



SOCIO-ECONOMIC BASELINE
SURVEY REPORT FOR UYANGA
SOU M OF UVURKHANGAI AIMAG

**SWISS AGENCY FOR DEVELOPMENT
AND COOPERATION
SUSTAINABLE ARTISANAL MINING
PROJECT**

HUGJLIIN EZED NGO

FOREWORD

Mongolia geology is complex and its mineral potential vast; deposits of 80 different minerals, and over 8,000 mineral showings are known. In accordance with the exploration estimation, there are 181 deposits of gold, 5 deposits of copper molybdenum, 1 deposit of lead, 54 deposits of tin, 10 deposits of tungsten steel, a deposit of iron and 4 deposits of silver.

The mining sector was a major contributor to the Mongolian economy in 2009, accounting for 28% of GDP, 56% of overall industrial output, and 60% of export earnings and provided 35% of the government annual revenues.

Mongolian mining sector has the potential to contribute significantly to economic growth, but its development may be highly dependent on the government capacity in managing its mineral wealth and ensuring sound governance of this sector. Also 42 thousand people work in mining sector (which is about 4% of the total work force) and generated more than $\frac{3}{4}$ of the total export income of Mongolia.

For the past 17 years gold production has been considerably increased by about 30 times. The “Gold” program, implemented since mid 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. The volume of gold production has been grown up to 15,2¹ MNT.

According to the World Bank survey² in 2003, it was estimated that there were approximately 100,000 artisanal and small scale miners in Mongolia who sell gold with a value of USD 100 millions in a year. However according to the report, made by Mining Resource Authority of Mongolia in 2008³, there were 54,000 artisanal and small scale miners, working at 100 different 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. It means 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 Uyanga 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 cooperation of ASMs in Uyanga soum and identify the positive and negative impacts to the environment.

¹ MRAM-Mining sector report 2008

² Overview of ASM in Mongolia, Murray Harrison Ltd and Eco-Minex International Co.ltd. Apr, 03

³ Information released from MRAM in August, 2009

The current survey was exclusive as both quantitative and qualitative methods were used, and participation of relevant stakeholders was ensured.

ACKNOWLEDGEMENTS

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V. Bertsetseg
Executive Director of Hugjliin Ezed NGO

ACRONYMS

MRAM	MINING RESOURCE AUTHORITY OF MONGOLIA
ADB	ASIAN DEVELOPMENT BANK
MEN	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

CONVERSIONS AND TERMINOLOGIES

1 troy ounce – 31.1035 grams

1 liang – 37.5 grams

1 tsen – 3.75 grams

1fyn – 0,375 grams

1. *Settled ASM*= An ASM who has been engaged in gold mining for a year-round
2. *Mobile ASM*= an ASM who is engaged in gold mining on a temporary basis
3. *Large scale mining company* - Large companies which holds mining authorization and license, and pays all relevant fees such as water, land and resource.
4. *Small scale mining company* - Small companies established by individuals with financial capacity, which mine gold on the contract basis with bigger mining company licensed to use Ult site. The community called these small companies as a “ninja with tools”.

MAIN FINDINGS OF THE SURVEY

The Research team did the following brief data and conclusion as a result of accurately reviewing the project goal, objectives and outputs during studying publications relevant methodology of the Socio-Economic Baseline Survey for Uyanga Soum, Uvurkhangai Province.

SAM project goal: To improve contribution of artisanal miners into sustainable rural development by working together with all stakeholders for the development of responsible artisanal mining in Mongolia and to ensure them to become responsible members of a key sub-sector of economy.

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

Table 1. Socio-economic prior conditions in the target area

Measures	Per centage	Comments
Poverty rate by aimag average	30.8% ⁴	Uvurkhangai aimag's statistical yearbook - 2009
Per centage of householdes under the poverty line	24.8%	Uyanga soum demographic survey in 2009
Per centage of people with lower income than minimum subsistence level of population	42.1%	Uyanga soum demographic survey in 2009
Labor force participation rate ⁵	75.7%	Rate of labor force in total labor age population
ASM access to legal mining	0%	ASM are illegally mining in 1613.5 hector of land licensed to 4 entities through 5 exploitations licenses, 21357.5 hector of land granted for 10 entities through exploration licenses, and other non lisenced areas within the goldfield region.
Accidents among ASMs	12.5%	Less serious, heavy and felonious accidents included.

CRIME⁶

⁴ In 2009 minimum living standard in Khangai region was 90600 tugriks.

⁵ 2008 Mongolian Statistical Report

Table 2. Types of crimes

Types of crimes		Number	Comments
Total registered crimes		48	-
Of which	1. Attempted murder	3	-
	2. Rape	1	-
	3. Indecent assault	2	-
	4. Offences against the health of individuals ⁷	23	-
	5. Theft	5	All types of theft Including: livestock theft, burglary, and housebreak.
	6. Traffic violation	8	Of which 2 cases were offended and 6 dismissed
	7. Others	6	Other crimes not mentioned above.

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

Table 4. Expected outcome 1

Measures	Per centage	Comments
Percentage of ASMs working at authorized mining	0%	There was no single person who mines gold with authorization in accordance with Government resolution 72 and temporary policy on regulation individual gold mining
Percentage of ASMs making regular social insurance payments	0%	Voluntary social insurance payment is 12,500 ⁸ tugriks in a month.

⁶Uvurkhangai Aimag Police report issued on December 25, 2009

⁷Crime against people's right for freedom and health

⁸ Social Insurance Law of Mongolia

Percentage of ASMs making health insurance payments	8%	Voluntary health insurance payment is 500 tugriks in a month and 6000 tugriks in a year ⁹
Percentage of ASMs making regular personal income tax payments	0%	Personal income tax payment for uncertain income-earning people is 4000 tugriks ¹⁰ in a month

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

Table 5. Expected outcome 2

Indicators	Percentage	Comments
Number of ASMs organized into 'unregistered partnerships in accordance with temporary policy	0	Only 9% of the total respondents was aware of the temporary policy

Outcome 3: *Support will be provided to improve capacity of artisanal mining communities to engage in profitable and responsible mining and extend their business*

Table 6. Expected outcome 3

Indicators	Percentage			Comments
	Daily	Weekly	Monthly	
ASM's income earning days	-	5 days	23 days	
Size of the gold mined by ASMs (daily, weekly and monthly in grams)	0,3gr	1,5 gr	6,9 gr	
ASMs' average income (daily, weekly and monthly)	13,500 tug	67,500 tug	310,500 tug	

⁹ Health Insurance Law of Mongolia

¹⁰ Individual Income Tax Law of Mongolia

Average salary size of the people working in local government organizations, private entities and companies in Uyanga soum	-	-	237000 tug ¹¹
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Outcome 4. *Artisanal miners and other resource users are empowered to responsibly address and solve existing and potential ecological and social conflicts*

Table 7. Expected outcome 4

Measures	Percentage	Comments
Percentage of criminal cases related to the ASMs	48	According to the local police statistics
Conflicts related to the gold mining activities	Many ¹²	According to the focus group discussion and key informant interview findings (mining shaft, labor distribution, profit sharing, equipment use and lease and etc).
Gold mining practices using chemical substances that negatively effect ecology and human health	No	According to mutual inspection by Mineral Resource Authority, Ministry of Environment and Ministry of Health. ¹³
Negative ecological impacts of the gold mining activities	Big ¹⁴	Surrounding environment contamination, household wastes and other negative impacts

¹¹ Economy and Social Data established by Statistical Department of Uvurkhangai aimag in October 2009

¹² The terms “many, medium and few” were used to collect data in the participatory method.

¹³ 2008 Report on inspection of usage of chemical substances in UIt field.

¹⁴ The terms “big, medium and small” were used to collect data in the participatory method.

PART 1

INTRODUCTION



1.1 Preface

The artisanal mining sector has been rapidly developing in last 20 years alongside development of the large scale mining sector. The informal artisanal mining has emerged primarily to respond to the adverse effects of economic restructuring, which has resulted in job losses, inflation, and declining real incomes occurred in early 1990s. But since the second half of 1990s, the artisanal mining particularly gold mining has escalated into a solid livelihood source for the poor people living in the rural areas.

For Mongolian people engaging in artisanal mining was not a voluntary choice, but was a necessity for those people who have had to find their own solutions to these problems, most often outside the formal economy. Decreased income sources in rural area, increased rural and urban unemployment rate, crises in agricultural sector as a result of natural disasters like dzud and drouhgts and opportunity to earn from mining are the main factors of wide spread of illegal gold mining, which is visible almost in all aimags.

According to the report of Mongolian Mining Resource Authority in 2009¹⁵ 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, a lack of evidence-based data and survey about the exact number of the artisanal and small scale miners in Mongolia is 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 artisanal mining is purely manual, labor intensive and usually un-mechanized, which is conducted in unsecure and hazardous condition without any safety and security tools. Also there is a tendency to increase harmful social attitude due to alcohol usage and violence by artisanal miners.

Another priority issue is exploitation of child labor in artisanal gold mining. Eventhough, Mongolia has already signed Convention 182 on Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labor, dozens of children's are working at the artisanal mining sites. Moreover there is a widespread of conflict among larger mining companies, local government, herders, farmers and citizens due to artisanal mining.

Since 2005 Swiss Development Cooperation inn cooperation with MRAM, has been implementing sustainabale artisanal mining project to improve contribution of artisanal miners into sustainable rural development by working together with all stakeholders for the development of responsible artisanal mining in Mongolia and to ensure them to become responsible members of a key sub-sector of economy.

With initiation of SAM project, a baseline survey to assess socio-economic situation of artisanal miners in Uyanga soum, Uvurkhangai was conducted

¹⁵ Information released from MRAM in August, 2009

1.2 OBJECTIVES AND OUTPUTS OF THE SURVEY

1.2.1. Objectives of the survey

The objectives of the study were to identify and assess the socio-economic conditions in Uyanga soum, local ASMs' activities, their contribution to local economic development, accidents relevant with mining, health condition, violation and environmental impact.

1.2.2. Outputs of the survey

1. Review socio-economic conditions of ASMs' in Uyanga soum and their impact in environment;
2. Estimate amount of gold mined by ASMs, market trend, price, income and costs;
3. Identify ASMs' contributions to the socio-economic development of the soum;
4. Make comparative analysis on livelihood condition of the ASMs' and total soum population;
5. Assess ASM's health and occupational safety conditions and their reliance on the use of toxic substances;
6. Identify ASMs' communication, cooperation and assembly with other parties, and their organizational structure;
7. Identify public perception about ASMs' action, contribution to the local socio-economic development and environmental impact.

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, processing and analyzing data and survey findings and producing final report. The survey started on December 07, 2009 and finished on January 11, 2010.

The Sustainable Artisanal Mining Project team members collaborated to process and interpret data, develop survey conclusion, type reports and review accuracy and reliability of the report.

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

- Observations
- Comparisons
- Mapping
- Field trips
- 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 and local registration (Part 3)
- Gold mining and employment (Part 4)
- ASMs' income and cost (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-choice questions.

Target groups of Interview:

- Soum governor and authorities
- Social welfare department officers
- Soum's hospital doctors
- Soum's police officer
- Environment Inspectors
- Mongol Shuudan and Khaan Banks
- Gas station
- Head of Movement for Environment Protection and Local Development
- International Organizations in the soum
- Artisanal small scale miners
- Traders and service entities
- Others

1.4. SURVEY SAMPLING

The population of Uyanga 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 500 ASMs working in Ult site of Uyanga soum.

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. DIFFICULTIES ENCOUNTERED DURING THE SURVEY

- Getting accurate and proper information from ASMs was very hard because they were careful, painstaking and staying away from telling the reality. Since they were mining gold without authorization they constantly experienced pressure and stress by Uyanga soum government, large mining companies and herders.
- It was hard for participants and survey team due to extremely cold weather, snow and dust storm during questioner.
- It took a considerable amount of time to calculate the incomes and costs of ASMs as they do not have former experience to estimate and calculate their income and costs.
- The ASMs strictly refused to give information and being photographed because of press distribute negative information about them and call them "Human rats", "Ninja", "Wilds", etc.
- The survey team had to late 3 days late from due time because it considered dangerous to work after 4-5 pm.
- It was complicated to get information about ASMs daily and monthly income. They were in doubt and belief that they can be charged to pay tax and can be evacuated if somebody found out there are proper resource of gold.

PART 2

POPULATION, SOCIO- ECONOMY AND NATURAL RESOURCE MINING CONDITION IN UVURKHANGAI AIMAG



2.1. Geographical location, dissemination and usage of natural resources

Arvaikheer city of Uvurkhangaï province is located 420 kilometers south-western from capital city Ulaanbaatar. The territory of the aimag is 62895,3 km². The central point of the aimag is located in Burd soum. Khangai mountains are located the north and Altai Mountains in the south of the aimag. The total territory of the aimag consists of forest (23.0%), steppe (28.2%) and desert (48.8%).



According geological exploration data in the aimag there are many gold deposits, 9 deposits of rare metals, 4 deposits of mixed and colorful metals, 2 deposits of iron, 4 deposits of minerals, 12 deposits of mud for contraction usage and 1 deposit of salt. Active gold mining sites are Modot and Ult in Uyanga soum, Urtunt in Zuun Bayan Ulaan soum, Baruun Sudut and Zuun Sudut in Bat Ulzii soum and Khuirai sair in Taragt soum.

Geological exploration is being held with Government funding in Bogd, Bayan Undur and Zuun Bayan Ulaan soums of the aimag.

It were explored the following deposits: wolframs and molybdenum deposits in Khujirt, Zuun Bayan Ulaan, Bogd, Ulziit, Tugrug and Baruun Bayan Ulaan soums, copper deposits in Sant, Guchin-Us and

Bayangol soums, iron deposits in Bogd and Tugrug soums, precious gemstone deposits in Bogd, Baruun Bayan Ulaan, Uyanga, Khar Khorin, Tarag and Esun Zuil soums, and brown coal deposits in Bogd and Baruun Bayan Ulaan soums.

By 2008 there are 4644 natural resource exploration and mining licenses were issued in Mongolia. Of which 1060 (22.8%) licenses were issued for mining and 3584 licenses were issued for exploration purposes. It is estimated that 28% of total territory of Mongolia, which is 44.81 million hectares of land, was authorized for mining. 462 (44%) licenses out of 1060 mining license are for gold mining. 10 aimags such as Tuv, Selenge, Dornogovi, Umnugovi and Uvurkhangaï are leading with the numbers of issued mining licenses, when Govisumber and Orkhon aimags are behind them.

As regards to Uvurkhangaï aimag, 128 licenses were issued. Of which 101 licenses were issued for mining in 1,085,187 hectares and 27 licenses were issued for exploration in 12,302 hectares. Uvurkhangaï, Tuv, Selenge, Bayankhongor and Darkhan Uul aimags are the main gold mining sites, where most gold mining licenses were issued.

Khangai Mountains, Orkhon river, Khuisiin Naiman lake, Batkhaan Mountain, Mongolian Els and Zuun Khaikhan Mountains are restricted and state protected areas, which are situated in above mentioned aimags. Theses restricted and

state protected areas as well as Khunguin mukhar in Bayan-Ulaan soum and Khuren Khandii Rashaan (estimated 21.1 hectares) are located in 309.8 thousand hectares, equal to 4.9% of total territory of Mongolia.

Forest of sulk (needle) trees occupies 201,390 hectares of land, and a forest of zag bushes (Grown in Central Asia mostly) in Bogd, Guchin-Uls, Tugrug and Baruun Bayan Ulaan soums occupy 75,750 hectares of land.

Most of forest trees are pines. Also many kinds of bushes such as cedar, willow, poplar, aspen, black alder tree, gooseberries, barberries, zag and elm grow in the aimag. Totally 73 species of animals and birds (including in 49 types, 15 names and 7 groups) are in the aimag. For instance rein-deer, musk-deer, wild pig, lynx, wild goat, wild mountain sheep, ounce, leopard, white tailed gazelle, black tailed gazelle, wolf, fox, wild cat, rabbit, marmot, gopher, squirrel, swan, goose, duck, great bustard, woodpecker, eagle, magpie, blackcock are most popular animals and birds. Orkhon, Ongi and Taats rivers are rich of different kinds of fish. Also there are Khujirt, Khuremt, Khyatryy and Khuren warm and cold springs for medical treatment.

2.2. Population and education level in Uvurkhangaï aimag

In terms of administration unit, Uvurkhangaï aimag is divided into 19 soums and 105 bags. At the end of 2009, the resident population of the aimag was reached to 111,977 in 32,349 households. Of the total population, 50,5 % or 56,527 were women and 49.5% or 55,450 were men. Gender ratio is 98 males per 100 females. About 47,6% of the total population or 53,345 people lived in the center of the soums and aimag and 52,4% of the households or 58,522 persons lived in countryside.

Figure1. Population pyramid of Uvurkhangaï province in 2009

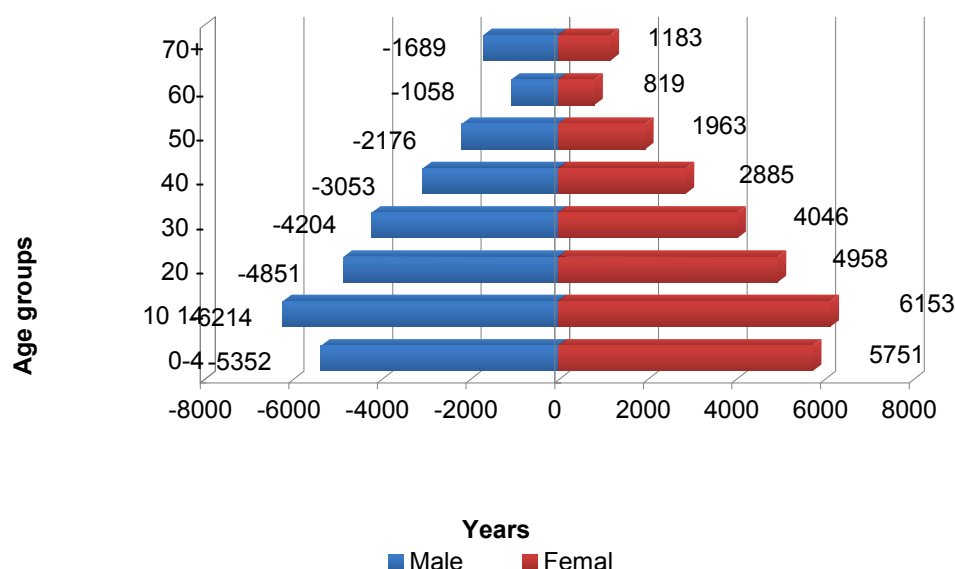
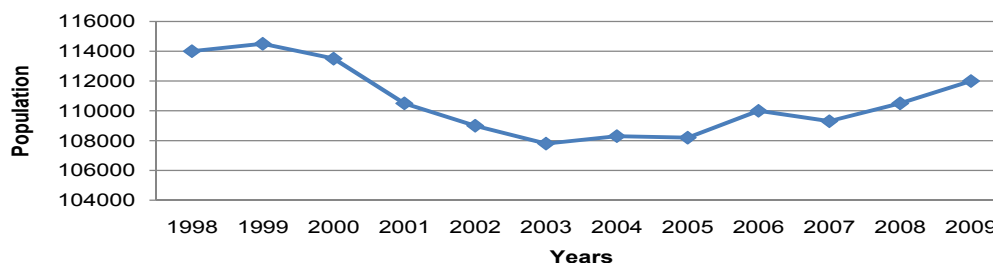


Figure 2. Population growth



Out of the total population, 64,4% is young people, 27,9% is children and 5,9% is old people. According to the soum statistics 32,800 people in 7,755 (24,0%) households live under the poverty line, which is 29,3% of the total population of the aimag. 30,8% of households lived under poverty line are extremely poor households.

