NATIONAL STATISTICAL OFFICE
OF MONGOLIA

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REPORT ON ARTISANAL AND SMALL-SCALE MINERS' SURVEY, 2012

Ulaanbaatar
2013 year

DDC
310’517
X-822

This report is available in mongolian.

NATIONAL STATISTICAL OFFICE OF MONGOLIA

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ISBN 978-99962-949-0-7

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EXPLANATION OF ABBREVIATIONS

AR	Arkhangai
ASSM	Artisanal and small-scale miners
BKH	Bayankhongor
BO	Bayan-Ulgii
BU	Bulgan
DA	Darkhan-Uul
DD	Dornod
DO	Dornogobi
DPTD	Data Processing and Technology Department
DU	Dundgobi
ESD	Economic Statistical Division
GA	Gobi-Altai
GS	Gobisumber
GTD	General Tax Department
KHE	Khentii
KHO	Ховд
KHVS	Khuvsgul
MESD	Macro Economic Statistical Department
MET	Ministry of Environment and Tourism
MMRE	Ministry of Mineral Resource and Energy
MOF	Ministry of Finance
MRAM	Mineral Resource Authority of Mongolia
MSWL	Ministry of Social Welfare and Labor
NSO	National Statistical Office
SAMP	Sustainable Artisanal Mining Project
SDA	Swiss Development Agency
SE	Selenge
SPSS	Statistical Package for the Social Sciences
SU	Sukhbaatar
TU	Tuv
UB	Ulaanbaatar
UM	Umnugobi
UV	Uvurkhangai
UVS	Uvs
ZA	Zavkhan

PRE-WORD

The National Statistical Office of Mongolia, together with the Sustainable Artisanal Mining Project implemented by the Swiss Agency for Development and Cooperation successfully organised and conducted a survey on artisanal and small-scale miners in the mining sector.

The mining sector is currently playing a critical role in the economy of our country; therefore, this survey – which was conducted using a standardized methodology and principles – has played an important role in determining sectoral activities and its contribution to the economy.

In 2006, the National Statistical Office conducted a census of private business people together with a census of business entities. However, no official studies have been made since then in this field. This survey involved citizens who are working both formally and informally in the mining sector and led to the development of a geographic database, which has been an invaluable outcome that provides a foundation for design and implementation of appropriate strategies for the sector.

In addition to geographically locating the artisanal miners working within the territory of Mongolia, the survey captured the contribution of artisanal and small scale miners to the economy and the social development of the country. I am sure will become basic data for decision-makers.

I would like to express my sincere gratitude to the MESD work team of the NSO, which successfully managed and organised the survey, members of the management committee who provided survey management and organisation, and the staff of the Swiss Agency for Development and Cooperation's Sustainable Artisanal Mining Project which provided financial support and collaboration in conducting the survey.

CHAIRMAN OF NATIONAL
STATISTICAL OFFICE S.MENDSAIKHAN

PART ONE

ARTISANAL AND SMALL SCALE MINERS SURVEY ORGANISATIONAL ISSUES

INTRODUCTION

Like most other national statistical organisation, Mongolia's National Statistical Office has been endeavouring to incorporate informal sector economic activities into the country's Gross Domestic Product.

In 3.4 of the "National Program to Develop the Statistical Sector of Mongolia Between 2011-2015" (approved under Resolution #59 in 2011 by Parliament) we have included the goal to "Improve Calculations, Involvement, Data Quality, Methods and Methodologies of the Gross Domestic Product", and under this goal we have included "To Determine the Amount of the Black Economy". With financial and technical support from the Swiss Agency for Development and Cooperation, we successfully organised and conducted a survey on artisanal and small-scale miners in the mining sector.

The aim of the survey was to identify the number of small-scale miners working on different mineral commodities in Mongolia, their locations and their contribution to the economy, as well as to establish a general database to enable us to define the challenges facing small-scale miners.

The survey results provides the basic data with which to define the current status and development approaches of informal employees in the mining and exploration sectors, which play a critical role in the national economy.

A total of 13.4 thousand citizens were involved in the survey; by the end of 2012 they represented 1.2% of the economically active population and 14.1% of total unemployed citizens. Within the population surveyed, 78.2% of employment, 73.8% of total income and 73.3% of the value added are derived from gold mining activities.

Within the framework of the measures adopted to provide state coordination on artisanal and small-scale mining and to make this sector an active part of the national economy, the Government of Mongolia approved the "Regulation on Extraction of Minerals from Small-scale Mines" under Resolution #308 in 2010 in order to provide a favorable legal environment and policies needed to develop formal and responsible small-scale mining activities. The survey results can be used to further assess effectiveness of the current legal framework in this sector and inform future policies on artisanal and small-scale mining.

This report consists of five main parts and appendices to illustrate the survey results. Part one of the report includes management and organisational measures in survey methodology development and implementation, communication strategies and data processing; part two includes general information on small-scale miners; part three includes the living conditions of small-scale miners; part four includes the main activities of small-scale miners; and part five includes such issues as the losses caused by mining, the contributions of artisanal and small-scale miners to local development, and the troubles and difficulties faced.

1.1 SURVEY MANAGEMENT AND ORGANISATION

A working group was established with 13 officials from six organisations: the National Statistical Office; the Swiss Agency for Development and Cooperation's Sustainable Artisanal Mining Project; the Ministry of Mineral Resources and Energy; the Ministry of Nature Environment and Tourism; the Ministry of Social Welfare and Labor and the Mineral Resources Authority. They were tasked with conducting the artisanal and small-scale miners' survey, summarising and evaluating results, providing general management and methodological support, and reporting results.

Working sub-groups were also established in 20 aimags and the capital city, Ulaanbaatar. Sub-groups were tasked with organising the survey in local areas, providing members of the working group with progress reports and taking measures to overcome any difficulties that may have been encountered. By establishing working groups at each level, we were able to resolve any challenges that arose in a timely manner.

The confidentiality of the information gathered was provided under Paragraph 3, Article 22 of the Law on Statistics of Mongolia. Small-scale miners took part in the survey with the knowledge that the data collected would be used for policy-making and implementation summaries. The relevant legal stipulations were followed at all levels of data collection.

1.2. TRAINING AND PROPAGANDA

As part of the survey preparatory work, training was conducted for team leaders who were tasked with organising local surveys and for researchers managing on-site surveys. Two sets of trainings were held:

- Training to prepare researchers was conducted for leaders of statistical departments in the aimags and Ulaanbaatar from 16-17 July, 2012, in Ulaanbaatar.
- Training for local researchers was conducted from 22-25 July, 2012, in respective local areas.

Participants were provided with the following information:

1. The general organisation of survey;
2. The obligations of researchers, principles to follow, and prohibited activities;
3. The classification and codes needed to fill in the questionnaire;
4. Instructions on filling in the questionnaire;
5. The methodology used to check the accuracy of the questionnaire; and
6. Maps and marking instructions.

The working groups conducted special awareness-raising campaigns in two stages and featuring three main types: (i) advertisements were broadcast on TV5, TV25, TV8 and other local radio and television stations; (ii) interviews on the progress of the survey and its importance were broadcast; and (iii) related information and

articles were published in two newspapers (Zuunii Medee, Unuudur) as well as on the internet. Posters with information about the survey were also distributed to soum centres with significant populations of artisanal and small-scale miners.

1.3 SURVEY SCOPE AND DURATION

In aimags, where such mineral resources as gold and fluorspar are extracted throughout the year, irrespective of the cold, the survey was conducted in August. A survey of those who start their activities in the cold season was conducted in October and November. In all, the survey was conducted on 238 deposits and mines in 76 soums of 20 aimags and one Ulaanbaatar district. The survey teams interviewed citizens over the age of 10 years. The researchers who participated in local trainings visited conducted surveys among artisanal and small-scale miners in accordance with the prepared questionnaires. Deposits and mines were visited several times to ensure full coverage of artisanal and small-scale miners.

The working teams in the aimags and Ulaanbaatar were instructed not to miss those artisanal and small-scale miners who permanently conducted small-scale mining businesses on a particular territory but were absent during the survey period. To ensure this, the working teams reviewed administrative registrations at the soum, district, bagh and khoroo levels and ensured that all miners were involved. As a result, a total of 13.4 thousand artisanal and small-scale miners were surveyed.

1.4 CONCEPT, DEFINITION AND CLASSIFICATION

The following definitions and classifications were used in the survey on artisanal and small-scale miners:

Employment and definition	
Concept	**Definition**
Small-scale mining	An activities of an individual undertaken by unregistered partnerships established as stated in a sub-part 1 of article 481 of Mongolia's Civil Code for the purpose to extract minerals from the deposits of non-commercial and non-economic value and artificial deposits formed by the extraction and technological waste and areas of mineral occurrences, allocated for the purpose stated in the Article 16.1.11 of Mongolia's Law on Land"
Small-scale mining partnership	A group of people who are organised as unregistered partnerships on the basis of contracts of collaboration under Article 481.1 of Mongolia's Civil Law, and who are under the regulation on "Regulation on Extraction of Minerals from Small-scale Mines".
Partnership leader/ employer	An individual who is sufficiently competent to provide a group of people with general management in accordance with partnership principles, to issue wages and earnings, to allocate incomes, to enter into contracts on behalf of the partnership members, and to assume full responsibility.
Partnership member	A citizen who meets the requirements stipulated in 7.4 of the Regulation on Extraction of Minerals from Small-scale Mines, and those who enter into a contract to collaborate with the purpose of exploring mineral resources.

Artisanal miner	A citizen who is not a member of any partnership but explores mineral resources through artisanal mining.
Private business people	People who do not directly participate in artisanal mining but instead operate private businesses in the small-scale mining sector, such as purchasing mineral resources, operating food or goods enterprises, restaurants and transportation services.
Unpaid participant of family business	A member of a family who participates in artisanal and small-scale mining without earning any wages.

Education and definition

Concept	Definition
Uneducated	People who did not complete the 4th class of secondary school (up to 1975 and from 1997-2004), 3rd class (from 1975-1996) and 5th class (since 2005). In other words, those who are currently studying in 1-5 classes in secondary schools and those who did not complete 3rd and 4th classes are considered to be uneducated.
Primary	People who have completed the 4th class of secondary school (up to 1975 and from 1997-2004), 3rd class (from 1975-1996) and 5th class (since 2004) are considered to have primary education.
Secondary	People who have completed the 7th class (up to 1975 under the old system), 8th class (from 1975-2004) and 9th class (since 2005) and have certificates of graduation are considered to have secondary education.
High	People who have completed the 10th class (until end of 2005) and 11th class (since 2006) by regular and/or evening classes and have certificates of graduation are considered to have a high education.
Technical and vocational	People who completed vocational training and production centres (formerly technical and vocational schools) and who have professional certificates are considered to have technical and vocational education.
Special vocational secondary	People who completed foreign and/domestic vocational schools (formerly technikum) and similar schools and have certificates and/or diplomas are considered to have special vocational secondary education.
Higher	People who completed foreign and domestic universities, institutes and/or colleges by regular, evening and/or correspondence training and who have diplomas, bachelor, master and/or doctoral degrees and similar qualifications.

Occupational classification and definition

Concept	Definition
Manager	A manager executes work plans, manages, coordinates and evaluates governmental, entity, organisational and internal unit activities, develops policies and regulations and controls implementation.
Specialist	A specialist executes work using scientific and cultural theories and concepts, and teaches them systematically or undertakes a combination of these activities at a high professional level.
Technician and assistant specialist	A technician and assistant specialist controls and manages technical and operational activities related to engineering in mining, industry, construction and other sectors, and undertakes technical work in relation to research, equipment and engineering.

Office and service clerk	An office and service clerk writes and types protocols, uses computers and other stationery equipment, enters data into computers, works as a secretary, calculates digital information, oversees production and transportation records, works on library cataloguing, cash transfers, mail and communications, organises travel, provide customers with information, and schedules appointments.
Trade and service employee	Trade and service employees provide private and security services in tourism and in household undertakings, catering services, care-giving, firefighting, protection, and retail or wholesale trade and similar organisations, as well in purchasing goods from markets and boutiques.
Agriculture, forestry, fishery specialist	A qualified specialist in agriculture, forestry and fishery who grows seeds, wheat, trees and animal fodder, collects wild berries, plants and fruit, protects, hunts, produces and uses various products of an animal origin, fishing for household food purposes and breeding other aquatic species.
Employee for production, construction, handicrafts and related works and services	An employee in production, construction, services and handicrafts and related work who is erecting buildings, caretaking, casting and erecting metal constructions, erecting automatic constructions, calibrating tools and equipment, manufacturing products, adjusting and fixing machines, mechanisms and equipment, and manufacturing food products, textiles, wooden and metal products, and other goods, including handicrafts.
Operator of machines, erectors, mechanisms and equipment	Someone who operates and controls equipment related to the mountain mining industrial sectors such as metal processing, minerals, ceramics, glass, wood, paper and chemical production, and assembling, operating and controlling the equipment for water treatment and electric power production.
Simple work, occupation	Someone who sells goods in public places, streets and squares and/or to households, provides various street services, cleaning, laundry, ironing, home, hotel, office and other room cleaning, and other services in relation to windows, construction and facilities.
Military work, occupation	Military work and occupation includes all works undertaken by the armed forces. The armed forces consist of servicemen and contracted employees. Servicemen include those from military headquarters, general and air attack defenses, military detachments, technical units and divisions, military schools, training, scientific and research, economic and service organisations, soldiers and employees working under labor contracts.

Dwellings, electricity and water source classifications and definitions

Concept	Definition
Ger	All kinds of Mongolian traditional gers and Tsaatan huts.
House	House includes a dwelling with one and/or more rooms, a roof, outside walls and a field detached from the foundation to the roof wall.
Tent	Includes all kinds of tents.
Hutting	Includes temporary dwellings which are not built for residential purposes or furnished for people to live in.
Hole dwelling	Includes temporary hole dwellings not built for residential purposes or furnished for people to live in.
Other dwelling	All kinds of dwelling other than those mentioned previously.

Centralised system	If a dwelling uses electricity sourced from state power and hydroelectric power plants, then the dwelling is deemed to have a centralised system. Substations connected to a centralised power station are considered centralised.
Diesel station	Includes dwellings which are connected to local independent diesel stations and power networks.
Renewable energy equipment	Includes equipment which produces electric power through the accumulation of solar and wind energy.
Small-scale electric generator	Includes small-scale generators or aero generators which work on combustible and other materials with the purpose of providing for power for one or more households.
Centralised water distribution system	Includes water systems which distribute water to houses, apartments and other forms of public accommodations sourced from state and local water supplies in a centralised system.
Water distribution kiosk connected to a centralised system	Includes water distribution kiosks which are connected to a centralised water supply system in cities, settlements and ger districts.
Protected well	Includes wells which are constructed according to plans that take water by generator or other equipment, have protective facilities and sanitary borders, and are protected from animals and livestock. This also includes drilled Abyssinian wells.
Protected spring	Protected springs are under special protection and are fenced and protected from animals and livestock.
Distilled and bottled water	Includes water which meets standards and is distilled, prepared by business entities for drinking purposes.
Water distribution kiosk not connected to a centralised system	Includes distributing kiosks to which related organisations and business entities carry water in special transportation vehicles.
Portable water	Includes water which is distributed directly to households by related organisations, business entities and individuals by car or on carts.
Rivers, streams, lakes, unprotected wells, springs	Includes unprotected mining wells, springs and streams dug by citizens, as well as rivers, lakes, rain, snow and ditchwater.

1.5 SURVEY QUESTIONNAIRE AND ITS CONTENT

The questionnaire was directly aligned with the purpose of the survey and developed with consideration of the work activities of artisanal and small-scale miners, and clients' needs and requirements. It was developed in seven parts and included 74 forms with main indicators as well as instructions for local researchers on how to fill in the forms.

Following the development of the first questionnaire, the survey was pre-tested among artisanal miners at coal mines in Ulaanbaatar's Nalaikh district, at hard rock mines in Mandal soum, Selenge aimag, and at placer mines in Zaamar soum, Tuv aimag, with those recommendations included in the final questionnaire.

Proposals were also received from related organisations in 21 aimags, including the Ulaanbaatar City Statistical Department, the National Statistical Office (NSO), the Swiss Agency for Development and Cooperation's Sustainable Artisanal Mining

(SAM) Project, the Ministry of Mineral Resources and Energy, the Ministry of Nature Environment and Tourism and the Ministry of Social Welfare and Labor. Their proposals and recommendations were also incorporated into the questionnaire.

The input received from the organisations and individuals listed above were discussed at a meeting of the NSO's Methodology Standing Committee and at a board meeting, and were subsequently approved by Decision #1/184, dated 6 July, 2012, by the NSO chairman.

The survey questionnaire is shown in Appendix One and has the following structure:

Part 1. Addresses: Nine questions related to the collection of data in locations of the artisanal and small-scale miners at the aimag, capital city, soum, district, bagh and khoroo levels, and at sites where mine sites were located.

Part 2. General information: Twenty-four questions including administrative registration, age, gender, education and profession of the artisanal and small-scale miners surveyed.

Part 3. Losses due to mineral resource exploitation: Four questions about accidents related to artisanal and small-scale mining and the losses incurred.

Part 4. Contribution to society and local region: Three questions about the insurance held by artisanal and small-scale miners, their types and the contribution made to the local region.

Part 5. Troubles and difficulties: Ten questions about the challenges facing artisanal and small-scale miners and information on how they were resolved.

Part 6. Tools and equipment: Four questions about the tools, equipment and protective clothing used in artisanal and small-scale mining activities.

Part 7. Activity information: Twenty questions related to economic indicators, such as income derived from small-scale mining, expenses, taxes paid, deductions and fees.

1.6 DATA PROCESSING

1.6.1 Data entry and preparatory steps

Working groups in aimags and in Ulaanbaatar collected survey questionnaires for the NSO. Contracted employees uploaded survey data to computers, and the NSO working team was responsible for data review and corrections. MESD employees from the NSO undertook data entry, data cleaning, revisions and corrections and DPTD employees conducted the software analysis.

The data entry software was developed by CSPro software and the analysis and results were developed using SPSS 18.0. A file was created, containing sections of data related to the survey BUS-I form, and codes and the content to be used in program and the database were established using Microsoft Access.

1.6.2 Data validation and editing

Revisions related to the correlation of the indicators used in the questionnaire and corrections were made. For example, based on statistical analysis, dependence and logic controls were made in relation to correlations of address, age, gender, registration numbers, education, jobs and occupations, and income and expenses.

1.6.3 Data quality monitoring

The NSO focused on data quality at each step of data collection and processing. Officials from statistical departments in Arkhangai, Khuvsgul and Darkhan-Uul aimags worked as a team on mining sites. Members of the NSO team also worked in Selenge, Tuv, Bayankhongor, Khentii and Sukhbaatar aimags in order to improve the level of survey participation, to support local operations, and to ensure the accuracy of the data gathered.

1.6.4 Method to address missing data

In the event that participants were unable to answer any of the 74 questions in the seven parts of the survey, other data sources and related clauses were used.

For example, the health insurance status of artisanal and small-scale miners was controlled by the information on individuals that were registered for free health insurance and the insurance tax amount paid to them in accordance with the “Law on Health Insurance”. Presumptive tax was controlled according to Para 5.1, clause 5 of “Law on Taxation of Personal Income Derived from Private Business and Service” of Mongolia

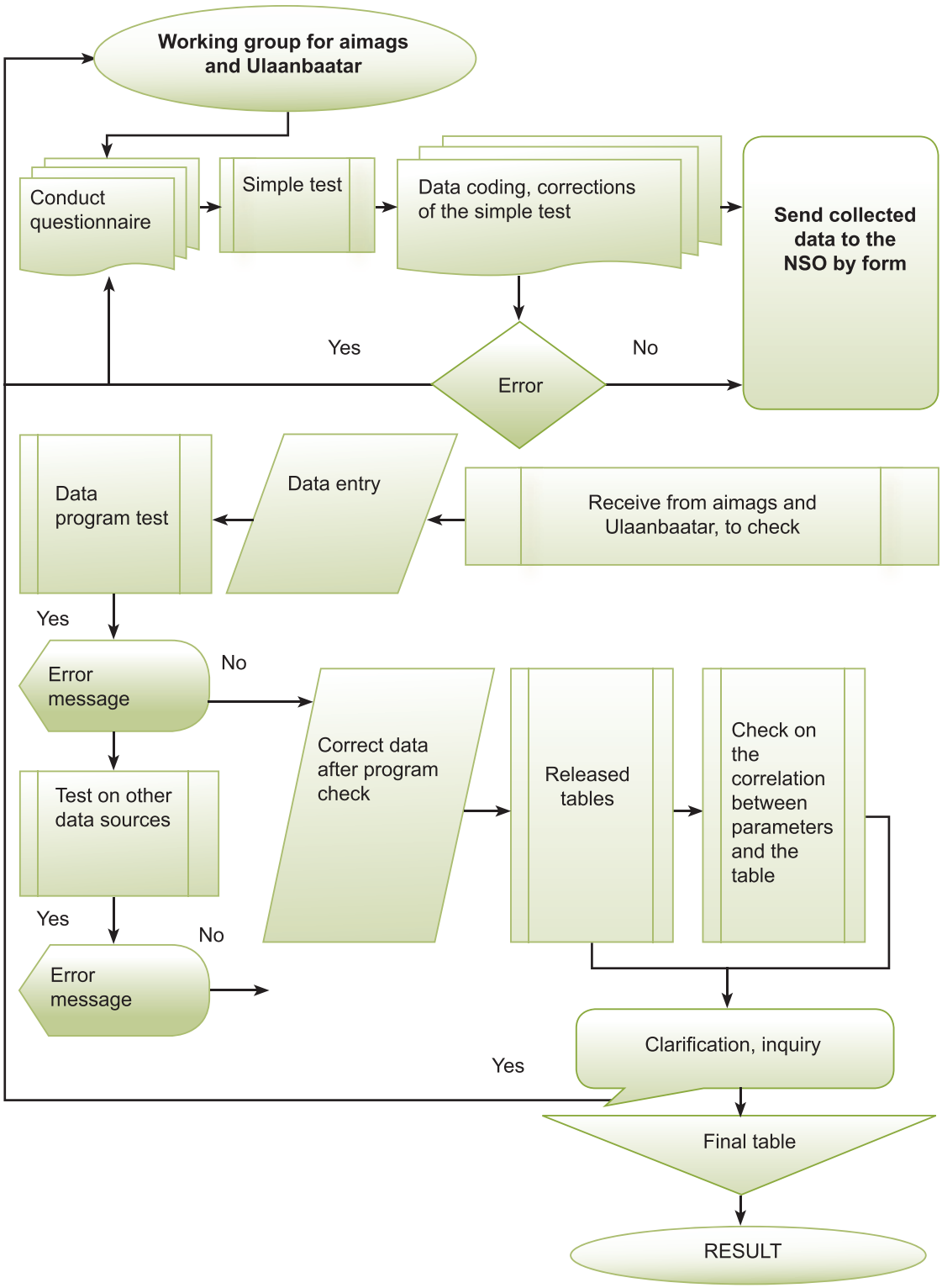
One of the questions participants were commonly unable to answer was the size of a mining area, the area of land degraded by mining and the area of rehabilitated land. This information was collected via the “BUS 1-1g” form from governors of the soum and district levels where the survey was conducted, and calculations were then made.

