicators

Indicators	Sujigtei site
Gender	
Male	68%
Female	32%
Age groups	
18-25	30%
26-42	30%
43-50	24%
50<	16%
Marital status	
Single	12%
Married	78%
diverced	2%
Widow	8%
Local registration	
Locally registered	93%
Not registered	7%
Total	100%

The survey participants were miners aged above 18 years and of the survey participants, fewer percent were miners aged 50 and above. The majority of the survey participants were married.

Figure 3. ASMs' marital status



These figures illustrate that small-scale gold mining is developing as a family business. According to the men and women's role and responsibility analysis, it identified that the men often do gold mining activities, while women are involved in household chores such as cooking, caring their family members, washing, cleaning, keeping family budget income and expenses. Also it can be seen that the percentage of divorced families in rural areas was less than urban areas.

Table 1. Family size

Number of family members	Percentage
1 – 3	28%
4 – 6	52%
7 and above	20%
Total	100%

The total survey participants had 200-700 dependants and family members (one miner had 4.8 dependants) as wife, children, parents, grand parents, and handicapped sisters and brothers. It can thus be deduced that socially and legally unaccepted "illegal gold miners" took responsibilities not only for their families, but also they shared roles and responsibilities of the state government at local and national level and contributed significantly to the local economic development.

3.3 LITERACY AND EDUCATIONAL BACKGROUND

Of the total number of survey participants, 98 percent were literate and 2 percent were illiterate ¹¹. Due to the limited opportunities to continue a study after completion of secondary schools and lack of workplaces at local level, many younger people tend to get involved in gold mining activities for earning livelihoods.

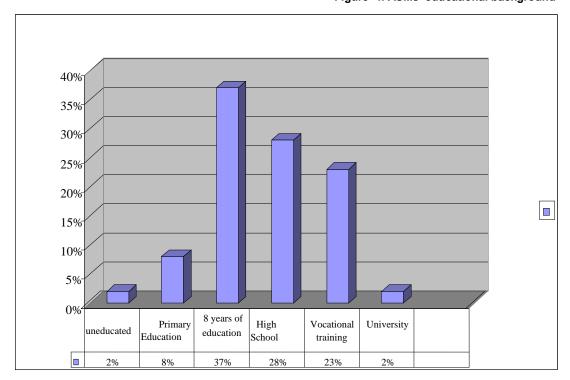


Figure 4. ASMs' educational background

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¹¹ State average literacy rate 97,6% (Statistics Yearbook 2008)

3.4. EMPLOYMENT STATUS

According to the survey analysis, those surveyed ASMs with dual employment status were primarily herders and agricultural farmers.

Table 2 ASMs' employment status

	Table 2 ASMs' employment s
Indicators	Sujigtei mining site
Dual employment	
Dual employed	32%
 Not dual employed 	68%
Professional background	
Agriculture	27%
 Education 	2%
 Vocational training 	16%
Health	0
• Economics	3%
Commerce and business	11%
Law and Justice	2%
Unskilled/unqualified	39%
ASMs' duration at mine site	
• 1 year	5%
• 1-5 years	31%
• 5-10 years	43%
10 and above years	21%
Total	100%
ASM's average duration at mine site	6,9 years

The survey found that 43 percent of participants had been mining gold consistently for five to ten years and average duration at mine site was 6,9 years. An employment status and livelihood condition for the disabled, old aged people and mothers with infant children was relatively lower than the other groups of people. Those physically weak people were hardly earning income by collecting and processing "dungs" or ore tailings, left by the partnerships.

The physically stronger and younger people of the soum were being organized into unregistered partnership formation and mining a gold at Sujigtei mine site for making their livelihoods.

During the group discussion and interview, it found out that some groups of local people, namely people with seasonal or low-paid jobs or government workers, agricultural farmers or herders mine a gold on temporarily basis in order to increase their family income

Case -2

Table 9

I am a secondary school teacher. I live with my wife and 4 children, aged 5-18 years. My wife works as a salesperson in a soum shop. As comparing to the unemployed couples in the soum, we are both working and earning income, but our earned income is not sufficient to cover our family's livelihood necessities. That's why I occasionally go to a gold mining together with my friends and relatives to Sujigtei. Especially I am insisted on mining a gold in the preceding days to the school year in autumn, to the New Year Festival in winter and Lunar Year Festival in spring.

Participant, teacher B, 35 years old

3.5. RESIDENCE AND PATTERNS OF MIGRATION

According to the Mongolian Constitution, residencial migration is one of the secured constitutional rights of the Mongolian citizen. And a citizen of Mongolia is entitled to select his/her temporary and permanent residencial places, to travel extensively throughout country's territory, to openly participate in the social life and to access social welfare services. The country of Mongolia regulates the population's local migration issues within the legal framework of the Constitution Law, citizen's registration, government, management law of administration unit and other relevant legal acts and regulations. In this section the issues of migration, local registration and residence will be examined.

Of those surveyed 100 participants, 78 percent were Bornuur soum local people; 12 percent were migrants, settled in the soum for more than 3 years; 8 percent for 1-3 years; the remainer had migrated and settled in Bornuur soum for up to one year. Of the migrant and unregistered miners who were asked "Why did you come here?", 84 percent said they were looking for an opportunity to gold mining, 8 percent for running agricultural farming, the remaining 8 percent said Bornuur soum's mercury free ore processing plant attracted them for easing their ore processing and mining activities. Thus it can be concluded that the main factor influencing people's decision to migrate to Bornuur soum is economic: people trying to earn their livelihoods and improve their quality of life.

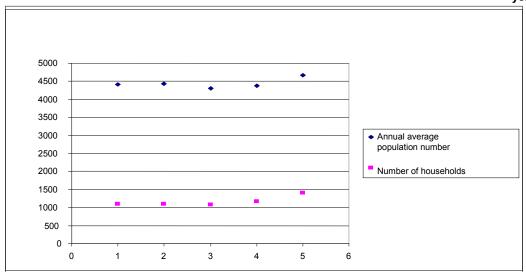


Figure 5. A comparative analysis of the number of Bornuur soum population and households /in 5 years/

According to the last five years' population census analysis, it found out that there was a growth tendency to the Bornuur soum's population and households. It can be concluded that the main factor influencing people's decision to come back to Bornuur soum is the operations of mercury free ore processing plant, which enabled them to ease and advance ore processing and mining activities.

Thus the establishment and operation of the mercury free ore processing plant has remarkably contributed towards urban decentralization, creation of workplaces and local employment for improving quality of life of the local communities.

Of the total surveyed ASMs, 93 percent were locally registered people. The majority of those surveyed said that soum registration is needed to access basic social welfare allowances and services, to become an unregistered partnership member under Temporary regulation and to access Bornuur ASM NGO's activities and services for protecting the ASMs' rights and interests.

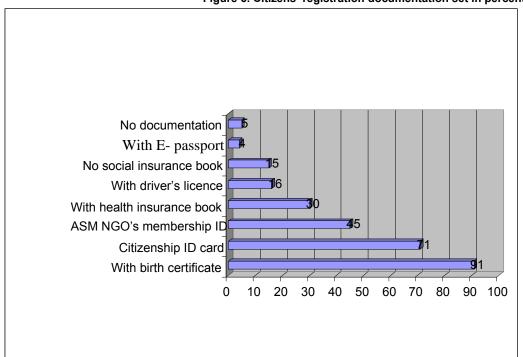


Figure 6. Citizens' registration documentation set in percentage

Although the majority of those surveyed were locally registered, there was a lack of the proper citizenship registration documentations to the surveyed ASMs.

PART 4 ARTISANAL AND SMALL-SCALE MINERS' INCOME AND EXPENDITURE PATTERN

This section will examine in-depth the main focus of the survey: reasons for gold mining, ASMs' income, expenditure and savings.

4.1. REASONS FOR GOLD MINING

In the question "What reasons do you mine a gold", the total number of survey participants responded the following duplicated answers; 81.2 percent said there were no other locally available income generation activities rather than gold mining, 70.1 percent concerned about workplace shortage, 60.6 percent said earning their livelihoods was the prime motivation for gold mining, followed (23%) by the need of improving housing and livelihood condition, the remainder replied to pay education-related fees. Most of the young people on the mine sites were temporary workers trying to raise the cost of university tuition fees.

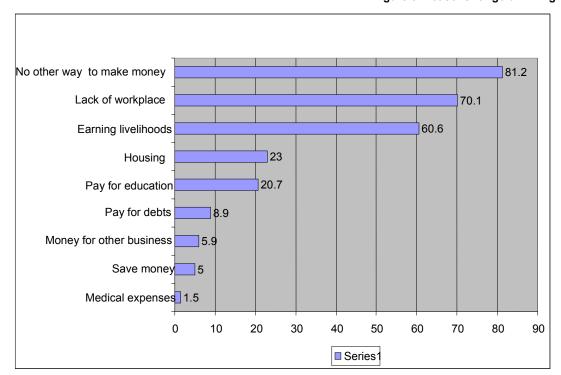


Figure 6. Reasons for gold mining

This section examined in-depth the main focus of the survey: ASMs' amount of gold, mined in a day, week and month, ASMs' income and their contribution to local economic development. For primary gold mining, it was difficult to calculate the amount of gold, recovered in a day. Because primary gold miners' income size was different, depending on gold content of a vein.

4.2. AMOUNT OF GOLD, MINED AND CASH INCOME

Table 10. ASMs' daily working hours and amount of gold, recovered in a week (in percentage)

Indicators	Sex	Average	
muicators	Male	Female	Average
Daily working hours			
• 1-8 hours	2%	48%	25%
• 9-14 hours	76%	46%	61%
15 and above	22%	4%	13%
Amount of weekly gold recovery (grams)			
• 0 -2 grams	81%	89%	85%
• -5 grams	13%	8%	10.5%
5 and above	6%	3%	4.5%

Productivity refers to the output, made in the unit of time and weekly amount of gold recovery or gold mining productivity depends on gold content in a vein at Sujigtei mine site, capacity of mining equipment and tools, age, gender, skills and experiences of miners and so on. Due to the demanding physical hardships involved in primary gold mining, men's productivity is much higher than women's. All respondents said there were days when no gold was recovered.

Table 11. ASMs' income size, in percentage

Monthly family income	Sujigtei mine site
• 0 - 91200 tugriks	
 91201 - 150000 tugriks 	4%
 150001 - 300000 tugriks 	35%
• 300001 – 500000 tugriks	56%
 5000001 and above 	5%
Average monthly family income (tugriks)	360,000 tugriks
Total	100%

Average salary size for the people working in the local government organizations and other business entities in Bornuur soum was 237,000 tugriks, whereas ASMs' average monthly income amounts to 360,000 tugriks. These figures imply that the people in Bornuur prefer to do a gold mining for its higher income, no workplace pressure from the employer, no need of professional qualification, freedom experiencing nature and family business engagement.

During the key informant interviews, it found that some migrant miners mine a gold for earning the fixed wages amounting to 200,000-250,000 tugriks. Of the total 100 surveyed, 47 miners' sole income generating business was the gold mining and 41 miners had dual income generating sources. Also there were 12 miners, who had triple income generating sources and 3 miners had four income generating sources.