There are 1976 orphan children, of which 180 (91,%) children are full orphan and 1,796 (90,8%) children are half orphan. 8,6% of the total households are female-headed households, which increased by 5,6% from last year. Main reason of it is divorce. Number of people over 18 years of age is increased this year.

Uvurkhangai aimag has 31 kindergardens with capacity of 3,161 children and 30 schools with capacity of 23,668 children. 12,671 of children are in elementary school, 8,362 children are in middle and 2,635 children are in high school. Approximately 4,850 students complete middle school per a year. 10,374 of total school aged children are from herder families. Also 121 children are orphan, 9 children do not have legal guardians, and 1,044 children with disabilities live here. There are 30 dormitories in the aimag, where 2,813 children live. 2,734 children of total children in the dormitories are herders' children. There are 346 school-dropped children aged 6-14. Arvaikheer, Khujirt and Uyanga soums have more number of children, who left behind school.

2.3. Population health and accessibility to health services

The aimag has 1 Regional Treatment and Diagnose Center, 1 Rural General Hospital, 16 soum hospitals and 2 mid-soum and practitioners centers. Capacity of the hospital was 631 beds in 2008, which increased to 637 beds in 2009. There are 175,8 people per 1 bed, usage is 79,6%, average in-hospital treatment day is 7,9 and circulation is 33. There are 187 medical doctors, 8 high educated medical personals, and 540 nurses and caregivers.

Table 8. Number of human resource in soum hospital

Title		2006	2007	2008	2009
Medical doctor		170	182	185	187
High educated medical personal		10	9	9	8
Nurses and caregivers		490	587	528	540
Per 10,000 people					
	Medical doctor	15.7	16.6	16.9	16.7
	High educated medical personal	0.9	0.8	0.8	0.7
	Nurses and caregivers	45.2	53.6	48.2	48.2
Number of people per 1 medical doctor		636.6	601.6	597	599
Number of people per 1 high educated medical personal		10.823.4	12.165.8	12.271.1	13.997.1
Number of person per nurses and caregivers		220.8	186.5	209.1	207.4

Last year 2,942 mothers were delivered and 668 people were died last year in aimag hospitals. It means the birth rate was increased by 8.2% and death rate is increased by 7.5%. 10.2% of death is infant mortality. There are 26 birth and 6 deaths per 1000 people.

There are 996 cases of infectious diseases in 2009. Of which 16.6% is hepatitis, 7.6% tuberculosis and 24.2% is gonorrhea.

2.4. Employment and social services/ benefits

68,804 people (61.4%) of total aimag population are employment aged. Of which 49,549 people are employed, 2,568 are unemployed registered with Labor and Benefit Department (LBD), 5,814 people are unregistered unemployed, 7,625 are students and 3,248 are disabled people.

Table 9. Employment

Description		2008	2009
Total employment aged people		68,629	68,804
Of which	Employed	49,876	49,549

	Unemployed registered with LBD	2,115	2,568
	Unregistered unemployed	5,618	5,814
	Students	6,963	7,625
	Disabled	4,057	3,248

Out of total employed people 65% is in agricultural sector, 9% is in whole and retail sale, 9,5% is in government organizations, 16% is in other sectors.

Table 10. Number of employment aged people

Description		2008	2009
Total population		110,440	111,977
Employment aged people		68.629	68.804
Percentage of employment aged people per capita		50.7%	46.5%
Economically active population		51,991	52,117
Of which	Employers	49,876	49,549
	Registered unemployment	2,115	2,568
Work force participation level		75.8%	75.7%
Unemployment level		4.1%	4.9%

According to the report from soums, there are 563 working children. Of which 46.7% is working in the agricultural sector, 19.7% is working in the mining sector and 11.2% is working in other sectors.

55% of 2,568 unemployed people registered with the Department of Labor and Social Services are women. Comparing with 2008 number of registered unemployment people was increased by 21.4%. 34.5% of unemployed people is between the ages of 25-34, 27.4% is between the age of 35-44, 23.1% is between the age of 16-24 and 14.8% is between the age of 45-60.

As regards to their education, 34.4% has high school education, 15.4% has high education, 32.6% has middle school education, 4% has vocational education, 7.2% has specialized education and 5.6% has elementary education.

In 2009 1,503 new jobs were created in the aimag. Of which 12.4% is in construction, 26.3% is in agriculture, 14.7% is in industry, 1.6% is in hotel and dining places, 12.4% is in whole and retail sales, 1.4% is in transportation and communication, 7% is in mining, 15.4% is in state organizations and 8.9% is private sectors and projects.

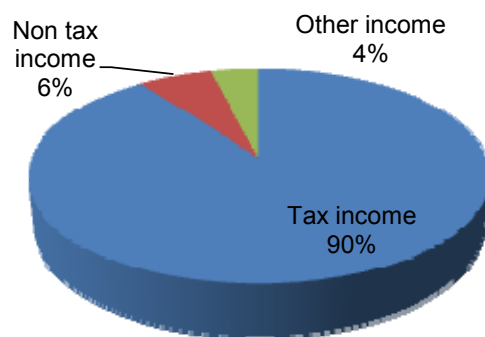
In 2009 73.8 thousand people were provided with 10.6 billion tugrik within the frame of social service and benefit. 2,419 people received 1041.4 million tugrik as a social benefit, 2,111 people received 542.9 million tugrik special benefit. 2,183 people, who need social benefits, received 232.2 million tugrik benefits. 7,637 elders and people with disabilities received supports and discounts in value of 563 million tugrik. 59,206 children were distributed with 3.9 billion tugrik from Child Development Fund. 13,750 peoples entitled to different benefits and pension received 13 billion tugrik. 3,110 people received 530.8 million tugrik of social benefits.

2.5. Micro-economic condition of the aimag

Totally 872 entities are registered with Taxation Authority of the aimag. Of which there are 193 state funded organizations, 91 branches of the state funded organizations, 80 associations, 18 shareholding companies, 353 limited share holding companies, 3 local property companies, 2 state owned industries, 70 partnerships, 14 saving and credit unions, 24 non-governmental organizations, 8 religious organizations, 2 foundations, and 14 public organizations.

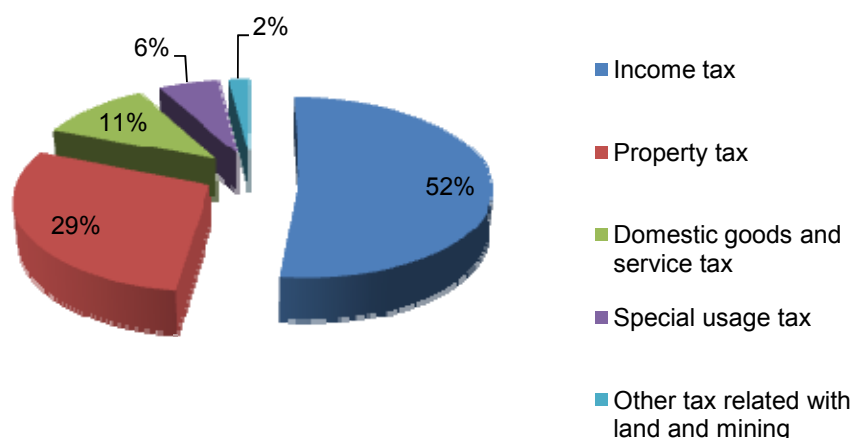
As of December 2009, 3.8 billion tugrik was entered into aimag account. Of which 3.6 billion tugrik was collected from tax, 226 million tugrik is non-tax incomes and 137 million tugrik is other incomes.

Figure 3. Income generation of Uvurkhangai aimag



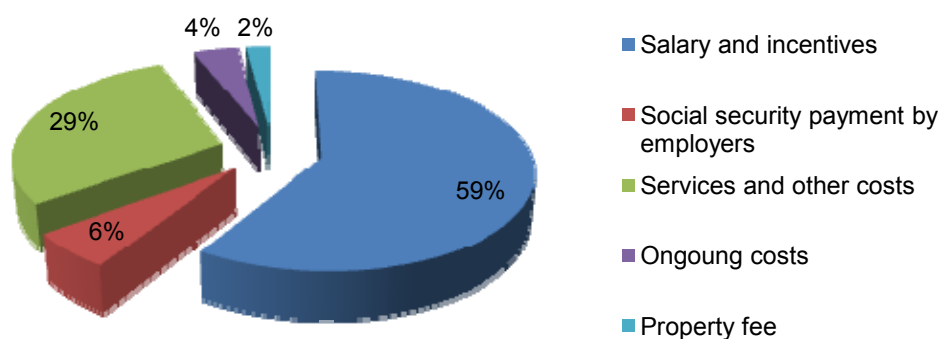
10.6% (406 million tugrik) of total tax collection is from mining license fee, 0.3% (12.4 million tugrik) is from mining resource fee, 2.1% (82.6 million tugrik) is from land fee and 0.3% (12.1 million tugrik) is from natural resource usage fee.

Figure 4. Tax generation of Uvurkhangai aimag



59% of aimag budget spent for salary and transportation cost, 6% used for pension and social benefits, 29% spent for state organizations' cost such as rent, communication, publication, trip, uniforms and remaining 6% is used for investment, support for students, one time un-refundable payment and public development (aimag public place cleaning, restoration and maintenance).

Figure 5. Budget description and expense of Uvurkhangai aimag



At aimag level personal and business saving reached to 18.7 billion tugrik. It is approximately 167.3 thousand tugrik per person or 390.5 tugrik per 1 saving account holder. Comparing with 2008 number of saving account holders increased to 24.8% and total amount of saving increased to 52%. According to the commercial banks in the aimag 25,824 individuals and business entities were provided with a loan of 42.5 billion tugrik. It means number of individuals and business entities who get loan is decreased by 16%, and amount of loan is decreased by 39.9% then former year. As of December 2009 a loan of 31.9 billion tugrik is not paid. Of which 1.6% (525.1 million tugrik) is late due time and

3.4% (1.4 billion tugrik) is considered as unreliable loan. The saving interest of banks in the aimag is 8.4%-10% for unfixed term and 9.6%-19.8% for fixed term .

In 2009 3,263 motorcycles, 68 heavy transportations and engines, 112 trailers, 2,902 cars, 2,032 tracks, 1,214 buses and 29 special service vehicles were registered in the aimag. This number was increase by 19.1% (890) comparing with number in 2008. Totally 9,620 vehicles were inspected and registered in the aimag. As a result totally 185.3 million tugrik as annual transportation fee was collected. 19.7 million tugrik was entered into aimag road construction fund. 50.8 million tugrik paid for vehicle inspection was transferred into local budget account.

2.6. Agricultural sector in Uvurkhangai aimag

Live-stock: According to 2009 annual inventory, there were 3,620.1 thousand head of animals, which is increased by 170.4 thousand in number comparing to 2008. Of which 15.2 thousand are camels, 183.4 thousand are horses, 141.1 thousand are cows, 1,691.1 thousand are sheep, and 1,589.1 thousand are goats. 19,888 families have livestock and 16,855 are herder families. 182 animas per family with animals and 200 animals per herder families. 222 households have 1000 and more livestock.

As of December 2009, 111,317 head of livestock died, of which 76 camels, 2,408 horses, 3,348 cows, 41,494 sheep and 63,991 goats. Sant, Khairkhan Dulaan, Bayangol, Bayan Undur and Nariin Teel soums experienced most loses of animals.

Agriculture: The aimag planted 981 hectares of crops, 252.6 hectares of potatoes and 131.6 hectares of other vegetables in the spring, and harvested 702 tons of crop from 860 hectares, 2,392 tones of potatoes from 252.4 hectares and 1,446.4 tons of vegetables from 136.6 hectares. Individuals and business entities prepared 14,491.9 tons of hey and 5,221.8 tons of fodder.

2.7. Public order and crime

According to the aimag police department 385 individuals suspected in 355 criminal cases and 21 unreleased crimes. Total registered criminal cases are 35,5% theft, 29% assault, 9% hooliganism and 5.9% un released crimes.

Table 11. Types of crimes¹⁶

Types of crimes	2007	2008	2009
Total number of crimes	499	545	355
Of			
Murder	7	9	5

¹⁶ Information was compared 2007, 2008 and 2009 report from Uvurkhangai aimag Police Department.

Socio-economic baseline survey for Uyanga soum, Uvurkhangaï aimag

which	Assault	153	109	103
	Misuse of power	6	0	0
	Hooliganism	44	22	32
	Rape	5	7	6
	Robbery	12	7	6
	Animal and property theft, burglary	216	143	126
	Transportation safety, accident	41	37	30
	Other crimes	51	31	28
	Unreleased	58	27	21

Totally 385 people were charged, of which 41.6% is unemployed, 27.5% committed a crime in a group, 37.1% committed a crime under influence (drunk) and 64.2% is people aged 18-35.

Table 12. Gender, age and employment of the offenders

Description		2007	2008	2009
Total number of offenders		561	430	385
Of which	Female	15	16	
	Minors	27	20	28
	18-35 years of age	358	239	247
	36 and older	156	146	110
	Social status			
Of which	Unemployed	201	166	160
	Worker	104	42	66
	Herder	181	156	122
	Officer	26	21	14

Socio-economic baseline survey for Uyanga soum, Uvurkhangaï aimag

Other	11	3	5
Committed in a group			
	161	137	106
Committed under influence (drunk)	204	159	143

Table 13. Damages and costs of crimes

Description	2007	2008	2009
Total injuries	224	176	111
Of which Killed	90	96	69
Total costs (million)	360.9	223.5	251.8
Of which Paid	184.9	157	163.1
Of which Loses of individuals	341.7	182.2	207.5

2.7. Socio-economic development trend in Uvurkhangaï aimag

The following table shows the main economical and social changes of the aimag in 2009.

Table 14. Economical and social development

№	Description	unit	2006	2007	2008	2009
1	Land fund	hectare	6289,5	6289,5	6289,5	6289,5
2	Crop field	hectare	5867,8	5867,8	5867,8	5867,8
3	Total households	number	29,207	29,770	30,782	32,349
4	Total population	number	110,150	109,492	110,440	111,977
5	Employment aged people	number	63,572	67,083	68,629	68,804
6	Economically active people	number	49,850	51,557	51,991	52,117
	Of which: employed	number	47,592	49,410	49,876	49,549
	Registered unemployed	number	2,258	2,147	2,115	2,568
7	Disabled	number	3,470	3,448	4,057	3,248
8	Unregistered unemployed	number	5,715	5,685	5,618	5,814

Socio-economic baseline survey for Uyanga soum, Uvurkhangaï aimag

9	Unemployed (registered)	%	4,5	4,2	4,1	4,9
10	Economical development level	%	12,9	31,9	28,1	
11	GDP	billion tugrik	64,5	85,2	109,2	
12	GDP per person (annual percentage of population)	thousand tugrik	591,5	775,9	993,2	1081,0
13	Consumption price index	%	106,0	128,2	112,8	109,0
14	Inflation	%	0,6	22,2	-15,4	-3,8
15	Local budget income	million tugrik	1996,2	3,889	5,164,6	5,357,1
	Of which: funding from state budget	million tugrik	532,9	980,8	2,223,3	1,503,8
16	Contribution to state budget	million tugrik	680.1	578.9	1.316.2	468.1
17	Cost	million tugrik	40.704.5	16.888.7	26.189.5	27.641.1
	Of which: state organizations	million tugrik	9.507.2	13.141.8	20.806.8	22.859.5
	Local state organizations	million tugrik	1.989	3.746.9	5.382.7	4.781.6
18	Investment	billion tugrik			9.8	12.1
19	School children	number	24,130	24.308	24.307	23.668
20	Teachers at all level	number	906	956	1041	1083
21	Medical doctors	number	170,0	182	185	187
22	Hospital beds	number	605	626	631	637
23	Gross goods sold for public	million tugrik	12.342.1	15,620,0	21,050,7	22,087,4
24	Gross industrial product	million tugrik	2.026.6	2.625.1	3.487.4	4.649.9
25	Industrial product sales	million tugrik	2.092.8	2.619.2	3.341.7	4.356.6
26	Livestock	heads	2.623.263	3.190,190	3.449.746	3.620174
27	Planted field	hectare	1.952	1.480.9	1010.7	1.365.2
28	Harvested crop	ton	4.039.7	3311.2	3.708	4.540.4
30	Registered entities	number	721	721	865	872

PART 3

GEOGRAPHICAL LOCATION, POPULATION, SOCIO-ECONOMIC CONDITION AND MINING IN UYANGA SOUM



3.1. Geographical location and natural resource spots and usage in Uyanga soum

Uyanga soum of Uvurkhangaï aimag is located 490 km from Ulaanbaatar and 60 km from Arvaikheer, the center of Uvurkhangaï aimag in the southern of Khangai Mountains and in the north of Uvurkhangaï aimag. Geographically it is located on the 46°48' of the northern wide and 102°19' of the eastern longitude, and 51,625 km from the world equator zone. It borders with Erdenetsogt and Ulziit soums of Bayankhongor aimag and Bat Ulziit and Zuunbayan Ulaan soums of Uvurkhangaï aimag in the north and with Taragt, Khaïrkhan dulaan and Nariin teel soums in the south and west. Its territory is 319 thousand square kilometers, of which 28.8% is forest.

Its northern point continues 76 km from Khaan Bayan Mountain to Khujirtiin Shar Mukhar. Its eastern point continues 102 km from Onidoltiin Tagaan Khutul to Jargalant Mountains. The tallest points are Tsegeen, Baruun Zuun Ulaan, Bituud, Khyatruun and Shuran Mountains. Ongi River was 435 km long and 5-35 km wide. Taats River was 134 km long.

Climate is unstable with average temperature 2.1. The hottest temperature reaches to +44.8C° and the coldest reaches to -47.5C°. Over the last decade annual temperature average is increased by +0.2 in mountainous regions. Annual rain and snow fall is 306.1mm.¹⁷

Most of the soil is brown; however the following soils are the most popular in Uyanga soum:

1. Forest meadow soil, 2. Mountain dark brown soil, 3. Mountain black soil.

It has high mountainous and steppe flora and fauna. Khangai mountains in Uyanga soum are 2,000 meters high. 200 types of flora grow in this soum. It has 28,217 hectares of forest. 22,930 hectares have covered with forest, 4,218 hectares do not covered with forest and 1,069 hectares of steppe. Pasture capacity is dramatically decreasing near Khangai Mountains and due to draughts and dzud (sever snow falls in winter) grass structure is changed. Due to constant pasture of horses in winter and spring times over the last years the number of white field mouse is excessively increasing, which causes badly to grasses.

Mountainous areas are rich with wild goats and wild sheep. The rabbit, white-tail gazelles, black-tail gazelles, wild horses (khulan and khavtgai) are reduced in the steppe. Over the last 3 decades number of wild animals is decreasing.

There are 24 large and small rivers, 9 lakes, 8 large springs, 8 wells and 32 small springs. Over the last years number of trees on the spring of the rivers is decreasing due to world warming. Ongi River is cut and Ulaan Lake is being dried up because of gold mining on the start of them.

¹⁷Uvurkhangaï aimag dictionary by Ichinnorov S.