1.6.5 Preparation of output tables

More than 100 output tables were developed from the survey results. Before completion, the results tables were compared with existing information on artisanal and small-scale miners of the “Mineral Resources Authority”; information on gold sold to the Mongolian Treasury; information on gold sampled by the Assay division’s laboratory of Standardization and Measurement Center; information on the taxes paid by small-scale miners to the National Tax Office; the results of an NSO social and economic survey; the coal consumption of Ulaanbaatar citizens; and official statistical information sources related to the workforce and employment.

A general report was prepared based on the results tables and was introduced at a workgroup meeting, where in the outputs were agreed upon. The NSO’s Macroeconomic Statistical Department analyzed the survey information and wrote up reports.

FIGURE 1.1. SURVEY DATA COLLECTION AND PROCESSING WORK



PART TWO

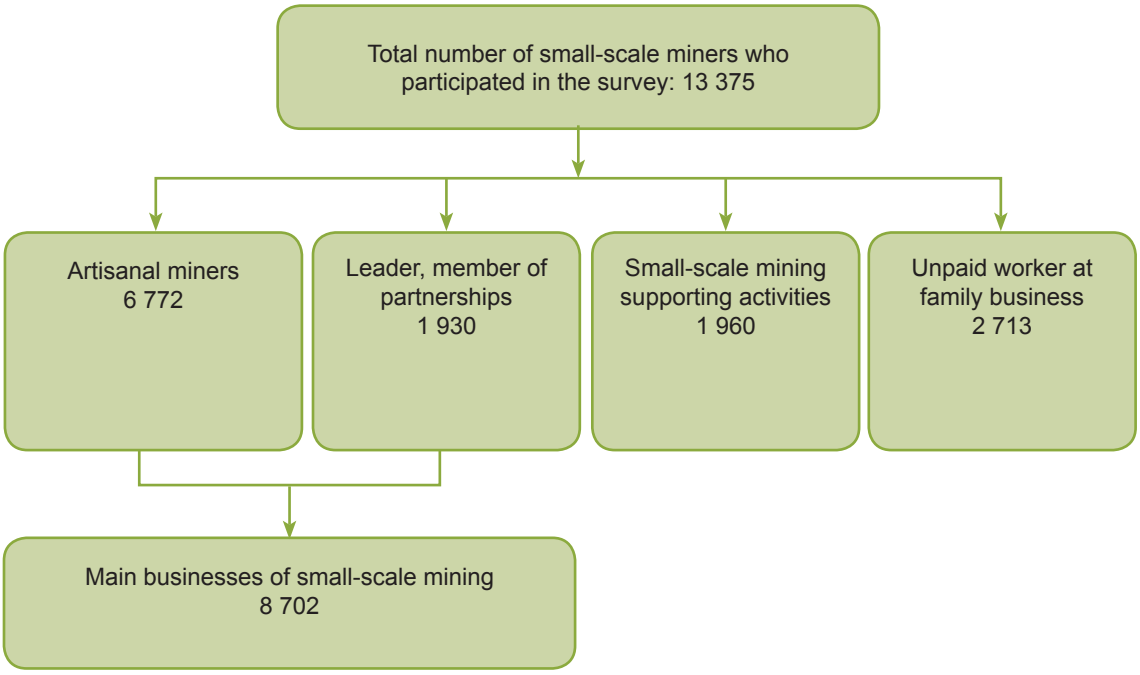
GENERAL INFORMATION ON ARTISANAL AND SMALL-SCALE MINERS

GENERAL INFORMATION ON ARTISANAL AND SMALL-SCALE MINERS

2.1 ARTISANAL AND SMALL-SCALE MINERS BY AIMAG AND CAPITAL CITY

A total of 13.4 thousand citizens were involved in the survey on artisanal and small-scale miners, of which 14.4% were leaders or members of partnerships, 14.7% ran businesses supporting small-scale mining, 20.3% were unpaid workers in family businesses, and 50.6% were artisanal miners.

FIGURE 2.1. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS BY TYPES OF EMPLOYMENT



The aimags and capital city surveyed differ from one another in terms of geographic region, the distribution of mineral wealth, climatic conditions, population (i.e. concentration of artisanal and small-scale miners) and the level of development derived from their activities.

Of the 13.4 thousand citizens surveyed, 3.4 thousand (25.3%) were located in the western region, 4.0 thousand (29.7%) were located in the khangai region, 4.4 thousand (32.9%) were located in the central region, 0.4 thousand (2.7%) were from the eastern region, and 1.3 thousand (9.4%) were from Ulaanbaatar.

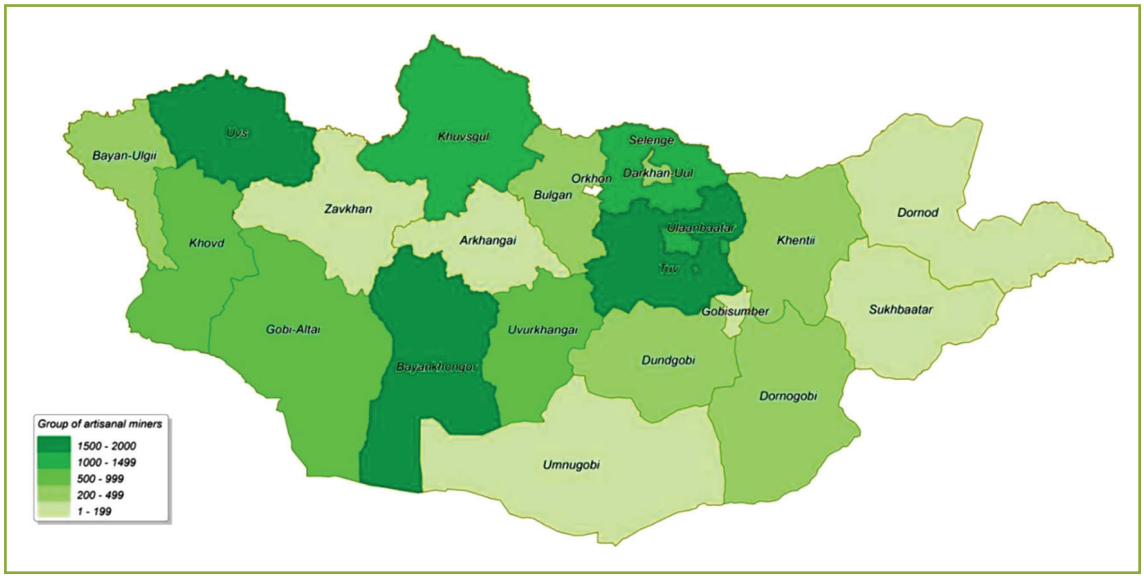
Artisanal and small-scale miners operate in 20 aimags, with the exception of Orkhon aimag and in one district of Ulaanbaatar. Five the 20 aimags contain 66.9% of miners surveyed: 1926 (14.4%) operate in Bayankhongor aimag; 1750 (13.1%) in Tuv aimag; 1705 (12.7%) in Uvs aimag; 1260 (9.4%) in Nalaikh district; 1254 (9.4%) in Selenge aimag; and 1059 (7.9%) in Khuvsgul aimag. The remaining 33.1 % are located in the other 15 aimags.

TABLE 2.1. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS BY REGION

Region	Artisanal and small-scale miners		Number of soums and districts participated in survey
	Number	%	
TOTAL	**13 375**	**100.0**	**77**
Western region	3 380	25.3	28
Khangai region	3 967	29.7	13
Central region	4 403	32.9	26
Eastern region	365	2.7	9
Ulaanbaatar	1 260	9.4	1

The geographical distribution of artisanal and small-scale miners in Ulaanbaatar and aimags is shown below.

FIGURE 2.2. DISTRIBUTION OF ARTISANAL AND SMALL-SCALE MINERS,
(Grouped by number of artisanal and small scale miners in aimags and Ulaanbaatar)



This survey involved those who operated at 238 deposits and mines with mineral resources in 76 soums of 20 aimags and one district of Ulaanbaatar.

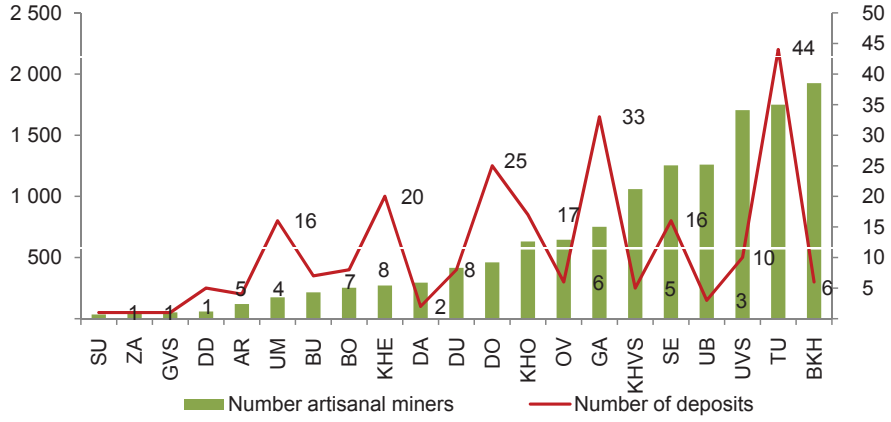
Artisanal and small-scale mining operations take place at a total of 238 deposits and mining areas, of which 181 (76.1%) are located in eight aimags: 44 in Tuv aimag, 33 in Gobi-Altai aimag, 25 in Dornogobi aimag, 20 in Khentii aimag, 17 in Khovd aimag, 16 each in Selenge and Umnugobi aimags, and 10 in Uvs aimag.

Of the 7.0 thousand artisanal and small-scale miners in those eight aimags, 1.8 thousand or 25.0% are in Tuv aimag, 1.7 thousand or 24.4% are in Uvs aimag,

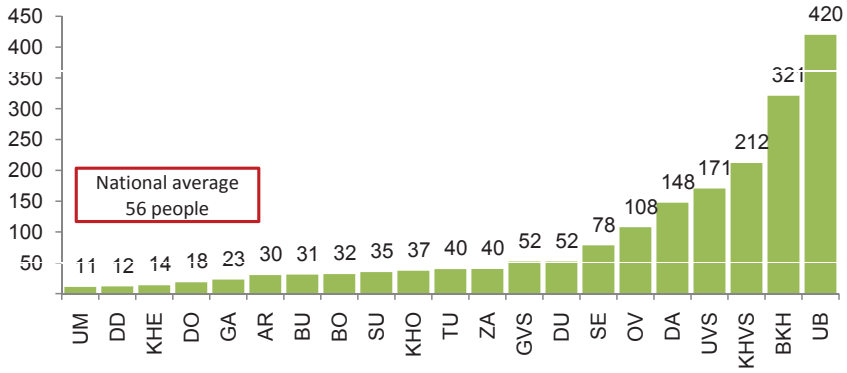
1.3 thousand or 17.9% are in Selenge aimag, 0.8 thousand or 10.7% are in Gobi-Altai aimag, 0.6 thousand or 9.0% are in Khovd aimag, and the remaining 0.9 thousand or 13.0% are in Dornogobi, Umnugobi and Khentii aimags.

The average number of artisanal and small-scale miners operating per mining areais as follows: 420 in Ulaanbaatar, 321 in Bayankhongor aimag, 212 in Khuvsgul aimag, 171 in Uvs aimag, 148 in Darkhan-Uul aimag, 108 in Uvurkhangai aimag, 78 in Selenge aimag, 52 in Dundgobi aimag, and 52 in Gobi-Sumber aimag, while 11 in Umnugobi aimag, 12 in Dornod aimag and 13 in Khentii aimag, which is the sparsest by number of artisanal and small-scale miners per area.

FIGURE 2.3. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS AND NUMBER OF DEPOSITS/MINING AREAS BY AIMAG AND CAPITAL CITY

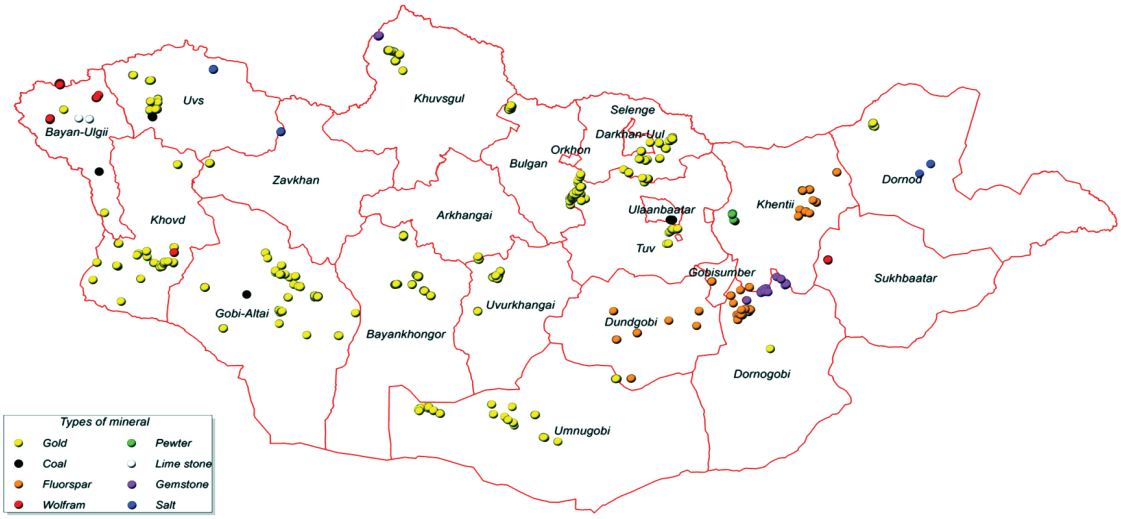


Number of artisanal miners per deposit



The most concentrated areas of artisanal and small scale mining activities are Bayankhongor, Tuv, Uvs, Selenge and Khuvsgul aimags and Ulaanbaatar, which have vast gold and coal deposits and are home to the mountain mining sector. The eastern aimags, at lower altitudes, are home to deposits as fluorspar and tungsten. It is suggested that the distribution of artisanal and small-scale mining is directly related to the types of mineral resources that are available.

FIGURE 2.4. LOCATION OF MINERALS MINED BY ARTISANAL AND SMALL SCALE MINERS



2.2. ARTISANAL AND SMALL-SCALE MINERS BY TYPE OF MINERAL RESOURCE

According to the survey, eight types of mineral resources are mined: Gold, coal, fluorspar, tungsten, tin, limestone, salt and precious stones.

Of the 13.4 thousand artisanal and small-scale miners who took part in the survey, 10.5 thousand (78.2%) mined gold, 1.4 thousand (10.2%) mined coal, 1.0 thousand (7.6%) mined fluorspar, 0.3 thousand (2.3%) mined tungsten, 47 or (0.4%) mined tin, 10 or (0.1%) mined limestone, 0.1 thousand (1.0%) mined precious stones, and 49 (0.4%) mined salt.

TABLE 2.2. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS BY REGION AND TYPE OF MINERAL

Region	Total	Types of mineral resources							
		Gold	Coal	Fluorspar	Tungsten	Tin	Limestone	Precious stones	Salt
TOTAL	**13 375**	**10 458**	**1 368**	**1 010**	**305**	**47**	**10**	**128**	**49**
Western region	3 380	2 946	108	-	270	-	10	-	46
Khangai region	3 967	3 899	-	-	-	-	-	68	-
Central region	4 403	3 557	-	786	-	-	-	60	-
Eastern region	365	56	-	224	35	47	-	-	3
Ulaanbaatar	1 260	-	1 260	-	-	-	-	-	-

Gold mining:

In 2011, the gold miners who took part in the survey mined a total of 354.6 kg of gold that sold for, on average, MNT 52.9 thousand tugrugs per gram.

Of the 10.5 thousand citizens, who participate in gold mining, 75.8% were artisanal miners or part of a family mining operation; the remaining 24.2% were leaders or members of organised partnerships or operators of small-scale mining supporting businesses.

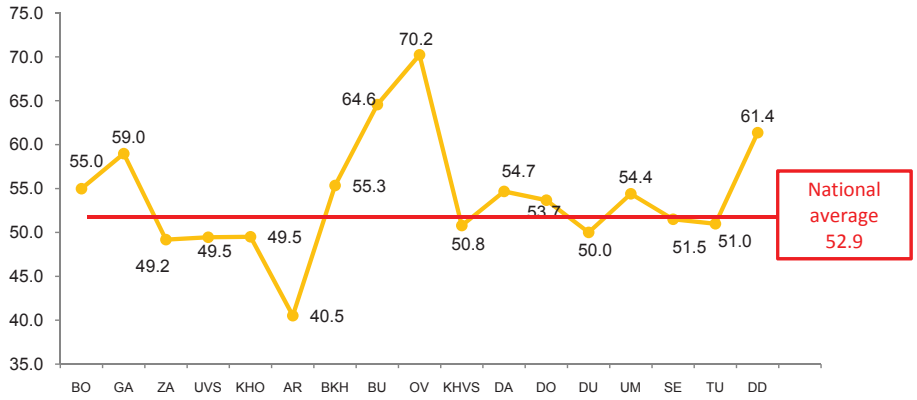
Small-scale gold mining is conducted in 17 of the 20 aimags and, of the total number of gold miners, 1.9 thousand (18.4%) are in Bayankhongor aimag, 1.8 thousand (16.7%) are in Tuv, 1.6 thousand (15.2%) are in Uvs, 1.3 thousand (12.0%) are in Selenge, 1.0 thousand (9.5%) are in Khuvsgul, 0.7 thousand (6.9%) are in Gobi-Altai, and the remaining 2.2 thousand (21.3%) are in Uvurkhangai, Khovd, Darkhan-Uul, Bulgan, Umnugobi, Arkhangai, Dornogobi, Dornod, Zavkhan, Bayan-Ulgii and Dundgobi aimags. There are no known gold mines or deposits in Sukhbaatar, Khentii and Gobi-Sumber aimags, and therefore no gold miners.

TABLE 2.3. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS AND AMOUNT OF GOLD MINED, BY REGION

Region	Gold miners		Gold mined	
	Number	%	Amount, kg	%
TOTAL	**10 458**	**100.0**	**354.6**	**100.0**
Western region	2 946	28.2	71.7	20.2
Khangai region	3 899	37.3	139.6	39.4
Central region	3 557	34.0	141.9	40.0
Eastern region	56	0.5	1.4	0.4

About 80.0% of small scale gold miners operate from May to October. The average price of the gold sold by artisanal and small-scale miners, compared with the state average, is more expensive by MNT 11.7 thousand per gram. The sale price is highest in Uvurkhangai aimag (MNT 17.3 thousand per gram higher than the national average), and is lowest in Arkhangai aimag (MNT 12.4 thousand lower than national average).

FIGURE 2.5. AVERAGE PRICE OF 1G OF GOLD SOLD BY ARTISANAL AND SMALL-SCALE MINERS, BY AIMAG AND CAPITAL CITY, IN THOUSANDS OF TUGRUGS



Coal mining:

In 2011, the coal miners surveyed mined a total of 142.0 thousand tonnes of coal, which was sold for MNT 22.0 thousand per tonne.

A total of 93.8% of the small-scale coal miners conducted their activities from October to March.

Of the 1.4 thousand people, who were participated in coal mining operations, 51.8% were artisanal coal miners, 45.8% were coal mining supporting business people, and the remaining 2.3% were unpaid workers at family businesses.

A total of 1.4 thousand people, who participate in coal mining, of whom 1.3 thousand or 92.1% were from Nalaikh district in Ulaanbaatar, 74 or 5.4% were from Uvs aimag, 29 or 2.1% were from Gobi-Altai aimag, and 5 or 0.4% were from Bayan-Ulgii aimag.

The average price of the coal sold, in comparison with the State average, it is more expensive in Bayan-Ulgii aimag by MNT 60.2 thousand, in Uvs aimag by MNT 37.9 thousand, and in Gobi-Altai aimag by MNT 13.3 thousand, cheaper by MNT 0.3 thousand in Nalaikh district.