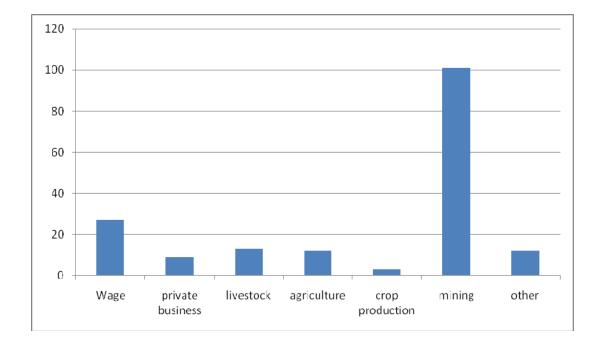


Figure 7. Monthly income and expenses

Table 12. Case 3: Livelihood quality analysis of the woman-headed family G as of 2007 and 2009

Livelihood conditions as of 2007	Libelihood conditions as of 2009	Change
9 family members	6 family members, 2 children married and lived separately.	-
2 sons mined a gold	2 sons mine a gold	-
Lived in a 5 wall-ger	Ger plus brick-house built	фф
No car	No car	-
In order to fit in a family's tight	0.4	
budget, bought meat in small amount.	2 sheeps and 1 cow for winter food provisions	*
No savings	No savings	-
No livestock	90 heads of livestock	фф
Wood-heating	Wood-heating	-

The above case showed the quality changes of the citizen G's family. Likewise there were many people, whose quality of life has possitvely changed and improved. However, due to the poor knowledges and experiences of the sustainable living and family budget management, there were hundreds of people who were hardly earning income without any life quality improvements.

4.3. ASM's MINING EXPENDITURES

Of the total surveyed, 38 percent spent about 100,000 tugriks for gold mining, 36 percent 200,000 tugriks and the remainder 300,000 tugriks.

And of the total surveyed, 34 percent said that spring was ASMs' peak period of expenditure in a year, the majority of the expenses were used to fasten supports for preventing landslide and water removal operations in a mining hole.

Of the total number of survey participants, 9 percent said that there was a zero balance of their monthly income and expenditure and 13 percent said that there was a minus balance of their monthly income against expenses.

The majority of ASMs' money goes to buy meat, flour, noodle, tobacco, battery, torch, gloves, vodka, sweets and bakeries and ASMs' one-time mining supplies procurements were amounted to 100,000 tugriks.

Other local people buy foods and household necessities in small parts and their one time buying is not exceeding 20,000 tugriks.

Case 4.

Table 13

During the focus group discussions with women, they were very pleased about positive life changes, resulting from gold mining activities. They recalled that in the beginning of the gold mining they ate pancake, entrails and, had iron-beds and lived in rented ger. But now they had own gers, bought meat in bulk for winter provision, bought bakeries and sweets and even some of them had cars. Before they put up their children's money book as collateral in the pawnshop to buy foods. But today they paid for children's education for their future life and development.

Also when they were unemployed, there were serious family conflicts and heavy alcohol use to men, but now no more issues in the family life and even husbands have participated actively in family's internal affairs such as family budget and expenses.

From focus group discussion note with women miners

4.4. GOLD MARKETING AND SAVINGS

This part studied the ASMs' gold selling and savings practices. Of the total survey participants, 94 percent handed over a gold to HAMO company, 4 percent to soum shops and 2 percent to mobile individual gold changers. From the above figures, it was learnt that HAMO company provided ore processing and on-site gold buying services to the artisanal small scale miners in Bornuur and other areas. However, HAMO company's further gold marketing channels could not be identified due to the limited access to information.

Of the total surveyed, 62 percent said they were eager to handover a gold to the mobile gold changers, 32 percent to a local bank, remainers wanted to sell a gold to HAMO company.

This indicates that there is the potential to increase the ASMs' incomes, if gold-marketing procedures are adequately regulated within a better legal framework at local level. HAMO company's price was quiet different than the Mongol bank's price of gold. The main reasons for gold price differences were as follows: 1) company's price of gold did not included wind fall tax payment 2) the HAMO company is the only private ore processing service provider at local level, so it has a monopoly over gold processing and marketing operations.

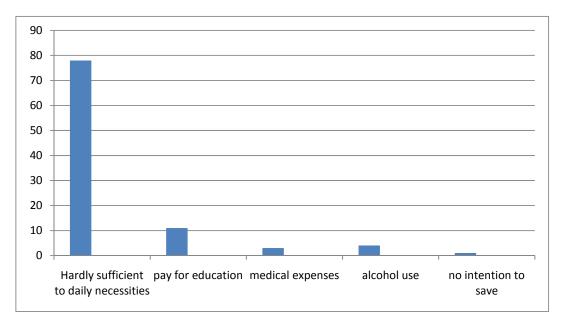


Figure 8. Reasons for no savings

When asked the question "Are you happy with your income from gold mining?", the most of them said they were fairly satisfied. Of the income they earned from gold mining, 16 percent said they been able to save money and 84 percent said they have been unable to save the money. Of the surveyed miners who were asked "Did you get a bank credit for last six months", 49,5 percent said No and 50,5 percent said Yes.

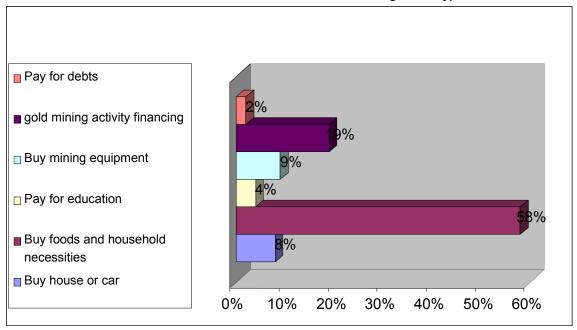


Figure 10. Types of bank credit

Of those surveyed, who took a bank credit, 58 percent said for household necessities and 19 percent for gold mining activities. However, the credits for buying or paying equipment, debts, education, a house or car were less than the former two credit purposes. Thus it can be concluded that in general ASMs' livelihood condition was lower and poorer.

Although gold mining was a reliable income source and gold could easily be converted into cash, the miners were poorly qualified for adequate budget utilization and monitoring, so they spent majority of their family budgets for daily and luxurious foods and household necessities.

The citizen's right of employment are granted by the Constitution of Mongolia and that the "employee is entitled to be provided with labor conditions that meet health and safety requirements", according to the current legal acts in force, artisanal miners have the ability to access pensions, benefits in the case of disability and quality health services.

PART 5 GOLD MINING AND EMPLOYMENT

The part 5 is designed to illustrate ASMs' mining practices, workplace condition and effect factors, most demanding tools and equipments, difficulties facing ASMs and others. In general the industrial competitiveness depends on excellent management, advanced technology and reliable occupational health and safety system. Likewise these three competitiveness-driven factors should be present in the small-scale mining.

5.1. GOLD MINING CONDITION AT SUJIGTEI MINE SITE

Sujigtei mine site is located 30 km from Bornuur soum centre. There are about 10 mine shafts, such as shaft 1, Jariin shaft, Mustei 1, Mustei 2, Khadagtai, Tavanjin and others. Due to the poor lighting, ventilation and earth collapse, there was no mining operation in the shaft 1. But dangerious geological conditions in Mustei, Khatagtai, Jariin shafts require safe and secured inside bearing frames and fastening supports. There were about 100 miners working at Sujigtei mine site, when survey group arrived. According to the focus group discussion findings, there were frequent private transportation services from Sujigtei mine site to the soum centre and transporation service fee for one person was 2,000 tugriks and for one bag of ore was charged to 1,000 tugriks.

HAMO company's processing service fees were 13,500 tugriks per a cart of ore and 135,000 tugriks per 1 MT of ore. There were numerous customers, who were served by the HAMO company. They were not only local miners, but also there were miners from Zaamar, Zuunkharaa, Baruunkharaa, Bayankhongor, Umnugobi and other aimags. Because of the large amounts of ores, brought by the different parts of Mongolia, the miners have to wait for 2-3 days to get ores processed.

According to the type of residency and mining arrangement, ASMs can be classified as either mobile or settled miners;

- 1. Settled —Settled miners are those who work at mine site throughout a year and permanently stay in their own ger.
- 2. *Mobile* –Mobile miners are those who work on mine site for only short periods of time; 1-2 times in a month.

Under negotiation with mine shaft owners at Sujigtei about due money and time, mobile miners work temporarily in their shafts. Like this way shaft owners could increase their income.

Mining preparatory work

Drilling

Blasting

Ore mining

Transporting to the processing plant

Figure 9. ASMs' mining activity steps

Sujigtei mine site was very close to the soum centre, so there were not any ger cooks, ger shops, billiard, table tennis and other trade and service units at the mine site. Local miners said that they bought required 7-14 days foods and supplies in bulk from soum centre shops. The partnership members live together in one ger.

5.2. MAIN REASONS FOR GOLD MINING

In the question "What reasons do you mine a gold", the total number of survey participants responded the following duplicated answers; 81.2 percent said there were no other locally available income generation activities rather than gold mining, 70.1 percent concerned about workplace shortageS, 60.6 percent said earning their livelihoods was the prime motivation for gold mining, followed (23%) by the need of improving housing and livelihood condition, the remainder replied to pay education-related fees. Most of the young people on the mine sites were temporary workers trying to raise the cost of university tuition fees.

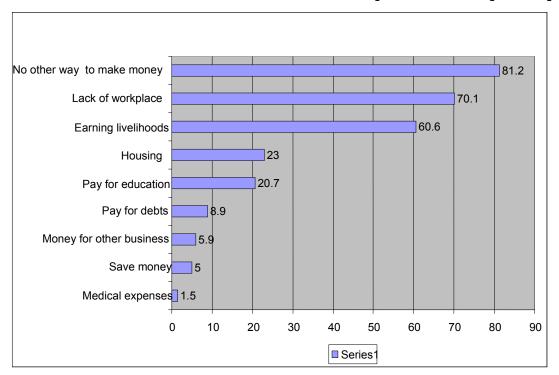


Figure 10. Reasons for gold mining

5.3. ASMs' DURATION AT MINE SITE

When asked if they wanted to leave mining, the majority of the total surveyed said they will consistently do a gold mining in the near future, citing the following reasons: no enough money to set themselves up in another business, no alternative income generation opportunities at local level, no new workplaces and no any positive signs of local socio-economic situation.

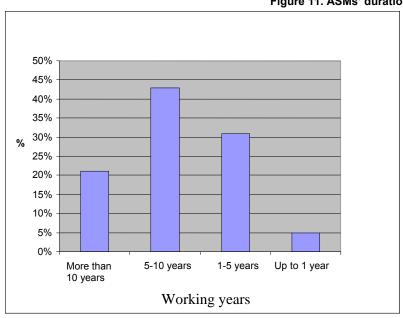


Figure 11. ASMs' duration at mine site

According to the geological and mining research materials and interview with relevant professional officials, it was learnt that small-scale mining activities will be lasted for next 20 years because of abundant gold deposits, ineffective for large mining operations and large mining company's abandoned areas in all parts of Mongolia.