The gold deposits were explored near Booroljuut, Ult, Nariin, Buyan and Maniin tohoi us rivers. Brown coal deposit was explored in Booroljuut bag. The soum has various kinds of construction dirt. Uyanga soum is the most gold mining site. In 2009, 10 entities had 15 exploration licenses covering 21,357.4 hectares. 6 licenses covering 762.5 hectares were issued for 4 entities. As of today 257.6 hectares of land is under mining, of which 242.6 (94%) hectares of land was damaged by Erel Company. Erel Company is the first large gold mining company in Uyanga soum. Since 1990 when Government Program on Gold started the mining business developed rapidly. Appropriate data on mining companies and number of ASMs does not exist. Approximately 50 small companies and more than 5000 ASMs are in the soum.

Table 15 Companies with authorized licenses

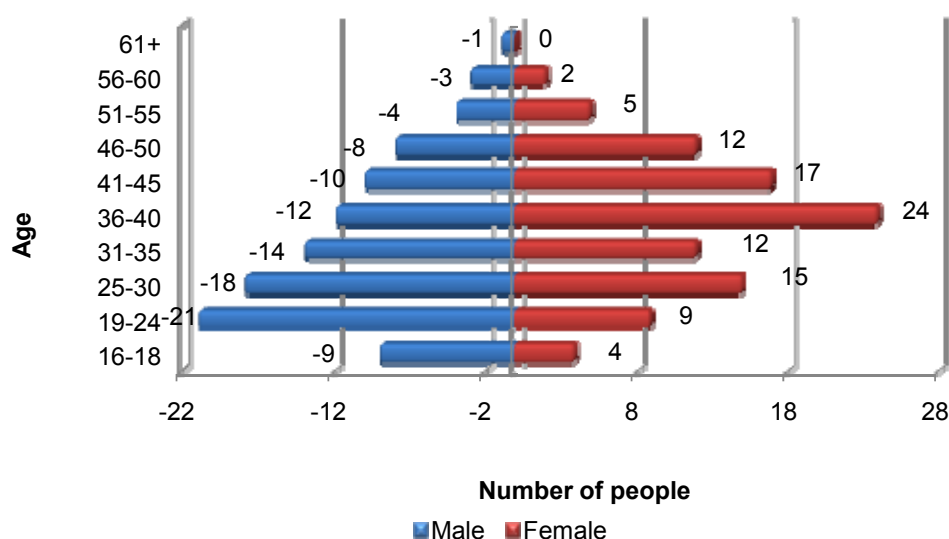
No	Company name	Size of land (hectares)	Type of licenses Mining =M, exploring=E
1	Agit Khangai	314	M
2	AUM	829	M
3	AUM	149	M
4	AUM	1840	M
5	Tsozgor	108.3	M
6	Geogold	178.16	M
7	Bayar's gold	693	E
8	Chintogos	7263	E
9	Bayar's gold	4365	E
10	Ekh nogoon nuur	535	E
11	Nutgiin Buyan	809.9	E
12	Geogold	1559.7	E
13	Ikh Mongoliin Mining	2868	E
14	Mazunai saaruu	812	E
15	Mazunai saaruu	710	E
16	Erdeniin Undarga	62	E

17	Arvaind Bumba	290	E
18	Geogold	926.04	E
19	Sky Rich Land	99.76	E
20	Bayasakh	364	E

3.3. Population and educational background of Uyanga soum

Uyanga soum has 8 bags, 2,760 households and 9,498 people. 49.4% (4,693 people) of total population is male, 50.6% (4,805) is female. There is 1.02 female per 1 male. Gender proportion in the soum is 49.4% x 50.6%. байна. 1,044 of total households live in the center of the soum and 1,725 households live in the countryside herding livestock.

Figure 6. Age and gender pyramid of Uyanga soum



37.9 % of population is 0-18 year old children, 56.9% is employment aged people and 5.2% is elders.

According to the bag level estimation 5,994 people in 1,031 households live under minimum standard of living, which is 37.4% of total households and 63.1% of total population. 34.3% of these households living under minimum standard of living are extremely poor households. 23 homeless and 241 disabled people live in the soum.

Also there are 19 full orphan children, 234 half orphan children and 399 one-parent households, of which 280 women headed households.

In the center of the soum there is 1 kindergarten with 100 children capacity and in Jargalant soum there is 1 kindergarten with capacity of 50 children. 20 teachers and employees work in these kindergartens. The soum has totally 604 children between the ages 2-5, of which only 24.8% (150 children) is involved in the preschool programs and kindergartens. Only children with permanent registration within the soum can attend kindergarten. Therefore children of ASMs from different soums and aimags are not able to attend kindergarten. During the summer time a mobile ger kindergarten is operated in the mining site to take care of the children while their parents' absence for mining.

There are 2 schools with 1,842 children (1,150 elementary school children, 578 middle school children and 114 high school children) in Uyanga soum. Approximately 318 children graduate annually in the soum level. 43.8% of total students are herders' children, 19 full orphan and 234 half orphan children and 241 children with disabilities. There are 2 dormitories with 169 children including 158 herders' children and 11 ASMs' children in the soum. 39 children aged 6-14 were registered as school-dropped children, of which 9 children never entered any school.

3. 4. Population health and access to the health services

The soum has 2 hospitals with 35 beds, where 9,860 patients served annually. Approximately there are 281.7 people per 1 bed, usage is 89.0% and average in-hospital treatment continues 5.9 days. As regards the human resource there are 5 medical doctors, 9 nurses and 7 practitioners. These 2 hospitals have 2 vehicles, 5 motorcycles, 1 ultrasound equipment, 2 SPR apparatuses and 2 oxygen equipments.

In 2009, there are 188 births and 55 deaths and 10,512 people visited doctors.

In 2009 totally 158 cases of sexually transmitted diseases (79 cases of gonorrhea, 76 cases of trichomoniasis and 3 cases of genital herpes) and 733 infectious diseases (717 cases respiratory infectious diseases, 8 cases of hepatitis, 3 cases of scab, 4 cases of chicken-pox, and 1 case of foot and mouth infectious disease) were registered. Totally 1,497 ambulance/emergency calls responded, of which 787 calls were from remote areas.

2.4. Employment and social services and benefits

62.1% (5,900 people) of the total soum population are employment aged people. Totally 5,247 employed people live in the soum, of which 3,126 people work in the agricultural sector, 165 people work in mining companies, 15 people work in the small industry, 254 people work in the state organizations and industries, 69 people work in NGOs and 1,618 people work in other sectors such as private business, hotel, dining, etc. Totally 2,000 ASMs are in the soum. 101 registered unemployed people live in the soum, of which 30 are female and 237 are disabled people.

Education levels of the unemployed people are: 84 people with middle school education, 8 people with high school education, 8 people with university education and 1 person with vocational education. In 2009 96 new jobs were created (of which 83 in mining industry, 6 in the agricultural sector, 1 in the processing industry, 1 in the power station, 1 construction job, 2 sales and trade, 1 in medical and social sector).

59.5% of jobs are in the agricultural sector. 1.75% of jobs are in the mining sector. 0.25% of jobs are in the processing industry. 4.8% of jobs are in the state organizations and properties. 1.3% of jobs are in the NGOs and 30.8% of jobs are in the other sectors such as small private business, bank and financial organizations, hotels, dining, groceries, etc.

As of December 2009 there are 109 working children.

Table 16. Number of working children

Description		Of which		
		Number	male	female
Total number of working children		109	80	29
Of which	Children attending school	53	42	11
	School-dropped children	56	38	18
Work places	Agriculture	39	26	13
	Mining	67	51	16
	Private business	0	0	0
	Employed as servant	3	3	0

2.5. Economical condition in Uyanga soum

Totally 55 organizations are registered with soum tax authority (8 state organizations, 5 branches, 6 associations, 3 corporations, 32 limited shareholding companies and 1 religious organization. Also there are small service, sales and industries in the soum.

Table 17. Small service, sales and industries in Uyanga soum

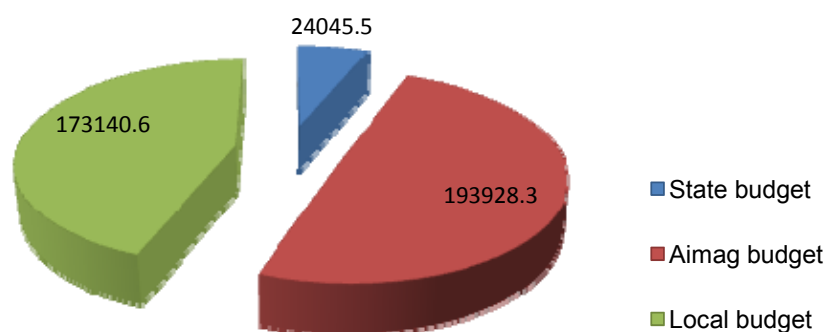
№	Description	Number
1	Small sales points	4
2	Food stores	18
3	Goods stores	9
4	Containers	34

Socio-economic baseline survey for Uyanga soum, Uvurkhangai aimag

5	Show repairs	1
6	Pharmacy	2
7	Animal row material exchange	7
8	Pubs and restaurants	2
9	Dining and coffee shops	5
10	Hotels/motels	1
11	Parking	1
12	Bakery	1
13	Barber's shop/hear dressers	3
14	Bath and shower	1
15	Game centers	3
	Total	91

As of December 2009 Uyanga soum contributed the following amount: 24,045.5 thousand tugrik to the state budget, 193,928.3 thousand tugrik to the aimag budget and 173,140.6 thousand tugrik to local budget.

Figure 7. Budget contribution of Uyanga soum



Branches of Khann and Mongol shuudan banks are operating in Uyanga soum and they offer 7 kinds of loan programs.

Table 18. Types of loan

Loan types	Percentage of total loan	Amount of loan
Business loan	49%	Up to 500-5,000 thousand tugrik
Herder support loan	30%	Up to 200-2,000 thousand tugrik
Salary credit	5%	Depending on salary amount 1-10 month's salary
Pension credit	7%	Depending on pension amount 1-10 month's salary
Leasing	5%	Up to 100-1,000 thousand tugrik
Housing loan	2%	Up to 5,000-30,000 thousand tugrik
Saving security loan	2%	Nor more than 75% of total saving

In 2009 Mongol Shuudan bank did not offer any loan to individuals and business entities, while Khaan bank provided loan of 700-800 million tugrik. At the soum level un-fixed term saving interest is 8.4%- 10% and fixed term saving interest is 9.6%-19.8%.

No	Types and kinds of vehicles	In Uvurkhangai aimag	In Uyanga soum
1	Motorcycle	3263	367
2	Overload engines and mechanics	68	67
3	Trailers	112	10
4	Cars	2902	429
5	Tracks	2032	96
6	Buses	1214	64
7	Special services vehicles (e.g. police, ambulance)	29	-

The above table shows that totally 68 overload engines and mechanisms are in Uvurkhangai provinces of which 67 are in Uyanga soums. This is a fact how Uyanga soum is leading with mining industry.

2.6. Agricultural trend in Uyanga soum

Live-stock: According 2009 annual live-stock inventory there are totally 225,887 heads of live-stock in the Uyanga soum (8 camels, 11,498 horses, 32,419 cows, 88,532 sheep and 93,430 goats). 1,990 of households have live-stock (178

households with up to 10 livestock, 308 households with 11-30 live-stock, 223 households with 31-50 live-stock, 408 households with 51-100 live-stocks, 571 households with 101-200 live-stock, 271 households with 201-500 live-stocks, 23 households with 501-999 live-stocks, 7 households with 1000-1499 live-stocks and 1 household with over 2000 live-stocks) and 779 households do have live-stock.

858 of total herder households use solar energy generator, 141 herder households use wind energy generator, 22 herder households use small generator and 7 herder households use other types of energy generator. 227 herder households have 232 vehicles, 555 herder families have motorcycle and 1 herder household has a tractor.

By January 2010 45% of total soums of Uvurkhangai aimag was in dzud (heavy snow fall) condition. Even herders continuously fight with dzud and sever gold weather they lost totally 5,235 heads of live-stock (412 horses, 1,542 cows, 1,253 sheep and 228 goats).

Agriculture: According to the aimag report the Uyanga soum planted 11.4 hectares of potatoes and 2.1 hectares of other vegetables in the spring, and harvested 66.4 tones of potatoes and 11 tons of vegetables. Individuals and business entities prepared 41.4 tons of hey and 79.7 tons of fodder.

5 new wells were established in Uyanga soum. According to 2009 annual well inventory there were 24 wells (19 well with pumps and 5 regular well for mining usage). 7 well belonged to entities, 12 wells used for public in the pasture areas and 5 wells are broken unused wells.

2.7. Public order and crimes

According to the soum police report 48 criminal cases (35.5% theft, 29% assault, 9% hooliganism and 5.9% unrevealed) were registered by December 2009.

Table 19. Types of crimes¹⁸

Types of crimes		2007	2008	2009
Total number of crimes		56	57	48
Of which	Murder	3	1	3
	Assault	29	29	23
	Misuse of power	0	0	0
	Hooliganism	7	1	2
	Rape	5	7	6

¹⁸ Information was compared 2007, 2008 and 2009 report from Uvurkhangai aimag Police Department.

Robbery	1	1	0
Animal and property theft, burglary	11	13	5
Transportation safety, accident	3	6	6
Other crimes	3	4	8
Unreleased	2	-	5

2.7. Socio-economic development trend of Uyanga soum

2009 socio-economic development trend of Uyanga soum is listed in the table 20.

Table 20. 2009 Socio-economic development trend of Uyanga soum

No	Description	unit	2009
1	Land fund	hectare	313,936
2	Crop field	hectare	274,319
3	Total households	number	2,760
4	Total population	number	9,498
5	Employment aged people	number	5,900
6	Economically active people	number	5,348
	Of which: employed	number	5,247
	Registered unemployed	number	101
7	Disabled people	number	237
8	Inflation (aimag level)	%	3,8
9	Investment	thousand tugrik	249,1
10	School children	number	1,842
11	Teachers at all level	number	66
12	Medical doctors, nurses	number	21
13	Hospital beds	number	35
14	Livestock	heads	225,887
15	Planted field	hectare	13,5
16	Harvested crop	ton	77,4
17	Registered entities	number	55

PART 4

POPULATION AND SOCIO-ECONOMIC CONDITION OF ARTISINAL MINERS IN UYANGA SOUM



3.1. Natural resource and mining sector trend and ASMs history of Uyanga soum

According to the history the soum was developed as a main region of agriculture of Mongolia during the socialist period. Due to collapse of socialist system and several years' natural disaster such as drought and dzud many herders were unable to continue their agricultural and live-stock business. Therefore local herders had to find other ways and opportunities to survive such as moving to urban areas or start artisanal mining.

Today the artisanal miners are located in Ult and Boorooljuut areas of Uyanga soum, Uvurkhangai aimag which is 495-508 km from Ulaanbaatar, 65-78 km from Arvaikher soum and 1 km from center of Uyanga soum. The mining area continues 18 km in length and 4 km in width.

97% of the mining sites belong to AUM limited Shareholding Company with Czech–Mongolian mutual investment. This site used to belong to Erel Company.

In 1993, it was estimated that Uyanga soum of Uvurkhangai aimag has gold deposits. Erel Company mined 5.2 tons of gold in 1993-2005. Number of ASMs was continuously increasing to mine gold on this used site. Even Erel Company mined 5.2 tons of gold during 15 years of time; ASMs still find gold on the used soil.

Erel Company mined gold in 251.6 hectares of during above mentioned period. Since 2002 annually 5,000-30,000 people and 20-60 small mining companies mining gold without stop on this site, Ult.

In 2007 Erel Company transferred its gold mining license in Uyanga soum to AUM Limited Share Holding Company. Since 2008 AUM Limited Share Holding Company made agreement with over 60 small mining companies to use the site under license transferred by Erel Company.

Within the framework of the survey number of the shelters of the artisanal miners was identified. According to the survey over 80 households live in Zuun and Baruun Modot Mukhar area, 250 households live in Zuun Burgedei, 200 households live in Khuren Khoshuu, about 150 households live in "Narantuul" area (which is called by local people) over 70 households live in Bor Khoshuu, 20 households live in Ulaan Khadnii enger (Khar Khadnii ereg), 120 households live in Undur Tolgoi and Khuushiin Am areas. They live crowded as a settled district of gers. If around 6.2 people live in 1 ger, total population of artisanal miners is estimated around 5,518 people. However 30% of homes were locked. Neighbors said they asked them to look after their homes and left to find opportunity to mine gold in Govi Altai aimag. Today over 3,500 people are working as artisanal miners in Ult.

Since 2007 local authorities conducted various actions to coordinate ASMs and decrease their negative causes to environment. For instance a team of 60 people (consisting of 15 inspectors from Uvurkhangai Aimag Professional Inspection Department, 15 police officer, 1 emergency officers, 5 officers form environment

and tourism department and 15 people from soum governors office) worked 5 days to reduce negative influence of gold mining to the nature and environment and to stop illegal trade and sales in Ult and Booroljuut areas. During the inspection the team located all food courts and points in 4 main sites, prohibited to sale illegal drags and medicines, flame able substances and alcoholic drinks and forced to clean wastes and pollution in the area. Also they checked operation of business entities and environment restoration action of the entities.

In 2005 national, aimag and soum level Civil Registration and Information department officers tried to register artisanal miners in Uyanga soum. However it was not successful. Also in 2008 national, aimag and soum level Social Service and Benefit Department and Civil Registration and Information Department took action to register artisanal miners in Uyanga soum. The result was not accurate and exact.

Observation and interview during the survey showed that legal environment was not created to do it appropriately. There is an opportunity to create new jobs, decrease unemployment and poverty and contribute to sustainable rural development if small mining established within the frame of existing regulations. Over the last time the Government has approved and is implementing several important regulations applicable to small mining. For example:

1. Government Resolution No: 28, 23 January 2008, "Regulation of Artisanal Mining Operations";
2. Government Resolution No: 71, 27 February 2008, "Sub-Programme for Development of Small Scale Mining up to 2015";
3. Government Resolution No: 72, 27 February 2008, "Temporary Regulation on Artisanal Mining Operations".

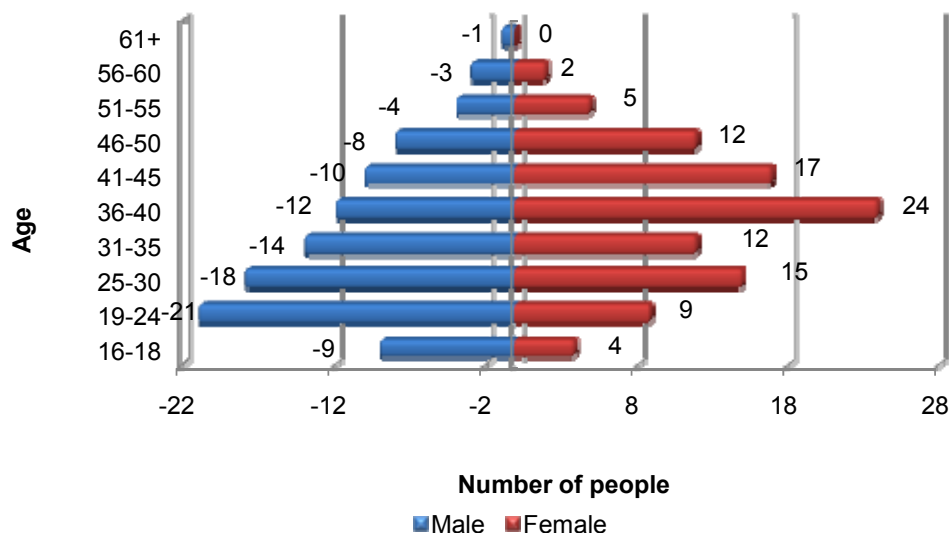
The action to implement all these regulations and resolutions were not taken properly in this soum. Only individuals with financial ability established small mining company to mine gold using vehicles and equipments. While for poor people, who came from other places for survival, increase their income and improve their living standard, mining gold with low productivity and high risk using simple tools.