TABLE 2.4. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS, AMOUNT OF COAL MINED, AVERAGE PRICE OF 1 TONNE OF COAL, BY AIMAG AND DISTRICT

Aimag, district	Coal miners		Coal mined		Average price of 1 tonne of coal, (thous. MNT)
	Number	%	Amount, thousand tonnes	%	
TOTAL	**1 368**	**100.0**	**142.0**	**100.0**	**22.0**
Bayan-Ulgii	5	0.4	0.1	0.0	82.2
Gobi-Altai	29	2.1	0.9	0.6	35.3
Uvs	74	5.4	0.8	0.6	59.9
Nalaikh	1 260	92.1	140.2	98.8	21.7

Fluorspar mining:

A total of 1.0 thousand people were involved in fluorspar mining, from which they extracted 38.5 thousand tonnes of fluorspar in 2011. Of these, 0.4 thousand (40.2%) were in Dundgobi aimag, 0.3 thousand (32.5%) were in Dornogobi aimag, 0.2 thousand (22.2%) were in Khentii aimag, and 0.1 thousand (5.1%) were in Gobi-Sumber aimag. Although Gobi-Sumber aimag does not have fluorspar deposits, miners are engaged in support businesses such as crushing and preparing the fluorspar extracted in other aimags. In 2011, fluorspar on average, miners sold 1 tonne of fluorspar for MNT 54,000.

TABLE 2.5. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS, AMOUNT OF FLUORSPAR MINED, AVERAGE PRICE OF 1 TONNE OF FLUORSPAR, BY AIMAG

Aimag	Fluorspar miners		Fluorspar mined		Average price of 1 tonne of fluorspar, (thous. MNT)
	Number	%	Amount Thous.tonnes	%	
TOTAL	**1 010**	**100.0**	**38.5**	**100.0**	**54.0**
Gobi-Sumber	52	5.1	-	-	-
Dornogobi	328	32.5	21.4	55.7	46.4
Dundgobi	406	40.2	8.0	20.8	63.7
Khentii	224	22.2	9.1	23.5	63.4

Tungsten mining:

A total of 305 people involved in tungsten mining took part in the survey, of which 213 (69.8%) of the miners and 87.8% of the total tungsten mined was in Bayan-Ulgii aimag; 92 (30.2%) of the miners and 12.3 % of tungsten mined were in Khovd and Sukhbaatar aimags.

Artisanal and small-scale miners sold 1 kg of tungsten for MNT 9.3 thousand on the local market.

TABLE 2.6. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS, AMOUNT OF TUNGSTEN MINED, AVERAGE PRICE OF 1KG OF TUNGSTEN, BY AIMAG

Aimag	Tungsten miners		Tungsten mined		Average price of 1kg of tungsten, (thous. MNT)
	Number	%	Amount, tonnes	%	
TOTAL	**305**	**100.0**	**108.3**	**100.0**	**9.3**
Bayan-Ulgii	213	69.8	95.0	87.8	9.7
Khovd	57	18.7	10.4	9.6	6.4
Sukhbaatar	35	11.5	2.8	2.6	5.9

Other types of mineral resources:

Of the 13.4 thousand artisanal and small-scale miners who participated in the survey, 0.2 thousand (1.7%) mined tin, limestone, precious stones and salt.

TABLE 2.7. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS, BY AIMAG AND TYPE OF MINERAL RESOURCE

Aimag	TOTAL		Types of mineral resources							
			Tin		Limestone		Precious stones		Salt	
	Number	%	Number	%	Number	%	Number	%	Number	%
TOTAL	**234**	**100.0**	**47**	**100.0**	**10**	**100.0**	**128**	**100.0**	**49**	**100.0**
Bayan-Ulgii	10	4.3	-	-	10	100.0	-	-	-	-
Uvs	46	19.7	-	-	-	-	-	-	46	93.9
Khuvsgul	68	29.1	-	-	-	-	68	53.1	-	-
Dornogobi	60	25.6	-	-	-	-	60	46.9	-	-
Dornod	3	1.3	-	-	-	-	-	-	3	6.1
Khentii	47	20.1	47	100.0	-	-	-	-	-	-

In 2011, artisanal and small-scale miners mined 66.6 tonnes of limestone and sold 1 tonne for MNT 408.1 thousand, 5.5 tonnes of tin which sold on average for MNT 10.6 thousand per kg, 14.7 tonnes of precious stone which sold for MNT 21.5 thousand per kg, and 1062.3 tonnes of salt which sold for MNT 37.4 thousand per tonne.

2.3. ARTISANAL AND SMALL-SCALE MINERS BY ADMINISTRATIVE UNITS

By administrative unit, 100% of artisanal and small-scale miners in Dornod, Dundgobi and Bulgan aimags were citizens of those regions; 90.0-99.7% of the artisanal and small-scale miners in Selenge, Gobi-Sumber, Khovd, Sukhbaatar,

Darkhan-Uul, Uvurkhangai, Khuvsgul, Uvs, Bayankhongor, Arkhangai, Bayan-Ulgii and Gobi-Altai aimags were the citizens of that regions; and 60.0-88.9% of those in Zavkhan, Tuv, Dornogobi, Khentii, Umnugobi aimags and Nalaikh district were citizens of those aimags/district.

TABLE 2.8. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS BY AIMAG, CAPITAL CITY AND ADMINISTRATIVE CITIZENSHIP

Aimag and the capital city	TOTAL	Administrative citizenship																				
		AR	BO	BKH	BUL	GA	DO	DD	DU	ZA	OV	UM	SU	SE	TU	UVS	KHO	KHVS	KHE	DA	UB	OR	GS
	13 375	155	255	1 936	275	783	363	69	433	46	666	158	46	1 176	1 382	1 692	630	1 083	229	351	1 418	151	78
AR	**120**	119		1										1									
BO	**253**		251			1																	
BKH	**1 926**	3		1 902										2	5					1	11	2	
BU	**216**				216																		
GA	**751**					749				2													
DO	**461**	1		1			357		7		16		7				1	7	4	4	25	8	23
DD	**59**							59															
DU	**416**								416														
ZA	**40**					15				24												1	
OV	**646**			3		1			1		630	1		2	1						6	1	
UM	**175**			18								153		1							3		
SU	**35**												34								1		
SE	**1 254**	2		2	8				1		1	3		1 135	7					35	41	19	
TU	**1 750**	16			46		1	2	3	16	11	1		26	1 336		1	25	3	16	145	102	
UVS	**1 705**				1											1 681	8				11	4	
KHO	**631**			1		12										3	612				3		
KHVS	**1 059**			5	1													1 038			7	8	
KHE	**271**						3	2			4		1					3	213		42		3
DA	**295**										2			1						287	3	2	
UB	**1 260**	14	4	3	3	5	2	6	2	4	2		4	8	32	8	8	10	9	8	1 120	4	4
GS	**52**								3						1								48

Artisanal and small-scale miners who operated individually or with family members and/or friends, or who hired workers and were organised into partnerships – particularly gold miners - frequently change locations based on the abundance of mineral resources.

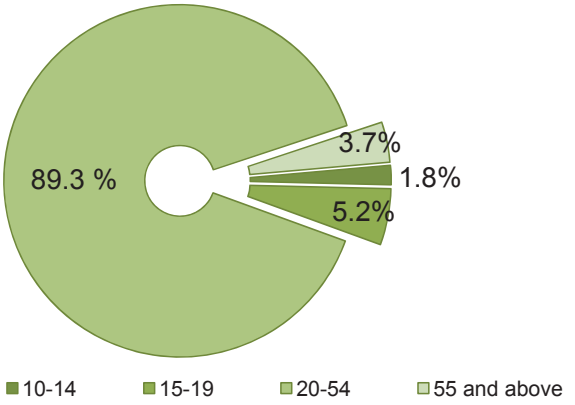
2.4. ARTISANAL AND SMALL-SCALE MINERS BY AGE, GENDER AND FAMILY SIZE

Number of artisanal and small-scale miners, age and gender:

By age group, 1.8% of the artisanal and small-scale miners surveyed were between 10 and 14 years of age, 5.2% were 15-19, 89.3% were 20-54, and the remaining 3.7% were 55 or older. The average age was 35.

The majority of the artisanal and small-scale miners were an economically active population aged from 20 to 54, which demonstrates the lack of employment in local regions.

FIGURE 2.6. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS BY AGE GROUP



Of those surveyed, 70.7% of the artisanal and small-scale miners surveyed were male and 29.3% female. The gender ratio is 242 males per 100 females. By age group, this indicator increases significantly between ages of 15 and 29 years. After 30 years of age the proportion of women miners generally increases until the age of 70 years and older. For children aged between 10 and 14 years, this ratio is relatively balanced between boys and girls.

The table below details the gender and age groups of the artisanal and small-scale miners.

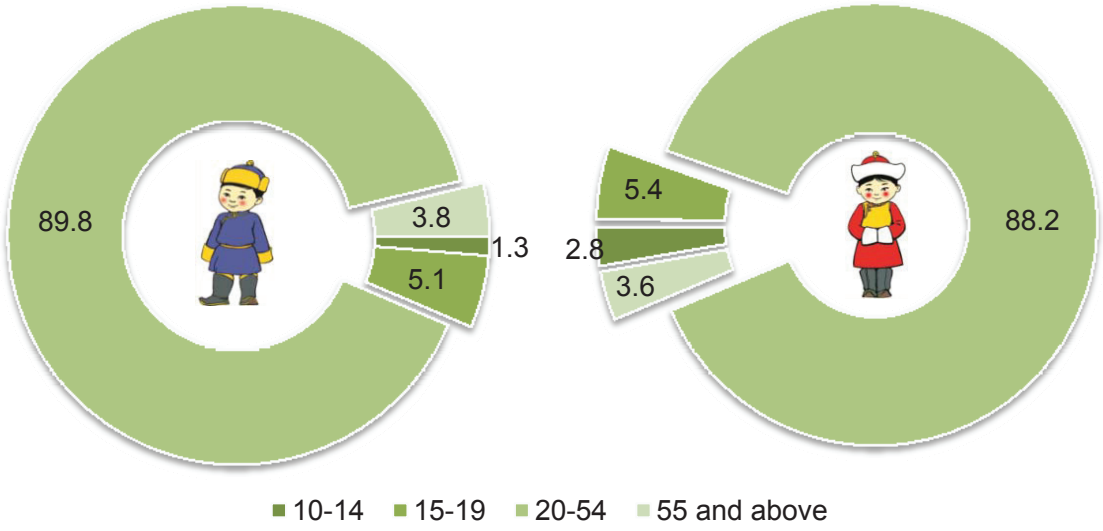
TABLE 2.9. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS BY AGE GROUP, GENDER AND GENDER RATIO

Age group	TOTAL		Male		Female		Gender ratio
	Number	%	Number	%	Number	%	
TOTAL	**13 375**	**100.0**	**9 460**	**70.7**	**3 915**	**29.3**	**241.6**
10-14	236	1.8	125	53.0	111	47.0	112.6
15-17	329	2.5	227	69.0	102	31.0	222.5
18-19	363	2.7	255	70.2	108	29.8	236.1
20-24	1 765	13.2	1 346	76.3	419	23.7	321.2
25-29	2 011	15.0	1 536	76.4	475	23.6	323.4
30-34	2 090	15.6	1 530	73.2	560	26.8	273.2
35-39	2 013	15.1	1 411	70.1	602	29.9	234.4
40-44	1 787	13.4	1 171	65.5	616	34.5	190.1
45-49	1 439	10.8	948	65.9	491	34.1	193.1
50-54	844	6.3	553	65.5	291	34.5	190.0
55-59	355	2.7	255	71.8	100	28.2	255.0
60-64	94	0.7	72	76.6	22	23.4	327.3
65-69	37	0.3	23	62.2	14	37.8	164.3
70 and up	12	0.1	8	66.7	4	33.3	200.0

As can be seen from Table 2.9, the majority of artisanal and small-scale miners aged between 20-29 and 55-64 are male. However, in terms of the active working age group, males are fewer to compare with the females.

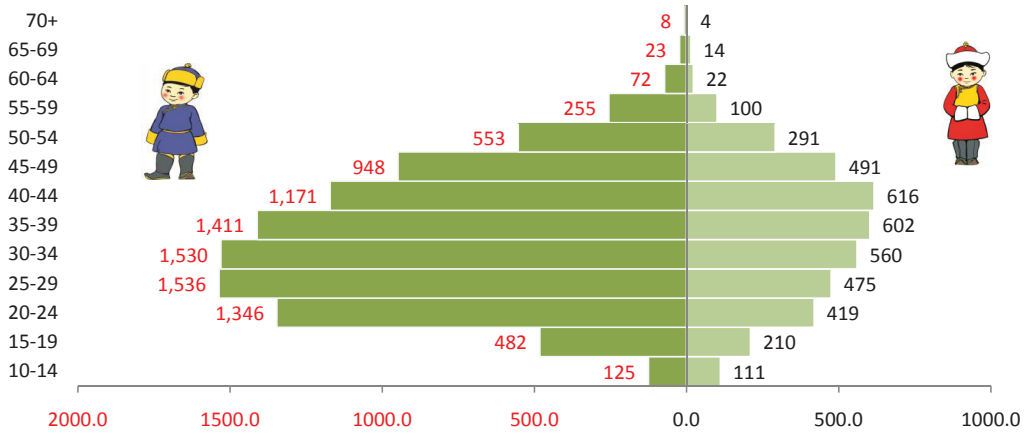
Nationwide, 12 artisanal and small-scale miners surveyed were aged over 70 years, of whom seven were in the central region, and five in the western, khangai and eastern regions.

FIGURE 2.7. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS BY AGE GROUP AND GENDER



The employment rate of males at all age group levels is greater than for females, which demonstrates that males are more actively involved in artisanal and small-scale mining. This is further illustrated in the age group and gender pyramid, below.

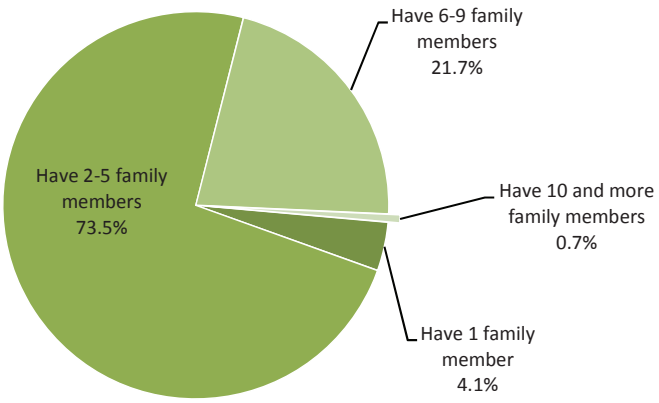
FIGURE 2.8. PYRAMID ON AGE AND GENDER OF ARTISANAL AND SMALL-SCALE MINERS, BY AGE GROUP



Artisanal and small-scale miners, family members:

In this section, family size and the involvement of family members in artisanal and small-scale mining is explored. Of the 13.4 artisanal and small-scale miners, who participated in the survey, 73.5% had two to five family members, 21.7% had six to nine family members, 4.1% had one family member, and 0.7% had 10 and more family members. The average number of family members was four.

FIGURE 2.9. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS, BY NUMBER OF FAMILY MEMBERS



Regionally, the number of citizens surveyed with two to five family members ranged from 61.6% to 79.5%. The average number of family members was highest in the western region, and was one person higher than the national average. This may be due to the fact that Bayan-Ulgii, Khovd and Uvs aimags, which have a higher average of family members, are located in the western region.

TABLE 2.10. NUMBER OF FAMILY MEMBERS OF ARTISANAL AND SMALL-SCALE MINERS,
(percent of miners surveyed)

Region	Total	Family Size (number of members)				Average number
		1 member	2-5	6-9	10 and more	
TOTAL	**100.0**	**4.1**	**73.5**	**21.7**	**0.7**	**4**
Western region	100.0	1.7	61.6	36.2	0.5	5
Khangai region	100.0	4.2	75.5	19.4	0.9	4
Central region	100.0	5.0	79.5	14.7	0.7	4
Eastern region	100.0	9.3	75.3	15.1	0.3	4
Ulaanbaatar	100.0	5.3	77.8	16.6	0.3	4

In a breakdown of those family members who were working at small-scale mining: 42.2% of the household with two to five members, 38.8% of the household with six to nine, and 30.4% of the household with 10 or more members worked in artisanal and small-scale mining.

2.5. ARTISANAL AND SMALL-SCALE MINERS BY EDUCATIONAL LEVEL

The employment, income level, and social and economic indicators of the population are largely dependent on the level of education. Of those surveyed, 0.6 thousand (4.1%) were uneducated, 1.9 thousand (14.0%) had primary education, 3.7 thousand (27.9%) had secondary education, 5.4 thousand (40.4%) had high school education, 0.9 thousand (6.8%) had technical and vocational education, 0.4 thousand (2.6%) had special vocational education, and 0.6 thousand (4.2%) had higher education.

TABLE 2.11. LEVEL OF EDUCATION OF ARTISANAL AND SMALL-SCALE MINERS, BY GENDER (%)

Level of education	TOTAL	Male	Female
		(%)	(%)
TOTAL	**100.0**	**100.0**	**100.0**
Uneducated	4.1	4.2	4.0
Educated	95.9	95.8	96.0
Primary	14.0	14.9	11.7
Secondary	27.9	28.6	26.4
High school	40.4	39.3	42.8
Technical and vocational	6.8	7.3	5.3
Special vocational	2.6	2.0	4.3
Higher	4.2	3.7	5.5

The level of education of the artisanal and small-scale miners according to the number of years worked is 46.9% of those with an education level below high school education had worked four or more years.

A total of the artisanal and small scale miners 0.6 thousand or 4.2% surveyed had higher education. Of these 0.2 thousand or 1.7% had worked up to one year in artisanal and small-scale mining, 0.2 or 1.3% had worked for two to three years, 0.1 thousand or 0.6% worked for four to five years, 33 or 0.2% had worked for six to seven years, 13 or 0.1% had worked for eight to nine years, 18 or 0.1% worked for 10-11 years, and 22 or 0.2% had worked for 12 or more years.

2.6. EMPLOYMENT STATUS OF ARTISANAL AND SMALL-SCALE MINERS

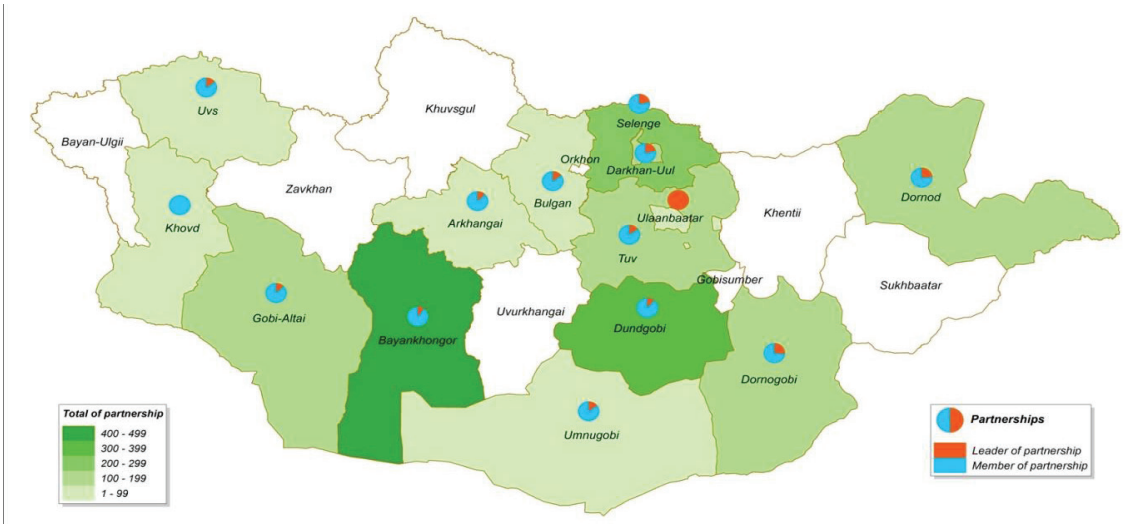
The employment, occupational classification, number of years worked, roles in artisanal and small-scale mining, and the reasons for entering the sector were also studied.

Employment of artisanal and small-scale miners:

Of those who participated in the survey, 50.6% were artisanal miners, 20.3% were unpaid workers at family businesses, 14.7% ran supporting businesses and 14.4% were partnership leaders or members of partnerships.

Partnership leader, member: 0.3 thousand (2.2%) were partnership leaders/ members, 1.6 thousand (12.2%) were members of partnerships, 15.3% were organised into partnerships or were partnership leaders/employers and 84.7% were partnership members.

FIGURE 2.10. NUMBER OF PARTNERSHIP LEADERS AND MEMBERS, BY AIMAG AND CAPITAL CITY

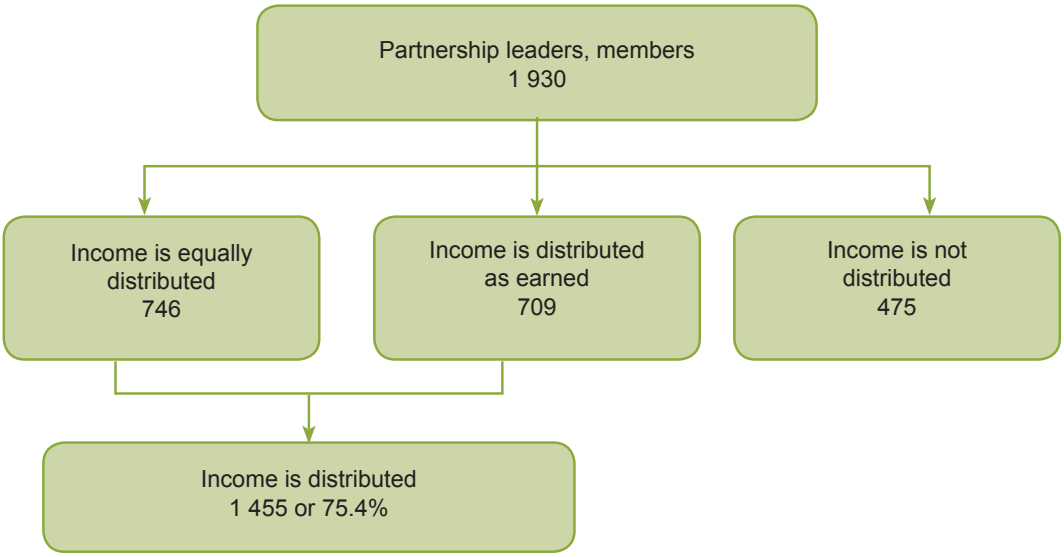


Of the organised partnership leaders/members, 70.7% mined gold, 28.0% fluorspar, and 1.2% precious stones; the remaining 0.1% mined tin, coal and other types of mineral resources. As can be seen, gold miners tended to be more engaged in partnerships.