The miners have mined a gold at Sujigtei site for more than 10 years, so top soil veins of gold have diminished and today the miners were mining ores from deepdown shafts. Consequently the miners have been facing more occupational threats such as air deficiency and negative health problems, causing from extended working in tight air environment.

5.4. ASMs' LEGAL ACCESS TO MINING LAND

Legal site access issues were a hot topic of discussion among the ASMs, with 32 percent of respondents saying they worked at legal mine sites in accordance with the requirements stipulated in the government resolution No 72 and the "Temporary regulation for artisanal mining activities". The remaining 68 percents did not know about legal access to mining land, where they have been mining. However, different levels of legal knowledge and the avalability of relevant information among survey participants made it difficult to confirm the findings. The survey team members met with local government officials to clarify about provision of legal mining land to local miners.

Indeed Sujigtei mine site is a part of the "Centerra Gold" mining company's licenced areas and the company has not operating in that area. Total size of the Sujigtei mine site is 58 ha of land. Today the miners have been working at Sujigtei mine site under the five-partite MOU between SAM project, Bornuur soum local governor, Bornuur ASM NGO, "Centerra Gold" company and Mineral Resource Authority, signed in October 2008. But in accordance with relevant laws and acts, the three-partite agreement, specific to the ASMs' occupational health and safety, land rehabilitation and mining plan, between local governor, licence holding company and ASM NGO has not signed yet.

Since the three party agreement has not finalized, the mining at Sujigtei site has to be considered as illegal mining. So it is highly recommended to the relevant parties to finalize the provision of legal mining land to the local ASMs under the given laws and regulations of Mongolia.

The survey found that the Bornuur ASM NGO's executive members have worked hard to resolve land issues. They supported local government's position to get back the Great Sujigtei mountain as the special purposed area and then to provide the land to the local ASMs under the contract.

5.5. ASMs' WORKLOAD AND FREE TIME

Of the surveyed, 78 percent said they mined a gold on regular basis and the remaining 22 percent said they mined a gold when they faced money shortages. When asked how long they worked in a day, the following information was given from the respondents.

Table 3. ASM's working hours

Сонгосон үзүүлэлт	Эзлэх хувь
Up to 8 hours	2%
8-12 hours	76%
13 and above	22%
Total	100%

When asked the question "How many hours do you spend in underground pit", all respondents said they spent 90 percent of their total working hours in underground pits, because their wanted item was in underground layer. And they said that they were out of the pit, only when they ate and slept.

Case 5

Once I spent 10 days in underground pit for keeping a vein of gold and mining.

Respondent D, 24 years old

In spring, when snow thaws and pits are submerged in flood, it poses the greatest climatic threat to miners with poor occupational health and safety dresses and supplies as water fills underground pits and cause landslides.

5.6. ASMS' WORKING CONDITIONS AND OCCUPATIONAL SAFETY

All survey participants said that they knew very well about their tough, dangerous, unsafe and risky working conditions, but still they were doing such life-threatening jobs, citing the reasons of absence of other income generating opportunities and activities at local level.

Although majority of the total surveyed said they attended occupational health and safety training, they still did not have a consolidated OHS understanding and an adequate practical application.

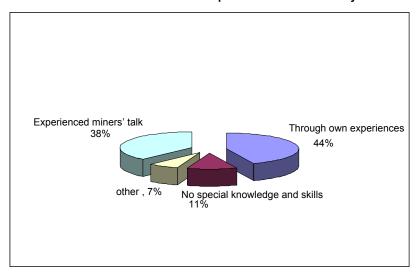


Table 4. Access to occupational health and safety information and knowledge

Of those surveyed, majority said they used workwears, but these workwear named dresses were just their daily wears, not designed for mining operations. The miners did not have any public rescue and safety tools, but they have few personal protective dresses such as rubber shoes, rubber gloves, mask and gloves.

The below table shows lists of the most using and demanding occupational health and safety dresses and tools for the miners working in primary gold mining.

Table 5. The most used workwears and safet equipment

#	Workwears and safety equipment	percentage
1	Overall suits	100%
2	Warm overall suits	100%
3	Helmet	19%
4	Warm hat	100%
5	Work boots	100%
6	Felt boots	45%
7	Rubber shoes	100%
8	Rubber slippers	-
9	Cotton gloves	100%
10	Warm gloves	100%
11	Rubber gloves	59%
12	Eye protection glasses	-
13	Earplug	-
14	mask	54%
15	Dust muzzle	-
15	Fastening belt and others	10%
	Survey participants	100 people

A lot of dust appears in the air at all the stages of gold mining, so mask is the most demanding personal protective means. But the surveyed people said they didn't use a mask properly, because their used mask was not comfortable for airtight and closed place. Although eye protection glasses, rubber shoes, fastening belts, work shoes, gloves and helmets were the most demanding occupational health and safety equipments, the miners could not use them for their daily work.

However, the miners use the most assisted equipments-head lamps and fastening ropes for their daily mining activities.

When miners were asked about low implementation of occupational health and safety requirements, it was learnt that those occupational health and safety equipments were unavailable at local and UB markets, their prices were very expensive and also the miners were poorly informed, where to buy them from UB market.

Also the miners said that the quality and comfort of the occupational health and safety dresses and equipments, sold at Mongolian market were very poor and troublesome and could not meet miners' expectations.

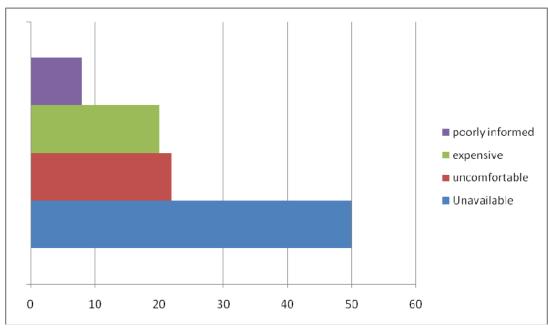


Figure 12. Availability of the OHS dresses and equipments

Moreover the survey results illustrate that ASMs are reliant on cheap, small scale tools and equipment as they are unable to afford expensive bulldozers, excavators, large-scale water pumps and sluices. Of the tools and equipment used by the primary gold miners, the most demanding equipment and tools were compressor or hammer action drill, ladder, iron bar with hooks and "lebotik" for easing mining operation. All miners could not buy them, so they tend to lease or join well-equipped partnerships.

All miners afford and use hand tools and can repair them.

According to the survey findings, there were more than 8 components to the primary ASMs' work: drilling, blasting, moving material, carrying material, loading

and transporting, ore processing and so on. One miner could not perform all tasks. The miners have own labor distribution practices.

For instance, few old and experienced men often do blasing, whereas young men remove, carry, load and offload materials. Transporation services are performed by private car owners.

Table 6. Percentage distribution by adverse working conditions

Nº	Indicator	ASMs'	High (worse)				Low (good)	
		number	тоо	%	Too	%	тоо	%
1	Dust	168	110	66.5	56	33,5%	-	-
2	Sound, noice	168	13	7,9%	93	55,4%	62	36,7
3	Vibration	168	8	5	88	52,2	72	42,8
4	Air circulation	168	83	49,7	48	28,4	37	21,9
5	Poisonous gas, substance	168	10	6,1%	37	22,3	121	71,9
6	Lightning	168	128	76,3%	22	12,9	18	10,8
7	Physical load	168	109	65,1%	53	31,7	5	3,2
8	Psychological pressure	168	62	36,7%	59	34,9	48	28,4
9	Alcohol abuse	168	18	10,5%	71	42,4	79	47,1
10	Lengths of working hours	168	120	71,6%	48	28,4	-	-

According to the focus group discussion findings, the miners said they worked in dusty, dark and air tight places under high physical and psychological stress and pressures for extended hours.

Table 7. The ASMs' most used equipment and tools

	Equipment and tools	Percentage
1	Spade	100
2	Loom	95,2
3	hammer	83,3
4	Pile	83,3
5	Sledge hammer	76,2
6	Crowbar	78,6
7	blade	71,4
8	Bags	100
9	Hand carrying- pole	42,9
10	Ropes	100
11	Pail	100
12	Basin	97,6
13	Carrying hawser	19,0
14	Mortar and pestle	0
15	Candle	76,2
16	Torch	100
17	Iron bar with hook	69,0
18	Other	33,3

The survey found that there was a mechanical operation in primary gold mining activities and the primary gold miners used compressors, hammer action drills and blasting equipment. One of the immediate priorities for primary gold mining was an illegal blasing operation. Of the total surveyed to the question "how do you do blasting?", 79 percent said blasting experienced miners did blasting.

The remaining percent said that they received blasting services from the special blasting companies. But they could not give the names of the special blasting companies. Also blasting related difficulties, facing to the ASMs were shown in the below figure.

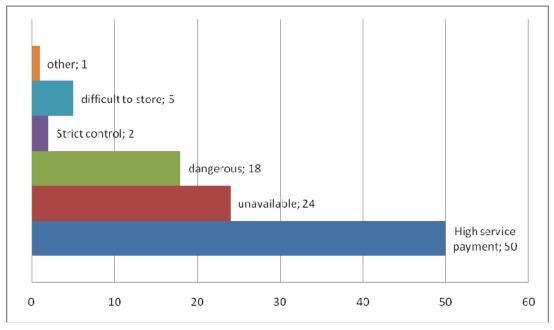


Figure 13. Blasting related difficulties

When asked "how to solve the problem?", 56 percent commented that the special blasting permission should be given to the local mining companies, 17 percent said that local miners can be qualified in the blasting operator's courses and 27 percent cited the urgent needs of educational and awareness programs and activities about safe and secure blasting operations and instructions among the local miners.

When asked the question "How do you get ores processed?", 100 percent said by HAMO company mercury-free ore processing plant.

Table 8. Learning experiences of gold mining

	Learning wa	Percentage	
1	University ed	ducation in mining	-
2	Mining vocat	tional training education	-
3	Mining certif	icate-level courses	4,8%
4	uneducated		95,2%
5	Wherein	80,2%	
6		2. Mining courses	-
7		3. Project team's technical training	-
8		4. Former employer in gold mining industry	4,8%,
9		5. by own experiences	10,2%

PART 6

ASMS' HEALTH CONDITION, HEALTH SERVICE QUALITY AND ACCESS

Every person has a right to have his/her health protected, to be cared for and to receive health services in any case.

According to the Mongolian Constitution, citizens have the right to receive health care and have access to health services.

In complying with he procedure and conditions of free medical aid, defined by the laws, such relations are regulated by the Law on Health, Law on Civil Medical Insurance, Law on Medicine (drugs) and the Law on Hygiene. With medical insurance, one has access to free health services as stipulated in the above mentioned laws and acts.

6.1. ASMS' HEALTH CONDITION

Of the total ASMs surveyed, 30 percent said they had accessed health services for last one year. There has been no comprehensive health survey conducted among the ASM communities, which is compounded by the fact that they visit hospitals for treatment on an emergency, life-threatening needs-only basis. The limited ASM's access to health services can be concluded that there were younger aged people, working in gold mining activities.