This section will cover age, gender, marital status, education level and movement of the artisanal miners participated in our survey.

3.2. Demography in Uyanga soum

67,4% of artisanal miners in Uyanga soum is male, when 32,6% is female. Gender rate is 1.9%, which is 1.9 male per 1 female. It is relevant with hard work of mining (dig holes, carry heavy dirt, sieve and work long hour in the narrow, dark and difficult ground/hole) which is not easy for women. Therefore more man work as artisanal miners.

Figure 8. Population gender pyramid



During the survey it was observed that men aged 19-24 and women aged 36-40 were the most active artisanal miners. Average age of participants was 32.2.

The number of artisanal miners is increasing due to shortage of jobs in urban and rural areas and impossibility to continue their education and enter colleges to study after graduation of middle and high schools.

Women over 24 years of age have double pressure on their shoulders, besides artisanal mining. They do household chores such as cooking, washing and cleaning, take care after small children, retail and sell ready food they cooked.

It was observed women aged 36-40 mostly engaged in artisanal mining.

3.2. Marital status of the artisanal miners in Uyanga soum

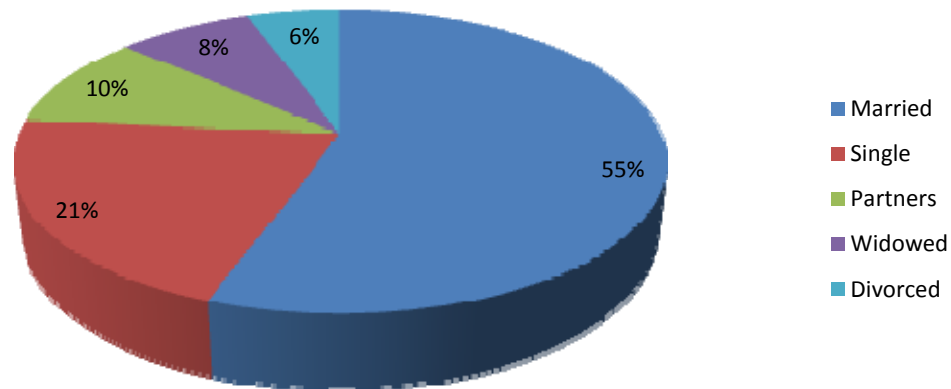
According to the observation survey on marital status and family structure of participants 55.5% of them said they legally married, but living separate and far from family, spouse and children, for a long time in order to find money “digging dirt”. 21% of participants was single, 10% had partners, 8% widowed and 5.5% was divorced.

Table 17. Gender, age and social status of artisanal miners

Description	Ult site
Gender	
Male	67,4%
Female	32,6%
Age	
16-18	13%
19-24	30%
25-30	33%
31-35	26%
36-40	36%
41-45	27%
46-50	20%
51-55	9%
56-60	5%
61 and over	1%
Marital status	
Married	55,5%
Single	21%
Living in partners	10%
Widowed	8%
Divorced	5,5%
Permanent residence	
Registered	18%
Unregistered	82%
Total	100%

People over 16 were involved in the survey, and people 56 years of age and older were fewest. 82% of participants was from different places and where not registered in Uyanga soum.

Figure 9. Marital status of artisanal miners



According to the group and individual interview about marital status of the artisanal miners in Ult gold mining most people married, but work and live separate from their family. Women under 25 years of age said that they got boy friends or partners after they started to work as artisanal miners.

I came here with my relative from Arkhangai aimag to find gold. When I came here I met a man from Dundgovi aimag and living together for 2 years. Mining gold is hard work for women. I had many hard times such as digging hole, protect dirt with materials from others and protect myself from others. The situation improved when I started to work with my partner. We are going to register our marriage as soon as we save enough money for our life.

Ts, female, 21 years

During the group interview with male participants they told that most of male participants live separate from their families, they can't visit their home often. Over the last time, they cannot go home, because they hardly find gold and have no income. Also many of married male artisanal miners have sexual relationship with other women and even have sex partners.

I came from Bulgan aimag. I can't send money and visit my family regularly, because I don't often find gold. I go home once a year. I am going to leave to Biger soum of Govi Altai aimag with my brigade, because gold resource is dropping now. I think it will be hard to meet my family if I go far, since I could not do it often when I am close now...

Ch, male, age 35

Table 18. Number of household members

Number of members	Percentage
1- 2	16%
3- 4	29%
5- 6	37%
7 and more	18%
Total	100%

35% of participants live their families in Ult area for artisanal mining. Average families had 5 members. Other participants live in one shelter with 6-12 friends or relatives as a brigade/ gal to mine gold.

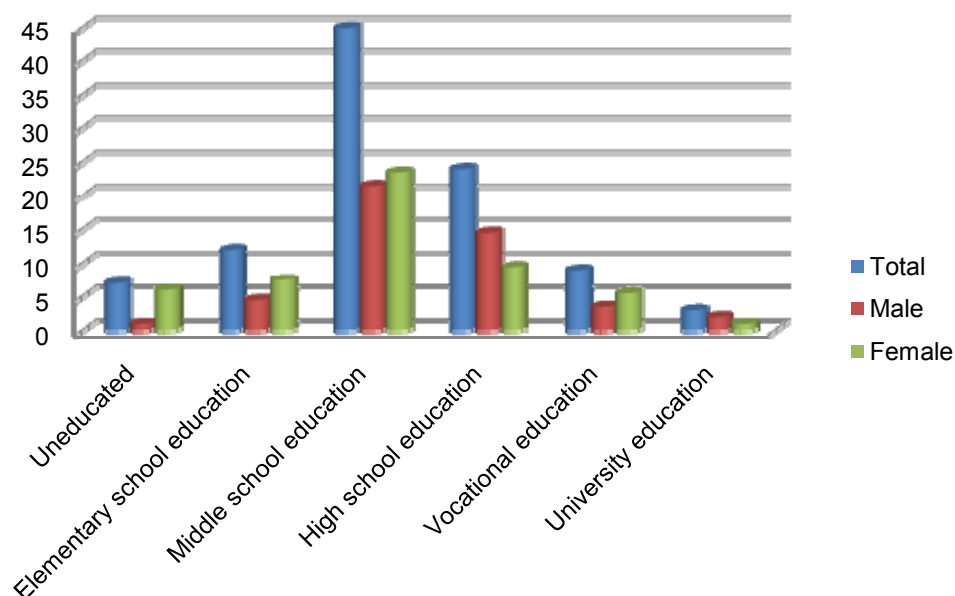
The average number of family members of the sample households residing in the mining site was 4.5, which is almost the same as the national average. Therefore, the artisanal mining can be directly related with living and survival of the whole family. Moreover, these people, who experience constant pressure, humiliation, names as “illegal” and social neglect, realize their duties and role in their respective families and making their contribution to the local economic development on their own ways.

3.3. Literacy and education level

91% participants answered they can read and write; when 9% answered they are not literate¹⁹. Main reason of young people working as artisanal miners is shortage of jobs in the area they live and impossibility to continue their education after graduation of middle and high schools.

Figure 10. Education level and gender of participants

¹⁹ Literacy rate of Mongolia is 97,6% (Mongolian Statistical Report 2008)



Female participants had better education than male participants. This is relevant with Mongolian tradition to pay more attention to their daughters' education before they're married and have children, and tendency to think about boys that they can survive and feed family by doing any work.

3.4. Employment trend of the artisanal miners

78% of participants do artisanal mining to survive, when 22% do other business such as herding, selling food items, fuel, coal, wood and cooking food, and reselling gold, running game centers like billiard, loading and water distribution.

Table 19. Employment level of artisanal miners

Description	Ult area
Employed	22%
Unemployed	78%
Period of mining	
Up to a year	5%
1-3 years	28%
4-7 years	32%
8-11 years	21%
12-15 years	9%
15-18 years	5%
19 and more years	0
Total	100%

Average history of mining

6.3 years

32% of participants working as artisanal miners for 4-7 years, and their average employment period were approximately 6.3 years. People with disabilities, elders, women heading family and women with young children lived under minimum standard of living and they did not have other jobs. These people try to find gold from the dirt split during the transportation of other miners, when young and strong men dig over 20 meters deep hole to find gold. Also people with low and seasonal income and herder mine gold to increase their income.

Case -2

I am 56 years of age originally from Uyanga soum. My younger daughter and I sweep the dirt and extract the gold using dry-washer. We work in very hard dusty condition and find small amount for daily food only. We cannot mine like others' households with more force and equipment. If we could we found more. I think....

Interview with A 56 years old, female

3.5. Migration and residential registration

Freedom of movement is one human rights prescribed the Constitution of Mongolia, and every citizen has right to move freely within the territory of the country, choose temporary and permanent residence, participate in social life and access basic social services and benefits. Mongolia regulates its people's movement by provisions of the Constitution and other legislation and laws on administration and land management.

In this section we tried to show the movement and residential status of artisanal miners. Only 18% of 500 artisanal miners participated in the survey are originally from Uyanga soum. Remaining 82% artisanal miners are from different places and not registered with the soum. Most of them were former residents of Rashaant, Dashinchilen and Khishig Undur soums of Bulgan aimag, Chuluut, Tsenkher, Tovshuuurel and Tsetserleg soums of Arkhangai aimag, northern and western soums of Dund Govi aimag. There were people from other 19 aimags of Mongolia as well. However there were no people from Bayan-Ulgii, Khovd and Dornod aimags.

Figure 9. Number of artisanal miners in Uyanga soum (by annual July)



Even the artisanal mining in Ult and Boololjuut area of Uyanga soum continued over 20 years, number of people never been certain. Number of the artisanal miners depends on season and yield of gold and it rapidly increases in warm and students' vacation seasons.

The participants of the survey informed that people started artisanal mining on the 251.6 hectares of site, which mined by Erel Company in 2002 and number of ASMs was the highest, around 30 thousand in 2004 and 2005.

In order to coordinate, register and organize the artisanal miners, soum and aimag level authorities with cooperation of licensed large mining companies took actions several times. None of them was successful till today.

According to the survey over 80 households live in Zuun Baruun Modot Mukhar area, 250 households live in Zuun Burgedei, 200 households live in Khuren Khoshuu, about 150 households live in "Narantuul" area (which is called by local people) over 70 households live in Bor Khoshuu, 20 households live in Ulaan Khadnii enger (Khar Khadnii ereg), 120 households live in Undur Tolgoi and Khuushiin Am areas. They live crowded as a settled district of gers.

If around 6.2 people live in 1 ger, total population of artisanal miners is estimated around 5,518 people. However 30% of homes were locked. Neighbors said they asked them to look after their homes and left to find opportunity to mine gold in Govi Altai aimag. Today over 3,500 people are working as artisanal miners in Ult. People said that over the last time artisanal miners from different aimag, soums and city were leaving the area to find other places for gold mining due to decreased resource of gold in Ult site.

PART 4

ARTISANAL AND SMALL SCALE MINERS' INCOME AND EXPENDITURE PATTERNS



The survey included 500 people from the soum and this group of people refers to an active economic population and work force that engage in informal gold mining with purposes to earn income. The survey identified reasons for engaging in gold mining, its patterns of income and expences and saving.

4.1. REASONS FOR GOLD MINING

When asked about the first reasons for getting involved in the artisanal mining, a praticipant responded the following repeated answers.

Table 20. The reasons for getting involved in informal gold mining

Indicators	Percentage
Reasons for getting involved in artisanal mining	
To pay for their children's' tuition	35.1
To get a housing	15.1
To pay for debt	17.6
Medical care	12.0
Due to unemployment	68.4
Earning livelihoods	72.1
Lost animals in the dzud and no other ways to make money	35.0

When studied, reasons for getting involved in artisnal mining, 72.1 percent of miners responded that there were no other locally available income generating activities rather than artisanal mining, 68.4 percent to get earning for livelihoods due to unemployment, 35 percent lost animals in dzud and they had no other source of income, 35.1 percent to pay their children's tuition, 17.6 percent to pay debt, 15.1 percent to improve their housing condition and 12 percent to find treatment money for themselves or their family members. It shows that the main factor, which pushed people to choose the way of artisanal mining was that they had no other way to gain income and feed their families.

4.2. Amount of gold exploitation and cash income

As examining ASM's exploited amount of gold per a day, week and month, a potential contribution of ASM in realtion to the local economical development priorities was defined. For the placer gold mining, it was difficult to calculate the amount of gold, that is recovered in a day. Because in Uyanga soum, the artisanal mining activity is not accepted and supported by the local governors, citizens' moverment, medium and large scale mining companies. A number of times, in cooperating with the large scale companies, the local government took measurements and attempts to derive ASMs away from the mining sites under

the name of organizing them into better structure and protecting the environment. So some ASMs refuse to give information, stayed away from giving accurate and real and hide their incomes and explored gold amounts on daily and weekly bases.

Figure 21. ASMs' explored an approximate amount of gold and income per a day

Indicators	Cash income ° /average/	Percent	# of ASMs
Amount of exploited gold, per a day (grams)			
0-0.5 gr	0- 19,330	78.5	393
0.5-0.75 gr	19,331-28,995	13.5	67
0.75-1.0 gr	28,996-38,660	6	30
1.0-1.5 gr	38,661-57,990	2	10
1.5-2.0 gr	57,991-77,200	-	
2.0 or more grams	77,201+		
Amount of exploited gold, per a week /grams/			
0-1 gr	0-38,660	7.1	35
1-2 gr	38,661-77,320	48	240
2-3 gr	77,321-115,980	35.9	180
3-4 gr	115,981-154,640	7	35
4 or more grams	154641+	2	10
Amount of exploited gold per a month/grams/			
0-5 gr	0-193,300	18.5	93
5.0-10.0 gr	193,301-386,600	55.3	276
10.0-15.0 gr	386,601-579,900	22.1	110
15.0-20.0 gr	579,901-773,200	3	15
20.0+	773,201+	1.1	6

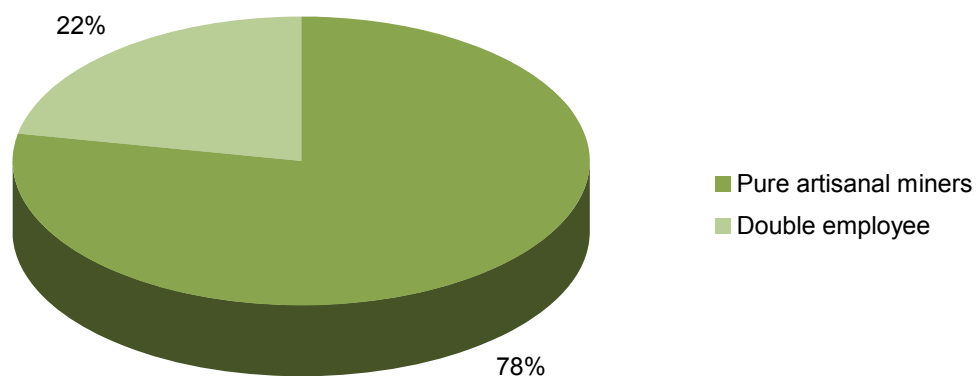
° As of January 2010, a local rate for a tsen gold was estimated to 145,000 tugriks

Mining for artisanal miners yields an average of 8.1grams of golds per a month. It means that the average monthly income of a respondent of the total survey participants amounts to approximately 310.000 tugriks, with number of days with finding nothing. Labour productivity refers the output, made in the unit time and gold recovery or gold mining productivity depends on many things, including the yield of the site, capacity of the used tools and equipments, skill, experience, age, gender and so on. Due to the physical hardships involved in mining, men's productivity is much higher than women.

An average salary size for the people working in the local government organizations was 237.000 tugriks and large scale companies' miners was 275.000 tugriks, whereas ASMs average monthly income amounts to 310,000 tugriks. It implies that the people in Uyanga prefer to engage in artisanal mining for its higher income, no workplace pressure from the employers' side, no need of professional qualification and freedom experiencing nature and family business engagement.

Double employment among the artisanal miners was very low. Of the total 500 surveyed, 390 artisanal miners' sole income generating business was gold mining and the remained 110 had dual income generating sources like running ger shops, ger cookshops, ger bar, ger karaoke, billiard, transporation, selling water and petrols and buying gold in the site.

Figure 12. Double employment status of ASMs



Case -3: a livelihood study for an artisanal mining household, who simaltinously engages in ger cookshop.

There are 5 people in my family. I have 3 children. They study at 3rd, 6th and 8th grades of the secondary school. My husband and I always leave our children at the center of the province as asking my neighboir to take care of them. My daughter looks after her 2 younger brothers and home. My husband usually dig holes for mining gold with his friends. I run a ger canteen and shop and earn 30,000-35,000 tugriks per a day. In order to maximaze my daily income, I buy gold as earning 2000-3000 tugriks from each tsen, which equals to 3.75 grams.

Also I sell cellphone units, which offers 3000 tugriks bonus for each sell amounts into 100.000 tugriks. Like this manner, I contribute 15.000-20.000 tugriks' net profit to my family income in a day. Of course as others, my income is highly dependent on yield of site and incomes of the others.

38 years old, female, H

This case shows a live history of a couple works hard to maximize their household income amounting to about 750.000 tugriks as neglecting their parents' role and duty to take care their children. That is the common picture of the all sampled 115 artisanal mining households, who run small ger business at the site. Unfortunately, due to lack of wisdom of living, poor budgeting and saving habits, and improper use of alcoholic drinks and cigarrate, most of the artisanal miners' livelihoods are not improving well. That's why, the public lampoons "informal miners never feel hungry as well go back to their home.

4.3. Artisanal mining expenditures patterns

During the focus group discussion, the participnats said that a *gal*, which is an informal group of ASMs, with average members of 5, dig about 20 -25m vertical holes manually in order to reach gold containing layer for 20 days and spend approximately 450,000-550,000 tugriks. The further investigation defined that an artisanal miner spend approximately 7000 tugriks for their food, tobacco, firewood, rent and purchase of equipments, and cost of gold extraction and then earn about 13.500 per day. Their net income is about 6500 tugriks per a day.

All respondents of the survey said that the winter is peak period of expenditure in a year, because of the cold weather. The majority of ASM's money goes for heating supplies, electricity operation and firewood and petroluem products to unfreeze the frozen soils.

Once made comparative studies between site, soum and aimag center market prices of the consumer goods, those which were sold in Ult site were costed by 70-500 tugriks higher than the prices in soums and aimag. The biggest price disparity was occured in the price of water, for instance, a litre of drinking water costs 2 tugriks in the soum and aimag center, whereas it is sold by 20 tugriks in Ult site.

It is usual for artisanal miners in Ult site to borrow food stuffs, tobacco and vodka from runners of the ger shops as promising to pay it back when they find gold. The ger owners witness that they keep their promises all the time.