A total of 76.2% of the partnership leaders/members were male and 23.8% were female. Overall, 77.5% of the partnership leaders/member were between 20 and 44 years of age.

In relation to partnership income distribution, 38.7% distributed the income derived from artisanal and small-scale mining equally between members, 36.7% distributed it as earned, and 24.6% did not distribute income. In addition, 60.7% of the partnership leaders/members were associated with non-governmental organisations.

FIGURE 2.11. PARTNERSHIP LEADERS AND MEMBERS, BY TYPE OF INCOME DISTRIBUTION



Artisanal and small-scale miners: Of 6772 artisanal and small-scale miners 5.8 thousand (86.3%) were male and 0.9 thousand (13.7%) were female.

People engaged in supporting businesses for artisanal and small-scale mining and unpaid workers of family businesses: A total of 1960 supporting business people were involved in the survey, of whom 65.8% were male and 34.2% were female. Of these, 76.7 % had an education level below high school. The majority of unpaid workers in family businesses (68.4%) were female and about 90.0% had an education level below high school level.

In a breakdown of the roles of those engaged in supporting businesses: 26.8% were engaged in digging and loading ground, 24.6% operated transportation vehicles, 17.8% ran trades in foods and goods, 17.1% purchased mined mineral resources, and 13.5% ran catering services.

Job and occupational classification of artisanal and small-scale miners:

A total of 8.2 thousand or 61.3% of the artisanal and small-scale miners who took part in the survey had no other professions while 2.0 thousand (14.7%) operated machines and equipment, or were assemblers, 0.9 thousand (6.8%) worked in production, construction, handicrafts and related jobs and services, 0.9 thousand (6.6%) specialised in agriculture, forestry and fishing, 0.8 thousand (6.2%) were specialists and the remainder (4.4%) were trade and service workers, technicians and assistants/deputy specialists, clerks, service and simple workers.

By regions: 31.0% of those with no profession were in western region, 30.0% were in central region, 29.6% were in the khangai region, 6.6% were in Ulaanbaatar, and 2.7% were in the eastern region. A total of 41.2% of those with professions as operators of machines and equipment and assemblers were in the central region, 23.4% were in khangai region, 18.9% were in Ulaanbaatar, 13.8% were in western region, and 2.9% were in eastern region.

As shown in Table 2.12, a distinct gender difference was observed, with the number of males and females differing different in every occupation and profession depending on the features of the jobs and the occupations of the artisanal and small-scale miners.

TABLE 2.12. ARTISANAL AND SMALL-SCALE MINERS, BY JOB, OCCUPATION, GENDER AND %

Group of occupational classification	TOTAL	Gender		% of total number			% in job and occupation		
		Male	Female	Amount	Male	Female	Amount	Male	Female
TOTAL	**13 375**	**9 460**	**3 915**	**100.0**	**100.0**	**100.0**	**100.0**	**70.7**	**29.3**
Military service, occupation	3	3	-	0.0	0.0	-	100.0	100.0	-
Manager	10	7	3	0.1	0.1	0.1	100.0	70.0	30.0
Specialist	832	487	345	6.2	5.1	8.8	100.0	58.5	41.5
Technician and assistant/deputy specialist	86	55	31	0.6	0.6	0.8	100.0	64.0	36.0
Clerk and service worker	45	17	28	0.3	0.2	0.7	100.0	37.8	62.2
Trade and service worker	395	46	349	3.0	0.5	8.9	100.0	11.6	88.4
Qualified specialist in agriculture, forestry and fishing	883	579	304	6.6	6.1	7.8	100.0	65.6	34.4
Workers in production, construction, handicrafts and related works and services	907	654	253	6.8	6.9	6.5	100.0	72.1	27.9
Operator of machines, equipment, assembler	1 961	1 877	84	14.7	19.8	2.1	100.0	95.7	4.3
Simple work, occupation	56	51	5	0.4	0.5	0.1	100.0	91.1	8.9
No profession	8 197	5 684	2 513	61.3	60.1	64.2	100.0	69.3	30.7

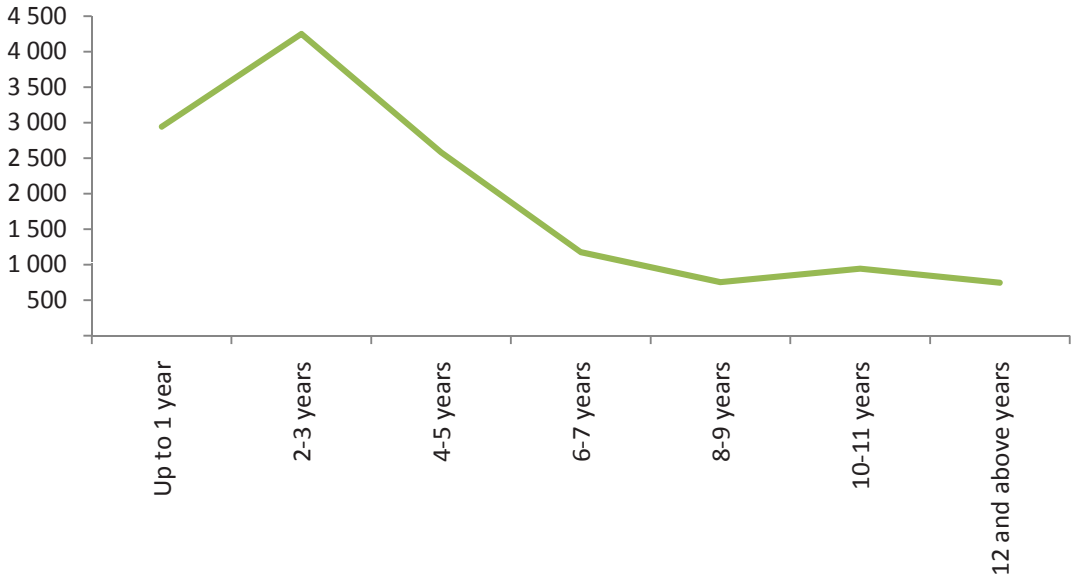
In a breakdown of jobs and occupations by level of education: 59.7-96.5% of those who specialised in production, construction, handicrafts, related works and services, agriculture, forestry and fishing, operators of machines and equipment, assemblers, trade and service workers and simple work, and those with no profession had an educational level below high school.

Years worked in artisanal and small-scale mining:

Of the 13.4 thousand artisanal and small-scale miners who participated in the survey, 2.9 thousand (22.0%) had worked for up to one year, 4.2 thousand (31.8%) for two to three years, 2.6 thousand (19.3%) for four to five years, 1.2 thousand (8.8%) for six to seven years, 0.7 thousand (5.6%) for eight to nine years, and 1.6 thousand (12.6%) for 10 or more years.

The majority of the artisanal and small-scale miners (4.2 thousand or 31.8 %) had worked for two to three years, which demonstrates that many people are only recently (within the last three years) engaged in the sector.

FIGURE 2.12. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS, BY YEARS GROUPS WORKED IN SMALL-SCALE MINING (%)

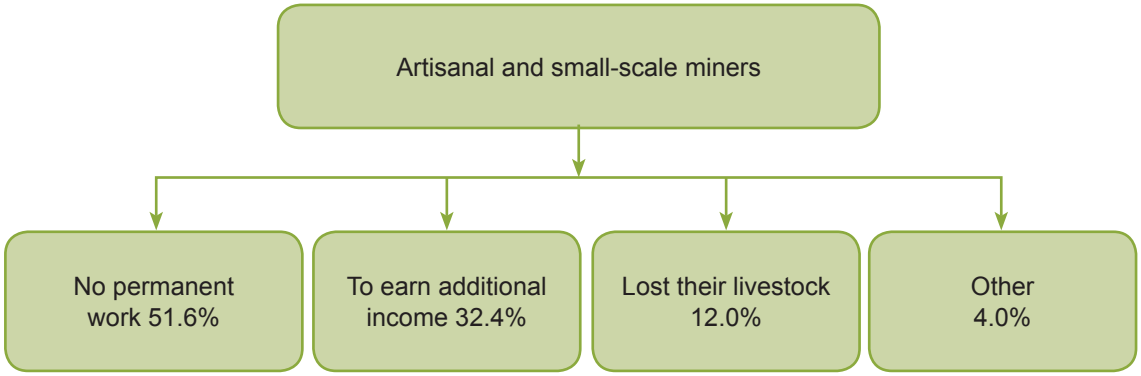


In terms of professions, 0.3 thousand people with the profession of operators of machines and equipment and assemblers had worked for up to one year, 0.5 thousand people had worked for two to three years, 0.4 thousand had worked for four to five years, 0.2 thousand had worked for six to seven years, 0.2 thousand for eight to nine years, 0.2 thousand for 10-11 years, and 0.1 thousand had worked for 12 or more years in artisanal and small scale mining.

Reasons for engaging in artisanal and small-scale mining:

The reasons given for entering into artisanal and small-scale mining were: 51.6% had no permanent work, 32.4% wanted to earn additional income, 12.0% had lost their livestock, and 4.0% wanted to start their own business.

FIGURE 2.13. REASONS FOR ENTERING INTO ARTISANAL AND SMALL-SCALE MINING (%)



By region: 63.3-77.3% of the artisanal and small-scale miners in the central region and Ulaanbaatar engaged in artisanal and small-scale mining because they were unable to find permanent work. Within this group, 59.3% had no professions; of those who mined in order to earn additional income, 59.9% had no profession. Of those who had lost their livestock, 62.4% had no profession.

PART THREE

DWELLING, ELECTRICITY SUPPLY AND DRINKING WATER SOURCE OF ARTISANAL AND SMALL-SCALE MINERS

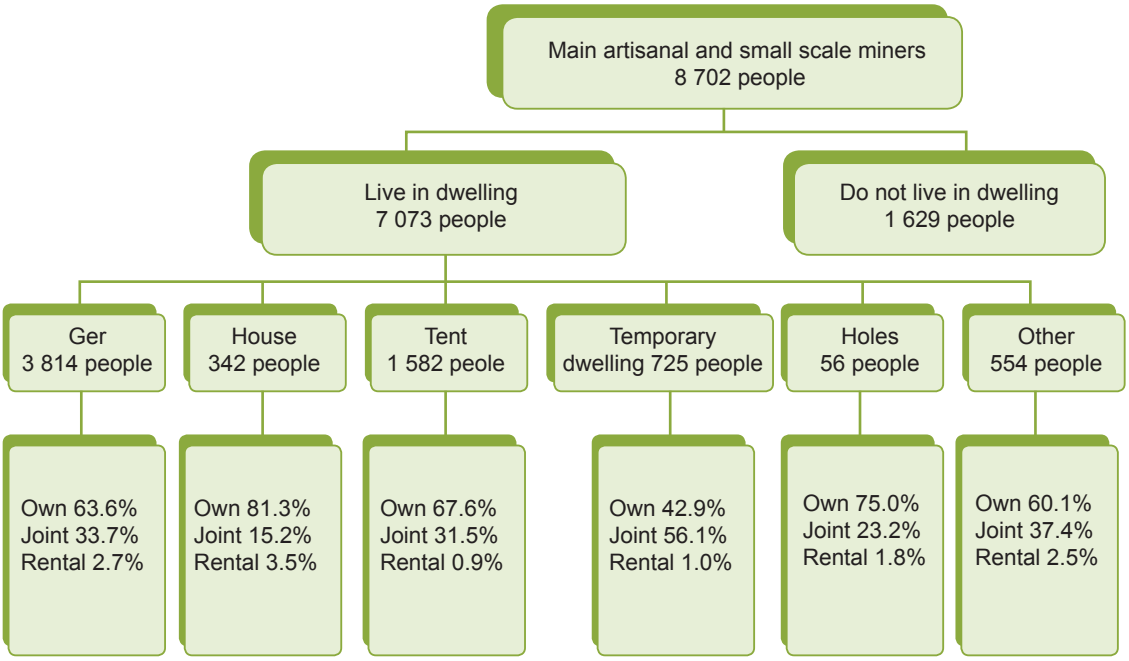
DWELLING, ELECTRICITY SUPPLY AND DRINKING WATER SOURCE OF ARTISANAL AND SMALL-SCALE MINERS

In this section, results on the types of dwellings in which artisanal and small-scale miners live while mining and their dwelling ownership, their sources of drinking water and electricity are provided. Information about people with businesses supporting artisanal and small-scale mining and unpaid workers of family businesses is not included here.

3.1. TYPES OF DWELLING OF ARTISANAL AND SMALL-SCALE MINERS

From the total artisanal and small-scale miners, who participated in the survey, 7.1 thousand (81.3%) responded that they live in dwelling but the remaining 1.6 thousand (18.7%) responded that they do not live in any kind of dwelling during artisanal and small-scale mining activities.

FIGURE 3.1. TYPES OF DWELLINGS OF ARTISANAL AND SMALL-SCALE MINERS AND FORM OF OWNERSHIP, BY DWELLING TYPE



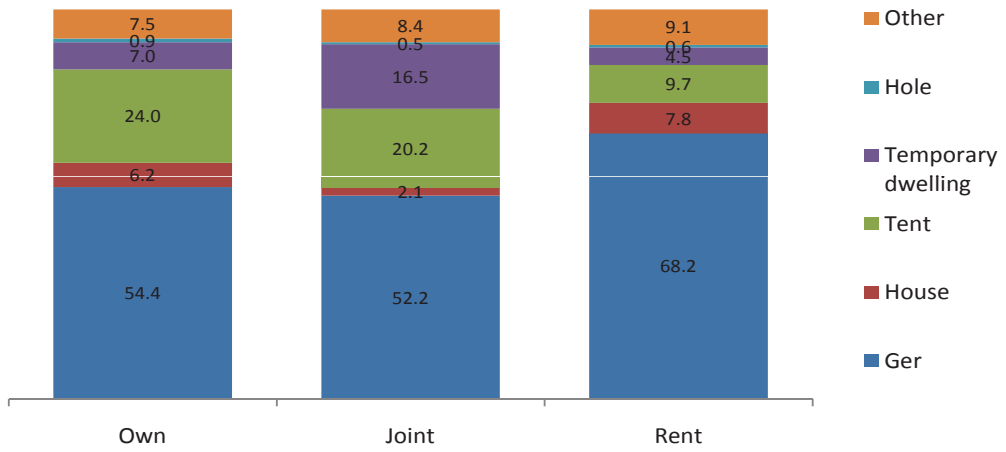
Of those respondents who lived in dwellings, 53.9% lived in gers, 4.8% lived in houses, 22.4% lived in tents, 10.3% lived in temporary dwellings, 0.8% lived in holes, and 7.8% lived in other types of dwellings. As the data illustrates, more than 40% lived in non-standard dwellings.

In relation to the ownership of dwellings: 4458 people (63.0%) owned their own dwellings, 2461 people (34.8%) had joint ownership and 154 people (2.2%) lived in rented dwellings. Of those living in gers, 63.6% of the 3814 artisanal and small-scale miners lived in their own gers, 33.7% lived in gers that were jointly owned, and 2.7%

lived in rented gers. Of the 1582 miners who lived in tents, 67.6% lived in their own tents, 31.5% lived in tents that were jointly owned, and 0.9% lived in rented tents.

Of those dwellings that were owned, 54.4% were gers, 6.2% were houses, 24.0% were tents, 7.0% were temporary dwellings, 0.9% were hole dwellings, and 7.5% were of other types. In relation to jointly owned dwellings, 52.2% were gers, 2.1% were houses, 20.2% were tents, 16.5% were temporary dwellings, 0.5% were hole dwellings, and 8.4% were other types of dwellings. Of the rented dwellings, 68.2% were gers, 7.8% were houses, 9.7% were tents, 4.5% were temporary dwellings, 0.6% were hole dwellings, and 9.1% were other types of dwellings.

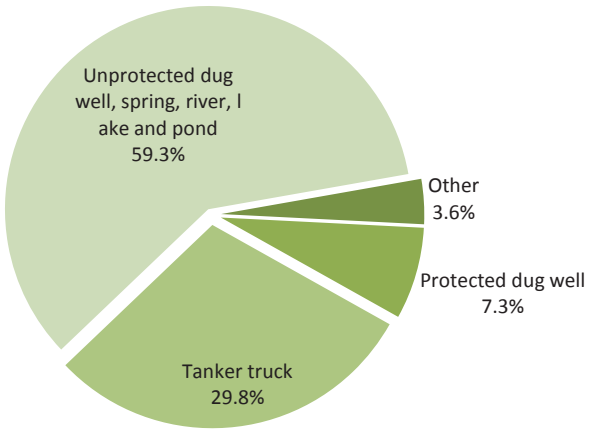
FIGURE 3.2. DWELLING OWNERSHIP OF ARTISANAL AND SMALL-SCALE MINERS, BY TYPE OF DWELLING, %



3.2. DRINKING WATER SOURCE OF ARTISANAL AND SMALL-SCALE MINERS

The majority of the survey participants 5164 people (59.3%) received their supply of drinking water from rivers, lakes, unprotected wells, streams and springs; 2589 small-scale miners (29.8%) got their water from portable water sources; 7.3% took their water from protected wells; and the remaining 3.6% took their water from protected streams, springs, distilled bottled water and other sources.

FIGURE 3.3. DRINKING WATER SOURCE OF ARTISANAL AND SMALL-SCALE MINERS (%)



Of those people who took their drinking water from other sources, 135 people (1.6%) used water from protected streams and springs, 110 people (1.3%) used distilled bottled water, 39 people (0.4%) used water from water distribution points that were connected to a centralised system, and 28 people (0.3%) used water from water distribution points that were not connected to a centralised system.

In relation to the drinking water sources of artisanal and small-scale miners by types of mineral resources: 68.3% of gold miners took drinking water from rivers, lakes, unprotected wells, streams and springs, 23.6% from portable water, 8.1% from other sources (protected wells, protected streams, springs, pure bottled water, water distribution points connected to a centralised system, and water distribution points not connected to a centralised system).

TABLE 3.1. DRINKING WATER SOURCE BY TYPE OF MINERAL MINED, %

Types of mineral resource	Total	Types of drinking water sources						
		Rivers, lakes, unprotected wells, streams and springs	Water distribution point connected to a centralised system	Protected wells	Protected streams, springs	Pure bottled water	Water distribution point not connected to a centralised system	Portable water
Gold	100.0	68.3	0.3	4.5	1.6	1.4	0.3	23.6
Coal	100.0	7.6	0.4	0.4	-	0.1	-	91.4
Fluorspar	100.0	23.3	0.4	37.6	0.3	0.9	1.0	36.5
Tungsten	100.0	78.0	0.8	9.4	0.4	-	-	11.4
Tin	100.0	24.4	14.6	19.5	36.6	-	-	4.9
Limestone	100.0	100.0	-	-	-	-	-	-
Precious stones	100.0	62.2	1.8	2.7	5.4	4.5	-	23.4
Salt	100.0	94.4	-	5.6	-	-	-	-
TOTAL	100.0	59.3	0.4	7.3	1.6	1.3	0.3	29.8

Of the coal miners, 91.5% took their drinking water from portable water, 7.6% from rivers, streams, springs, unprotected wells, streams and springs. Of the fluorspar miners surveyed, 37.6% took water from protected wells, 36.5% from portable water, and 23.3% from rivers, lakes, unprotected wells, streams and springs.

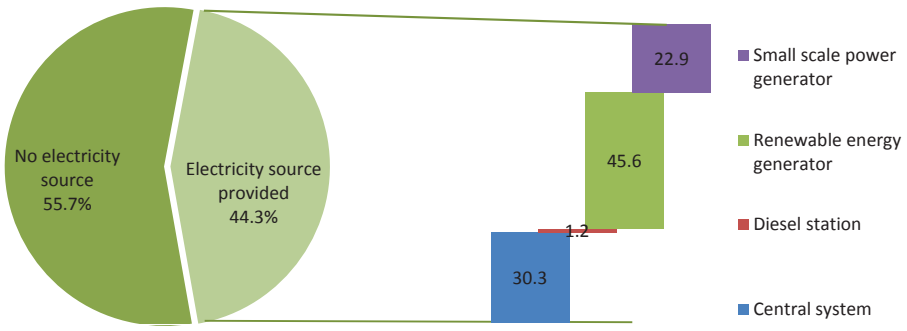
3.3. ELECTRICITY SOURCE OF ARTISANAL AND SMALL-SCALE MINERS

This section examines from where artisanal and small-scale miners obtain electricity for their dwellings. Having a source of electricity is a key indicator to enable the miners to work and live comfortably. Sources of electricity were classified as a centralised system, a diesel station, renewable energy equipment, a small-scale electric generator or no electricity source.

More than half of the artisanal and small-scale miners who participated in the survey (55.7%), operated in places that had no electricity source.

In those places where there was a source of electricity, 45.6% used electricity from renewable energy equipment and 30.3% used electricity from a centralised system. The remaining 22.9% used small-scale electric generators and 1.2% were connected to diesel stations.

FIGURE 3.4. ELECTRICITY SOURCE BY TYPES, %



In relation to electricity sources by types of mineral resources: 83.9% and 68.3% of precious stone and tin miners, respectively, 63.7% of gold miners, and 32.1-33.9% of fluorspar, tungsten and limestone miners lived in places with no electricity source.