Also due to the lack of adequate knowledge and information about the Law on Health Insurance and state health care provisions, the miners could not access required health services and cares at satisfactorily level.

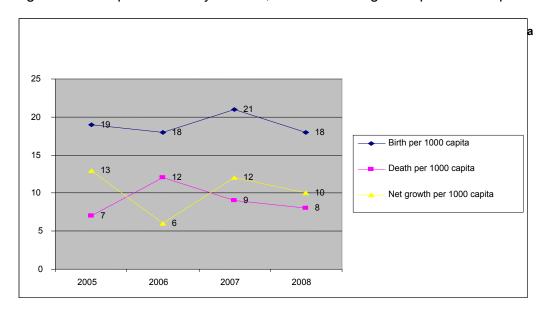


Figure 19. Comparative study on birth, death and net growth per 1000 capita

According to the group discussions, it was informed that for last years there have been worsening health conditions among the ASMs. In 2000-2007 the following health problems were prevalent among ASMs: body itching, headache, onychia and joint problems. It was also noted that the ASMs' former excessive use of mercury, tough and unhealthy work conditions and unhealthy diets served to exacerbate their health problems.

Case 5

Before banning a mercury use, Me and my husband used a mercury for gold recovery. For continuous four years I have experienced 1-4 months prematured baby deliveries. I think that this is because of a devastating effect of mercury use.

35 years old, woman E.

The implementation of temporary regulation of artisanal mining activities and introduction of the mercury-free ore processing technology in Bornuur were the most powerful tools to end the health-threatening negative impacts among local and ASM communities. During the site observation it was learnt that people in Bornuur are living in peace without any fears relating to mercury poison. As a result of long stints underground, wet conditions, the digging of shafts and panning in cold weather and the carrying of heavy materials, the following conditions are prevalent among ASMs: of the total surveyed 84 percents suffered from feeling a sudden sharp pain in the chest. Also they suffered from kidney pain and urnary tract disorders, joint problems, respiratory diseases, digestive system problems and so on.

It was also noted that because of the remote location and lack of time-off, many chose to self-medicate, when ill rather than visiting hospitals, which served to exacerbate their health problems.

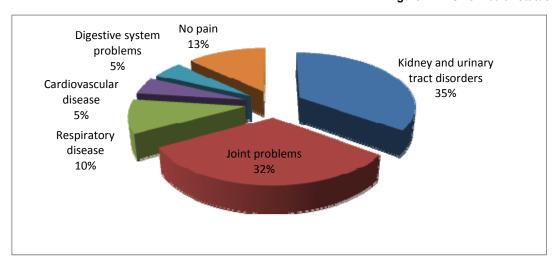


Figure 14. ASMs' health status

So far there have been 14 registered tuberculosis cases in Bornuur soum and 10 TB patients were artisanal miners, working at Sujigtei mine site.

Due to the heavy work schedules, lack of time off, long stints underground, wet conditions, the digging of shafts and panning in cold weather, he carrying of heavy materials and poor nutritious diets, there were high risks to suffer from tuberculosis among the local ASMs.

Table 20. ASMs' health status

	Diseases	Case
1	pneumoconiosis	-
2	Antraconiosis	-
3	Dust caused bronchitis	11
4	Kidney and urinary disease	17
5	Mercury poisoning	-
6	Joint problems	49
7	Nervous disease	18
8	Dust allergy	22
9	otorhinolaryngology disease	37
10	Skin disease	29
11	Tuberculosis	10
12	Other	12

6.2 ASMS' OCCUPATIONAL ACCIDENTS AND THEIR CAUSES

Of the surveyed, 68 percents reported no injuries to date, 18 percents had been involved in workplace injuries, 14 percents in occupational accidents.

Table 9. The ASMs' most prevailing injuries

	Types of injuries	Case in percentage
1	Falling underground	3,5%
2	Collapse of mining roofs	5,2%
3	Falling into hole	8,4%
4	Falling down from height	2,1%
5	Bumping	-
6	Burning	2%
7	Acute poisoning	-
8	Car accident	1,5%
9	Being beaten up	7,5%
10	Hurted by blasting	-
11	Frostbite	-
12	Injury under the influence of alcohol	-
13	Carbon monoxide poisoning	12,1%
14	Others	7,1%

6.3 ASMS' ACCESS TO HEALTH SERVICE

The survey found that 52 percents of the surveyed ASMs received medical services from their friends and co-workers at mine site.

Of the total surveyed, 72 percents said they sent one of them to the soum centre to buy medicine and injections, 16 percents brought emergency medical supplies along with themselves and 12 percents said they asked others to get the medicines. It was also noted that many of the ASMs chose self-medicate when ill rather than visiting hospitals, which served to exacerbate their health problems.

6.4 HEALTH SERVICE QUALITY AND ACCESS TO ASMS

There was a hospital with 10 beds in Bornuur soum. The total number of the employees in the hospital was 31, which of them were 4 medical doctors, 10 medical assistants and 17 service support people. In interviews with ASMs, a soum doctor and local government officials, it was learnt that although soum hospital budget was hardly met to service soum population, the hospital delivered health and medical services to ASMs, came from other aimags and soums.

Also it was learnt that because of soum hospital budget constraints, only one hospital van was available to service total soum residents, which resulted in considerable delays in health service delivery.

Of the survey participants, 52 percents were entolled in health insurance; 48 percents were not. A lack of finances meant majority of the miners had not paid for health insurance. Also it can be seen that more miners are opting for health insurance than social welfare insurance, which is largely health insurance is cheaper and also because soum doctors conduct regular health awareness-arising and educational activities in relation to the advantages of having health insurance and Bornuur ASM NGO local facilitator together with soum insurance officers visit ore processing plant to collect payments. Of the survey participants, 22 percents said it was possible to receive health services within 3 hours; 68 percents within four to five hours; 10 percents said within 6 hours. These findings

show that majority of the survey participants complained about delays in health services.

It is recommended that there needs to be an improvement in the quality8 timeliness and availability of health services; a soum hospital budget increase; the recruiting of qualified medical personnel; and an improvement in the working conditions of local doctors.

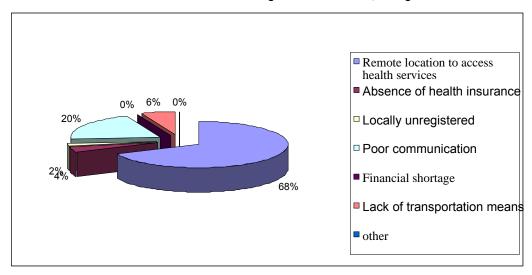


Figure 15. Difficulties, facing to access health services



7.1. ASMS' ORGANIZATIONAL STRUCTURE AND PARTNERING

Of the ASMs' surveyed, 87 percent had heard about the formation of partnerships and 13 percents were not informed about the partnership practices. Of the ASMs informed, 58 percents were members of partnerships.

According to the Citizens Law 481.1, ASMs were being organized into unregistered partnership formation by signing cooperation agreement. Under the Temporary regulation of artisanal mining activities, artisanal miners in Bornuur signed a gold mining agreement with the local governor. The ASMs also used hand tools and small-scale equipments for gold mining activities.

Unregistered partnership membership requirements were listed as follows:

- 1. Citizen of Mongolia
- 2. Aged 18 and above
- 3. Bornuur soums' local resident
- 4. Citizen, holding a personal income tax book
- 5. Citizen, enrolling social and health insurance payment
- 6. No double partnership member entry allowed

According to the Temporary regulation for artisanal and small-scale mining activities, the partnership size was 2 to 100 members. In Bornuur an average partnership size was five to ten members. As cited by the survey participants, the most adequate partnership size for ASMs' co-working, following occupational health and safety requirements, negotiating a labor distribution, income-sharing, employing joint funds, sharing equipment and tools, internal monitoring and mitigating conflicts was 8-12 members.

Case 7

Table 22

Family status: I live with my wife, 4 children and mother in law in Mandal bag of the soum centre. Employment status: Since 1998 I have been mining a gold at Sujigtei mine site. I am a member of Bayan-Ulziit partnership. I was not a voluntary partnership member. For not being deprived from my livelihoods, I became a partnership member. In the first two weeks, I was totally lost and I just followed tasks, given by the partnership people and was concerned about profit-sharing. But now a situation has been improving. At least there were no fears and concerns about suffering from robbery, empty stomach, fire woods and cigarettes. Before the miners worked under group formation with their friends and relatives, like a partnership. By that time everybody at mountain felt freezing cold and hungry. The one, who left pit first, ate all foods and the remainders to suppress their hunger smoked and drunk vodka. Also my wife was very concerned about our excessive use of vodka and troubled family conflicts. Now I have working in peace, because on my behalf my wife gets my money and cares us.

53 years old, man N.

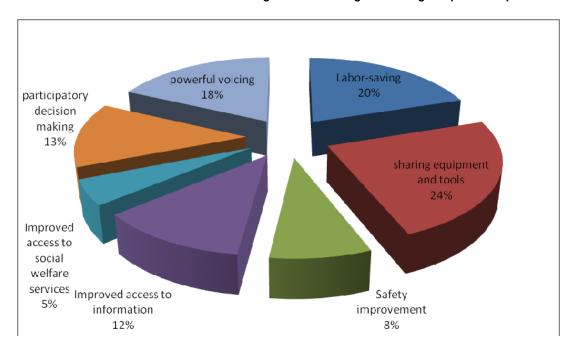


Figure 16. Advantages for being in a partnership member

The artisanal and small-scale gold mining is developing as a group business, because of its unsafe and tough nature. The survey found that the given legally-accepted organizational structure "unregistered partnership" has played a significant role to change a long-lasted and negative socio-psychological mindset and attitudes against socially marginalized ASMs.

The most of existing partnerships in Bornuur were at their earliest development stages. So capacity building programs were highly required to the partnerships in

the areas of membership centred strategic policy and direction development and social responsibility.

The followings were the common partnership characteristics, prevailing in Bornuur mine site:

- <u>In-housing</u> Each partnership members lived in one to two gers or wooden winter house. There were plate wooden beds for 8-12 people in the rear part of a ger. Also there were a stove, kitchen cupboard, cast-iron boiler, cups, spoons, folks, 2-3 pieces of hand kerchiefs, soap, 2-4 pieces of chairs and blankets.
- <u>Sanitation</u> Only one partnership had a washhandstand. Each partnership had soaps and hand kerchiefs. All members shared one washbasin. No other cleansing and sanitation materials were noticed. Two partnerships had pit toilets.
- Consumption Partnership members had meals three times in a day. Each partnership employed a cooker. Supplementary foods were pancakes, fried cookies and tea. They use wood for heating, no electricity and drinking water supply. No publications and medias. Only four partnerships had emergency aid boxes, wherein there were spirit, bandage and few drugs.
- 4. <u>Location</u> Sujigtei mine site was located 30 km away from soum centre. It took 45-60 minutes to go up and down.
- 5. <u>Relationship</u> Interrelations among the partnership members were limited only for eating, mining and resting. There was no mutual faith, understanding, solidarity, team building activities among the partnership members. The partnerships share mining equipment and tools, and transportation fees to the ore processing plant.
- 6. Free time The miners worked continuously unless heavy rain forced them to stop and most of the partnerships worked continuously without any days off. The survey found that daily working hours, work intervals and days off are highly dependent on the quantity of available gold and seasonal influences and that there were no regulatory guidelines for word days and days off.
- 7. Gender There were 1-2 women in a partnership. Their roles were to cook and clean. The male miners did not force them to mine a gold. No gender discrimination in terms of income-sharing practices.