**Figure 22. Price comparison study for consumer goods
/at markets of Ult site, soum and aimag centers**

No	Names of the consumer goods	Measurement	Quantity	Average prices at the aimag center	Average prices at the soum center	Average prices at the mining site
1	Altan taria flour /1 st grade /	Kg	1	750	800	900
2	Mongolian noodle	Package	1	320	380	500
3	Russian noodle	Kg	1	1500	1650	1800
4	Altan taria noodle	Package	1	450	500	800
5	Rice	Kg	1	1220	1300	1500
6	Cookies	Kg	0.9	2050	2200	2200
7	"Uguuj" cookie	Kg	0.9	2100	2200	2300
8	Sugar	Kg	1	1650	1800	1900
9	Korean noodle	Box	1	780	850	1000
10	Chinese noodle with big bowl	Box	1	800	950	1100
11	Ugluu milk	L	1	1600	1650	2000
12	Coca cola	L	1.5	1050	1200	1500
13	Mutton	Kg	1	2100	1800	2500
14	Meat of goat	Kg	1	1850	1200	1800
15	Borgio beer /2л/	L	2	3800	4000	4500
16	Kharztai vodka	L	0.5	3100	3200	3500
17	Vegetable oil	L	1	2200	2400	3000
18	West cigarette	Box	1	1100	1200	1500
19	Ulaan shonhor cigarette	Box	1	550	650	800
20	Water	L	25	50	50	500
21	Petrol 80	l	1	1270	1300	1500
22	Diesel	л	1	1400	1430	1800
23	Coal	Sack	1	3000	4000	5000
24	Firewood	Sack	1	3200	3000	4000
25	Dung	Sack	1	1800	1500	2000
26	Gloves		1	330-1000	350-750	500-1000
27	Head torch	Piece	1	1400-2500	1500-2000	2500-3500
28	Candle	Package	1	250	280	350
29	"Ok" sopa	Piece	1	390	450	550

Keүс 4.

This is the 4th year, I have engaged in an artisanal mining. At the first time, I earned enough money from gold and send some amount to my family use. But last year, a yield of the site is decreasing and I could not earn as I did in the past. Now I am living from debt to debt. It is impossible to work longer in here. In coming spring, I will go to Biger soum of Gobi Altai for gold whether this area is permitted for the ninjas' mining or not as putting my life in risk. In autumn 2009, the Gobi Altai government officials used power of police, security staff and organized their citizens against artisanal miners from other parts of Mongolia to chase away and confiscate their tools and equipments. They beat the ninjas cruelly not caring their gender. Clashes more like civil war were happened almost everyday in autumn. Police officers confiscated our 'paajgars' (dry-washer) each of them costed up to 200.000 tugriks and loaded them to trucks of Russian ZIL 130 and Korean Porter and transported away. Soon later, we heard that the police sold them by 30.000 tugrikss to the local people. It was really pity for us.

The ninjas who were beaten, confiscated their equipments and expelled from the mining area offended and bore grudge against the Gobi Altai people. In order to take their revenge, the abused ninjas broke the windows and flatten the tires of the vehicles with Gobi Altai number plate and to beat the drivers and passengers as ganged up on the way back to Uynaga. Even after their arrival in Uyanga, they beat and expel ninjas from Gobi Altai out of the site and fired their gers. Because of this clashes over the gold mining, students from Gobi Altai and Uvurkhngai had a fight on the sake of their parents and relatives in UB. I don't think that it was a small matter. But I will go to Biger for mining after Tsagaan sar. If the government doesn't take any measurement to coordinate the situation, something worse than before may happen over there. May be a civil war.....

36 years old, male , G

4.4. Gold marketing and savings

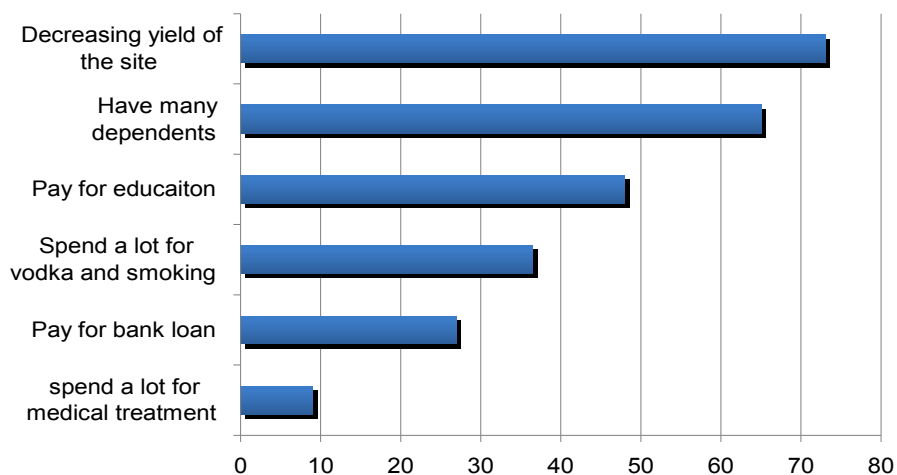
Of the total survey respondents, 96 percent normally sell their extracted gold still the same day they find to ger shops in the mining site and 3 percent to mobile merchants. And only 1 percent of the artisanal miners sell their gold to the traders at the soum and aimag center. As looking from here, we can name the ger shops in the mining sites as 'one stop shop'. The ger shops deliver all kinds of needy services to the artisanal miners like selling consumer goods, petroluems, cell phone units, firewood and coal and cooking meals and giving loans to them,

Some wealthy gold traders from the aimag and UB allocate 1.5 million to 2.5 million tugriks to the reliable ger shop owners to collect gold with lower price directly from the ASMs. Ger owners expressed that this kind of business offer is very useful for them to attract their customers. Because ASMs usually prefer to buy food stuff and other things from the place where they sold their gold. Ger owners earn profits of 2.000-3.000 tugriks from each tsen or 3.75 grams of gold.

they could not give any answer for the next question about to whom the traders or gold exchangers sell the gold. When asked, "What is the better way to sell gold?" 85% of the surveyed people responded that they are quite happy with the nowadays practice in use.

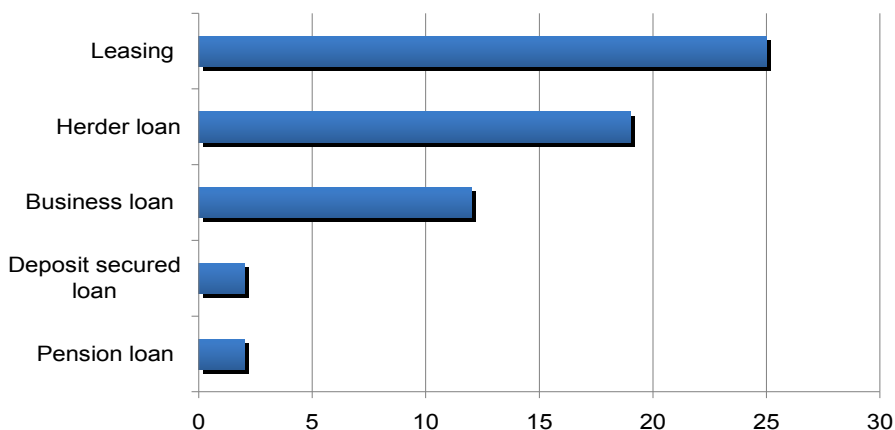
When investigated possibilities for savings, 16 percent of the interviewed people said that it is possible to save, but 84 percent said that not possible.

Figure 13. Reasons for not saving



There are 2 banks of Mongol shuudan bank and Khaan bank in Uynga soum. In 2009, Mongol Shuudan bank did not offer any loan to individuals and business entities, while Khaan bank provided loan of 700-800 million tugriks. At the soum, annual interest rates was 8, 4%- 10%, for demand deposit and 9,6%-19,8% for time deposit.

Figure 14. Types of bank credits taken the survbey respondents /in 2009/



90% of the total credit holders of the bank was local residents of the soum. The in-migrant miners responded that they, also, have needs to get credit to purchase mining equipment, households electronic facilities, vehicles and motorcycles and to improve their housing condition and fund their business's start up capital. Unfortunately, they could not apply for the loan. Most frequently mentioned reason for not getting loans from the banks were with unregistration to the local administration, not having the required civil registration documents and not having collateral pledge for a payment of loan. Of the total unregistered respondents, 72.2% could not be registered to the soum because they don't have required documents like authorization of their out-migration issued by the previous soums, ID cards and other residential documents as well engages in mining as temporary job and less likely to settle down.

Artisanal miners earn a lot, but they could not smartly and economically spend their money. Actually, majority of their money go for alcoholic drinks and cigarette.

PART 5

GOLD MINING AND EMPLOYEMENT



This part 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

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

5.1. Artisanal gold mining in Ult mining site

Nowadays, the artisanal miners are located in Ult mine of Uyanga soum, Uvurkhangai aimag which is 495-508 km from Ulaanbaatar, 65-78 km from Arvaikher soum and 1 km from center of Uyanga soum. The mining area continues 18 km in length and 4 km in width. 97% of the mining sites belong to AUM limited Share holding Company with Czech–Mongolian mutual investment. This site used to belong to Erel Company.

In 1993, it was first identified that Uyanga soum of Uvurkhangai aimag has gold deposits. Erel Company mined 5.2 tons of gold in 1993-2005 as using economically inefficient technology and mining equipments. Number of ASMs was continuously increasing to mine gold on this used site. Even Erel Company mined 5.2 tons of gold during 15 years of time; since 2002 annually 5,000-30,000 people and 20-60 small mining companies mining gold without stop on this site and still find gold on the used soil.

Many artisanal miners have engaged in round reclamation of gold bearing tailings discarded by inefficient commercial placer mines. Actually, Erel Company left large amounts of waste material that provided a relatively rich and readily accessible resources base for artisanal miners that can be tapped with simple, affordable tools; the recovered gold is easily marketable.

In 2007 Erel Company transferred its gold mining license in Uyanga soum to AUM Limited Share Holding Company. Since 2008 AUM Limited Share Holding Company made agreement with over 60 small mining companies to exploit gold in the mined site under license transferred by Erel Company.

The participants of the survey informed that people started artisanal mining on the 251.6 hectares of site, which mined by Erel Company in 2002 and number of ASMs was the highest, around 30 thousand in 2004 and 2005. In order to coordinate, register and organize the artisanal miners, soum and aimag level authorities with cooperation of licensed large mining companies took actions several times. None of them was successful till today.

Only 18% of 500 artisanal miners participated in the survey are originally from Uyanga soum. Remaining 82% artisanal miners are from different places and not

registered with the soum. Most of them were former residents of Rashaant, Dashinchilen and Khishig Undur soums of Bulgan aimag, Chuluut, Tsenkher, Tovshuuurel and Tsetserleg soums of Arkhangai aimag, northern and western soums of Dund Govi aimag. There were people from other 19 aimags of Mongolia as well. However there were no people from Bayan-Ulgii, Khovd and Dornod aimags.

Social hierarchy is well present in the mining site, whereas it was classified and defined as below with active participation of the local people.

The mining companies were divided into 2 classes like small scale mining and large scale mining; artisanal miners were divided to 2 classifications depending on their mining business engagement patterns.

1. Settled ASM= An ASM who has been engaged in gold mining for a year-round
2. Mobile ASM= an ASM who is engaged in gold mining on a temporary basis
3. Large scale mining company - Large companies which holds mining authorization and license, and pays all relevant fees such as water, land and resource.
4. Small scale mining company - Small companies established by individuals with financial capacity, which mine gold on the contract basis with bigger mining company licensed to use UIt site. The community called these small companies as a “ninja with tools”.

The operation range from manual or artisanal to small and large scale mechanized operations and techniques used vary accordingly. In the smallest manual operations, miners need to dig hole with spades, shovels and picks.

The small scale mechanized operations have about 20 workers in the terrace with heavier equipments such as bulldozers, excavators, shovel loaders, dump trucks, electricity generators, water pumps and other equipments.

The small scale mining companies work only from May to November due to climatic conditions and water availability. They pay average 200,000-350,000 tugriks for their workers depending on their qualifications and work loads; for example assistant workers are paid with 200,000 and drivers of the bulldozers and excavators and operators of other techniques are paid with 350,000 tugriks per a month.

5.2. ASM's engagement in artisanal mining

Of the surveyed, 32 percent said they have engaged in artisanal mining for 4-7 years, and their employment period was approximately 6.3 years.

Figure 23. Number of years engaged in artisanal mining of ASMs

Indicators	Ult mine site
Number of years of ASM in engaged in ASM	
Less than 1 years	5%
1-3 years	28%
4-7 years	32%
8-11 years	21%
12-15 years	9%
15-18 years	5%
More than 19 years	0
Total	100%
Average employment period in artisanal mining	6,3 years

People with disabilities, elders, women heading family and women with young children could not do the hardest works of mining such as digging deep holes, carrying out soil from the deep hole and extracting gold. These people try to find gold from the dirt split during the transportation of other miners as using dry-washers.

When asked if they wanted to leave the artisanal mining in a short coming period, 80% of the total people involved in the survey responded that they have no intention to leave the business as citing following reasons; no financial capacity to set up new business, no alternative income generation activities are available in the local level, no new workplaces have been created so far and any positive signs are shown in the local micro and macro level socio-economic situations.

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 the coming years because of abundant gold deposits, ineffectiveness of large mining companies used techniques and technologies and large mining company's abandoned areas in all parts of Mongolia. The miners have mined gold at Ult valley for more than 20 years, so upper level layers with gold contents have diminished and today miners dig more than 20 m vertical holes manually in order to reach gold containing layers. After they reach gold layer they dig lateral horizontal shafts using manual tools.

Consequently, the miners have been facing more occupational threats such as air deficiency, suffering from carbon monoxide poisoning, falling into deep holes, being buried with soil and experiencing negative health problems, causing from extended working in tight air environment and poor occupational safety conditions.

5.3. Artisanal and small scale mining legal environment

Currently over 3,500 people are engaging in artisanal and small scale mining activities in so called places of Eastern and Western Modot Mukhar, Zuun Burgedei, Khuren khoshuu, Narantuul, Bor khoshuu, Ulaan Khadnii enger, Har khadnii ereg, Undur tolgoi and Khuushiin am in the valley of Ult.

Artisanal miners, who took parts in the focus group discussions, said that the biggest problem they face is access to the site with materials. Of the interviewed people, only 9 percent of them aware of the government temporary regulation on ASM and 91 percent said that they have never heard about it. When asked questions that “Do the temporary regulation have power to regulate the land issues for them”, the artisanal miners those know about the temporary regulation said that it tried to regulate the mining land issues and said something about artisanal miners’ rights to claim for the exploitation. But they responded its provisions regarding to the mining rights and land is ineffective and unworkable in some cases. “For instance, AUM Company has no interest to make contract with artisanal miners to let them mine in its licensed areas, instead of them they always prefer to make contracts with the small scale miners. Also the local government’s officials have a strong position that artisanal mining must be stopped immediately, because it is an illegal and harmful business. So it is very difficult to approach to them to talk about land permission for artisanal miners” they said.

Also temporary regulation has clear statements and requirements about ASM residential status and possession of the required civil registration documents. Unfortunately, ASM could meet those requirements due to their peculiarities of the occupation. During the focus group discussion, participants said that most of them are not registered to the local administration and don’t have required civil registration documents. It blocks them to sit in the round table discussion with local government officials and large scale miners.

19 companies out from 60 small scale companies contracted with AUM company to exploit gold on the licensed areas were registered to the Local taxation office and pay their taxes on land use, natural resource utilization tax, and water tax on regular bases. The remained 41 companies operate gold mining business illegally.

During the survey, the soum governors and other officials were asked about what activities they had been done to coordinate artisanal mining related issues in the past, as well as any future plans regarding it. In response, they emphasized that they will enforce the newly adopted law on prohibition of mining in the source and base areas of the rivers and forestation. In the sphere of the law enforcement work, they defined a source and base areas for river and forestation and set border for the protection area. Ult and Buuruljuut areas are also included in the supposed areas to be protected by the law. Then it will be banned to explore and exploit gold in the area.

Child labour: Children involved in the gold mining rarely as independents. Most often they worked to help their parents and relatives. There are appears to be some work differentiations between age groups. The children aged between 8-14

were panning, sacking soils and carrying water and soil and children over 15s highly involved in digging holes and working underground. During the survey parents are aware of the hazardous nature of mine work and still use their children's labour in mining. 62% of the parents said that their children combined schooling with work in the mines on weekends and during school vacations.

5.4. ASMs' workload and free time

Of surveyed, 90 percent said they mined gold on regular bases and the remained 10% carries out gold mining when they faced money shortage. When asked how long they worked in a day, the following information was given from respondents.

Table 24. ASM's daily working hours, according to sex

Indicators	Gender		Average
	Male	Female	
Working hours per a day			
1-8 hours	5%	65%	35%
9-14 hours	82%	35%	58,5%
15 and above °	12%	2%	7%

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 study

Before joining into artisanal mining, I used to be a government official. By that time, I enjoyed to experience with days off on weekends, holidays and annual vacations. But now mining work doesn't let me to enjoy with free times. I just work to find gold everytime.

42 years old, male, M

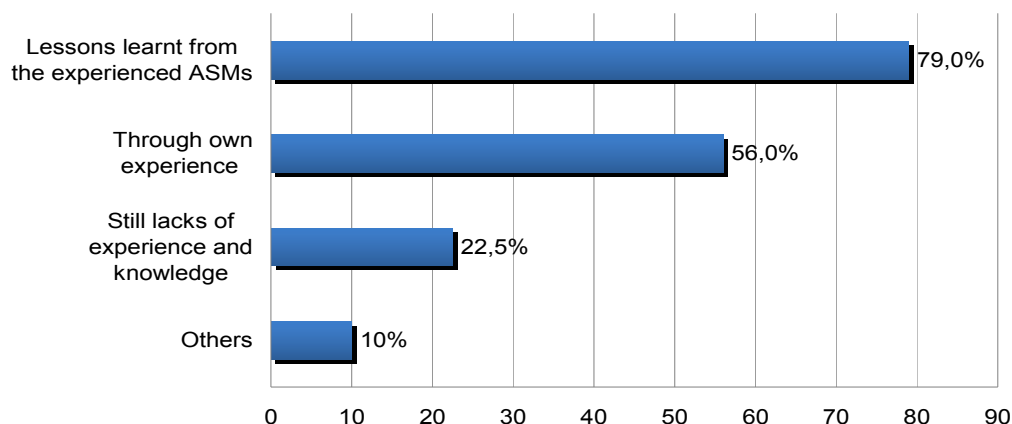
The respondents shared that work ASMs strongly depends on the weather and natural condition. In spring, when snow thaws and pits are submerged in flood, it poses the greatest climatic threat to miners with poor occupational health and safety dresses and supplies as water fills underground pits and cause landslides.

5.5. ASMs' working condition and occupational safety

° Respondents said that they work day and night without rest when they reached to the layer with gold.

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.

Figure 15. Acces to occupational health and safety information and knowledge



It shows that professional training and information on occupational safety is in need among the ASMs.

Of those surveyed, majority said they used work wears, but these work wear 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 interviewed people said that the most appropriate workwear for the artisanal mining, especially digging holes is a sweater with hood, which could protect soil, dust and insects falling into necks and head and going inside the clothes while working in the holes and underground.

The below table shows list of most using and demanding occupational and health safety dressess and tools for the miners working in the placer gold mining.

Table 25. The most used workwears and safety equipments of ASMs

	Work wears and safety equipment	Percent
1	Overall suits	100%
2	Warm overall suits	100%
3	Helmet	0

Socio-economic baseline survey for Uyanga soum, Uvurkhangai aimag

4	Warm hats	100%
5	Work boots	100%
6	Felt boots	0
7	Rubber boots ²⁰	45%
8	Rubber slipper/ shoes	-
9	Work gloves	100%
10	Cotton gloves	100%
11	Rubber gloves	82%
12	Eye protection gloves	0
13	Earplugs	0
14	Mask	42%
15	Dust muzzle	0
15	Fastening belt	92%
Respondents		500 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 and clean, because their used mask was not comfortable for air-tight 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. Because of its demand, every ger shops sell such kinds of equipments.