A total of 86.1% of coal miners and 33.3% of limestone miners used electricity connected to a centralised system while 77.8% of salt miners, 64.6% of tungsten miners and 12.2-33.3% of gold, fluorspar, tin and limestone miners were connected to electricity using renewable energy equipment.

Small-scale electric generators were used by 33.9% of fluorspar miners, 14.4% miners of precious stone and 7.3-8.6 % of gold and tin miners.

In relation to the electricity sources by regions: 62.4% of those surveyed in the western region, 60.4% in the khangai region, 60.5% in the central region, and 37.1% in the eastern region lived in places with no electricity source.

PART FOUR

ECONOMIC INDICATORS OF ARTISANAL AND SMALL-SCALE MINERS

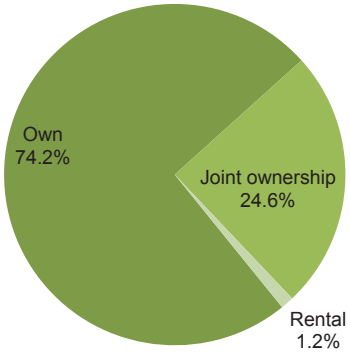
ECONOMIC INDICATORS OF ARTISANAL AND SMALL-SCALE MINERS

This section provides information derived only from the leaders and members of organised partnerships and artisanal miners working directly in mining, (i.e. those operating businesses supporting artisanal and small-scale mining and unpaid workers of family businesses are not included). Main economic indicators studied relate to equipment, land, their exploitation, activity income, expenses, taxes, deductions, and investment in 2011.

4.1. EQUIPMENT USAGE

The types of equipment used by artisanal and small-scale miners are believed to be an important indicator that directly correlates to miners' productivity and income. Of the total number of artisanal and small-scale miners surveyed, 96.3% were found to use any kind of tools and equipment in their operations. Of the equipment used, 74.2% was owned, 24.6% were jointly owned and 1.2% was rented.

FIGURE 4.1. TYPES OF EQUIPMENT OWNERSHIP, %



Of the equipment used, 65.4% were manual tools (hammers, shovels, hacks), 6.3% were drills, 4.0% were electric generators, 3.9% were lifting equipment, 3.7% were metal finders, 2.9% were pumps, 2.0% were conditioners, and 2.0% were water guns.

TABLE 4.1. EQUIPMENT USED BY ARTISANAL AND SMALL-SCALE MINERS BY TYPE

Type of equipment	Number of equipment	% of total
TOTAL	**34 155**	**100.0**
Manual tool (hammer, shovel, hack etc)	22 354	65.4
Metal finder	1 265	3.7
Electric generator	1 375	4.0
Conditioner	694	2.0

Type of equipment	Number of equipment	% of total
Punch (drill)	2 147	6.3
Lifting equipment	1 345	3.9
Water gun (scrubber)	694	2.0
Pump	986	2.9
Small-scale punch (compressor)	697	2.0
Other	2 598	7.6

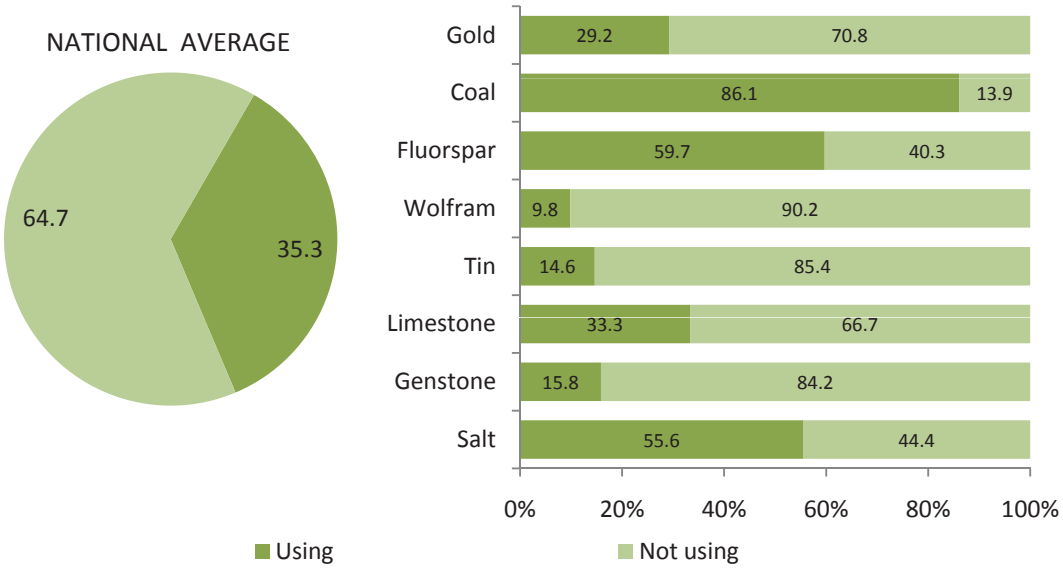
In relation to equipment by regional breakdown: 24.7% was in the western region, 26.8% in the khangai region, 30.3% in the central region, 4.1% in the eastern region, and 14.1% in Ulaanbaatar.

TABLE 4.2. EQUIPMENT USED BY TYPE OF EQUIPMENT AND REGION

Equipment types	TOTAL	Region				
		Western region	Khangai region	Central region	Eastern region	Ulaanbaatar
TOTAL	**100.0**	**24.7**	**26.8**	**30.3**	**4.1**	**14.1**
Manual tool (hammer, shovel, hack etc)	100.0	26.5	26.4	29.8	4.1	13.3
Metal finder	100.0	33.3	39.4	26.4	-	0.9
Electric generator	100.0	25.1	15.2	42.8	3.9	13.1
Conditioner	100.0	7.9	4.2	27.4	2.0	58.5
Punch (drill)	100.0	12.5	14.0	37.0	5.8	30.7
Lifting equipment	100.0	8.6	15.9	29.2	7.7	38.7
Water gun (scrubber)	100.0	34.9	29.0	33.6	0.7	1.9
Pump	100.0	17.3	52.5	23.2	5.7	1.2
Small-scale punch (compressor)	100.0	15.4	26.8	46.9	9.8	1.1
Other	100.0	31.0	42.1	23.4	3.1	0.4

Of the total number of artisanal and small-scale miners surveyed, 35.3% wore protective clothing: 86.1% of coal miners, 59.7% of fluorspar miners, 29.2% of gold miners, and 33.3% of limestone miners. In terms of gender breakdown, 36.3% of males and 29.5% of females wore protective clothing.

FIGURE 4.2. USE OF PROTECTIVE CLOTHING (%) BY TYPE OF MINERAL RESOURCE



4.2. AREA EXPLOITED, AFFECTED AND REHABILITATED

This section provides information related to land permissions, the size of mining areas and areas affected and rehabilitated where artisanal and small-scale miners operate.

As of 2011, a total of 8319.3 ha of area was being used for artisanal and small-scale mining. Of this, 2871.3 ha (34.5%) was in the western region, 1584.8 ha (19.1%) in the khangai region, 2113.2 (25.4%) in the central region, 558.9 ha (6.7%) in the eastern region and 1191.0 ha (14.3%) in Ulaanbaatar city.

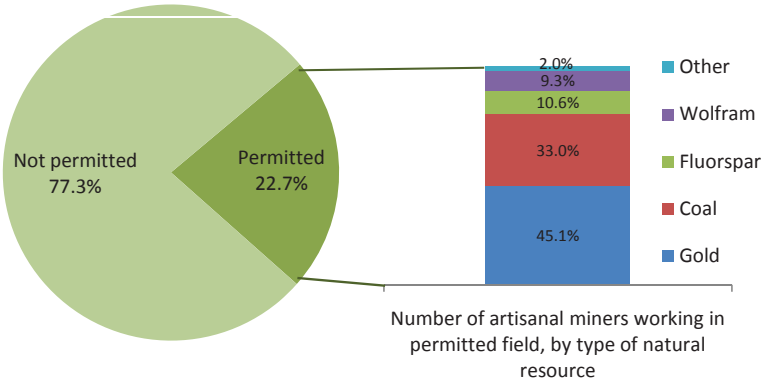
A total of 8287.9 ha were affected by small-scale mining operations, of which 57.2% was in the western region, 9.7% in the khangai region, 14.7% in the central region, 6.3% in the eastern region, and 12.1% in Ulaanbaatar.

TABLE 4.3. AREA OF ARTISANAL AND SMALL-SCALE MINING ACTIVITIES, AFFECTED BY MINING AND REHABILITATED, BY REGION

Region	Area being exploited (ha)	Area affected by mining since the start of activities (ha)	Area rehabilitated (ha)
TOTAL	**8 319.3**	**8 287.9**	**594.3**
Western region	2 871.3	4 741.0	78.6
Khangai region	1 584.8	808.8	146.9
Central region	2 113.2	1 217.0	4.3
Eastern region	558.9	521.2	356.5
Ulaanbaatar	1 191.0	1 000.0	8.0

Of the total number of artisanal and small-scale miners surveyed, 22.7% worked in permitted areas: 83.3% of limestone miners, 76.5% of coal miners, 60.2% of tungsten miners, 51.8% of fluorspar miners, and 12.8% of gold miners.

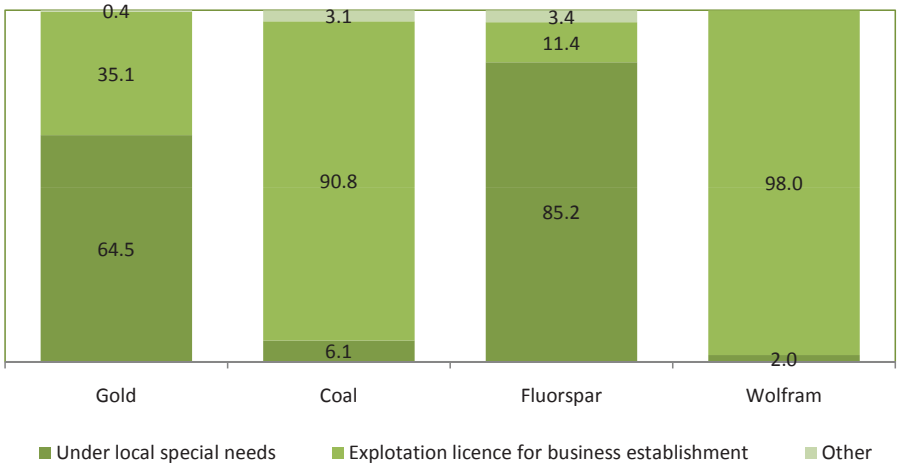
FIGURE 4.3. NUMBER OF ARTISANAL AND SMALL-SCALE MINERS WORKING ON PERMITTED AREAS, BY % AND TYPE OF MINERAL RESOURCE



Of the permitted areas being used for artisanal and small-scale mining, 64.5% had permission for local special use, 35.1% had exploitation licenses for business entities, and the remaining 0.4% had other types of special permission.

In the case of coal, 90.8% operated under exploitation licenses for business entities, 6.1% for local special use, and the remaining 3.1% had other types of permission.

FIGURE 4.4. TYPES OF PERMISSION FOR PERMITTED AREAS, %



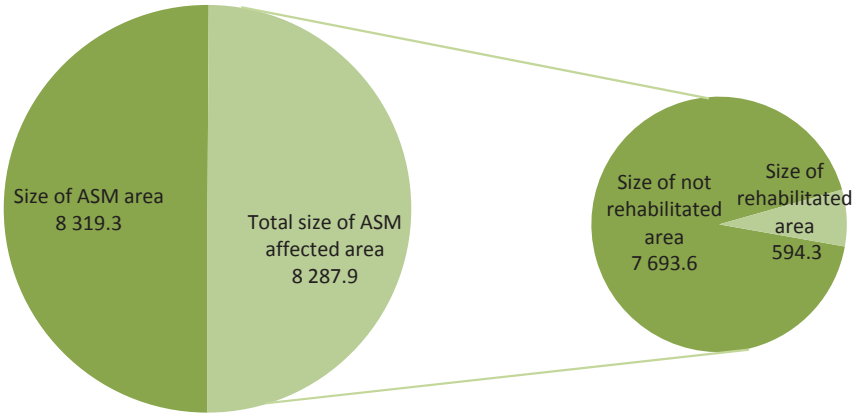
Only 5.5% of all artisanal and small-scale miners conducted some form of rehabilitation. The highest percentage of area rehabilitation was made in the western region with 13.3% while percentages were much lower in the central region (4.8%), the eastern region (2.8%), the khangai region (0.7%) and in Ulaanbaatar city (0.5 %).

In terms of mineral commodity: 27.6% of tungsten miners, 16.7% of limestone miners, 9.8% of tin miners, 9.1% of fluorspar miners, 5.0% of gold miners and 0.4% of coal miners conducted rehabilitation of mined out areas.

In 2011, artisanal and small-scale miners rehabilitated 594.3 ha area. Of this, 78.6 ha or (13.2%) was in the western region, 146.9 ha (24.7%) was in the khangai region, 4.3 ha (0.7%) was in the central region, 356.5 ha (60.0%) was in the eastern region, and 8.0 hectare (1.3%) was in the Ulaanbaatar city. This size of the rehabilitated area represents 7.2% of all affected area since mining commenced.

When rehabilitation was complete, 58.4% of artisanal and small-scale miners handed over the rehabilitated areas to environmental inspectors and 26.7% to the local Governor's offices.

FIGURE 4.5. AREA OF ARTISANAL AND SMALL-SCALE MINING ACTIVITIES, AFFECTED BY MINING AND REHABILITATED (hectares)



4.3. MAIN ECONOMIC INDICATORS OF ARTISANAL AND SMALL-SCALE MINERS

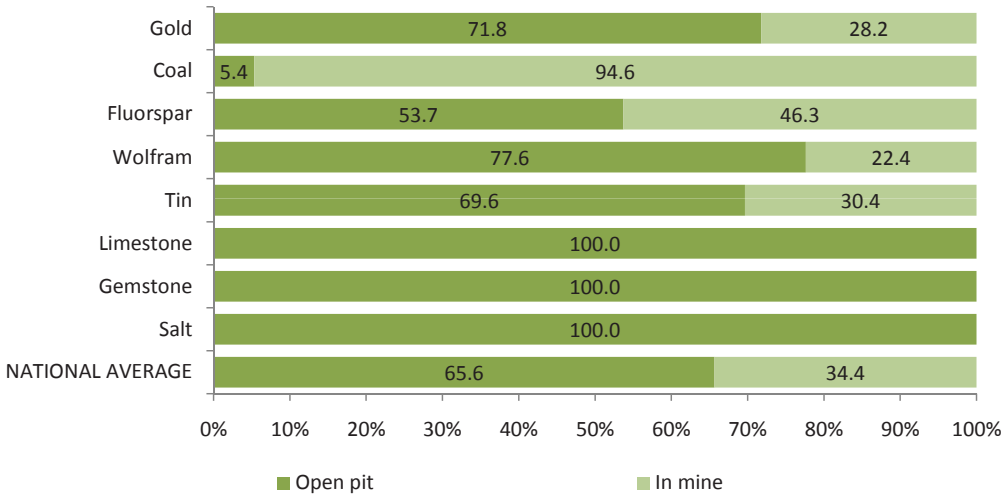
This section includes the artisanal and small-scale miners operational cycles, income, expenses, taxes, deductions and their contribution to the economy in detail.

4.3.1. General information on artisanal and small-scale miners operation

As of 2011, 77.9% of all artisanal and small-scale miners mined gold, 8.2% coal, 9.0% fluorspar, 2.9% tungsten, and the remaining 2.0% mined other types of minerals. Fluorspar as shown in Figure 4.6, the nature of exploitation (open-pit versus underground) differed by commodity.

Of those miners surveyed, 65.6% operate in open pit mines and 34.4% work in underground mines. By commodity, 71.8% of gold miners work in open pits and 28.2% work in underground mines, which differ significantly from coal mining, where only 5.4% of activities are in open pits. In fluorspar and tungsten mines, 53.7% and 77.6% of miners work in open pits while the remainders work in underground mines. In the case of tin, 69.6% of miners work in open pits and 30.4% work in underground mines. All 100% limestone, precious stone and salt miners work in open pit operations.

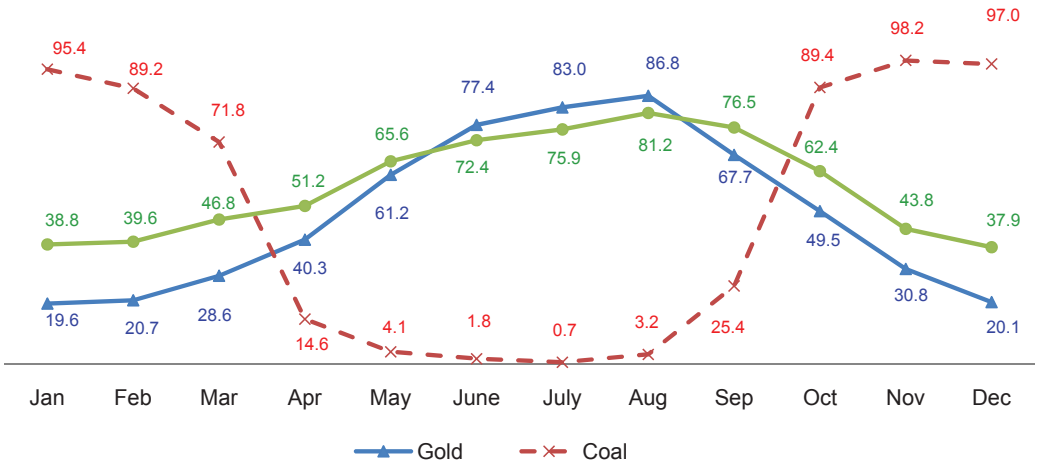
FIGURE 4.6. FORM OF MINERALS EXPLOITATION (%)



Active period of artisanal and small-scale mining by types of minerals: gold mining is active from May to September, but the activity decreases from December to March. As the August is most active period of gold miners, 86.8% of all gold miners were engaged in mining whereas the January is the least active period; only 19.6% of gold miners run their activities.

The activity period for fluorspar miners is same as gold, i.e., from May to October. The most active period for coal miners is from October to February. The most active period of November, 98.2% of total coal miners were actively engaged in mining.

FIGURE 4.7. ACTIVE PERIOD OF ARTISANAL AND SMALL-SCALE MINERS (by mineral type)



According to the survey results, artisanal and small-scale miners exploited 354.6 kg of gold, 142.0 thousand tonnes of coal, 38.5 thousand tonnes of fluorspar,

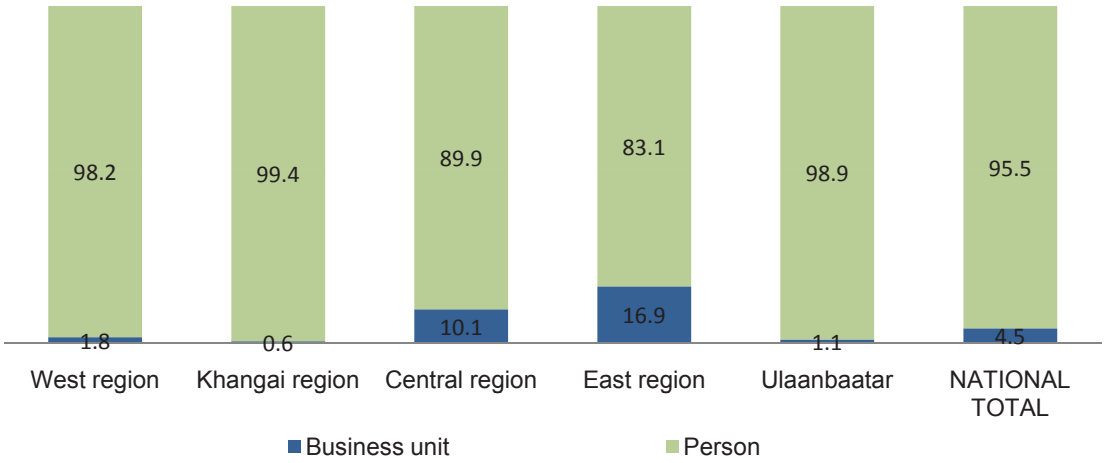
108.3 tonnes of tungsten, 5.5 tonnes of tin, 66.6 tonnes of limestone, 14.7 tonnes of precious stone and 1062.3 tonnes of salt in total.

TABLE 4.4. QUANTITY OF MINERALS SOLD (2011)

Types	Quantity of minerals sold	Units
Gold	354.6	kilograms
Coal	141 970.6	tonnes
Fluorspar	38 482.7	tonnes
Tungsten	108.3	tonnes
Tin	5.5	tonnes
Limestone	66.6	tonnes
Precious stone	14.7	tonnes
Salt	1 062.3	tonnes

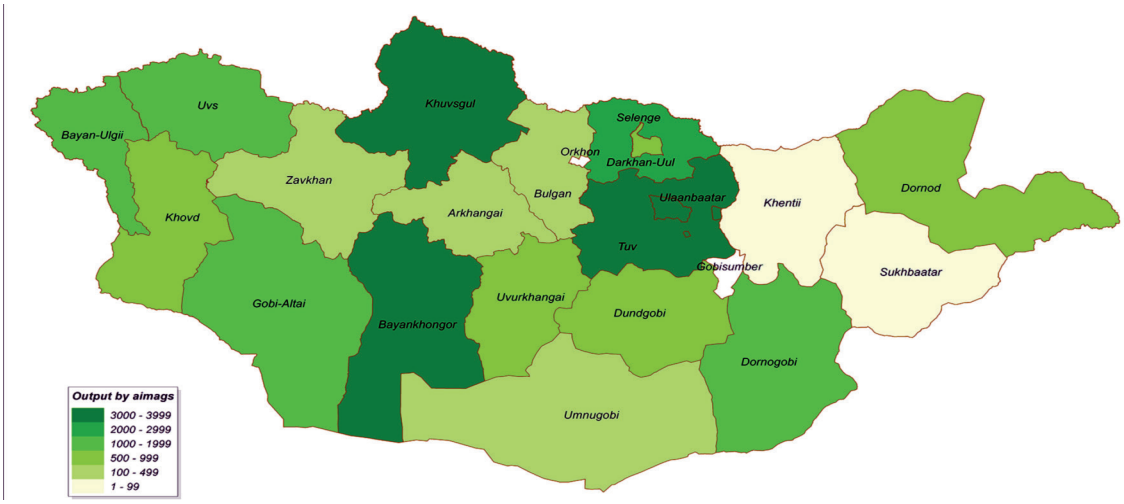
The artisanal and small-scale miners surveyed sold 95.5% of the minerals to individual buyers and 4.5% to business entities.