Case 8. Gender issues

Family status: Woman headed family with 2 children **Employment:** A cook in "Friendship" partnership

I came here in August 2009. I have 2 children. My oldest daughter is a student in the University of Science and Technology and lives in the university dormitory. The youngest boy is 2 years old. He is in my brothers' family in Bornuur soum centre. My monthly salary is 200,000-250,000 tugriks. I prepare meal three times in a day, like vegetable soup, rice soup. Steamedflour soup, tsuivan, dish of fried vegetable, noodle soup and etc. Also I cook steamed bread, pancake and fried cookies. Гурил, будаа, гоймон, амтлагч, байцаа, төмс, лууванг сумаас татдаг. The partnership leader demands to cook nutritious and a big portion of meals. Men in a partnership prepare firewood, so my work is easy. The artisanal miners are being very hungry after their hard work in a mining pit. My task is to serve them by hot tea and meals. One miner stays and works in underground pit for three hours. Some people leave the site for day-offs, but they don't come back, on their placement, new people join and work. Since working here, I have never attend any health training. Also no any local government officials have visited and met us. I heard that there were many social disorders, like prostitution for ore and fighting, when a gold mining was illegal and prohibited activities in Bornuur. Now it is peaceful. I prefer to work here, until my daughter graduates the university and I miss my boy very much. In day-offs, I visit my borther's family and bring them flour and rice. In my experiences, there are no any women discrimination cases at Sujigtei mine site.

32 years, woman Ts.

Of the surveyed, 42 percents were not partnership members and citing their reasons as follows:

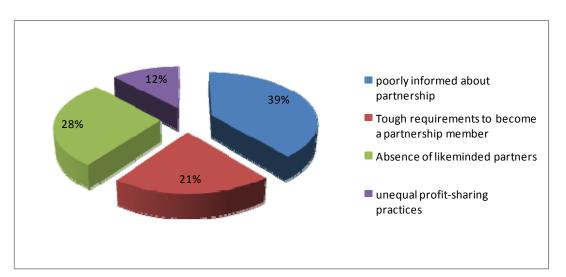


Figure 17. Reasons for not being in a partnership

Of those ASMs who were not involved in partnerships, the leading reasons for not being in a partnership were that they were poorly informed about partnerships, there was no one in the partnerships with whom he agreed with, tough membership requirements and unfair profit-sharing practices.

Advantages for being in a partnership

- Members' safety and security
- Spiritual nurturing for being a team player
- Decent working conditions
- Equal women participation and fair labor distribution
- Less workload and pressure per a member
- Equal access to gold mining
- Conflict mitigation (mine shaft)
- Family conflict mitigation
- Improved understanding and relationships between local people and miners
- More coverage of personal income tax payment
- Easy in-process monitoring and organizing
- Equal income sharing

Disadvantages for being in a partnership

- Human development issues Human development issues, like sociopsychological needs, cultural programs, self-assessment, self-confidence, communication, qualification, health insurance, childrens' disciplinary education have been lost in partnership life. During the survey it was learnt that adequate organizational development and management system and structures, aiming to ensure a members' sustainability advancement and development were not in practice in Bornuur ASMs' partnership formation system. The biological and economic need-based objective of the existing partnerships in Bornuur could not ensure members' social responsibility and future sustainability.
- Household resilience The partnership people saw the concept of partnership resilience only as a safe and secure food and housing. The partnerships immediate priorities should focus on early preparedness of disability, pension and reliable alternative income generation source;

- participatory decision-making and implementation; and socio-economic sustainability of the members.
- Transparency Although the existing partnerships were at their earliest organizational development stage, they required to maintain an equal access to information and awareness activities about the partnership income, expenditure and labor distribution. Further partnership capacity building and empowerment programs and activities were highly required to the existing partnerships and ASMs' organizational formation practices in Bornuur should be replicated in other parts of Mongolia.

7.2. ASMS' NGO ACTIVITIES, QUALITY AND ACCESS

The Bornuur ASM NGO was established in November 2007 with the purposes of organizing local ASMs, working at Sijigtei mine site and developing a model artisanal and small-scale mining in Bornuur. The main areas of activities were protection of members' rights, introduction of ecologically sound and human health-friendy advanced techniques and technologies, implemention of occupational health and safety rules and regulations, support of alternative income generation activities and addressing members' social priorities in holistic and integrated way. There were 198 members of 65 unregistered partnerships.

Of the surveyed, 52 percents were aware of the NGO workers and executive committee members, but they had no knowledge of NGO name, objective, location and activities.

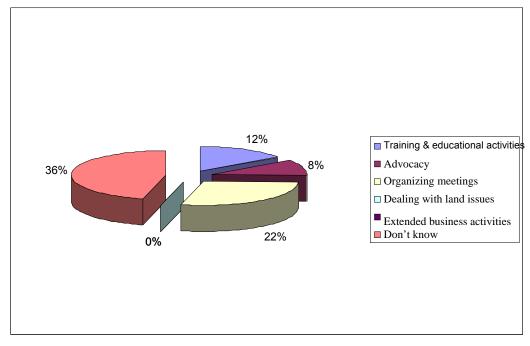


Figure 18. ASM NGO activities

Of the surveyed, 42 percents said that main area of NGO activities were organizing meetings and empowering of a voice to raise issues; and 36 percents of the surveyed people could not provide any information about ASM NGO activities.

Кейс 9.

Хүснэгт 10. Кейс 9

. . . Our voices were ignored and not cared and we were treated as "Ninja". Now people's attitudes have been changed as appearing a ASMs NGO for protecting ASMs' rights and interests.

41 years old man X.

During the group discussion with Bornuur ASM NGO people and executive members, it was instructed to develop their organizational development phases according to the Court Levi's methodology.

Figure 19. Social and psychological methodology to define the organizational development stages

Experience-building phase, focusing on Advocacy advocating their interests and positions in the small scale mining legal framework and development. It is a social responsibility-taking phase Partnership building through attracting attentions of the key partners and networking. This experience-deepening phase focuses on Matured and image building the interaction in an independent sociodevelopment phase economic environment and building goodwills in terms of customers, outreach, production and services This phase focuses on adopting an adequate Relationship building management approach, enforcing organizational internal rule, task-oriented main implementation This phase focuses on applying and getting legal registration and permission; developing Seed phase an adequate organizational structure and formation.

According to the discussion findings, it found that Bornuur ASM NGO was at its "Relationship building" development stage.

The ASM NGO has been keeping the following operational documentation files:

- 1. Training records
- 2. Executive members' meeting minutes
- 3. Comments book
- 4. NGO registration documentation
- 5. Partnership registration book
- 6. Technical sub-committee documentation
- 7. Controlling committee documentation
- 8. Social-subcommittee documentation

Contents of documentations were shown in the below chart.

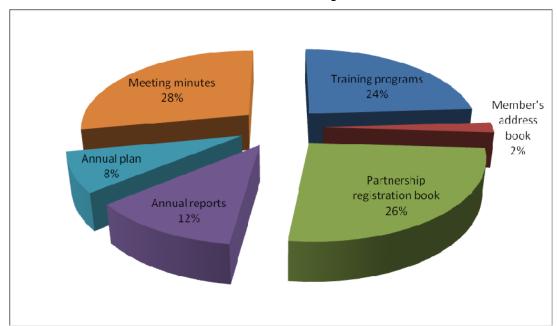


Figure 20. Contents of documentations

The NGO workers keep daily worksheets under well-developed annual plan. The annual plan covered planned activities, required costs and means of verifications, so it was easy for them to monitor and evaluate their yearly outcomes and impacts.

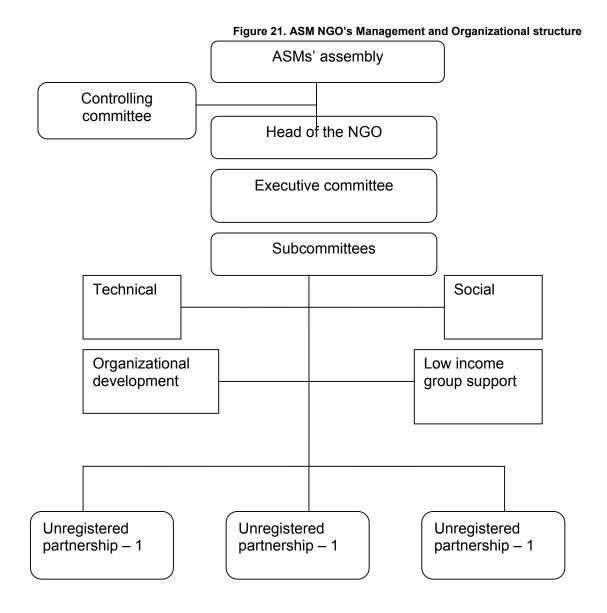
The following recommendations about the NGOs' immediate priorities towards development and sustainability were developed together with the NGO people and executive committee members.

- Regularize educational and awareness arising programs and activities about the NGOs' mission, vision, objectives, expected results among NGO members
- Ensure logical frameworks and interrelations of the committees and sub-committees' activities

A NGO is a form of civil society organizations, so the NGO should focus to develop its social relations, provide an equal access to each target group, keep timely reporting to every partner and develop human resource capacity. Also a mid-term plan /3, 5, 10 year/ should be formulated to accelerate its development process.

Mass domination of HAMO company workers in participatory decision making meetings and discussions was recognized during the process of meeting minute reviews.

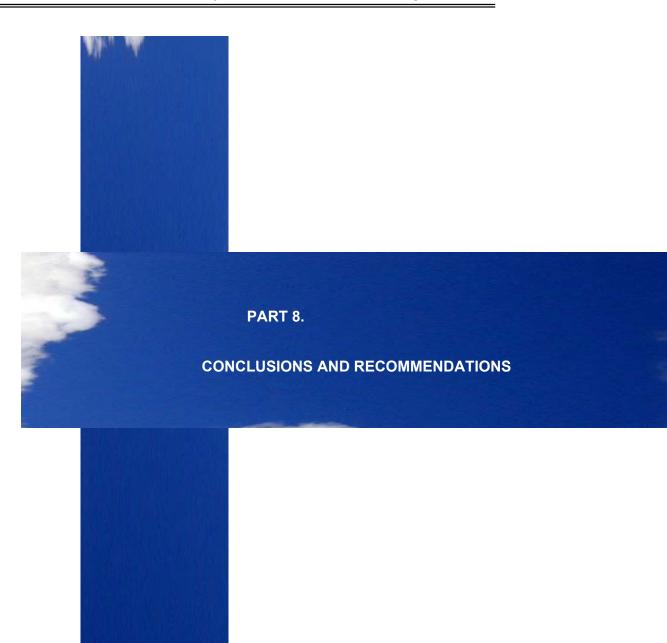
As defined by the ASMs, the following chart shows the NGO structure and decision making process.