When asked what kinds of tools and equipments are most appropriate for mining, they responded that they preferred to use more mechanized equipment which can reduce the manual or physical work and increases work productivity. But most commonly, they could not afford. Of the tools and equipments used by the placer gold miners, the most demanding ones were compressor or hammer action drills to break the soil and ladder, iron bar with hooks and windlassess and dry-washers fr easing for easing the mining operarion.

²⁰ Actually, almost all ASMs have rubber boots. But the survey time wasn't the time to wear rubber boots.

Not all miners could afford buy them, so they tend to lease or join to the well-equipped group of miners which is called as “gal”

They usually use the simple manual tools, which they could afford and repair by themselves.

Artisanal gold miners involved in the survey, dominently dig holes, remove soil, sieve, sack and carry soils with materials and load the soils for extracting the gold and pan the soil for gold. Transportation cost for soil with material to washing place is 10.000Tugriks.

Table 26. Per centage distribution of adverse working conditions

	Adverse factors	# of respondents	High (worse)		Meduim		Low (good)	
			too	%	Too	%	Too	%
1	Dust	500	500	100%	-	-	-	-
2	Sound, noisy	500	60	12%	241	48,2%	199	39,8%
3	Vibration	500	40	8%	168	33,5%	207	41,5%
4	Poor air circulation	500	265	53%	151	30,3%	84	16,7%
5	Poisonous gas and substance	500	42	8,3%	142	28,5%	316	63,2%
6	Poor lightening	500	428	85,6%	49	9,8%	23	4,6%
7	Physical work load	500	448	89,7	52	10,3	-	-
8	Psychological pressure	500	438	87,5%	62	12,5%	-	-
9	Consumption of alcoholic drinks	500	261	52,3%	152	30,4%	87	17,3%
10	Lengths of working hours	500	427	85,3%	74	14,7	-	-

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. Most of them emphasized extremely difficult working conditions and unsatisfactory safety and health measures.

Figure 16. The most used equipment and tools of ASMs

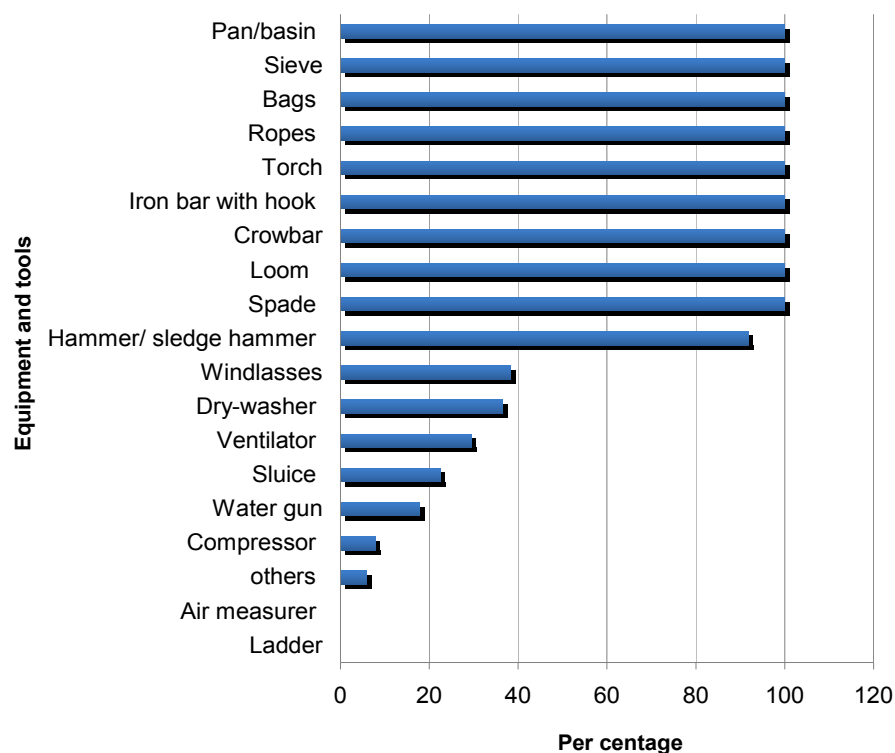


Table 27. The most used equipment and tools of ASMs

	Tools and equipments	Percent
1	Spade	100
2	Loom	100
3	Crowbar	100
4	Iron bar with hook	100
5	Windlasses	38,3
6	Ladder	-
7	Torch	100
8	Hammer/ sledge hammer	91,8
9	Dry-washer	36,8
10	Air measurer	0

Socio-economic baseline survey for Uyanga soum, Uvurkhangai aimag

11	Ropes	100
12	Sacks/ bags	100
13	Sieve	100
14	Sluice	22,5
15	Water gun	17,9
16	Ventilator	29,8
17	Compressor	7,9
18	Pans/ basins	100
19	Others	5,9

It draws to a conclusion tha manual work required simple equipment and tools are commonly used by ASMs in the placer mining.

A cooperated inpection on mercury use was conducted by MRAM, MNET, MoH in the Ult and Buurulzuut mining site in 2008. In the sphere of the inspection, soil and water samples from various sources were taken to send the laboratory test and no ions or concentrations were detected.

Table 28. Learning experiences of gold mining

Learning ways		Percent
1	University education in mining	-
2	Mining vocational training education	-
3	Mining certificate-level courses	2,7%
4	uneducated	97,3%
5	Of which	
	1. Working closely with the old experienced miners	70,3%
	2. Mining courses	-
	3. Former employer in gold mining industry	12,6%,
	4. Observing and following how others do	17,1%

PART 6

ASMs' HEALTH CONDITION AND THEIR ACCESSIBILITY TO HEALTH SERVICES AND ITS QUALITY



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 the 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 access to health service

Uyanga soum hospital was established in 1937. A branch of the soum hospital is located in Jargalant bag center, which 60 km far from the soum center.

With state funding, a new hospital building was built in 2003. Because of the limited capacity of the hospital building as comparing to the number of patients and accidents occurred in the mining sites, World Vision international organization funded the construction of the extension of the hospital. Thanks to all of those supports, the soum 2 hospitals with 35 beds, where 9,860 patients served annually. Approximately there are 281.7 people per 1 bed, usage is 89.0% and average in-hospital treatment continues 5.9 days. As regards the human resource there are 7 medical doctors, 9 nurses, 2 obstetricians, 5 health practitioners and other 26 workers. These 2 hospitals have 2 vehicles, 5 motorcycles, 1 ultrasound equipment, 2 SPR apparatuses and 2 oxygen equipments. It serves to the soum whole population of 10.000, plus 5.000-15.000 artisanal miners and 200-300 workers and miners of the small and large scale mining companies in Ult mine. Its annual budget estimates to 255 million.

Table 29. List of health equipments

No	List of health technics and equipments	Numbers
1	Echography	1
2	Artificial respiration apparatus	2
3	Electro-cardiography	1
4	Oxygen-administering apparatus	2
5	Incubator apparatus	2
6	Others	4

In 2009, the health workers responded to 1,497 ambulance/emergency calls, of which 787 calls were from remote areas.

The further analysis showed that 133 of the calls caused of accidents and injury; 120 of them caused of birth delivery; and 1157 calls were caused of other reasons.

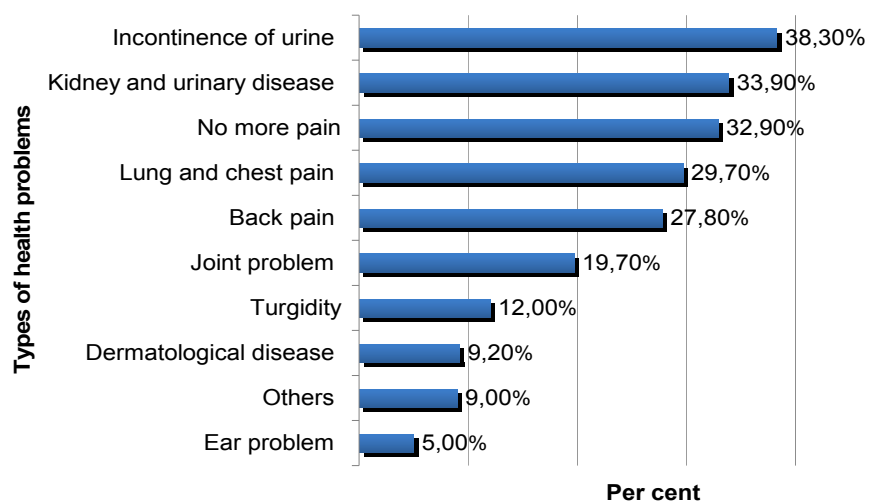
Table 30. Types of outpatient visits

Types of outpatient visits	Total patients
Preventative medical examination	5347
Outpatient medical examination	786
Prophylactic follow up examination	1066
Disease follow up examination	4496
Home visit examination	397
Total	12092 (in doubled figure)

6.2. ASMs' health conditions

With reference to fetching heavy soil, working in holes under forced and limited situation, long stand in cold water, feeling cold and breathing dust, most of the artisanal miners suffer from cardiovascular diseases, respiratory diseases, kidney and urinary system disfunctioning and back pains. Not few cases had been occurred that ASMs lost the labour abilities.

The following figure shows the commonly occurred diseases and sufferings among the ASMs.

Figure 17. Common diseases and suffering among the ASMs

Due to long stay in deep holes, water and wet ground, shaft making in winter cold weather, carrying heavy materials, panning materials in cold water and drinking unsafe water, the miners mainly suffer from the following diseases, namely 38 percent are in sufferings of urinary system disinfection and incontinence of urine, 33.9% of the miners are in pain of kidney, 27.9 percent lung and chest problem or respiratory disease, 19.7 percent joint problem, 12 percent turgidity, 9.2 percent

dermatological diseases and 32.9 percent answered that they have not been troubled with any kinds of diseases since starting gold mining,.

The incidences of urinary system disfunctioning and incontinence of urine is most commonly reported among the male ASM aged over 45 and females over 35s.

Soum physicians stated that incidences of respiratory infectious disease, tuberculosis and hepatitis “B” are increasing among the mining communities. In 2009, 6 cases of tuberculosis and 10 cases of B hepatitis were registered and treated by the soum health center.

Actually, artisanal miners are not active to undergo preventative medical check ups and be diagnosed their health problems in the early stages due to poor health knowledge, residential registration problems and not involved in the health insurance. That’s why, they usually apply to doctors when their diseases are in very difficult condicions and too late to get recovered. One example is that an artisanal miner man lost his live cause of the tuberculosis in 2009. Because he never went to hospitals tp get advices and to be treated properly or professionally. It was also noted that because of the remote locations and lack of time-off, many chose to self-medicate when ill rather than visiting hospitals, whcih served to exacerbate their health problems.

Also, 169 cases of sexually transmitted diseases including 80 cases gonorrhea, 10 cases of syphilis and 76 cases of trichomoniasis and 3 cases of genital herpes were registered and treated at the soum in 2009. 60% of the total registered sexually transmitted diseases diagnosed among from the pregnant women aged between 20 and 35. It shows us that there should much more number of incidences of sexually transmitted diseases among the artisanal miners.

6.3. ASM’s occupation related accidenst and its causes

Of the surveyed, in doubled figure 63.3 percent had been involved in workplace injuries; 22 per cent in occupational accidents and 32 percent reported no injuries to date.

Table 31. Percent distribution of the respondents according to the most common injuries among the artisanal gold miners

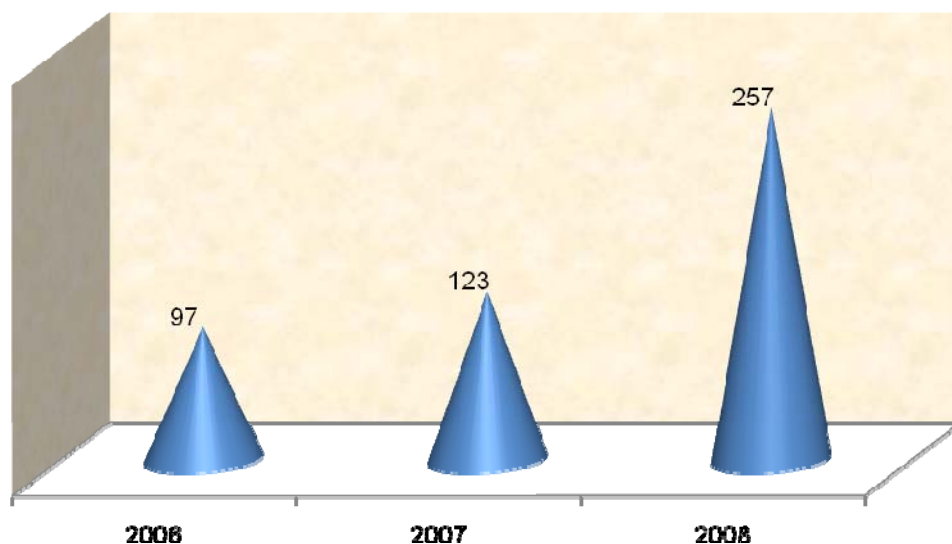
Types of injuries		Incidences by %
1	Covered with soil	17,3%
2	Roof collapsed	5,2%
3	Falling into holes	58%
4	Falling down from high	37,9%
5	Burning	16%

6	Being beaten up	7,5%
7	Frostbite	22,7
8	Injury under the influence of alcohol	42,7
9	Carbon monoxide poisoning	12,1%
10	Other	7,1%

The desk study result show that number of workplace accidents were increasing for the recent years. For example 97 cases of workplace injuries or accidents were registered in 2007, 123 cases in 2008 and 257 cases were recorded in 2009. It leads to a conclusion that in 2009 incidences of injuries and accident in workplaces had increased by 2.3 times than 2007 and by 2 times than 2008.

Regarding to diminution of the gold contents in the upper level of the earth, artisanal miners need to manually dig deeper holes to reach the gold containing layers. Consequently, artisanal miners worked even difficult conditions which did not meet the minimum requirements of the occupational health and safety standards and become more predisposed to the accidents.

Figure 18. Accidents and poisoning



Three years ago our company granted license of mining over the land which were mined by "ninjas". When we were overburdening the top soil, a body of dead person was taken out. Then we informed about it to police. Police checked out the case and turned up the fact that the man was buried alive in the shaft while mining. So I think that this kind of accidents are very common among the ninjas. They could not apply to police and hospital in every cases. When they face such

problems and they try to get out the body by themselves and if they can't they may just leave them.

E, a worker of the mining company

6.3 ASMs' access to health service

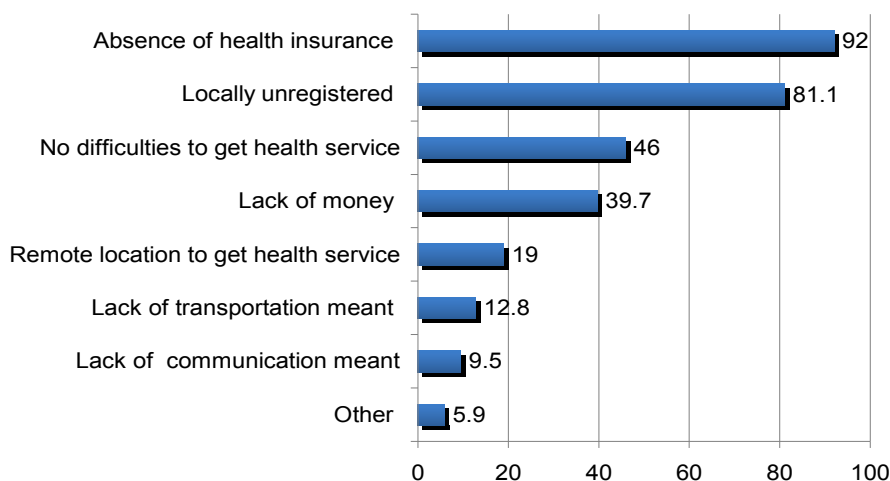
The survey found that 62 percents of the surveyed ASMs received medical services from their friends and co-workers at mine site, if the diseases were not so serious. The basic drugs and medical supplies were sold by almost 52 percent of the ger shops in the site. When asked the most demanded medicines and medical supplies, ger shop owners named following medicine and medical supplies like paracetamol, analgine, co-trimoxazol, phthalazoli, ampicilline (both tablets and injection), other antibiotics and adhesive strips.

Also, none of those people, who sell medicine, had a medical or pharmacy background. The sellers responded that they never served with doctor's receipts.

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

Of the survey participants, 8 percents were enrolled in health insurance; 92 percents were not. However, generally more women were covered than men. A lack of finances and unregistration to the administration meant majority of the miners had not paid for health insurance.

График 19. Difficulties facing to access health services



When asked, why they did not get involved in health insurance, 92 percent of the all respondents answered that they could not get involved in health services due to unregistration to the local administration, no residential address in the arrived area, not having required civil documents and 70 percent of them answered they could not get involved in health insurance due to the poor knowledge and limited information regarding to the health insurance.

The local physicians said that it was really difficult to render health services to the artisanal miners in emergency cases because they have no accurate address to easily find them.

Today artisanal miners are giving more importance to the money, comfortable housing and food before their health and lives.

PART 7

ORGANIZATIONAL STRUCTURE OF ARTISANAL MINING ACTIVITIES



7.1. Cooperation and organizational structure of artisanal mining activities

Cooperation of the labor in artisanal mining is a key factor of natural resource management to maximize their income and minimize the risks may occur during the mining. Their income is really dependent on the mineral resources. Better cooperation and coordination of artisanal miners is very important to motivate and organize them and build their capacity on proper and sustainable utilisation of the natural resource.

When asked artisanal miners in Ult mine were organized to co-work and cooperate their work, all answered that they organized into “gal” or “brigade” formaiton which mostly consists of friends, relatives and people from the same soums and provinces and family members. If investigates the nature of the gal, it is an informal group of people who knows each other well and have a common place to live and eat together. They also commonly organize their works of digging holes, excavating the gold containing materials and gold washing and get shares from the income in equity principle or depending on their cash and labor contribution.

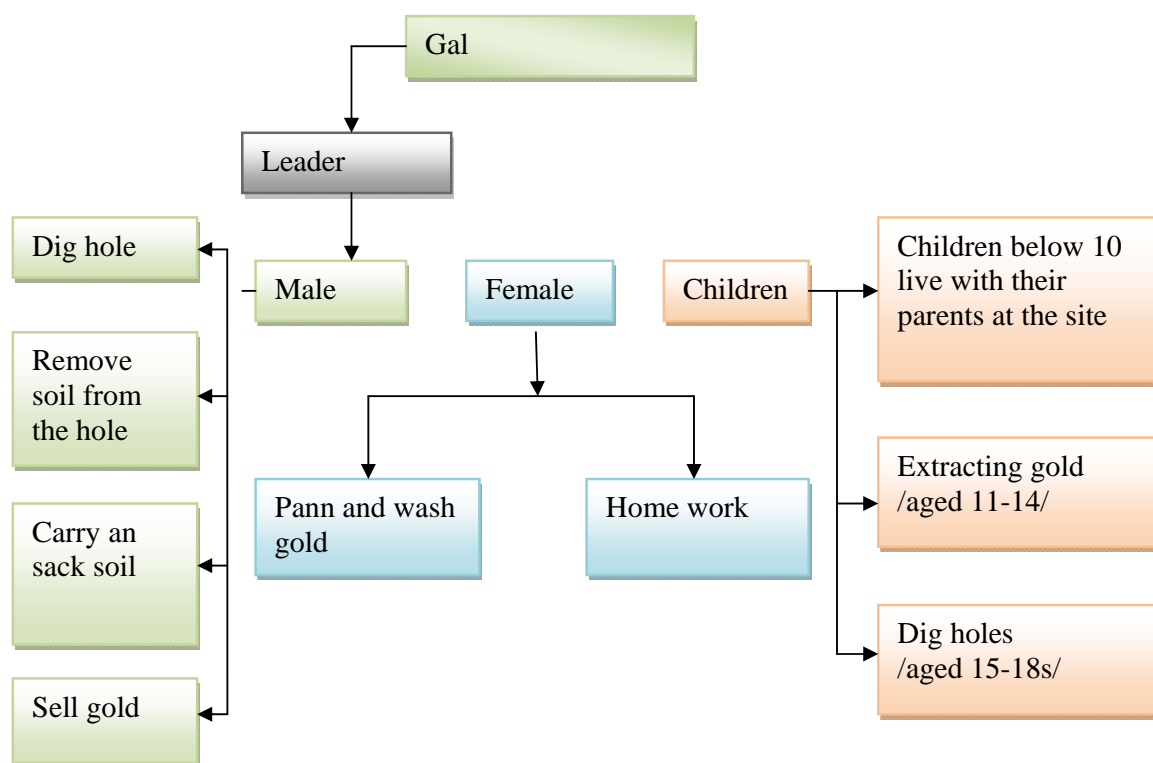
In Uyanga, mine work is organized around immediate or extended family units and friends. Of which 78 percent of the gal was built as base on relationship of friends, 58 percent build on the family relationship and 42 percent were built because of origins of the aimag and soum.