FIGURE 4.8. MAIN BUYERS OF ARTISANAL AND SMALL-SCALE MINED MINERALS BY REGION (%)



Total income derived from the sales of mineral resources was 25389.6 million MNT. By regions: 4890.7 million MNT (19.3%) of the total sales income was in the western region, 7820.7 million MNT (30.8%) was in the khangai region, 8903.5 million MNT (35.1%) was in the central region, 735.4 million MNT (2.9%) was in the eastern region, and 3039.4 million MNT (12.0%) was in the Ulaanbaatar city.

FIGURE 4.9. TOTAL INCOME FROM ARTISANAL AND SMALL-SCALE MINING BY AIMAG



The average annual sales income per individual artisanal and small-scale miner is 3.5 million MNT. Variations between regions are as follows: in the western region, the average sales per miner totaled 2.5 million MNT; in the khangai region 3.6 million MNT; in the central region 4.0 million MNT; in the eastern region 2.9 million MNT; and in Ulaanbaatar city 4.9 million MNT respectively. By provinces, average individual sales income fluctuates by 0.6-8.0 million MNT.

The highest average annual income per individual artisanal and small-scale miner is 4.9-8.0 million MNT in Dundgobi, Darkhan-Uul, Bayan–Ulgii provinces and Ulaanbaatar city, whereas the lowest income is 0.6 million MNT in Sukhbaatar province.

TABLE 4.5. TOTAL INCOME FROM ACTIVITIESBY REGION

Region	Total income (million MNT)	Average annual income per miner (thousand MNT)	Percentage of Total
TOTAL	**25 389.6**	**3 490.9**	**100.0**
Western region	4 890.7	2 467.5	19.3
Khangai region	7 820.7	3 582.6	30.8
Central region	8 903.5	3 981.9	35.1
Eastern region	735.4	2 929.9	2.9
Ulaanbaatar city	3 039.4	4 894.4	12.0

In 2011, 25.0% of survey participants paid taxes and deductions to the State, amounting to 195.5 million MNT. Of this, 70.2 million MNT (35.9%) was to auto and transportation vehicles taxes, 103.3 million MNT (52.8%) was as personal income tax derived from private business and services, 10.9 million MNT (5.6%) was paid for membership taxes, and 11.1 million MNT (5.7%) was to other types of taxes and deductions.

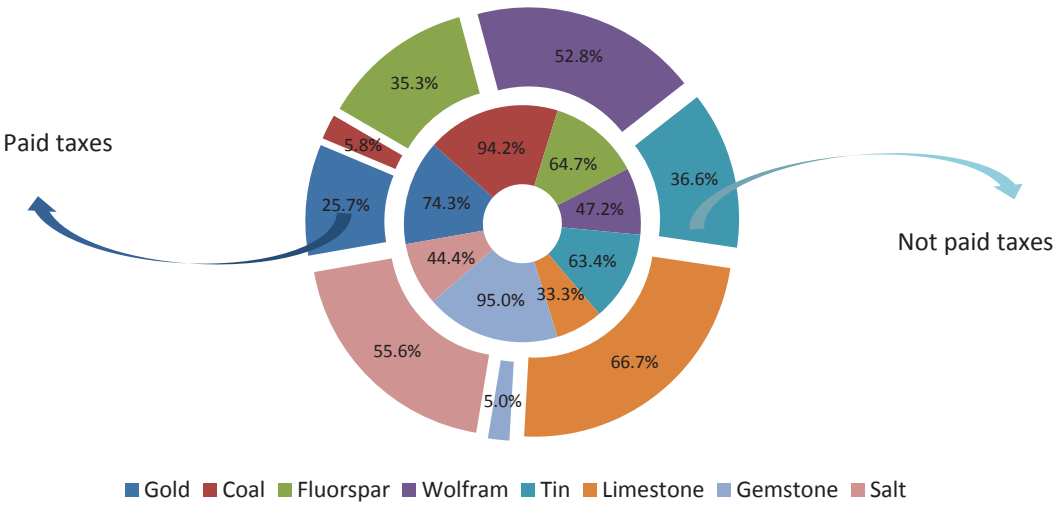
Artisanal and small-scale miners in the western region paid 30.5 million MNT, in the khangai region 46.6 million MNT, in the central region 91.0 million MNT, in the eastern region 25.2 million MNT and in Ulaanbaatar city 2.2 million MNT to taxes.

TABLE 4.6. AMOUNT OF TAXES PAID BY ARTISANAL AND SMALL-SCALE MINERS, BY REGION AND TYPE

Region	Total taxes and deductions, paid in 2011	Type (in millions MNT)			
		Tax on auto and transportation vehicles	Tax on income derived from private business and service	Membership fees	Other taxes
TOTAL	**195.5**	**70.2**	**103.3**	**10.9**	**11.1**
Western region	30.5	18.1	8.8	0.6	2.9
Khangai region	46.6	11.5	31.9	1.2	2.1
Central region	91.0	37.3	50.5	1.8	1.4
Eastern region	25.2	2.8	11.4	7.3	3.6
Ulaanbaatar city	2.2	0.5	0.7	-	1.0

The percentage of taxes paid by artisanal and small-scale miners varied by types of mineral resources: 25.7% of gold miners, 5.8% of coal miners, 35.3% of fluorspar miners, 52.8% of tungsten miners, 36.6% of tin miners, 66.7% of limestone miners, 5.0% of precious stone miners paid some form of taxes.

FIGURE 4.10. PERCENTAGE OF ARTISANAL AND SMALL-SCALE MINERS WHO PAID TAXES BY TYPE OF MINERAL COMMODITY MINED



According to the state average, the percentage of tax payment by artisanal and small-scale miners was 25.0% and the highest is in the western region (35.7%), central region (26.1%), in the khangai region (21.9%), and in the eastern region 15.5%. Tax payment was lowest in Ulaanbaatar city (1.9%).

As of 2011, artisanal and small scale-miners spent a total of 8513.0 million MNT on their activities, with operating costs divided as shown in Table 4.7. In summary, 23.2% of total expense allocated to fuel, combustibles and lubricant materials, 19.0% to wages, 12.2% to payments for land owners, 11.2% to transportation, 5.3% to spare parts, 3.4% to occupational safety, and 2.7% to raw materials and other necessary materials.

By the types of mineral resources: gold miners spent 5711.2 million MNT on their activities, coal miners 1420.5 million MNT, fluorspar miners 1144.7 million MNT, and the other commodity miners spent 236.6 million MNT to their activities. Of the total expenses for gold miners, 50.9% consists of fuel, combustibles and lubricant material expenses and wages. Of note, for coal miners, 72.1% of total expenses consisted of payments to land owners.

TABLE 4.7. OPERATING EXPENSESBY MINERAL AND TYPE OF EXPENSE

Type of expense	Total (mill. MNT)	Mineral Commodity (million MNT)				% of total
		Gold	Coal	Fluorspar	Other	
Total	**8 513.0**	**5 711.2**	**1 420.5**	**1 144.7**	**236.6**	**100.0**
Wages	1 615.2	1 312.8	57.0	209.6	35.9	19.0
Monetary and non-monetary grants to workers	176.8	97.3	3.7	72.1	3.8	2.1
Fuel, combustibles and lubricants	1 977.6	1 593.0	14.3	298.6	71.7	23.2
Transportation	952.6	693.5	17.7	216.3	25.1	11.2
Occupational safety	293.5	187.2	42.4	35.9	28.0	3.4
Electricity and heating	166.1	85.8	69.0	9.4	1.8	2.0
Spare parts	448.0	356.6	25.0	59.3	7.1	5.3
Raw materials	233.5	158.0	46.6	23.5	5.5	2.7
Loan interest	99.2	72.9	0.5	25.1	0.7	1.2
Rent of machines and equipment	96.9	82.0	0.0	14.9	0.0	1.1
Rent of houses and buildings	36.7	32.3	2.1	2.3	0.0	0.4
Compensation of losses from natural disaster	3.2	0.7	2.1	0.5	0.0	0.0
Payment to land owners	1 035.1	6.2	1 024.2	4.3	0.4	12.2
Environmental rehabilitation	69.3	23.2	36.6	8.8	0.7	0.8
Others	1 309.5	1 009.7	79.5	164.5	55.7	15.4

From total expenses, 750.1 million MNT (8.8%) is spent in the western region, 3300.6 million MNT (38.8%) to the khangai region, 2451.6 million MNT (28.8%) to the central region, 601.4 million MNT (7.1%) to the eastern region, and 1409.4 million MNT (16.6%) in Ulaanbaatar city. The payment to land owners in total expenses for Ulaanbaatar city constitutes 72.7% of expenditures.

A detailed breakdown of expenditures on artisanal and small scale mining operations is provided in Tables 4.7 and 4.8.

TABLE 4.8. OPERATING EXPENSESBY REGION AND TYPE OF EXPENSE

Type of expense	Total (mill. MNT)	Region (million MNT)				
		Western	Khangai	Central	Eastern	Ulaanbaatar
Total	**8 513.0**	**750.1**	**3 300.6**	**2 451.6**	**601.4**	**1 409.4**
Wages	1 615.2	32.9	1 210.7	151.8	162.9	57.0
Monetary and non-monetary grants to workers	176.8	32.0	63.5	62.2	15.5	3.5
Fuel, combustibles and lubricants	1 977.6	262.0	761.3	795.1	150.6	8.6
Transportation	952.6	115.4	252.3	424.9	146.8	13.1
Occupational safety	293.5	46.5	67.8	113.0	24.3	41.8
Electricity and heating	166.1	4.0	33.0	54.2	5.9	69.0
Spare parts	448.0	75.0	105.3	212.0	30.9	24.8
Raw materials	233.5	46.5	49.8	67.6	23.2	46.6
Loan interest	99.2	27.8	14.3	38.7	17.9	0.5
Rent of machines and equipment	96.9	8.1	17.9	65.9	5.1	0.0
Rent of houses and buildings	36.7	1.0	27.1	5.1	1.4	2.1
Compensation of losses from natural disaster	3.2	0.1	0.0	1.1	-	2.1
Payment to land owners	1 035.1	2.4	2.8	3.2	2.5	1 024.2
Environmental rehabilitation	69.3	7.6	10.9	12.8	1.4	36.6
Others	1 309.5	88.9	683.9	444.0	13.2	79.5

4.3.2. Gross output, value addition and intermediate consumption

Artisanal and small-scale miners created annual value addition of 19806.1 million MNT and spent 5583.6 million MNT on in-between consumption. Of the total value addition, 21.4% is attributed to the western region, 29.3% to the khangai

region, 33.9% to the central region, 1.7% to the eastern region and 13.7% to Ulaanbaatar city.

One of the indicators that show the level of efficiency of economic activities is the ratio of value addition to gross output. For the artisanal and small-scale miners, this indicator is relatively high at 78.0%. Results by provinces show that, the Dornod province has the highest ratio (95.9%). This means that expenses constitute 4.1% and value addition is 95.6%. The lowest ratio is in Khentii province at 37.3%.

By the amount of the value added, the following 5 provinces generated the highest value addition from artisanal and small-scale mining activities: Khuvsgul province (2885.3 million MNT), Tuv province (2659.1 million MNT), Bayankhongor province (2029.3 million MNT), Selenge province (1949.4 million MNT) and Ulaanbaatar city (2717.2 million MNT).

TABLE 4.9. GROSS OUTPUT, INTERMEDIATE CONSUMPTION AND VALUE ADDITION, BY REGION

Province, capital, region	Gross output (mill MNT)	Intermediate consumption (mill MNT)	Value added (mill MNT)	% age to total value added	Ratio of gross output and value added
TOTAL	**25 389.6**	**5 583.6**	**19 806.1**	**100.0**	**78.0**
Western region	**4 890.7**	**654.9**	**4 235.7**	**21.4**	**86.6**
Bayan-Ulgii	1 027.5	86.2	941.3	4.8	91.6
Gobi-Altai	1 277.3	135.6	1 141.7	5.8	89.4
Zavkhan	137.7	29.2	108.5	0.5	78.8
Uvs	1 686.7	222.0	1 464.7	7.4	86.8
Khovd	761.4	181.9	579.5	2.9	76.1
Khangai region	**7 820.7**	**2 009.3**	**5 811.4**	**29.3**	**74.3**
Arkhangai	106.2	6.0	100.2	0.5	94.3
Bayankhongor	3 080.6	1 051.3	2 029.3	10.2	65.9
Bulgan	331.4	117.4	213.9	1.1	64.6
Uvurkhangai	634.3	51.7	582.6	2.9	91.9
Khuvsgul	3 668.2	782.9	2 885.3	14.6	78.7
Central region	**8 903.5**	**2 194.5**	**6 708.9**	**33.9**	**75.4**
Darkhan-Uul	844.3	178.4	665.9	3.4	78.9
Dornogobi	1 135.7	445.8	689.9	3.5	60.7
Dundgobi	519.3	58.7	460.6	2.3	88.7
Umnugobi	338.4	54.4	284.0	1.4	83.9
Selenge	2 560.5	611.1	1 949.4	9.8	76.1
Tuv	3 505.2	846.1	2 659.1	13.4	75.9
Eastern region	**735.4**	**402.6**	**332.8**	**1.7**	**45.3**
Dornod	86.6	3.5	83.1	0.4	95.9
Sukhbaatar	16.6	2.4	14.2	0.1	85.5
Khentii	632.2	396.7	235.5	1.2	37.3
Ulaanbaatar	**3 039.4**	**322.2**	**2 717.2**	**13.7**	**89.4**

The value added components are categorized as follows: wages 1615.2 million MNT (8.2%); monetary and non-monetary grants to workers 176.8 million MNT (0.9%); loan interest 99.2 million MNT (0.5%); tax on income derived from private business and service and other tax deductions 195.5 million MNT (1.0%). The remaining 16681.1 million MNT (84.2%) is profit from activities.

TABLE 4.10. VALUE ADDITION BY COMPONENT AND REGION

	Types of component	Total	Region (in millions of MNT)					%
			Western region	Khangai region	Central region	Eastern region	Ulaan-baatar	
	Value added	**19 806.1**	**4 235.7**	**5 811.4**	**6 708.9**	**332.8**	**2 717.2**	**100.0**
Value addition components	Wages	1 615.2	32.9	1 210.7	151.8	162.9	57.0	8.2
	Tax on auto and transportation vehicles	70.2	18.1	11.5	37.3	2.8	0.5	0.4
	Tax on income derived from private business and service	103.3	8.8	31.9	50.5	11.4	0.7	0.5
	Membership tax	10.9	0.6	1.2	1.8	7.3	-	0.1
	Other taxes	11.1	2.9	2.1	1.4	3.6	1.0	0.1
	Monetary and non-monetary grants to workers	176.8	32.0	63.5	62.2	15.5	3.5	0.9
	Loan interest	99.2	27.8	14.3	38.7	17.9	0.5	0.5
	Compensation of losses due natural disaster	3.2	0.1	0.0	1.1	-	2.1	0.0
	Payment to land owners	1 035.1	2.4	2.8	3.2	2.5	1 024.2	5.2
	Calculation profit	16 681.1	4 110.1	4 473.4	6 360.9	108.8	1 627.9	84.2

Of the total intermediate consumption of the artisanal and small-scale miners, 35.4% was for fuel, combustibles and lubricant material expenses, 17.1% for transportation expenses, 8.0% for spare parts, 5.3% for occupational safety, 4.2% for raw materials and the remaining 30.1% was for other expenses.

By region, 11.7% of total intermediate consumption was in the western region, 36.0% in the khangai region, 39.3% in the central region, 7.2% in the eastern region and 5.8% in Ulaanbaatar city.

TABLE 4.11. INTERMEDIATE CONSUMPTION BY COMPONENT AND REGION

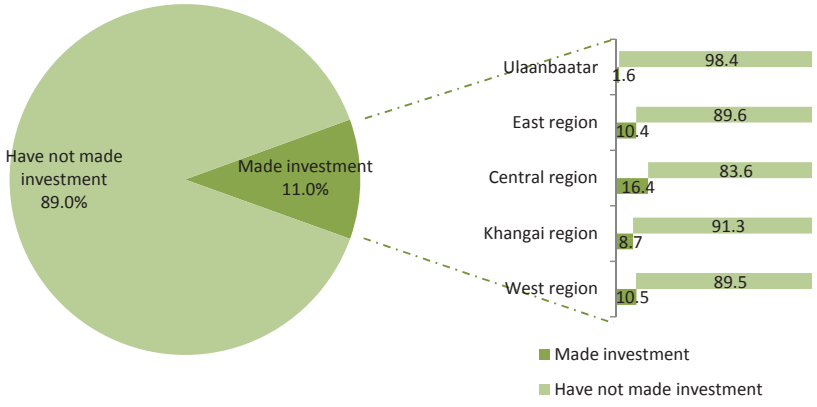
	Types of component	TOTAL	Region (in millions MNT)					%
			Western region	Khangai region	Central region	Eastern region	Ulaan-baatar	
	Intermediate consumption	**5 583.6**	**654.9**	**2 009.3**	**2 194.5**	**402.6**	**322.2**	**100.0**
Intermediate consumption components	Raw materials	233.5	46.5	49.8	67.6	23.2	46.6	4.2
	Spare parts	448.0	75.0	105.3	212.0	30.9	24.8	8.0
	Electricity and heating	166.1	4.0	33.0	54.2	5.9	69.0	3.0
	Fuel, combustibles and lubricant materials	1 977.6	262.0	761.3	795.1	150.6	8.6	35.4
	Rent: houses & buildings	36.7	1.0	27.1	5.1	1.4	2.1	0.7
	Rent on machines and equipment	96.9	8.1	17.9	65.9	5.1	-	1.7
	Transportation	952.6	115.4	252.3	424.9	146.8	13.1	17.1
	Occupational safety	293.5	46.5	67.8	113.0	24.3	41.8	5.3
	Environmental rehabilitation	69.3	7.6	10.9	12.8	1.4	36.6	1.2
	Other expenses	1 309.5	88.9	683.9	444.0	13.2	79.5	23.5

4.4. INVESTMENT

This section includes information on investment to this business in 2011 and main sources of the investments.

In 2011, 11.0% of the total artisanal and small-scale miners made investments. This indicator was 16.4% in the central region, 10.5% in the western region, 10.4% in the eastern region, 8.7% in the khangai region and 1.6 % in Ulaanbaatar city. A total of 12.2% of gold miners, 1.7% of coal miners, 12.4% of fluorspar miners, and 8.7% of tungsten miners made investments.

FIGURE 4.11. INVESTMENT BY ARTISANAL AND SMALL-SCALE MINERS IN 2011 BY REGION



In 2011, the total of 2148.6 million MNT investments were made by artisanal and small-scale miners, of which: 244.1 million MNT (11.4%) was for buildings and facilities; 1211.7 million MNT (56.4%) was for transportation vehicles, 654.0 million MNT (30.4%) was for equipment, and 38.9 million MNT (1.8 %) was for other properties.

Artisanal and small-scale miners made the highest investments in the central region (921.4 million MNT), followed by the western region (488.0 million MNT), the khangai region (376.5 million MNT), the eastern region (321.5 million MNT), and Ulaanbaatar city (41.1 million MNT).

TABLE 4.12. INVESTMENTS MADE IN 2011 BY TYPES AND REGION

Region	Total investment	TYPE (millions MNT)			
		Building and facilities	Transportation vehicles	Equipment	Others
TOTAL	**2 148.6**	**244.1**	**1 211.7**	**654.0**	**38.9**
Western region	488.0	32.5	314.7	136.4	4.5
Khangai region	376.5	62.1	152.4	148.8	13.3
Central region	921.4	149.5	502.5	253.3	16.1
Eastern region	321.5	-	230.1	86.4	5.0
Ulaanbaatar	41.1	-	12.0	29.1	-
Percentage of Total Investment	100.0	11.4	56.4	30.4	1.8

Gold miners made investments of 1455.5 million MNT, coal miners 53.1 million MNT, fluorspar miners 589.2 million MNT, tungsten steel miners 8.4 million MNT, and other commodity miners 42.4 million MNT. Of the total investment of gold miners, 53.8% was for transportation vehicles, 32.0% was for equipment. 45.2% of the investments of coal miners was made to transportation vehicles and 54.8% was for equipment. 62.0% of the investments made by fluorspar miners was for transportation vehicles and 25.2% was for equipment.