When asked "What organization is working for advocacy on behalf of the ASMs?" the most participants said Bornuur ASM NGO was working for the protection of ASMs' rights, raising awareness and educational capacity building and improving occupational health and safety conditions. It can be concluded that although Bornuur ASM NGO has been in existence for just tow years, its activities have been accepted and are recognized among the ASMs.

When asked what services they most needed, 35 percent of the ASMs said a bathhouse and drinking water supply. The large number of miners wanting a bathhouse is indicative of the dusty and wet conditions in which they work.

The ASMs were pleased with passing of the Government Resolution No. 72 and the Temporary regulations for artisanal mining activities, which enabled them to contribute to household, local and state development.



CONCLUSIONS

On the basis of the information gathered during the survey and subsequent data analysis, the following conclusions have been made in relation to each survey part.

Part 2. Bornuur soums' demographic, socio-economic and mining profile

- ➤ "The ASMs were pleased with the passing of the Government Resolution No. 72 and the "Temporary regulations for artisanal and small scale mining activities, which enabled to create legal artisanal mining environment and to favor local government officials' attitudes and attentions towards well-being of the local artisanal and small-scale miners in Bornuur.
- ➤ Due to the underdevelopment of industry and service sector, labor market coverage was very limited and workplaces were not available at local level.
- ➤ Natural resource use activity is one of the key economic and income generation sources.
- ➤ It can be deduced that 70 percent of the total Bornuur soum population have been earning their livelihoods through permanent gold mining and also in parallel running seasonal vegetable farming and crop production. Due to the demanding physical hardships involved in primary gold mining, young aged male ASMs join unregistered partnerships for gold mining, whereas old and female people earn their livelihoods by collecting "ore dungs" and leftovers of the partnerships.
- ▶ 68 percents of the total ASM population were men and 32 percents were women.

Part -3. ASMs' socio-economic situation in Bornuur

- ➤ The most of ASMs were locally registered and enrolled health and social insurance payments, which enabled them to have an access to state welfare services for social-well-being.
- ➤ ASMs' income reached up to MNT 360,000 or 1.3 times higher than the average monthly salary for people working in local business and organizations. ASMs' income ranges were highly dependent on the quantity of available gold, seasonal influences, duration at mine site, skills and experiences, capacity of tools and equipment and the majority of ASMs have sold their gold in HAMO company.
- ➤ The biggest occupational threats ASMs faced were accidents caused by landslides and falls, rather than water and electricity supply and housing.
- Household resilience The partnership people understood the concept of household resilience only as a safe and secure food and housing. Their immediate priorities should focus on early preparedness of disability, pension and reliable alternative income generation source; participatory decision-making practices; and socio-economic sustainability of the members.
- ➤ Transparency Although the existing partnerships were at their earliest organizational development stage, they required to get an equal access to information and awareness for their members in terms of partnership income, expenditure and labor distribution. Furthermore partnership capacity building and empowerment programs and activities were highly required to the existing partnerships.
- > ASMs' organizational formation practices in Bornuur should be replicated in other parts of Mongolia.

Part 4. ASMs' gold mining income and expenditure

- ➤ The survey found that ASMs average monthly income was MNT 42,000-380,000 higher than that poverty line , as determined by the Government of Mongolia.
- ➤ It took a considerable amount of time to calculate the incomes and expenditures of ASMs as they have poor budgeting and expensecalculation skills and they were unprepared to provide accurate information about family accounts and expense breakdowns. Some participants misunderstood the purpose of the survey and were reluctant to respond openly.
- The most of the ASMs spent their earnings on food. This outlay in monthly expenditures meant that cold and tough working conditions forced them to have high fat and nutritious food to meet their biological intake requirements. On the other hand it can be related to the ASMs' luxury consumption preferences, uneconomical habits and attitudes.

Part 5. Gold mining and employment

- ➤ This overall government assistance, particularly in terms of an establishment of the mercury-free ore processing plant in Bornuur, was a good start to develop a responsible and sustainable artisanal mining in Bornuur.
- ➤ The most of survey participants said earning their livelihoods was the prime motivation for gold mining, followed by the need to pay education-related fees, to pay a credit, to buy a ger or house and for medical treatment.
- ➤ The artisanal and small-scale miners operate under ergonomically uncomfortable condition and engage in hard physical works. Due to the same movement frequency, working under physically uncomfortable and pressured position in narrow spaces, they suffer from having a risk to cut in balde, pressed by heavy items, slippery, injury of supporting body.
- > The artisanal and small-scale miners generally do not use special uniforms and personal protective equipment. They work in their casual clothes and

- their awareness and attitudes towards using and choosing occupational health and safety dresses, equipment and tools were very insufficient.
- The artisanal and small-scale miners worked on average 9 hours in a day. The survey found that daily working hours, work intervals and days off are highly dependent on the quantity of available gold and seasonal and weather influences and there were no regulatory guidelines for work days and days off.

Part 6. ASMs' health condition and access to health services

- Occupational hygiene and sanitation condition at mine site was very vulnerable and artisanal and small scale miners didn't get milk and milk products, nutrituous food supplementary after working in harsh and healththreatening condition.
- ➤ The survey found that because of the ASMs' heavy work schedules and lack of time off, many chose to self-medicate and to get vitamins and antibiotics without doctor's prescription when ill rather visiting hospitals, which served to exacerbate their health problems.
- ➤ The artisanal and small-scale miners could not get required health services due to their isolated living and working place. They see a doctor only, when they are seriousely sick.
- ➤ The sound and noise level, dust and vibration in the workplaces of informal gold miners exceed the acceptable level. It shows that artisanal and small-scale miners risk suffering from respirator problems caused by dusts, deafness and hearing impairment caused by noise. Higher vibration during stone crush causes health problems for their kidney, joints and muscles.
- Out of the survey participants, 50 percent complained about delays in health services and said it was not possible to receive health services within three hours. It was learnt that main constraints to receive health services were indefinite residence address, remote working location, lack of transporation means and poor communication. It can be seen that more miners are opting for guaranteed health and medicals services, health check-ups, occupational health and safety-raising and educational activities.

Part 7. ASMs' organizational formation and partnering

- ➤ In total there were 68 unregistered partnerships comprised of 198 members.
- ➤ The regular occupational health and safety awareness-raising and educational activities must be organized by the Bornuur ASM NGO and partnership leaders, which will act as incentives to miners to care more about their health and accident-free life.
- ➤ The ASMs must be encouraged to responsibly undertake land rehabilitation and protection to offset their adverse work effects to the environment and nature and to contribute towards improving social well-beings of their family members and local communities.
- Human development issues Human development issues, like sociopsychological needs, cultural programs, self-assessment, self-confidence, communication, qualification, health insurance, childrens' disciplinary education have been lost in partnership life. During the survey it was learnt that adequate organizational development and management system and structures, aiming to ensure a members' sustainability advancement and development were not in practice in Bornuur ASMs' partnership formation system. The biological and economic need-based objective of the existing partnerships in Bornuur could not ensure members' social responsibility and future sustainability.

RECOMMENDATIONS

On the basis of the information gathered during Bornuur socio-economic survey and subsequent data analysis, the following recommendations have been made as immediate action points for Sustainable Artisanal Mining Project team and other main partners related to these issues.

- There is a demanding urgency for approval of Small-Scale Mining Law and ASMs' comments and feedbacks should be considered and reflected in law drafting process.
- A careful study on provision of mining land to ASMs needs to be analyzed; areas rich in mineral depostis could be given to local government under special purposed area category; and mining licence provision authority could be delegated to the local government.
- National and international best practices, lessons learnt and networking should be carefully examined and replicated into existing mining practices.
- ASMs' annual activity information and reporting should be generated on a regular basis via local administration and authorities, their employment roles and responsibilities in the informal sector of labor market should be defined and policy makers and related organizations should be provided with this information and reports.
- In order to improve ASMs' working conditions, support them in using simple, cheap and locally suitable equipment and techniques and in accessing appropriate safety clothing. This can be done through microloans and leasing.
- Local gold marketing procedures should be adequately regulated within a better legal framework and requirements.
- In order to improve hygiene and sanitation level at mine site and prevent contagious diseases among ASMs, deep-pit toilets, sinks and dumping points need to be built and operated that meet health and hygiene requirements.
- Improve a drinking water supply at mine site and organize awareness and educational activities about negative health effects of using unsafe drinking water.

- Regularize bi-annual health check-ups for ASMs given the adverse health effects of their mining practices.
- It is recommended that there needs to be an improvement in ASMs' occupational health and safety knowledge, attitude and practices and thus the regular occupational health and safety awareness-raising and educational activities and required professional services should be organized via professional institutions.
- Immediate regulatory measures for ASMs' illegal blasting activities should be studied and recommended.
- Possibilities for providing ASMs with social insurance and basic services should be created.
- Employ qualified social workers and psychologists to provide services to ASMs to help offset the negative psychological effects of the limited personal development, relationship and difficult working and living conditions.
- Innovate and introduce affordable and productivity-enhancing equipment and tools into mining practices that meet occupational health and safety requirements.
- Supporting Bornuur ASM NGO's activities in working for the protection of ASMs' rights and interests and providing resources for future operational and financial sustainability.
- Organizing activities aimed at encouraging Bornuur ASM NGO and partnership members to initiate a change of mindset among ASMs to facilitate their full participation in addressing their priorities.