Table 32.Members of the gal

<i>Members of a gal</i>	Percent
Family members and relatives	78
With people from the same aimags and soums	58
Friends	42
Like unregistered partnerships	0
Like cooperatives	0
Other	3

In Uyanga, an average gal or brigade size was five to twelve members. As cited by the survey participants, the most adequate gal 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. Such work groupings seem to be self-finacing and self-managing. Most of the operations associated with mining demand in certain level of collaboration, whether for developing the physical access to mineralized shafts, adits and pits, for hoisting and hauling the soil with materials, for transporting it to a wash site and then wash it.

Figure. Structure of the gal .



78 percent of the total surveyed gal members said that they had a common saving fund. When they find gold they contributes the same amount of money to the fund. Under the supervision and decision of the gal leader, money from the usually spent for most commonly mining works like renting equipment, transportation, food and purchase of equipments.

7.2. Strengths and weaknesses of the gal organizational structure

As cited from a common Mongolian proverb “a piece of wood can’t become a fire to make people warm and a person can never become household”, it is impossible to engage in artisanal mining as alone. There is no other way than co-working for mining.

It is always better to be together
 Then we could do any big works
 If someone falls down, his friend can save him
 If person works alone, no one can save him when he falls down
 It must be so pity

42 old man from Arkhangai

Identified weaknesses and strengths of the gal organization during the focus group discussion.

Table 33. Strengths and weaknesses

Strengths	Weaknesses
Less workload and pressure per a member	Informal way of co-working
Improved accessibility to the more mechanized mining equipment and tools	May occur risks in practices in profit sharing
Improved operational safety and security	Not equal work distribution
Increased opportunity to learn from each other	Discrimination against women and old people, who are physically not strong enough
Team decision making	Possible dominant within a gal
Member's safety and security	High rotation with a gal membership
Defend their common interests and learn to work as team	Conflicts and different interest groups within a gal
More secure working environment	The common interest is just focused on money, not for development of members
Equal women participation and fair labor distribution	Not cares members' social needs and development
Improved understanding and relationships between local people and miners	Tendency to become too dependent from a person
Less conflicts over a place with good gold content	A powerful person may dominate within a gal
Equal access to gold mining	May drink alcohol and make fight as a gal

7.3. ASMs awareness regarding to Government resolution #72 and Temporary regulation on ASM and practice of formation of partnerships

Over the last time the Government made few efforts to make coordination on ASM activities. Then it approved and is implementing several important regulations applicable to small mining. For example:

1. Government Resolution No: 28, 23 January 2008, “Regulation of Artisanal Mining Operations”;
2. Government Resolution No: 71, 27 February 2008, “Sub-Programme for Development of Small Scale Mining up to 2015”;
3. Government Resolution No: 72, 27 February 2008, “Temporary Regulation on Artisanal Mining Operations”.

The action to implement all these regulations and resolutions were not taken properly in this soum.

Table 33. ASMs’ awareness on temporary regulation

<i>Responses</i>	Percentage
Know	9%
Don't know	91%

It shows us that awareness raising work on Temporary regulation, which considered only legal act applicable to ASM is in demand in here. Otherwise, local government did not take any action to implement all these regulations and resolutions were not taken properly in this soum.

Only individuals with financial ability established small mining company to mine gold using vehicles and equipments. While for poor people, who came from other places for survival, increase their income and improve their living standard, mining gold with low productivity and high risk using simple tools.

Observation and interview during the survey showed that legal environment was not created to do it appropriately. There is an opportunity to create new jobs, decrease unemployment and poverty and contribute to sustainable rural development if artisanal mining operated within the frame of existing regulations..

PART 8

NATURAL RESOURCE UTILIZATION AND CONFLICT MAPPING OVER A RESOURCE



8.1. Natural resource utilization and rehabilitation

Today the artisanal miners are located in Ult areas of Uyanga soum, Uvurkhangaï aimag which is 1 km from center of Uyanga soum. The mining area continues 18 km in length and 4 km in width. 97% of the mining areas in which artisanal miners operate artisanal mining business belong to AYM limited Shareholding Company with Czech–Mongolian mutual investment. This site used to belong to Erel Company. Since 2002 annually 5,000-30,000 people and 20-60 small mining companies mining gold without stop on 251.4 hectares of land, which was exploited by Erel Company.

When asked about the rehabilitation of the mined areas, the local community and government officials said that the no one either large scale companies or small scale companies and artisanal miners have not paid any attention and showed any efforts to restore the environment and nature. This work was slipped out the responsibilities of the Erel company and other mining companies during the process of transmission of mining exploitation licenses.

I have been lived in Modot muhar since my childhood. Now mining companies and ninjas are everywhere in here. They can mine gold and use the natural resource, but they need to rehabilitate their mined out areas. My motherland was really beautiful place, but mining companies have made it like this.

B, a citizen of Uyanga, 36 years old male

Within the framework of the survey number of the shelters of the artisanal miners was identified. According to the survey, today over 3,500 people are working as artisanal miners in Ult.

The artisanal mining activity poses a significant development challenge for the soum. While it has provided significant economic opportunities for the poor local community people and other economic refugees from other parts of the country during difficult economic times. But the commercial miners and local government authorities have been critical asserting that it is outside the legal and regulatory framework, and risky, degrades the environment, and exposes miners to hazardous work condition.

Since mining operation has been started in Uyanga soum, streams and rivers are dried up and pasture is being degraded. Also mining operations pollute our drinking water.

B, 48 years old, a local citizen of Uyanga soum

Moreover the survey respondents critisized the government that it re-issues mining licenses over the partially rehabilitated lands. The licensed commercial mining companies do the technical rehabilitation with a poor performance and never do the biological rehabilitaiton in the used areas. That's why, natural formation has never been restored successfully. The local governemnt suggested

that any new law related to artisanal mining should include appropriate and enforceable procedures and regulations relating to environmental management and more responsible mining practices.

8.2. Social order and responsibilities of the ASM

According to the soum police report 48 criminal cases (35.5% theft, 29% assault, 9% hooliganism and 5.9% unrevealed) were registered by December 2009. The informal sources confirm that more than half of the registered crimes are committed by the artisanal miners.

Mining life and income is very limited and just depend on the resource. But Mongolian people's future will be related with agricultural development, particularly animal husbandary. So the government in all stages and decision makers should give more importance rather than mining. They need to take measurements to protect the pastureland and water sources and secure the livestock health. Currently, many economic refugees come from different places of the country come in here to mine. But they cut the young trees, collect the raw nuts, dry up the rivers and springs as washing gold in the water source, commit crimes and murders and steal herders' animals to eat. Since the mining start, it has become very dangerous and difficult to live in the soum. I think that people need to stand against this social disorder.

A, male, 59 years old citizen of Uyanga soum

Since 2007 local authorities conducted various actions to coordinate ASMs and decrease their negative impacts to the surrounding environment. For instance a team of 60 people (consisting of 15 inspectors from Uvurkhangai Aimag Professional Inspection Department, 15 police officer, 1 emergency officers, 5 officers form environment and tourism department and 15 people from soum governors office) worked 5 days to reduce negative influence of gold mining to the nature and environment and to stop illegal trade and sales in Ult area. During the inspection, the team located all food courts and points in 4 main sites, prohibited to sale illegal drugs and medicines, flameable substances and alcoholic drinks and forced to clean wastes and pollution in the area. Also they checked operation of business entities and environment restoration action of the entities.

In 2005 national, aimag and soum level Civil Registration and Information department officers tried to register artisanal miners in Uyanga soum. However it was not successful. Also in 2008 national, aimag and soum level Social Service and Benefit Department and Civil Registration and Information Department took action to register artisanal miners in Uyanga soum. The result was not accurate and exact.

Everybody knows well that Uyanga is famous with the social disorders like number of committed crimes, prostitution, accidents, conflicts and illegal gold marketing. The survey team tried to investigate the above mentioned problems, but the issues themselves have characteristics of criminal cases and related with the individuals' reputations. Therefore, it was difficult to study furthermore.

An old man described Ult mining situation as followings;
The Erel company, who is good at selling the soil to others is in Ult
The criminals who have records in prisons are in here
The bosses, who can only drive jeeps are in here
The poor ASMs who are only accessible to the empty soils are in Ult, too

8.3. Environmental hygiene and sanitation and water supply in ASM sites.

The soum physicians stated that with reference to fetching heavy soil, working in holes under forced and limited situation, long stand in cold water, feeling cold and breathing dust, most of the artisanal miners suffer from cardiovascular diseases, respiratory diseases, kidney and urinary system disfunctioning and back pains.

The history tells that thousands of people have lived together to mine in comparatively small size of land in Ult for over 20 years. But minimum hygiene and sanitation standards for human basic healthy living have not been realized in the site. There wasn't any toilets, sewage holes and garbage removal points. May be it is an expression of ASM knowledge and attitude towards linkages between the environmental hygiene and sanitation and healthy living. While observing the situation in the area, making latrine and sewage holes and removing the garbage is far easier than the situations in the urban areas. There were many deep shafts and pits. So they can use the holes for latrine and sewage removing and putting garbage into the holes and fill up with some soil.

Soum physicians stated that incidences of hepatitis "B" and diarrhoea increases in warm seasons due to poor hygiene practices and poor hygiene and sanitation conditions.

One of the biggest problems faced to the artisanal mining is a shortage of water supply for both drinking and washing. Water selling is considered as a good profit making business in the site. People, who have small trucks, buy a litre of water by 2 tugriks from the large scale companies' water wells and transport it to the site and re-sell a litre of water by 20 tugriks.

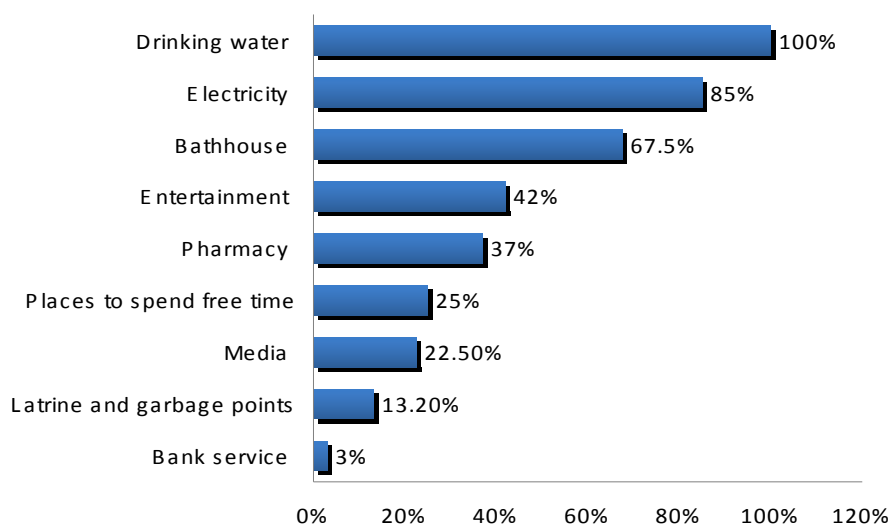
But for the washing gold, artisanal miners transport the soil with materials to the fake lake located 6-10 kilometres from the mining site by small trucks. The one way transportation fee was 10 000 tugriks. When they reached in the lake and the hole the ice and get out water to wash.

Everybody and animals in this area drink and get water from Ongi river. Ongi river's width was almost 1 kilometer and it flows over its basin. When mining operations started in here, it very badly influenced to the river feeding and constant flowing. If it happens at the beginning of the river in here, it must be very difficult for the end part in Bulgan Mandal soum of Umnugobi. The government need to pay more attention mining operations near to the water basins and sources. If companies mine inappropriately, the government needs to

make decision to stop the mining and ask the responsible parts to restore the natural original formation.

Price for a liter of water is 20 times higher than water price in Ulaanbaatar and 10 times higher than Uyanga soum center. Due to shortage of water and high prices, artisanal miners usually put limitations for use of water for cleaning, washing and having baths. The respondents answered that because of the high price and limited access to the drinking water, they sometimes melt snow for drinking and cooking. But the snow is polluted by gargabes, faeces of human and dogs and technological activities. So it is considered one of the reasons to spread infectious diseases among the mining community.

Figure 20. The most useful services for ASMs in the mining site



8.4. Local community participation for the nature and environmental protection

As aiming to ensure the soum citizens' rights to live in secure and healthy environment, "Nature protection and Area development" non-governmental organization was founded with initiatives of the local citizens. Currently, it has been operated actively for fulfilling its objectives. In order to expand its influence to decision makers of the government, the NGO has joined into the United Association of Mongolian rivers and lakes. As joined to this civil united movement, it closely worked with nature and environment protection oriented NGOs including "Ongi golinhon" NGO of Dundgobi, "Toson Zaamar" NGO of Zaamar soum of Tuv province, "Salhin Sandag" NGO of Gobi Altai, "Huder gol" NGO of Selenge aimag, "Angir nuden munduuhei" NGO of Gobi Altai and Uul usnii duudlaga NGO from Gobi Altai. The association have achieved a lot. Thanks to consistent efforts and supports of the organized citizens of Mongolia, they pushed the parliament to approve the law draft on banning to exploit and explore gold and minerals in

sources of rivers' flow conjunctions, protected areas with water sources and forestation areas. The law was passed in July. Since that time, the united association actively participated in preparation work to realization of the law and drafting regulations to define and set borders for water sources and forestation fund areas.

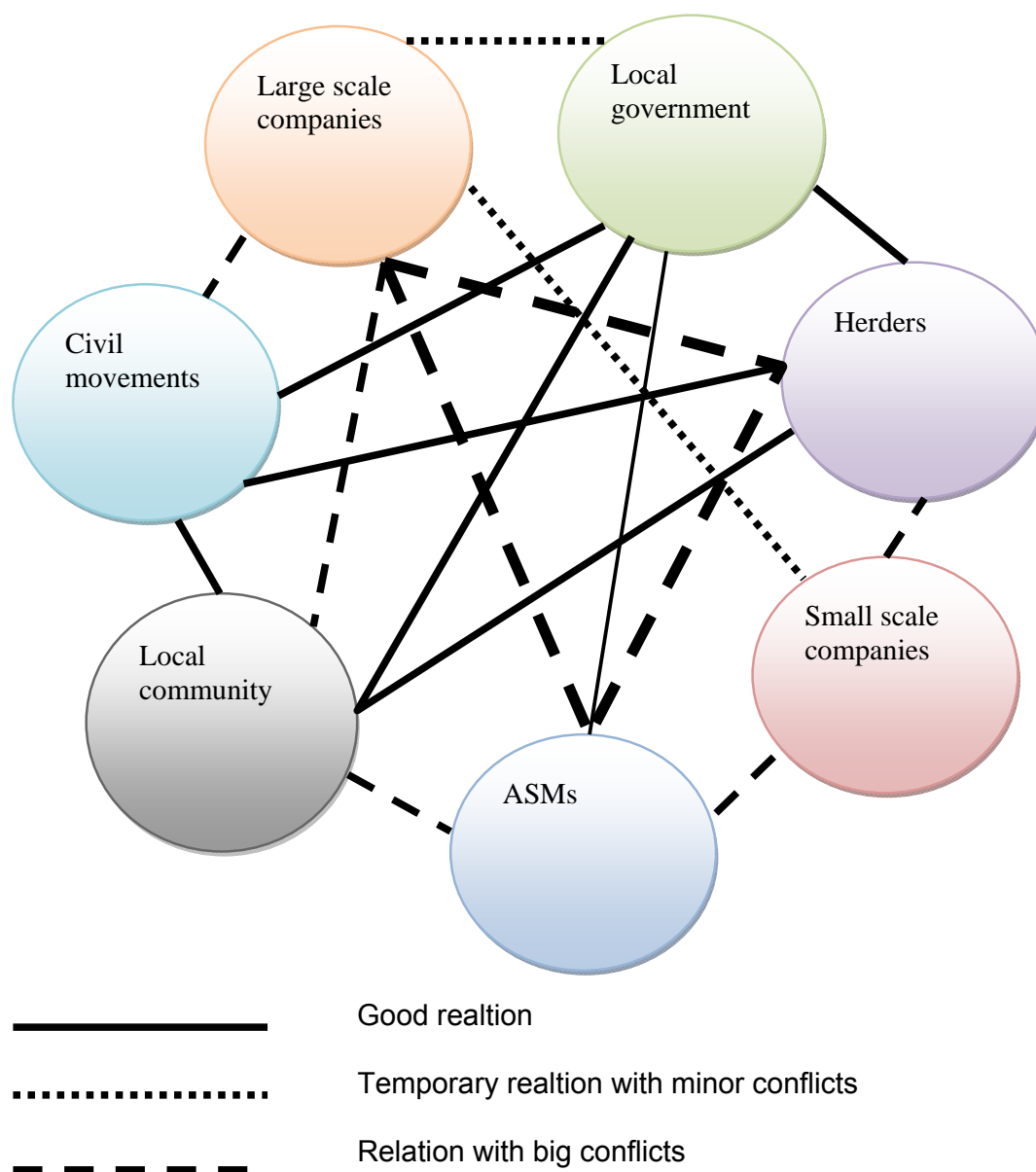
G. Dorj, a head of the Association said that Ult and Buuruljuut areas belong to the source area of rivers flow conjunction. So large and small scale companies and even artisanal miners will be coordinated and removed in accordance with the law. If it is necessary, we will appeal the relevant organization to cancel the mining and exploration licenses together with local government and the community people's support. If we can protect our land, rivers and water basins, Mongolian future will be bright.

8.5. ASMs conflicts with other stakeholders and conflict mapping

Artisanal and small scale miners are late entries into the sector, following largely on the activities of commercial miners. That's why conflicts between ASM and licensed commercial mining companies had been emerged from time to time. The conflicts are frequent when artisanal miners illegally dig gold on the licensed land of license holding companies and mostly end up with clashes between ASMs and police or security personals of the mining companies. Actually, artisanal miners so called informal miners are unwanted by all parts. Because they have a low status and are generally considered as troublemakers. They have no mining rights by law.