TABLE 4.13. INVESTMENTS MADE IN 2011 BY TYPES AND MINERAL COMMODITY MINED

Types of mineral resources	Total investment	TYPE (millions MNT)			
		Building and facilities	Transportation vehicle	Equipment	Others
TOTAL	**2 148.6**	**244.1**	**1 211.7**	**654.0**	**38.9**
Gold	1 455.5	172.7	783.6	465.6	33.7
Coal	53.1	-	24.0	29.1	-
Fluorspar	589.2	71.4	365.5	148.7	3.6
Tungsten	8.4	-	4.8	3.4	0.2
Other	42.4	-	33.8	7.2	1.5

PART FIVE

HEALTH EFFECTS FROM MINING, CONTRIBUTION TO LOCAL DEVELOPMENT, CHALLENGES AND DIFFICULTIES

HEALTH EFFECTSFROM MINING, CONTRIBUTION TO LOCAL DEVELOPMENT, CHALLENGES AND DIFFICULTIES

5.1. HEALTH EFFECTS FROM MINING

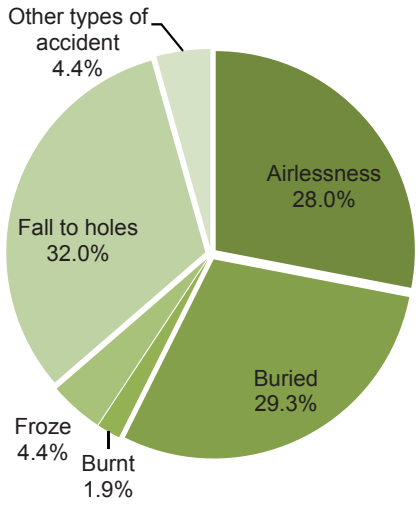
Artisanal and small-scale miners often suffer from accidents, injury and illness due to insufficient workplace safety conditions. This section includes the information on accidents and injuries, damages, types of diseases and access to medical services.

Occupational Accidents and Injuries

Of the total artisanal and small-scale miners who participated in the survey, 93.8% did not have any accidents or injuries while mining. The remaining 6.2% suffered from some accidents and injuries of which 32.0% fell into holes and shafts, 29.3% were buried from roof collapse, 28.0% from airlessness (loss of ventilation/ suffocation), 4.4% suffered from frostbite, 1.9% were burnt and 4.4% were involved in other types of accidents.

FIGURE 5.1. ACCIDENTS IN ARTISANAL AND SMALL SCALE MINING BY TYPE

(% of the 6.2% of miners who had accidents in 2011)



Regionally, 53.1% of miners who experienced suffocation were from the central region and 32.3% from the khangai region. Of those who were buried underground, 45.3% of the miners were from the central region and 32.3% from the khangai region. Of those who were burnt, 61.5% of miners were from the khangai region, compared to 23.1% from the central region and 15.4% from the western region.

TABLE 5.1. ACCIDENTS IN ARTISANAL AND SMALL SCALE MINING BY TYPE AND REGION

(% of the 6.2% of miners who had accidents in 2011)

Region	Airlessness	Buried	Burnt	Frozen	Fell into holes	Other accidents
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Western region	6.8	14.9	15.4	26.7	21.9	13.3
Khangai region	32.3	32.3	61.5	43.3	43.4	36.7
Central region	53.1	45.3	23.1	26.7	31.1	23.4
Eastern region	-	0.5	-	3.3	0.9	3.3
Ulaanbaatar	7.8	7.0	-	-	2.7	23.3

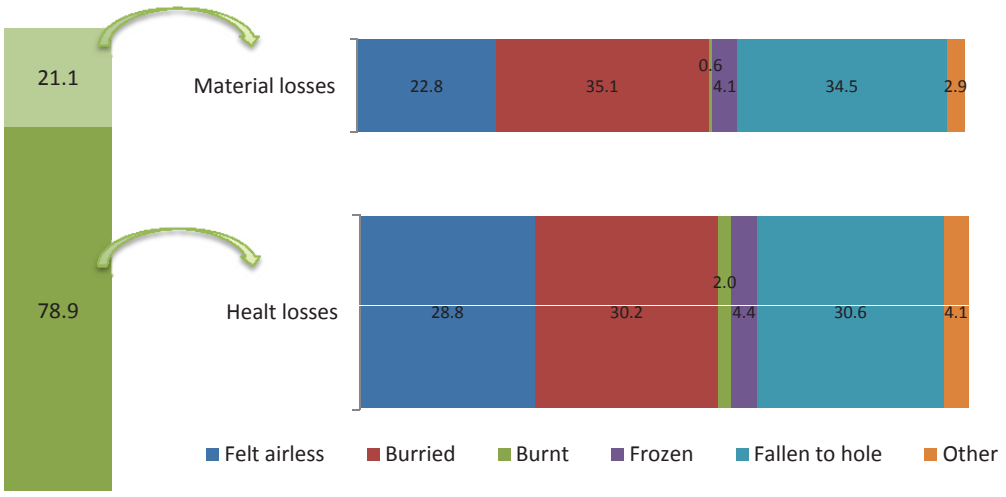
Of those who were frozen, 43.3% were frozen were from the khangai region, 26.7% were from the western region, and 26.7% were from the central region. From the miners who fell into holes, 43.4% were from the khangai region, 31.1% from the central region and 21.9% from the western region.

Also, 36.7% of the artisanal and small-scale miners who suffered other types of accidents and injuries were from the khangai region, 23.3% from Ulaanbaatar city, 23.4% were from the central region and 13.3% from the western region. These results suggest that artisanal and small-scale miners of the khangai and central regions tend to be more vulnerable to accidents and injuries.

Impacts due to mining activities are classified as health damages and material damages/losses. Of those, 28.8% of the artisanal and small-scale miners who suffered from health effects were caused by airlessness, 30.2% from being buried, and 30.6% from falling into holes. In terms of material damages, 22.8% were caused by airlessness, 35.1% from being buried, and 34.5% from falling into holes.

FIGURE 5.2. IMPACTS (HEALTH AND MATERIAL DAMAGES) CAUSED BY ACCIDENTS IN ARTISANAL AND SMALL SCALE MINING

(% of the 6.2% of miners who had accidents in 2011)

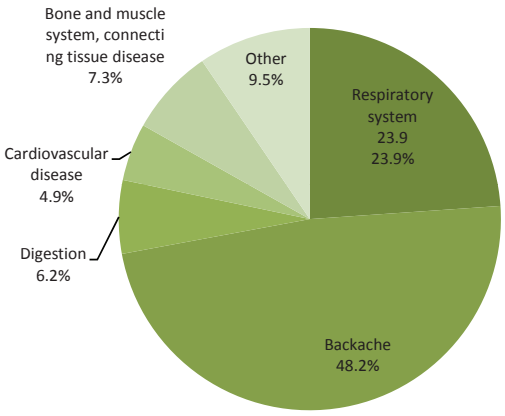


According to the survey results, 70.0% of the participants did not fall ill during mining activities while the remaining 30.0% did.

Of those who suffered from sickness, 48.2% suffered from backache, 23.9% from respiratory diseases, 7.3% from diseases affecting bone and muscle structure and connecting tissue, 6.2% from digestion related diseases, 4.9% from cardio diseases and the remaining 9.5% suffered from other types of diseases (skin and subcutaneous cellulose diseases, urinary and genital diseases, injuries, intoxication and other diseases caused by external causes, infectious and parasitic diseases).

FIGURE 5.3. DISEASE AND ILLNESS AFFLICTING ARTISANAL AND SMALL SCALE MINERS

(% of the 30.0% of miners who experienced an illness or disease in 2011)



Types of diseases varied by gender as follows: 84.4% of the artisanal and small-scale miners who suffered from respiratory system diseases were male and 15.6% were female; 81.4% of the miners who suffered from backaches were male and 18.6% were female; 75.0% of the miners who suffered from digestion related diseases were male and 25.0% were female; 68.6% of miners who suffered from cardio diseases were male and 31.4% were female; 85.8% of the miners who suffered from skin and subcutaneous cellulose diseases were male and 14.2% were female.

Also, 76.9% of the miners who suffered from the diseases related to bone and muscle structure and connecting tissue were male and 23.1% were female. Also of note, 65.0% of the miners who suffered from urinary and genital diseases were male and 35.0% were female. Of those miners who suffered from injuries, intoxication and other diseases caused by external causes, 89.1% were male and 10.9% were female, and 65.1% of the miners who suffered from nervous system diseases were male and 34.9% were female. Finally, 63.6% of the miners who suffered from infectious and parasitic diseases were male and 36.4% were female.

TABLE 5.2. DISEASES OF ARTISANAL AND SMALL SCALE MINERS BY TYPE AND YEARS WORKED

Types of Diseases	Years worked							
	Up to 1 year	2-3	4-5	6-7	8-9	10-11	12 and up	Total
Respiratory system diseases	14.4	28.2	18.2	10.4	6.6	11.1	11.1	100.0
Backaches	11.7	27.0	18.0	9.9	8.4	12.9	12.1	100.0
Digestion related diseases	17.4	21.3	21.2	8.7	8.3	12.1	11.0	100.0
Cardio diseases	15.9	19.9	16.4	7.2	7.7	17.4	15.5	100.0
Skin and subcutaneous cellulose diseases	21.6	40.5	14.2	3.8	5.7	10.4	3.8	100.0
Bone and muscle structure and connecting tissue disease	10.6	17.9	14.1	8.3	12.5	16.7	19.9	100.0
Urinary and genital diseases	12.9	24.9	17.8	10.0	7.9	17.9	8.6	100.0
Injuries, intoxication and other outside diseases	20.3	10.9	10.9	12.5	10.9	12.5	22.0	100.0
Nervous system diseases	9.3	15.1	15.1	2.3	4.7	44.2	9.3	100.0
Infectious and parasitic diseases	27.2	27.3	9.1	18.2	-	9.1	9.1	100.0

Most of the diseases listed did not seem to clearly correlate with the numbers of years worked in artisanal and small scale mining. For instance, of those who suffered from respiratory diseases, 28.2% of the miners worked for 2-3 years, 18.2% for 4-5 years while 27.0% of the miners who suffered from backaches worked for 2-3 years and 18.0% for 4-5 years.

Those suffering from digestion related diseases were greatest in those who worked for 2-3 years (21.3%) and 4-5 years (21.2%). Cardiovascular diseases were quite high for 19.9% of the miners who worked for 2-3 years, and 17.4% for 10-11 years. Miners with urinary and genital diseases mainly worked for 2-3 years (24.9%), slightly higher than those who worked for 10-11 years in the sector (17.9%).

Those who worked for 12 years or more in the sector were actually most likely to suffer from injuries, intoxication and other diseases caused by external causes (22.0%), similar to those who worked 1 year or less (20.3%). Nervous system diseases were most pronounced in those who worked for 10-11 years (44.2%) of the miners with, 15.1% for 2-3 years and another 15.1% worked for 4-5 years. 27.3% of the miners suffered from infectious and some parasitic diseases worked for 2-3 years and 27.2% worked for up to 1 year.

The data reveals that the people, who have worked in artisanal and small-scale mining for 2-5 years suffer a higher level of disease.

TABLE 5.3. DISEASES OF ARTISANAL AND SMALL SCALE MINING BY TYPE AND REGION (%)

Types of disease	Region (% of miners who reported the disease)					
	Western region	Khangai region	Central region	Eastern region	Ulaan-baatar	TOTAL
Respiratory system diseases	15.1	31.6	39.6	1.3	12.4	100.0
Backaches	16.0	33.1	44.1	1.8	5.0	100.0
Digestion related diseases	8.0	45.8	39.4	1.9	4.9	100.0
Cardio diseases	8.2	37.7	47.9	1.9	4.3	100.0
Skin and subcutaneous cellulose diseases	32.1	32.0	30.2	1.9	3.8	100.0
Bone and muscle structure and connecting tissue disease	9.9	25.3	57.8	1.9	5.1	100.0
Urinary and genital diseases	9.3	43.6	43.5	2.9	0.7	100.0
Injuries, intoxication and other outside diseases	14.1	40.5	29.7	1.6	14.1	100.0
Nervous system diseases	7.0	68.6	20.9	2.3	1.2	100.0
Infectious and parasite diseases	18.2	54.5	27.3	-	-	100.0

Results suggest strong regional variations in terms of the incidences of disease.

Types of diseases of the artisanal and small-scale miners by regions: the study shows that the miners from the khangai and central regions suffered more from the diseases.

In particular, the most or 39.6% of the people with respiratory system diseases were in the central region; 44.1% of the people with backaches were in the central region; 45.8% of the people with digestion related diseases were in the khangai region, 39.4% in the central region; 47.9% of the people with cardio diseases were in the central region, 37.7% were in the khangai region; 32.1% percent of the people with skin and subcutaneous cellulose were in the western region; 32.0% in the khangai region and 30.2% in the central region; 57.8% of the people with bone and muscle system and connecting tissue diseases were in the central region and 25.3% were in the khangai region.

As well, 43.6% of the people suffered from urinary and genital system diseases were in the khangai region, 43.5% in the central region; 40.5% of the people with injuries, intoxication and other diseases caused by external causes were in the khangai region and 29.7% in the central region; 68.6% of the people with nervous system diseases were in the khangai region and 20.9% in the central region; 54.5% of the people with infectious and some parasitic diseases were in the khangai region and 27.3% in the central region.

The artisanal and small-scale miners participated in survey were asked about the accessibility to medical services and the results included to this report. A total of

8014 miners or 92.1% out of 8702 artisanal and small-scale miners answered that it is possible to get medical help from the soum, district hospitals where they work.

The farthest hospital was located 200 km away and the nearest hospital was located in 1 km. The average distance from the mining site to a hospital is 33.8 km in the Country.

TABLE 5.4. DISTANCE FROM MINING AREAS TO THE NEAREST SOUM OR DISTRICT HOSPITAL (km)

Region	Province, capital	Farthest distance	Nearest distance	Average distance
National average		**200.0**	**1.0**	**33.8**
Western region		**200.0**	**1.0**	**42.8**
	Bayan-Ulgii	58.0	5.0	27.0
	Gobi-Altai	95.0	7.0	40.8
	Zavkhan	55.0	50.0	50.3
	Uvs	85.0	1.0	40.2
	Khovd	200.0	15.0	55.8
Khangai region		**130.0**	**2.0**	**40.1**
	Arkhangai	30.0	2.0	12.5
	Bayankhongor	114.0	10.0	29.0
	Bulgan	55.0	15.0	40.9
	Uvurkhangai	47.0	7.0	18.1
	Khuvsgul	130.0	70.0	116.8
Central region		**120.0**	**1.0**	**29.7**
	Darkhan-Uul	75.0	5.0	16.8
	Dornogobi	59.0	2.0	26.3
	Dundgobi	70.0	4.0	28.8
	Umnugobi	120.0	11.0	56.9
	Selenge	120.0	3.0	42.3
	Tuv	70.0	1.0	23.6
Eastern region		**50.0**	**1.0**	**22.8**
	Dornod	42.0	14.0	33.8
	Sukhbaatar	45.0	45.0	45.0
	Khentii	50.0	1.0	17.7
Ulaanbaatar		**45.0**	**1.0**	**6.8**

On average, miners had the closes access to health treatment in Ulaanbaatar City and had to travel the farthest distance to hospitals in the western region and khangai region.

The distance from the site, where artisanal and small scale miners run their activities, to the related soum, district hospital by region level: the farthest hospital

in western region is in Khovd province (200 km) but the nearest hospital is in Uvs province (1 km). But in khangai region the farthest hospital is in Khuvsgul province (130 km) and the nearest hospital is in Arkhangai province (2 km).

For the artisanal and small scale miners in central region the farthest hospitals are in Umnugobi and Selenge provinces respectively (120 km) and the nearest hospital is in Tuv province (1 km). In eastern region the farthest hospital is in Khentii province (50 km) and the nearest is also in this province (1 km). For the artisanal and small scale miners in Ulaanbaatar city the farthest hospital is at 45 km and the nearest is at 1 km.

Of those surveyed, 7.9% of respondents stated that they receive medical services in hospitals other than those located in the soum, districts in which they operated. Nationwide, for the artisanal and small-scale miners the farthest distance to the hospital in other soum district is 130 km and the nearest is 3 km. The average distance is 57.6 km.

Some artisanal and small-scale miners of Dornogobi, Selenge and Tuv provinces of the central region said that they receive medical services from the hospitals of other soums. The farthest hospital for this region was located in Selenge province (45 km) and the nearest hospital was in Tuv province (8 km). In the eastern region, only some artisanal and small-scale miners from Khentii province receive medical services from the hospitals in another soum. The farthest hospital was located in 18 km and the nearest hospital was in 3 km in this province.

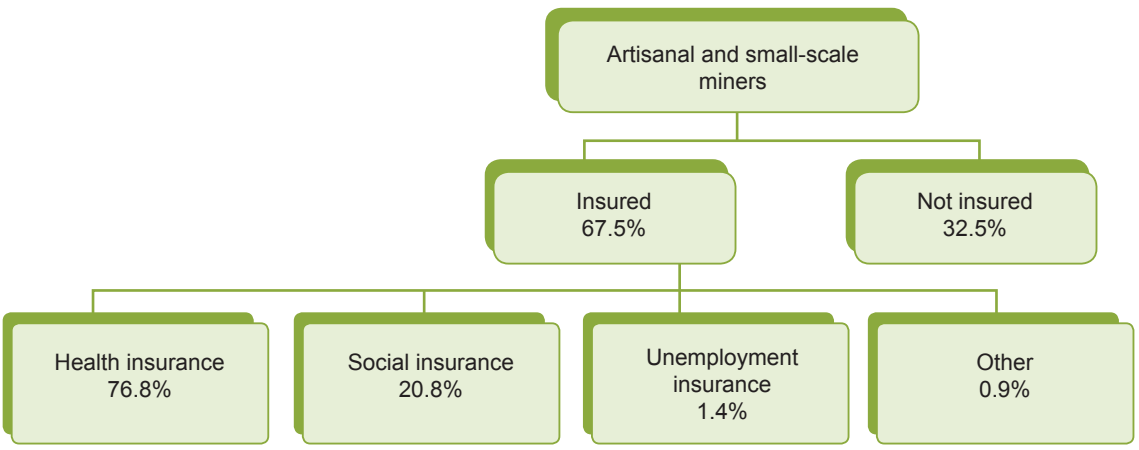
5.2. CONTRIBUTION TO SOCIETY AND LOCAL DEVELOPMENT

This section includes information related to participation of artisanal and small-scale miners in social and health insurance in 2011, changes in their lives resulted from artisanal and small-scale mining, their contributions to soum, district and local development, and support from governmental and non-governmental organizations.

Of those surveyed, 67.5% of respondents answered that they had insurance in 2011.

FIGURE 5.4. INVOLVEMENT OF ARTISANAL AND SMALL SCALE MINERS IN INSURANCE

(% insured by type in 2011)



From the total of insured people, 76.8% held health insurance, 20.8% had social insurance, 1.4% had unemployment insurance and 0.9% held other types of insurance.

Of those artisanal and small-scale miners involved to health insurance, 37.2% were in the central region, 32.6% in the khangai region, and 23.2% in the western region. Of those artisanal and small-scale miners involved to social insurance, 55.7% were in the central region, 18.2% in the khangai region and 15.8% in the western region.

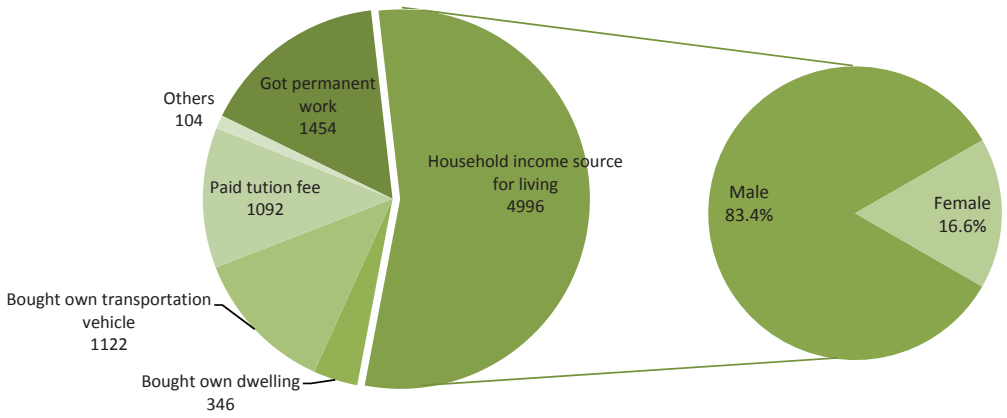
Of those artisanal and small-scale miners holding unemployment insurance, 45.3% were in the central region, 24.1% in the khangai and western regions. Those holding other types of insurance were from the central region (78.4%) and were from the western region (10.1%).

TABLE 5.5. INVOLVEMENT OF ARTISANAL AND SMALL SCALE MINERS IN INSURANCE, BY TYPE AND REGION (% in 2011)

	Health insurance	Social insurance	Unemployment insurance	Other
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**
Western region	23.2	15.8	24.1	10.1
Khangai region	32.6	18.2	24.1	7.2
Central region	37.2	55.7	45.3	78.4
Eastern region	3.3	5.9	5.6	4.3
Ulaanbaatar	3.7	4.4	0.9	-

Important changes in people's lives for those involved in artisanal and small scale mining reported include creation of an income source for household living (4996), creation of permanent workplaces (1454 respondents), purchase of vehicles (1122), payment of school fees (1092) and purchase of houses (346).