ANNEX 1

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ANNEX 2

Questionnaire for artisanal and small scale miners in Bornuur

	Date taken interview	
	Code for respondent	
	Code of surveyor	
	Bag name	
Part '	1: General information	
101	Sex	
101	How old are you?	
102	Family size ?	
103	How many children do you have?	
104	Are you literate?	
105	What your level of education?	
100	No education	۸
	Primary education	<u>А</u> В
	Secondary education	
		<u>C</u>
	High school education Vocational	<u>D</u>
	1 0 0 0 1 1 0 1 1	<u>E</u> F
107	University	<u> </u>
107	What your marital status Married	Ι Δ
		<u>A</u>
	Separated/divorced	<u>B</u>
	Single	<u>C</u>
	Cohabitating Widowed	<u>D</u>
D4 (<u>E</u>
	2: Family livelihood situation	
201	Housing status?	Ι
	own ger	<u>A</u>
	own house	<u>B</u> <u>C</u>
	Rent ger	
	Rent house	<u>D</u>
	Public house	<u>E</u>
	Parents home	<u> </u>
	Apartment	<u>G</u>
	other	<u>H</u>
202	Do you work or study?	T
	Yes <u>A</u>	<u>A</u>
	No <u>B</u>	<u>B</u>
203	If yes, where do you work or study?	T -
	Government organization	<u>A</u>
	NGO	<u>B</u>
	Private company	<u>C</u>
	Livestock farming	<u>D</u>
	Private business	<u>E</u>

	University	<u> </u>
	College and vocational training school	<u>G</u>
	mining	<u>H</u>
	other	<u>l</u>
204	How about your monthly family income?	•
а	Sources of income	Monthly
		yearly
b	Salary	
С	Pension	
d	allowance	
e f	Business	
	Agriculture Livestock	
g h	Small animal husbandry	
i	Aid and financial assistances	
i	Assistances from relatives	
m	Rental income	
n	Gold mining	
0	Other	
	Total	204.a
		204.б
205	Monthly/yearly income per a family member?	•
	205.a	
	205.б	
206	Do you have transporation means?	
	Yes	<u>A</u>
	No	<u>B</u>
207	How much do you able to save in a month?	
	0	<u>A</u>
	till 100000	<u> </u>
	Till 500000	<u>C</u>
	Till 1 million	<u>D</u>
	More than 1 million	<u>E</u>
	3: Local registration and migration	
301	How long have you worked in Bornuur?	
	Native resident	<u>A</u>
	More than 3 years	<u>B</u> <u>C</u>
	1-3 years	<u>C</u>
	1 year	<u>D</u>
302	If you have lived for more than 1 year, did you officially required?	gister as
	Yes	A
	No	<u>B</u>
303	If no, Why?	1 2
	No need to register	A
L		_ =

	No access to relevant information	<u>B</u>
	No ID	<u>D</u>
	No other supporting documents	<u>E</u>
	Poor knowledge how to register	<u>F</u>
	No time and very busy	<u>E</u>
	No cash for registration	<u>H</u>
304	In what cases, the registration is important?	
	Emergency health care	<u>A</u>
	Social welfare service	<u>B</u>
	See a doctor	<u>C</u>
	Send their children to school and kindergarten	D
	Other	<u>E</u>
305	What is your main purpose to come Bornuur?	
	Gold mining	<u>A</u>
	Agriculture	<u>B</u>
	Access to pastureland	<u>C</u>
	Joining with the relatives	<u>D</u>
	Access to quality education and service	<u>E</u>
	Employment	<u>F</u>
	Use of ore processing plant	<u>G</u>
Part 4	4: Gold mining and employment	
401	How long have you mined gold?	
402	Whar is your main reason for gold mining?	
	No work places in the soum	<u>A</u>
	Lost animals in winter disaster	<u>B</u>
	No alternative income generation sources at local level	<u></u>
		<u> </u>
	Pay tuition fees of the children	<u>C</u> <u>D</u>
	Pay tuition fees of the children More income earned from gold mining	<u>D</u>
403	Pay tuition fees of the children	
403	Pay tuition fees of the children More income earned from gold mining	
403	Pay tuition fees of the children More income earned from gold mining Where do you min gold?	
403	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a.	
403	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6.	
	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B.	
	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B. Do you have access to legal mining land?	E
	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. б. B. Do you have access to legal mining land? Yes	<u>E</u>
404	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B. Do you have access to legal mining land? Yes No	<u>E</u>
404	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B. Do you have access to legal mining land? Yes No Do you prefer to continue gold mining?	<u>E</u> <u>A</u> <u>B</u>
404	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B. Do you have access to legal mining land? Yes No Do you prefer to continue gold mining? Yes	<u>A</u> <u>B</u>
404	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B. Do you have access to legal mining land? Yes No Do you prefer to continue gold mining? Yes No	<u>A</u> <u>B</u>
404 405	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B. Do you have access to legal mining land? Yes No Do you prefer to continue gold mining? Yes No If yes, why?	<u>A</u> <u>B</u>
404 405 a	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B. Do you have access to legal mining land? Yes No Do you prefer to continue gold mining? Yes No If yes, why? If no, why? How often do you mine?	<u>Е</u> <u>А</u> <u>В</u> <u>В</u>
404 405 a	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B. Do you have access to legal mining land? Yes No Do you prefer to continue gold mining? Yes No If yes, why? If no, why? How often do you mine? Throughout year	<u>Е</u> <u>А</u> <u>В</u> <u>А</u> <u>В</u> <u>А</u> <u>В</u>
404 405 a	Pay tuition fees of the children More income earned from gold mining Where do you min gold? a. 6. B. Do you have access to legal mining land? Yes No Do you prefer to continue gold mining? Yes No If yes, why? If no, why? How often do you mine?	<u>A</u> <u>B</u> <u>A</u> <u>B</u>

407	What season do you min heavily?		
	Spring	<u>A</u>	
	Summer	<u>B</u>	
	Autumn	<u>C</u>	
	Winter	<u>D</u>	
408	How many hours do you work daily?		
409	How many hours do you work under the ground pit?		
410	Do you use the following occupational health and safety dresses, while		
	working?		
	Safety helmet	Α	
	gloves	<u> </u>	
	mask	<u></u>	
	Boots	<u>D</u>	
	Ear-plug	<u> </u>	
	overalls	<u> </u>	
	Fastener	<u> </u>	
	Fastening ropes	H H	
	Head lamp		
	Water protection shoes	<u>l</u> L	
	Protective eye glass	_	
	other	<u>M</u> N	
411		<u>IN</u>	
411	What are the most needed clothings, listed below?	Ι Δ	
	Safety helmet	<u>A</u>	
	gloves	<u>B</u>	
	mask	<u>C</u>	
	Boots	<u>D</u>	
	Ear-plug	<u> </u>	
	overalls	<u> </u>	
	Fastener	<u>E</u> <u>F</u> <u>G</u> H	
	Fastening ropes	- -	
	Head lamp	<u>l</u>	
	Water protection shoes	<u>L</u>	
	Protective eye glass	<u>M</u>	
	other	<u>N</u>	
412	What labor tools do you use?	T	
	Shovel	<u>A</u>	
	Spud	<u>B</u>	
	crobar	<u>C</u>	
	Сков	<u>D</u>	
	Лебёдик	<u>E</u>	
	Ladder	<u>F</u>	
	Mobile light	<u>G</u>	
	Hammer	<u>H</u>	
	Explosive container	<u>l</u>	
	First aid box	<u>L</u>	
	Air gauge	<u>M</u>	
	Ropes	<u>N</u>	
	1 .	. –	

	Bag	<u>o</u>
	screen	<u>P</u>
	Mortar and pestle	Q
	Mill	<u>R</u>
	fan	<u>R</u> <u>S</u> T
	compressor	T
	other	U
413	What tools do you need most?	
	Shovel	A
	Spud	<u>B</u>
	crobar	<u> </u>
	Сков	<u>D</u>
	Лебёдик	<u> </u>
	Ladder	<u> </u>
		<u>L</u> <u>G</u>
	Mobile light	
	Hammer	<u>H</u>
	Explosive container	<u> </u>
	First aid box	<u>L</u>
	Air gauge	<u>M</u>
	Ropes	<u>N</u>
	Bag	<u>O</u>
	screen	<u>P</u>
	Mortar and pestle	Q
	Mill	<u>R</u>
	fan	<u>S</u>
	compressor	Ī
	other	<u>U</u>
414	What difficulties do you face in using labor safety dresses	?
	No desire to use	<u>A</u>
	Poor knowledge about labor safety dresses	<u>B</u>
	No access to the relevant information	C
	expensive	<u>D</u>
	Not comfortable to wear	<u> </u>
	Not available	<u>–</u> <u>F</u>
	Other	<u> </u>
415	What types of work do you do in gold mining?	<u> </u>
	Crushing rocks	<u>A</u>
	Blasting	<u> </u>
	Carrying ore, screening	<u> </u>
	Ore milling	<u>D</u>
	Gold recovery by using mercury	
		<u>Е</u> <u>Е</u>
	Ore transporting to processing plant Other	
440		<u>G</u>
416	How many bags of ores do you mine daily/weekly?	

417	What activities do women do often in hard rock mining?	
	Crushing rocks by using hand tools	<u>A</u>
	Crushing rocks by using compressor	<u>B</u>
	Blasting	<u>C</u>
	Grinding ores by using mortar and pestle	<u>D</u>
	Milling ores	<u>E</u>
	Ore processing by using mercury	<u>F</u>
	Gathering remaining ores inside the shaft	<u>G</u>
	Transporting ores to the processing plant	<u>H</u>
	Cleaning surroundings	I
	Washing	<u> </u>
	Cooking	<u></u>
	other	N
418	What activities are the most difficult ones as listed below?	_
	Crushing rocks by using hand tools	А
	Crushing rocks by using compressor	B
	Blasting	<u></u> <u>C</u>
	Grinding ores by using mortar and pestle	
	Milling ores	<u>D</u> <u>E</u> <u>E</u>
	Ore processing by using mercury	 F
	Gathering remaining ores inside the shaft	<u>-</u> <u>G</u>
	Transporting ores to the processing plant	<u> </u>
	Cleaning surroundings	<u></u>
	Washing	<u> </u>
	Cooking	<u>=</u> M
	other	N N
419	What working conditions are the most difficult ones?	
	Dust	<u>A</u>
	Wet and watery	<u>B</u>
	Extremely cold	<u>C</u>
	Noice	<u>D</u>
	Darkness	<u>E</u>
	Tight air	<u> </u>
	Use of chemical substances	<u> </u>
	Extended working hours	<u> </u>
	Lifting and carrying heavy things	<u> </u>
	Working in tight and deep places	<u>-</u> <u>L</u>
	Interacting with explosives	M
420	How do you do blasting at mining site?	<u>—</u>
	themselves	A
	Licenced blasting company	<u>B</u>
	Experienced miners in blasting	<u>C</u>
	Other	<u>D</u>
421	Where do you get explosives?	<u> </u>
	Local shops and market	Δ
	Individual people	<u>А</u> В
	····	_
Ì	UB	<u>C</u>

	Licenced blasting company	<u>D</u>	
	other		
422	What difficulties do you face in blasting activities?		
	High service payment	<u>A</u>	
	Not available and illegal	<u>B</u>	
	Dangerous	<u>C</u>	
	Not safe to store	D	
	Strict policy control and subject to punish	E	
	Other	<u>E</u>	
423	How do you think to resolve blasting activities?		
	Grant blasting permission to local companies	<u>A</u>	
	Qualify local miners in blasting	<u>B</u>	
	Educational and awareness activities to miners about safety	<u>C</u>	
	and blasting	_	
424	How do you recover gold?		
	manually	<u>A</u>	
	HAMO company's ore processing plant	<u>–</u> <u>В</u>	
	other	C	
425	Do you use mercury in gold recovery at your places?	_	
	Yes	<u>A</u>	
	No	<u>—</u> В	
426	Where do you use mercury in gold recovery?	_	
	At home	<u>A</u>	
	Remote place	B	
	Mining site	<u>=</u> <u>C</u>	
	Small ger and houses	<u> </u>	
	other	<u>D</u> <u>E</u>	
427	Where do you dump mercury contaminated wastes?	_	
	To river	Α	
	To soil	<u>B</u>	
	To hole	C	
	To dumping points	<u>D</u>	
	other	E E	
5. AS	Ms' income and expenditures		
501	What amount of gold do you earn daily/weekly?		
	Times amount or gold do you cam daily wooling.		
502	How much money do you earn from gold mining		
	(weekly/monthly)?		
503	How much money do you spend to earn the above		
	amount of gold?		
504	What season is the peak expense timing?		
505	Are you able to save money from the gold mining		
	earnings?		
	Yes	<u>A</u>	
	No	<u> </u>	
506	Did you get a bank loan?		
	ı - -		