Before Erel company's arrival in Ult, the valley was so beautiful and had extraordinary landscape with mountains with various kinds of flora and fauna and rivers. But now valley bottoms, already seriously damaged by the improper mining operations, have further hurt by informal mining operations. Soil profiles and drainage patterns are existing and no flora and faunas grow due to no restoration of neither seeding nor planting has followed after the mining operation. Conflicts over the natural resource utilization is considered as the most complicated problem between individuals and different entities and organizations. Dozens of conflicts are existing in Ult soum between local government, large and small scale companies, artisanal miners and herders over the pasture and proper utilization of the natural mineral resources and access to the land with high contents and water. The conflict mapping was drawn by the key stakeholders involved in ASM issue.

Figure 21. Conflict mapping



Large scal companies hire security people and use police for chasing artisanal miners from their licensed land and put pressure on the poor artisinal miners. The security people killed a pregnant lady while chasing away the ninjas. Many people have suvh kinds of complains and brokemn hearts against the commercial mining companies.

Ts, 32 years old female

PART 9

CONCLUSION AND RECOMMENDATIONS

Conclusion

On the basis of the information gathered during socio-economic survey in Uyanga soum Uvurkhangai aimag and subsequent data analysis, the following conclusions have been made in relation to each survey part.

Part 3.

Demographic, socio-economic and mining profile of ASMs in Uyanga soum

- As comparing with other soums of Uvurkhangai aimag, Uyanga soum leads with number of artisanal miners, exploited gold amounts per a year and scope of the mining work.
- Although the Government passed Resolution No. 72 and the “Temporary regulations for artisanal and small scale mining activities” in 2008, attitudes of local government officials, herders and activists of the social movements were still negative to the artisanal mining. Nature and landscape was badly damaged and rivers and streams dried up due to the long lasting improper mining operations of both artisanal miners and large scale companies.
- In 2009, 10 entities had 15 exploration licenses covering 21,357.4 hectares. 6 licenses covering 1762.5 hectares were issued for 4 entities.
- As of today 257.6 hectares of land is under mining
- Uyanga soum has 8 bags, 2,760 households and 9,498 people. 49.4% (4,693 people) of total population is male, 50.6% (4,805) is female.
- According to the bag level estimation 5,994 people in 1,031 households live under minimum standard of living, which is 37.4% of total households and 63.1% of total population. 34.3% of these households living under minimum standard of living are extremely poor households.
- 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.

Part 4. ASMs’ socio-economic situation in Uyanga

- 67,4% of artisanal miners in Uyanga soum is male, when 32,6% is female. Gender rate is 1.9%, which is 1.9 male per 1 female. It is relevant with hard work of mining (dig holes, carry heavy dirt, sieve and work long hour in the narrow, dark and difficult ground/hole) which is not easy for women. Therefore more man work as artisanal miners.
- As of January 2010, over 3500 people were working as artisanal miners in 8 common places in Ult valley.

- Only 18% of 500 artisanal miners participated in the survey are originally from Uyanga soum. Remaining 82% artisanal miners are from different places and not registered with the soum.
- According to the survey result on marital status, 55.5% of the respondents said they legally married, 21% of participants was single, 10% had partners, 8% widowed and 5.5% was divorced.
- 78% of participants do artisanal mining to survive, when 22% do other business such as herding, selling food items, fuel, coal, wood and cooking food, and reselling gold, running game centers like billiard, loading and water distribution.
- ASM's average employment period was approximately 6.3 years.
- The survey found out that ASMs' income reached up to MNT 310,000 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 many things, including the yield of the site, capacity of the used tools, seasonal influences, equipments, skill, experience, age, gender and so on.
- The biggest occupational threats ASMs faced were accidents caused by landslides and falls, rather than water and electricity supply and housing.

Part 5. 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 expense-calculation 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.
- An average artisanal miner spend approximately 7000 tugriks for their food, tobacco, firewood, rent and purchase of equipments, and cost of gold extraction and then earn about 13.500 per day. His net income is about 6500 tugriks per a day.
- The consumer goods in Ult site were costed by 70-500 tugriks higher than the prices in soums and aimag. The biggest price disparity was occurred in the price of water, for instance, a litre of drinking water costs 2 tugriks in the soum and aimag center, whereas it is sold by 20 tugriks in Ult site.
- 84 percent of the total respondents didn't have savings and 16percent of them said that they have some amount of savings.

Part 6. Gold mining and employment

- 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 9-14 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 7. ASMs' health condition and access to health services

- Due to long stay in deep holes, water and wet ground, shaft making in winter cold weather, carrying heavy materials, panning materials in cold water and drinking unsafe water, the miners mainly suffer from the following diseases, namely 38 percent are in sufferings of urinary system disinfection and incontinence of urine, 33.9% of the miners are in pain of kidney, 27.9 percent lung and chest problem or respiratory disease, 19.7 percent joint problem, 12 percent turgidity, 9.2 percent dermatological diseases and 10 cases recorder that they partially lost their labour ability.
- 169 cases of sexually transmitted diseases including 80 cases gonorrhea, 10 cases of syphilis and 76 cases of trichomoniasis and 3 cases of genital herpes were registered and treated at the soum in 2009. 60% of the total registered sexually transmitted diseases diagnosed among from the pregnant women aged between 20 and 35. It shows us that there should much more number of incidences of sexually transmitted diseases among the artisanal miners.
- Of the surveyed, in doubled figure 63.3 percent had been involved in workplace injuries; 22 per cent in occupational accidents and 32 percent reported no injuries to date.
- Of the survey participants, 8 percents or 40 people were enrolled in health insurance; 92 percents or 460 people were not. However, generally more women were covered than men.
- 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 participants 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 medical services, health check-ups, occupational health and safety-raising and educational activities.

Part 8. ASMs' organizational formation and partnering

- In Uyanga, mine work is organized around immediate or extended family units and friends. Of which 78 percent of the gal was built as base on relationship of friends, 58 percent build on the family relationship and 42 percent were built because of the same origins of the aimag and soum. An average gal or brigade size was five to twelve members. Such work groupings seem to be self-financing and self-managing. Most of the operations associated with mining demand in certain level of collaboration, whether for developing the physical access to mineralized shafts, adits and pits, for hoisting and hauling the soil with materials, for transporting it to a wash site and then wash it.
- 78 percent of the total surveyed gal members said that they had a common saving fund. When they find gold they contribute the same amount of money to the fund. Under the supervision and decision of the gal leader, money from the fund is usually spent for most commonly mining works like renting equipment, transportation, food and purchase of equipments.
- 91 percent of the total survey respondents were not aware of the Temporary regulation on ASM, which is considered a sole legal document to support and regulate their business to date.

Part 9. Natural resource management and conflict mapping

- As of end of 2009, 161 hectares of mined land is required to be rehabilitated in Uyanga soum.
- Since 2002, this site was used by annually 5,000-30,000 ASM and 20-60 small mining companies mining gold without stop on 251.4 hectares of land. But the local community and government officials complained that the none of the miners neither commercial nor artisanal miners has not paid any attention and showed any efforts to restore the environment and nature.
- The artisanal mining activity poses a significant development challenge for the soum. While it has provided significant economic opportunities for the poor local community people and other economic refugees from other parts of the country during difficult economic times. But the commercial miners and local government authorities have been critical asserting that it is outside the legal and regulatory framework, and risky, degrades the environment, and exposes miners to hazardous work condition.
- In Uyanga soum's case, artisanal and small scale miners are late entries into the site, following largely on the activities or tailings of commercial miners. That's why conflicts between ASM and licensed commercial

mining companies had been emerged from time to time. The conflicts are frequent when artisanal miners illegally dig gold on the licensed land of license holding companies and mostly end up with clashes between ASMs and police or security personals of the mining companies. Actually, artisanal miners so called informal miners are unwanted by all parts. Because they have a low status and are generally considered as troublemakers. They have no mining rights by law.

RECOMMENDATIONS

On the basis of the information gathered during Uyanga 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.

- Due to lack of awareness on ASM temporary regulation, ASM are not getting benefitted from it and being responsible miners as required. Therefore, SAM project and its partners should organize activities to increase the artisanal miners and other stakeholders awareness on the temporary regulation, occupational safety rules and facilitate the process which artisanal miners to be organized into partnerships.
- Environmental protection and rehabilitation in areas of artisanal and large and small scale mining should be enhanced. The artisanal mining law should include appropriate and enforceable procedures and regulations relating to environmental management and more responsible mining practices.
- Caused of decreased yield of gold in Uyanga, many ASMs are planning to go to Biger soum Gobi Altai for seeking better mining opportunity not ignoring the risks and clashes. So preventative measurements from possible conflicts and clashes between many parts including local government, large scale mining, herders, local community and artisanal miners should be taken into account immediately on the basis of common understanding.
- 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 deposits 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 micro-loans 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 in UIt site .
- 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.
- 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.

ANNEX 1

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ANNEX 2

Questionnaire for artisanal and small scale miners in Uyanga soum

	Date taken interview	
	Code for respondent	
	Code of surveyor	
	Bag name	
Part 1: General information		
101	Sex	
102	How old are you?	
103	Family size ?	
104	How many children do you have?	
105	Are you literate?	
106	What your level of education?	
	No education	<u>A</u>
	Primary education	<u>B</u>
	Secondary education	<u>C</u>
	High school education	<u>D</u>
	Vocational	<u>E</u>
	University	<u>F</u>
107	What your marital status	
	Married	<u>A</u>
	Separated/divorced	<u>B</u>
	Single	<u>C</u>
	Cohabiting	<u>D</u>
	Widowed	<u>E</u>
Part 2: Family livelihood situation		
201	Housing status?	
	own ger	<u>A</u>
	own house	<u>B</u>
	Rent ger	<u>C</u>
	Rent house	<u>D</u>
	Public house	<u>E</u>
	Parents home	<u>F</u>
	Apartment	<u>G</u>
	other	<u>H</u>
202	Do you work or study?	
	Yes <u>A</u>	<u>A</u>
	No <u>B</u>	<u>B</u>
203	If yes, where do you work or study?	
	Government organization	<u>A</u>
	NGO	<u>B</u>
	Private company	<u>C</u>
	Livestock farming	<u>D</u>

Socio-economic baseline survey for Uyanga soum, Uvurkhangai aimag

	Private business	<u>E</u>
	University	<u>F</u>
	College and vocational training school	<u>G</u>
	mining	<u>H</u>
	other	<u>I</u>
204	How about your monthly family income?	
a	Sources of income	Monthly yearly
b	Salary	
c	Pension	
d	allowance	
e	Business	
f	Agriculture	
g	Livestock	
h	Small animal husbandry	
i	Aid and financial assistances	
l	Assistances from relatives	
m	Rental income	
n	Gold mining	
o	Other	
	Total	204.a 204.6
205	Monthly/yearly income per a family member?	
	205.a	
	205.6	
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>B</u>
	Till 500000	<u>C</u>
	Till 1 million	<u>D</u>
	More than 1 million	<u>E</u>
Part 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>
	1-3 years	<u>C</u>
	1 year	<u>D</u>
302	If you have lived for more than 1 year, did you officially register as required?	
	Yes	<u>A</u>

	No	<u>B</u>
303	If no, Why?	
	No need to register	<u>A</u>
	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>G</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	<u>D</u>
	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: 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>C</u>
	Pay tuition fees of the children	<u>D</u>
	More income earned from gold mining	<u>E</u>
403	Where do you min gold?	
	a.	
	б.	
	B.	
404	Do you have access to legal mining land?	
	Yes	<u>A</u>
	No	<u>B</u>
405	Do you prefer to continue gold mining?	
	Yes	<u>A</u>
	No	<u>B</u>
a	If yes, why?	
б	If no, why?	

406	How often do you mine?	
	Throughout year	<u>A</u>
	Seasonally	<u>B</u>
	Freetime	<u>C</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	<u>A</u>
	gloves	<u>B</u>
	mask	<u>C</u>
	Boots	<u>D</u>
	Ear-plug	<u>E</u>
	overalls	<u>F</u>
	Fastener	<u>G</u>
	Fastening ropes	<u>H</u>
	Head lamp	<u>I</u>
	Water protection shoes	<u>L</u>
	Protective eye glass	<u>M</u>
	other	<u>N</u>
411	What are the most needed clothings, listed below?	
	Safety helmet	<u>A</u>
	gloves	<u>B</u>
	mask	<u>C</u>
	Boots	<u>D</u>
	Ear-plug	<u>E</u>
	overalls	<u>F</u>
	Fastener	<u>G</u>
	Fastening ropes	<u>H</u>
	Head lamp	<u>I</u>
	Water protection shoes	<u>L</u>
	Protective eye glass	<u>M</u>
	other	<u>N</u>
412	What labor tools do you use?	
	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>I</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	<u>Q</u>
	Mill	<u>R</u>
	fan	<u>S</u>
	compressor	<u>T</u>
	other	<u>U</u>
413	What tools do you need most?	
	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>I</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	<u>Q</u>
	Mill	<u>R</u>
	fan	<u>S</u>
	compressor	<u>T</u>
	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	<u>C</u>
	expensive	<u>D</u>
	Not comfortable to wear	<u>E</u>
	Not available	<u>F</u>
	Other	<u>G</u>
415	What types of work do you do in gold mining?	
	Crushing rocks	<u>A</u>
	Blasting	<u>B</u>

	Carrying ore, screening	<u>C</u>
	Ore milling	<u>D</u>
	Gold recovery by using mercury	<u>E</u>
	Ore transporting to processing plant	<u>F</u>
	Other	<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	<u>I</u>
	Washing	<u>L</u>
	Cooking	<u>M</u>
	other	<u>N</u>
418	What activities are the most difficult ones as listed below?	
	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	<u>I</u>
	Washing	<u>L</u>
	Cooking	<u>M</u>
	other	<u>N</u>
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>F</u>
	Use of chemical substances	<u>G</u>
	Extended working hours	<u>H</u>
	Lifting and carrying heavy things	<u>I</u>
	Working in tight and deep places	<u>L</u>
	Interacting with explosives	<u>M</u>

420	How do you do blasting at mining site?	
	themselves	<u>A</u>
	Licenced blasting company	<u>B</u>
	Experienced miners in blasting	<u>C</u>
	Other	<u>D</u>
421	Where do you get explosives?	
	Local shops and market	<u>A</u>
	Individual people	<u>B</u>
	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	<u>D</u>
	Strict policy control and subject to punish	<u>E</u>
	Other	<u>F</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 and blasting	<u>C</u>
424	How do you recover gold?	
	manually	<u>A</u>
	HAMO company's ore processing plant	<u>B</u>
	other	<u>C</u>
425	Do you use mercury in gold recovery at your places?	
	Yes	<u>A</u>
	No	<u>B</u>
426	Where do you use mercury in gold recovery?	
	At home	<u>A</u>
	Remote place	<u>B</u>
	Mining site	<u>C</u>
	Small ger and houses	<u>D</u>
	other	<u>E</u>
427	Where do you dump mercury contaminated wastes?	
	To river	<u>A</u>
	To soil	<u>B</u>
	To hole	<u>C</u>
	To dumping points	<u>D</u>
	other	<u>E</u>
5. ASMs' income and expenditures		
501	What amount of gold do you earn daily/weekly?	

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>B</u>
506	Did you get a bank loan?	
	Yes	<u>A</u>
	No	<u>B</u>
507	What purposes did you get the loan?	
	Buying apartment or car	<u>A</u>
	Buying household necessities and foodstuffs	<u>B</u>
	Paying children's school fees	<u>C</u>
	Buying equipment and tools	<u>D</u>
	For gold mining activities	<u>E</u>
	Paying a debt	<u>F</u>
508	Where do you sell a gold?	
	shops	<u>A</u>
	bank	<u>B</u>
	HAMO company	<u>C</u>
	Mobile gold changers	<u>D</u>
	UB city	<u>E</u>
	foreigners	<u>F</u>
	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 processing plant	<u>C</u>
	Gold changers	<u>D</u>
	other	<u>E</u>
Part 6: ASMs health condition and access to quality health services		
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>E</u>

	Monks	<u>F</u>
	Self-care and treatment	<u>G</u>
602	What types of health services do you require?	
	Emergency aid service	<u>A</u>
	Preventive medical check-up	<u>B</u>
	Vaccination	<u>C</u>
	Cure chronic diseases	<u>D</u>
	Health advices	<u>E</u>
603	Did you experience any negative disease symptoms since starting gold mining?	
	coughing	<u>A</u>
	Tinnitus aurium	<u>B</u>
	Хаварнах 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>
	Kidney pain	<u>H</u>
	No illness symptoms	<u>I</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>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 accidents were happened to you 63?	
	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 and tools	<u>F</u>
	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>E</u>
	Poor preparedness and inadequate use of mining equipment and tools	<u>F</u>
	Carbon monoxide poisoning	<u>G</u>
	Other	<u>H</u>
610	Where do you get drugs and medical supplies at mining site?	
	Ger shops	<u>A</u>
	Carrying with yourselves	<u>B</u>
	Ask individual miners	<u>C</u>
	Send a person to soum center	<u>D</u>
	other	<u>E</u>
611	What is the main accident causes in your opinion?	-
	Poor knowledge about OHS requirements and rules	<u>A</u>
		-
	Due to the poor practical applications of OHS rules and requirements	<u>B</u>
	Lack of labor safety dresses and supplies	<u>C</u>
	Poor implementation of OHS rules and requirements	<u>D</u>
	Other	<u>E</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	<u>E</u>
Part 7: Social welfare service and social insurance		
701	Do you make social insurance payment out of gold mining income?	
	Yes	<u>A</u>
	No	<u>B</u>
702	If no, why?	
	Lack of cash	<u>A</u>

	No local registration	<u>B</u>
	Poor knowledge about the importance of social insurance	<u>C</u>
	No confidence about future yield of social insurance	<u>D</u>
	Poorly informed	<u>E</u>
	Other	<u>F</u>
703	How much money do you pay in a month?	
704	If no, why?	
	Lack of cash	<u>A</u>
	Poor knowledge how to pay	<u>B</u>
	Buzy	<u>C</u>
	Other	<u>D</u>
Part 8: ASMs' organizational structure and partnering practices		
801	Have you ever heard about unregistered partnership, recommended in the Temporary Regulation of Artisanal and small scale mining activities?	
	Yes	<u>A</u>
	No	<u>B</u>
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 advantages 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>
	Partnership leader plays key role to distribute income	<u>C</u>
	other	<u>D</u>
807	Are you satisfied about your income-sharing practices?	
	agree	<u>A</u>
	Not much	<u>B</u>
	disagree	<u>C</u>
808	How does your partnership finance mining activities?	
809	Do you have free access in a mining site?	
	Yes	<u>A</u>
	No	<u>B</u>

	What is your shaft name, where your partnership members are working?	<u>C</u>
810	If you are not a partnership member, pls tell us your reason for that?	
	Poor knowledge about partnership	<u>A</u>
	High requirements for being a member of the partnership	<u>B</u>
	No likeminded people in a partnership members	<u>C</u>
	Not agree with income sharing practices of the partnership	<u>D</u>
811	Do you know about Bornuur ASM NGO?	
	Yes	<u>A</u>
	No	<u>B</u>
812	What does the NGO do?	
	Training and awareness activities to the ASMs	<u>A</u>
	Protection of ASMs' rights	<u>B</u>
	Support of ASMs' voices and encouraging of participation	<u>C</u>
	Legal provision of mining land	<u>D</u>
	Extended income generation activities	<u>E</u>
	Encouraging equality among the miners	<u>F</u>
	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>C</u>
	Drinking water	<u>D</u>
	Freetime entertainments	<u>E</u>
	Banking service	<u>F</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>F</u>
Civil movements		<u>G</u>
Partnerships		<u>H</u>
Name of an individual person		<u>I</u>

Thanks for your answer and cooperation.