ì	Yes	<u>A</u>
	No	В
507	What purposes did you get the loan?	_
	Buying apartment or car	Α
	Buying household necessities and foodstuffs	<u>B</u>
	Paying children's school fees	<u> </u>
	Buying equipment and tools	<u> </u>
	For gold mining activities	<u> </u>
	Paying a debt	F
508	Where do you sell a gold?	<u>L</u>
500	shops	Α
	bank	<u> </u>
	HAMO company	_
	<u> </u>	<u>C</u>
	Mobile gold changers	<u>D</u>
	UB city	<u>E</u> <u>F</u>
	foreigners	
	other	<u>G</u>
509	What is your impression about gold buying price rate?	
	High	<u>A</u>
	Reasonable	<u>B</u>
	low	<u>C</u>
510	How do you think about the most appropriate gold	
	selling mechanism?	
	Selling to the local bank	<u>A</u>
	To the bank	<u>B</u>
	HAMO company's ore proceesing plant	<u>C</u>
	Gold changers	<u>D</u>
	other	<u>E</u>
Part (6: ASMs health condition and access to quality health service	es
601	To whom/where do you approach when you are sick?	
	Emergency aid	<u>A</u>
	Soum hospital	<u>B</u>
	Private hospital	<u>C</u>
	Aimag and state hospital	<u>D</u>
	Friends and relatives	<u> </u>
	Monks	
	Self-care and treatment	<u>F</u> <u>G</u>
602	What types of health services do you require?	
002	Emergency aid service	<u>A</u>
	Preventive medical check-up	<u>B</u>
	Vaccination	<u>D</u>
	Cure chronic diseases	<u>D</u>
	Health advices	<u> </u>
603		<u> </u>
003	Did you experience any negative disease symptoms	
	since starting gold mining?	Α.
	coughing	<u>A</u>
	Tinnitus aurium	<u>B</u>

	Хавагнах suffering from edema	<u>C</u>
	Skin itching, breaking in a rash	<u>D</u>
	Disfunction of urinary system	<u>E</u>
	Scarospinal pain	<u>F</u>
	Joint problem	<u>G</u> <u>H</u>
	Kidney pain	<u>H</u>
	No illness symptoms	<u> </u>
	Other	<u>L</u>
604	What difficulties do you face in access to health service?	
	Distant location	<u>A</u>
	No health insurance	<u>B</u>
	Not locally registered	<u>C</u>
	Poor communication	<u>D</u>
	Financial shortage	<u>D</u> <u>E</u>
	Lack of transporation means	<u>F</u>
	other	<u>G</u>
605	Have you ever been involved in workplace injuries?	•
	Injury	<u>A</u>
	Accident	<u>B</u>
	None	<u>C</u>
606	How many times did you suffer injuries or accidents?	
607	Please identify what types of OHS related injuries or accide	ents were
	happened to you бэ?	
	Falling under rocks	<u>A</u>
	Underground falling due to the breaking of fastening ropes	<u>B</u>
	Falling in a hole	<u>C</u>
	Hurting from blasting	<u>D</u>
	burning	<u>E</u>
	Poor preparedness and inadequate use of mining equipment	<u>F</u>
	and tools	
	Carbon monoxide poisoning	<u>G</u>
	Other	<u>H</u>
608	How many OHS related accidents are in place at your mining sites in a year?	
609	What types of accidents are oftenly occurred in your	
	mining site?	
	Falling under rocks	<u>A</u>
	Underground falling due to the breaking of fastening ropes	<u>B</u>
	Falling in a hole	<u>C</u>
	Hurting from blasting	<u>D</u>
	burning	<u>D</u> <u>E</u>
	Poor preparedness and inadequate use of mining equipment	<u>F</u>
	and tools	
	Carbon monoxide poisoning	<u>G</u>
	Other	<u>H</u>
610	Where do you get drugs and medical supplies at mining	

	site?	
	Ger shops	A
	Carrying with yourselves	В
	Ask individual miners	C
	Send a person to soum center	<u>D</u>
	other	<u> </u>
611	What is the main accident causes in your opinion?	_
	Poor knowledge about OHS requirements and rules	A
		_
	Due to the poor practical applications of OHS rules and	В
	requirements	_
	Lack of labor safety dresses and supplies	<u>C</u>
	Poor implementation of OHS rules and requirements	D
	Other	<u> </u>
612	How immediate do you obtain first aid and emergency	_
	health care service at the mining site?	
613	Do you make health insurance payment?	
	Yes	<u>A</u>
	No	<u>B</u>
614	If no, why?	
	Lack of cash	<u>A</u>
	No local registration	<u>B</u>
	Incomplete personal documentation	<u>C</u>
	Poor access to the related information	<u>D</u>
	Other in	
	Other	<u>E</u>
Part 7	Other 7: Social welfare service and social insurance	<u>E</u>
Part 7		_
	7: Social welfare service and social insurance	_
	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining	income?
	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes	income?
701	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No	income?
701	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why?	income?
701	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash	income?
701	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash No local registration	Income? A B B C D
701	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash No local registration Poor knowledge about the importance of social insurance	income?
701	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash No local registration Poor knowledge about the importance of social insurance No confidence about future yield of social insurance	Income? A B B C D
701	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash No local registration Poor knowledge about the importance of social insurance No confidence about future yield of social insurance Poorly informed	A B C D D E
701	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash No local registration Poor knowledge about the importance of social insurance No confidence about future yield of social insurance Poorly informed Other	income?
701 702 703	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash No local registration Poor knowledge about the importance of social insurance No confidence about future yield of social insurance Poorly informed Other How much money do you pay in a month?	income?
701 702 703	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash No local registration Poor knowledge about the importance of social insurance No confidence about future yield of social insurance Poorly informed Other How much money do you pay in a month? If no, why?	income? A B C D E E
701 702 703	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash No local registration Poor knowledge about the importance of social insurance No confidence about future yield of social insurance Poorly informed Other How much money do you pay in a month? If no, why? Lack of cash	A B C D E E E E
701 702 703	7: Social welfare service and social insurance Do you make social insurance payment out of gold mining Yes No If no, why? Lack of cash No local registration Poor knowledge about the importance of social insurance No confidence about future yield of social insurance Poorly informed Other How much money do you pay in a month? If no, why? Lack of cash Poor knoeldege how to pay	A B C D E E E E A B B B B B B B B B B B B B B B
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802	Are you a member of the partnership?	
	Yes	<u>A</u>
	No	<u>B</u>
803	What is a name of your partnership?	
804	How many members are in your partnership?	
805	What advanges do you experience for being a	
	partnership member?	
	Labor intensifying	<u>A</u>
	Sharing equipment and tools	<u>B</u>
	Improved safety operation	<u>C</u>
	Increased access to required information	<u>D</u>
	Ease of access to social welfare services	<u>E</u>
	Participatory decision making	<u>F</u>
	Brainstorming and discussion	<u>G</u>
806	What about your partnership member's income sharing practices?	
	equal	<u>A</u>
	According to the work load	<u>B</u> <u>C</u>
	Partnership leader plays key role to distribute income	
	other	<u>D</u>
807	Are you satisfied about your income-sharing practices?	
	agree	<u>A</u>
	Not much	<u>B</u> C
	disagree	<u>C</u>
808	How does your partnership finance mining activities?	
809	Do you have free access in a mining site?	
809	Yes	<u>A</u>
809	Yes No	<u>B</u>
809	Yes	
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason	<u>B</u> <u>C</u>
	Yes No What is your shaft name, where your partnership members are working?	<u>B</u> <u>C</u>
	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason	B C on for that?
	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership	B C on for that?
	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership	<u>B</u> <u>C</u> on for that? <u>A</u> <u>B</u>
	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reaso Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members	<u>B</u> <u>C</u> on for that? <u>A</u> <u>B</u> <u>C</u>
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members Not agree with income sharing practices of the partnership	<u>B</u> <u>C</u> on for that? <u>A</u> <u>B</u> <u>C</u>
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members Not agree with income sharing practices of the partnership Do you know about Bornuur ASM NGO?	B C C B B C C C C C
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members Not agree with income sharing practices of the partnership Do you know about Bornuur ASM NGO? Yes	B C on for that? A B C D
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members Not agree with income sharing practices of the partnership Do you know about Bornuur ASM NGO? Yes No	B C on for that? A B C D
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members Not agree with income sharing practices of the partnership Do you know about Bornuur ASM NGO? Yes No What does the NGO do?	B C on for that? A B C D
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members Not agree with income sharing practices of the partnership Do you know about Bornuur ASM NGO? Yes No What does the NGO do? Training and awareness activities to the ASMs	B C D A B B A B A B B A B B A B B B
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members Not agree with income sharing practices of the partnership Do you know about Bornuur ASM NGO? Yes No What does the NGO do? Training and awareness activities to the ASMs Protection of ASMs' rights	<u>B</u> <u>C</u> on for that? <u>A</u> <u>B</u> <u>C</u> <u>D</u> <u>A</u> <u>B</u> <u>A</u> <u>B</u>
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members Not agree with income sharing practices of the partnership Do you know about Bornuur ASM NGO? Yes No What does the NGO do? Training and awareness activities to the ASMs Protection of ASMs' rights Support of ASMs' voices and encouraging of participation	B C C D D A B B C C
810	Yes No What is your shaft name, where your partnership members are working? If you are not a partnership member, pls tell us your reason Poor knowledge about partnership High requirements for being a member of the partnership No likeminded people in a partnership members Not agree with income sharing practices of the partnership Do you know about Bornuur ASM NGO? Yes No What does the NGO do? Training and awareness activities to the ASMs Protection of ASMs' rights Support of ASMs' voices and encouraging of participation Legal provision of mining land	B C D A B B C D D C D C D C D C D C D C D C D C D C D C D D

	Other	<u>G</u>
813	What are the most needed facilities at your mining site?	
	publication	<u>A</u>
	Bathhouse	<u>B</u>
	Electricity	<u>B</u> <u>C</u>
	Drinking water	<u>D</u>
	Freetime entertainments	
	Banking service	<u>E</u> <u>E</u> <u>G</u>
	Cultural entertainments	<u>G</u>
	Toilet, dumping points	<u>H</u>
	Drugstore	<u>I</u>
	Other	<u>L</u>
814	Who are the most leading ASMs' rights advocating	
	agency?	
	Parliament members	<u>A</u>
	Local government	<u>B</u>
	Mining Rescue Agency	<u>C</u>
	SAM project	<u>D</u>
	Bornuur ASM NGO	<u>E</u>
	HAMO company	<u>D</u> <u>E</u> <u>F</u> <u>G</u>
	Civil movements	
	Partnerships	<u>H</u>
	Name of an individual person	<u> </u>

Thanks for your answer and cooperation.