FIGURE 5.5. CHANGES IN THE LIVES OF MINERS FROM ARTISANAL AND SMALL SCALE MINING, by gender, %

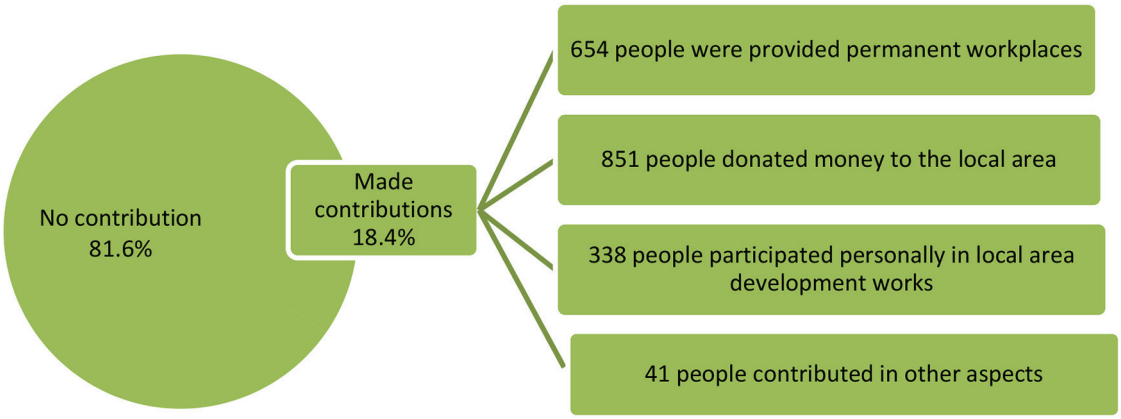


82.2% of the artisanal and small-scale miners who were provided with permanent workplaces, 83.4% of the artisanal and small-scale miners who were provided with household living income source, 84.1% of the artisanal and small-scale miners who purchased houses, 86.1% of the artisanal and small-scale miners who purchased transportation vehicles and 79.2% of the artisanal and small-scale miners who paid tuition fees were male.

Changes to the lives of the artisanal and small-scale miners by age group: 96.9% of those who were provided with permanent workplaces, 97.0% of those who were provided with household living income source, 98.6% of those who purchased houses, 98.8% of those who purchased cars and 94.9% of those who paid tuition fees were aged between 20 and 59 years old.

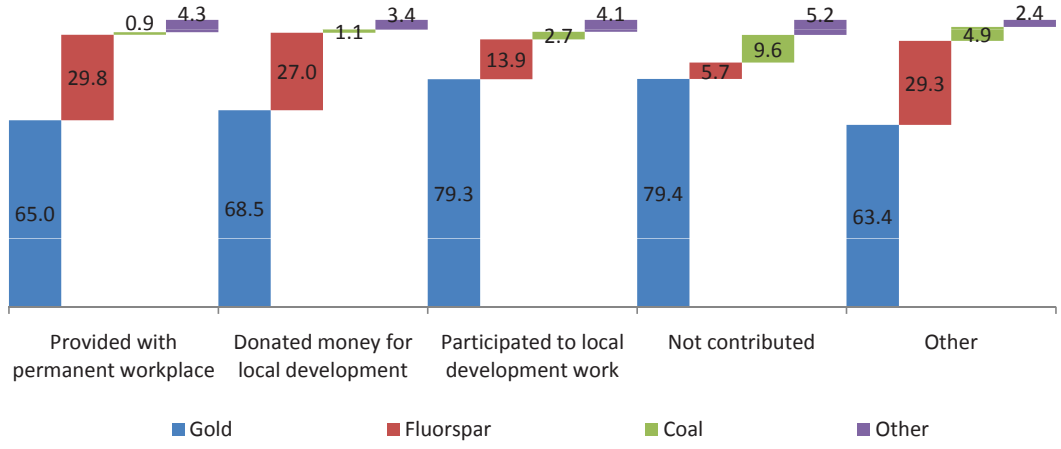
The survey data indicates that in relation to contributions made to the local area, 81.6% did not make any contributions and remaining 18.4% made contributions at some level.

FIGURE 5.6. DIRECT CONTRIBUTIONS MADE BY ARTISANAL AND SMALL SCALE MINERS TO THE LOCAL AREA



Contribution to local development differed depending on the commodity mined: of those who provided permanent workplaces for others, 65.0% were gold miners, 29.8% were fluorspar miners, 4.3% were other commodity miners and 0.9% were coal miners. Of those who donated to the local development and participated personally in local development works, respectively, 68.5% and 79.3% were gold miners and 27.0% and 13.9% were fluorspar miners.

FIGURE 5.7. DIRECT CONTRIBUTIONS MADE BY ARTISANAL AND SMALL SCALE MINERS TO THE LOCAL AREA BY MINERAL COMMODITY



In terms of regions, 56.5% of the artisanal and small-scale miners who were provided with permanent workplaces were from the central region, 20.8% from the khangai region, and 14.4% were from the western region. Of those who donated cash towards local development, 38.5% were from the khangai region, 32.7% from the central region, and 21.0% were from the western region. Of those who personally participated in local development works, 53.8% of the artisanal and small-scale miners were from the central region, 18.6% were from the western region and 17.5% were from the khangai region.

In relation to support miners received, 1568 artisanal and small-scale miners (18.0%) received some support from governmental and non-governmental organizations while the majority, 7134 (82.0%) did not receive any support.

TABLE 5.6. SUPPORT AND AID RECEIVED FROM GOVERNMENTAL AND NON-GOVERNMENTAL ORGANIZATIONS BY REGION

Region	Received support		Not received support		Total people	
	Number	%	Number	%	Number	%
TOTAL	**1 568**	**18.0**	**7 134**	**82.0**	**8 702**	**100.0**
Western region	206	10.0	1 845	90.0	2 051	100.0
Khangai region	564	21.4	2 069	78.6	2 633	100.0
Central region	770	25.1	2 301	74.9	3 071	100.0
Eastern region	25	7.7	301	92.3	326	100.0
Ulaanbaatar	3	0.5	618	99.5	621	100.0

According to the survey results, 770 artisanal and small-scale miners from the central region, 564 from the khangai region, 206 from the western region, 25 from the eastern region and 3 from Ulaanbaatar city have received support and/or aid from governmental and non-governmental organizations.

Of those miners, who have received support, 1054 people were provided with professional consultations and 1328 people were involved in trainings. Also, 9 people received non-repayable subsidies, 5 people purchased equipment at discounted rate and 5 people received soft loans.

TABLE 5.7. FORMS OF SUPPORT AND AID RECEIVED FROM GOVERNMENTAL AND NON-GOVERNMENTAL ORGANIZATIONS BY REGION

Type of support	Western region	Khangai region	Central region	Eastern region	Ulaan-baatar	Total
Received professional consultation	17.0	36.8	44.2	1.8	0.2	100.0
Involved in trainings	8.8	37.5	53.2	0.5	-	100.0
Purchased equipment at discounted rate	-	20.0	80.0	-	-	100.0
Received soft loan	-	-	60.0	40.0	-	100.0
Received non-repayable subsidy	11.1	22.2	44.5	11.1	11.1	100.0
Other	-	-	-	100.0	-	100.0

From the artisanal and small scale miners, who were provided professional consultation, 44.2% are from central region, 36.8% from khangai region, 17.0% from western region, from the artisanal and small scale miners, who participated in trainings, 53.2% are from central region, 37.5% from khangai region, and 8.8% from western region. From the artisanal and small scale miners, who received non-repayable subsidy, 44.5% are from central region and 22.2% from khangai region.

5.3. CHALLENGES AND DIFFICULTIES FACING ARTISANAL AND SMALL-SCALE MINERS

This section identifies the challenges and difficulties that artisanal and small-scale miners face in conducting their mining activities, how they deal with governmental and administrative organizations and how these difficulties were resolved. It also addresses problems related to marketing of minerals, resolutions to issues surrounding mining land permission, and the type of support miners want from governmental and non-governmental organizations.

1616 people of survey participants (18.6%) answered that they do not face any challenges and difficulties.

The remaining 7086 artisanal and small-scale miners or 81.4% listed the following common challenges and difficulties they face: 2517 (by double numbers) miners considered that the legal environment is not favourable. Of those, 40.8% were from the central region, 35.0% from the khangai region, and 20.3% from the western region. 3586 (by double number) miners considered that the recovery of mineral resources is low. Of those, 36.3% were from the central region, 31.3% from the khangai region and 26.9% from the western region.

TABLE 5.8. MAIN CHALLENGES FACING ARTISANAL AND SMALL SCALE MINERS BY REGION

Types of troubles and difficulties	Region (%)					TOTAL
	Western region	Khangai region	Central region	Eastern region	Ulaan-baatar	
No troubles and difficulties	27.7	33.1	19.2	5.0	15.0	100.0
Lack of proper legal environment	20.3	35.0	40.8	3.1	1.0	100.0
Low recovery of minerals	26.9	31.3	36.3	4.4	1.1	100.0
Mining area is limited	18.8	31.8	43.9	3.7	1.8	100.0
Financial problems (no loan)	25.3	21.6	37.8	3.4	11.9	100.0
Lack of equipment, capacity	34.1	25.0	24.2	3.0	13.6	100.0
Organizational problems	23.3	24.5	46.4	3.5	2.3	100.0
Too much control and pressure	24.8	16.4	54.4	1.6	2.9	100.0
Tax issues	17.2	8.3	71.8	1.7	1.1	100.0
Others	9.8	4.9	31.7	12.2	41.5	100.0

A total of 3436 (by double number) artisanal and small-scale miners considered that mining land is limited, of whom 43.9% were from the central region, 31.8% from the khangai region, and 18.8% from the western region. Also, 994 miners (by double numbers) considered that financial problems posed difficulties in taking out loans, of whom 37.8% were from the central region, 25.3% from the western region and 21.6% from the khangai region.

1629 miners (by double number) answered that equipment is not sufficient and low capacity, of whom 34.1% were from the western region, 25.0% from the khangai region and 24.2% from the central region. 711 (by double number) miners answered that they face challenges in organizational issues, of whom 46.4% were from the central region, 24.5% from the khangai region and 23.3% from the western region.

2296 miners (by double number) considered that there is too much control and pressure, of whom 54.4% were from the central region, 24.8% from the western region, and 16.4% from the khangai region. 471 miners (by double numbers) answered that tax issues is a problem, of whom 71.8% were from the central region and 17.2% from the western region.

TABLE 5.9. MAIN CHALLENGES FACING ARTISANAL AND SMALL SCALE MINERS BY TYPE OF MINERAL COMMODITY (%)

Type of challenges and difficulties	Total	Mineral Commodity (%)							
		Gold	Coal	Fluorspar	Tungsten	Tin	Limestone	Precious stone	Salt
TOTAL	**100.0**	**80.7**	**5.7**	**8.6**	**3.5**	**0.4**	**0.1**	**1.0**	**0.1**
No troubles or difficulties	**100.0**	67.8	16.9	9.5	1.1	0.6	0.1	3.2	0.7
Face troubles and difficulties	**100.0**	82.0	4.5	8.5	3.7	0.4	0.1	0.8	0.1
Lack of proper legal environment	**100.0**	86.7	1.2	7.9	2.7	-	0.1	1.4	-
Low recovery	**100.0**	81.9	1.9	10.2	4.8	0.4	-	0.7	0.1
Mining land is limited	**100.0**	87.1	2.5	7.5	1.8	0.6	-	0.3	0.1
Financial problems (no loan)	**100.0**	69.3	13.1	13.5	3.1	0.3	0.1	0.4	0.2
Lack of equipment, low capacity	**100.0**	64.5	16.3	9.7	7.4	1.1	0.2	0.6	0.2
Organizational problems	**100.0**	89.0	3.5	5.5	1.4	-	-	0.6	-
Too much control and pressure	**100.0**	87.3	3.6	4.1	4.6	0.1	0.1	0.2	-
Tax issues	**100.0**	74.7	1.1	17.2	1.9	0.4	0.0	4.7	-
Others	**100.0**	29.3	41.5	17.1	2.4	-	-	9.8	-

In terms of differences according to commodity mined, of all challenges and difficulties reported, gold miners (82.0%) reported the greatest number, followed by coal miners (4.5%), fluorspar miners (8.5%) and tungsten miners (3.7%). This is not particularly suprising given that 78.2% of miners surveyed are involved in gold extraction.

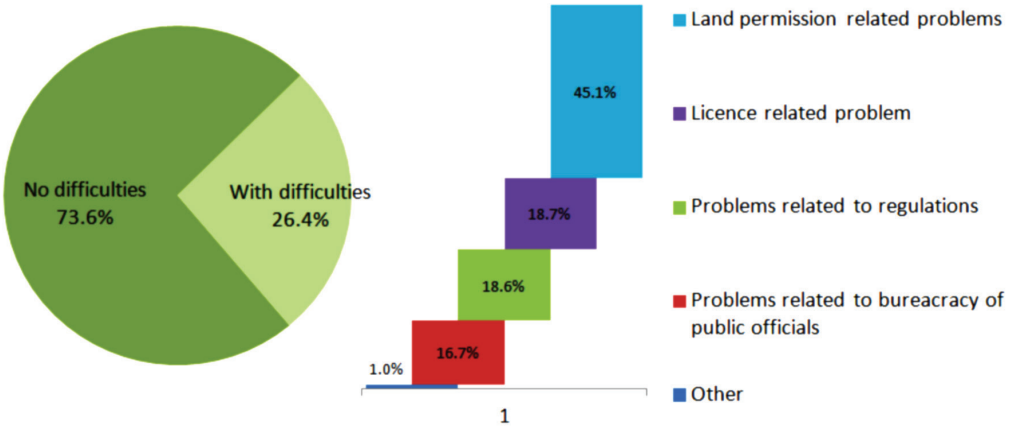
A total of 6403 artisanal and small-scale miners (73.6%) answered that they do not face any difficulties in dealing with administrative organizations. Of the 2299 (26.4%) miners that do face difficulties, 1351 miners reported difficulties with the local administrative organizations and 736 people identified that the specialized inspection organization as difficult to deal with. As well, 174 miners mentioned tax organizations and 858 miners said law enforcement organizations were difficult to deal with.

TABLE 5.10. TYPES OF ORGANIZATIONS WHICH ARTISANAL AND SMALL SCALE MINERS HAVE DIFFICULTY DEALING WITH BY REGION

Types of organizations	Region (%)					TOTAL
	Western region	Khangai region	Central region	Eastern region	Ulaan-baatar	
Local administrative organizations	32.2	18.2	44.0	4.4	1.1	100.0
Specialized inspection organizations	25.8	23.5	42.1	6.8	1.8	100.0
Tax organizations	23.6	32.8	42.0	-	1.7	100.0
Law enforcement organizations	16.2	18.8	63.5	1.0	0.5	100.0
Mineral Resources Authority of Mongolia	15.3	29.1	46.0	7.3	2.2	100.0
Others	22.6	9.7	67.7	-	-	100.0

Overall, 45.1% of respondents who answered it was hard to deal with administrative organizations said that they had land permission issues, 18.7% had mineral resources licensing issues, 18.6% had issues on rules and regulations and 16.7% considered that the bureaucracy of the public servants is difficult to deal with.

FIGURE 5.8. TYPES OF DIFFICULT ISSUES IN DEALING WITH LOCAL ADMINISTRATIVE ORGANIZATIONS



In relation to how these issues were resolved at regional level: 151 issues were resolved under legal jurisdiction, of which 37.8% were in the central region, 30.5% in the western region and 26.5% in the khangai region. Contracts and agreements were used to resolve 142 issues, of which 57.0% were in the central region and 28.2% in the western region.

A total of 425 issues were resolved by paying fines and fees, of which 79.1% were in the central region and 16.5% in the western region. In total, 32 issues were resolved by giving gifts, rewards and bribes, of which 71.9% were in the central region, 15.6% in the western region, and 12.5% in the khangai region. It was also reported that 60 issues were resolved by force, of which 63.4% were in the central region and 33.3% in the western region.

The issues of 1595 artisanal and small-scale miners have not been resolved, of which 38.4% were in the central region, 28.8% in the khangai region and 27.5% in the western region.

TABLE 5.11. HOW ISSUES OF ARTISANAL AND SMALL SCALE MINERS WERE RESOLVED, BY REGION

Means of Resolution	Western region		Khangai region		Central region		Eastern region		Ulaan-baatar		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Under jurisdiction	46	30.5	40	26.5	57	37.7	4	2.6	4	2.6	151	100.0
Through contracts and agreements	40	28.2	19	13.4	81	57.0	1	0.7	1	0.7	142	100.0
Paid fines and fees	70	16.5	16	3.8	336	79.0	2	0.5	1	0.2	425	100.0
Gave gifts, rewards and bribes	5	15.6	4	12.5	23	71.9	-	-	-	-	32	100.0
Solved by force	20	33.3	2	3.3	38	63.4	-	-	-	-	60	100.0
Others	9	32.1	-	-	19	67.9	-	-	-	-	28	100.0
Not solved	438	27.5	460	28.8	613	38.4	63	3.9	21	1.3	1595	100.0

The biggest problem related to marketing of minerals reported by survey participants was below market purchase prices given by middlemen. A total of 6158 miners out of 8702 surveyed (70.8%) mentioned this problem.

The next problem regarding minerals marketing is inability to sell their gold to local bank, which was cited by 1943 (22.3%) miners. Of those surveyed, 944 miners (10.8%) responded that they do not have any problems in selling their minerals.

TABLE 5.12. CHALLENGES IN MARKETING OF MINERALS, BY MINERAL COMMODITY

Mineral Commodity	No purchase places		Purchase place is far		Unable to sell to local bank		Middlemen buy at lower price		Others		No difficulties	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
TOTAL	**1 563**	**100.0**	**1 106**	**100.0**	**1 943**	**100.0**	**6 158**	**100.0**	**43**	**100.0**	**944**	**100.0**
Gold	1 128	72.2	779	70.4	1 854	95.4	5 229	84.9	9	20.9	431	45.7
Coal	142	9.1	15	1.4	3	0.2	107	1.7	20	46.5	435	46.1
Fluorspar	123	7.9	240	21.7	69	3.6	473	7.7	8	18.6	75	7.9
Tungsten	93	6.0	47	4.2	7	0.4	248	4.0	1	2.3	-	-
Tin	6	0.4	3	0.3	8	0.4	31	0.5	1	2.3	1	0.1
Limestone	3	0.2	-	-	1	0.1	3	-	1	2.3	-	-
Precious stone	55	3.5	17	1.5	1	0.1	59	1.0	2	4.7	2	0.2
Salt	13	0.8	5	0.5	-	-	8	0.1	1	2.3	-	-

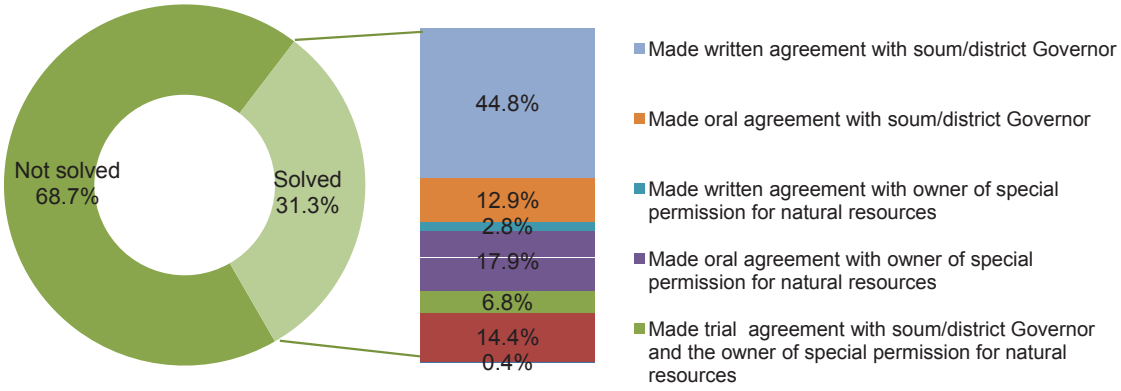
Of note, 84.9% of gold miners and 7.7% of fluorspar miners mentioned the problem related to middlemen buying their minerals at lower rate than on market while 95.4% of the gold miners mentioned their inability to sell their gold to local bank as a problem.

72.2% of gold miners, 9.1% of coal miners and 7.9% of fluorspar miners mentioned the difficulty of absence of purchase place. 70.4% of gold miners and 21.7% of fluorspar miners face the difficulties related to selling their mineral in marked which is located far from their mining area.

Artisanal and small-scale miners surveyed reported that 68.7% mining land permission related issues were not solved. Of those that were resolved (31.3%) they were done so in the ways shown in Figure

FIGURE 5.9. WAYS IN WHICH MINING LAND PERMISSION ISSUES WERE RESOLVED

(by % of the 31.3% of the issues which were resolved)



Mining land issues could not be resolved for 78.0% of gold miners, 19.6% of coal miners, 26.3% of fluorspar miners, 84.3% of tungsten steel miners, 78.0% of tin miners, 83.3% of limestone miners, 80.2% of precious stone miners and 38.9% of salt miners.

Written contracts with soum, district governors were used to resolve the issues by 66.1% of fluorspar miners and 55.6% of salt miners. Oral contracts with soum, district governors were used to resolve the issue by 16.7% of limestone miners and 5.0% of gold miners.

Coal miners relied heavily on oral contracts with licence holders (64.3%). Results indicate that 19.5% of tin miners, 13.8% of tungsten steel miners, 5.1% of fluorspar miners, 4.4% of coal miners and 4.1% of gold miners work without any contracts on the licensed area of mining companies.

TABLE 5.13. HOW MINING LAND ISSUES WERE RESOLVED BY MINERAL COMMODITY

Means of Resolution	Mineral Commodity (%)							
	Gold	Coal	Fluorspar	Tungsten	Tin	Limestone	Precious stone	Salt
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not solved	78.0	19.6	26.3	84.3	78.0	83.3	80.2	38.9
Solved by:	22.0	80.4	73.7	15.7	22.0	16.7	19.8	61.1
Written contract with soum/district governors	9.7	1.1	66.1	0.4	2.4	-	19.8	55.6
Oral contract with soum/ district governors	5.0	0.1	0.9	0.4	-	16.7	-	-
Written contract with license owners	0.1	9.7	-	0.4	-	-	-	-
Oral contract with license owners	0.4	64.2	0.5	-	-	-	-	-
Trilateral contract with soum governor and license owners	2.5	0.8	1.0	0.8	-	-	-	5.6
Work without contract on the companies' licensed area	4.1	4.4	5.1	13.8	19.5	-	-	-
Others	0.1	-	0.1	-	-	-	-	-

Regarding the type of support and aid from governmental and non-governmental organizations that artisanal and small-scale miners would like to receive to conduct mining activities: 27.6% of miners would like support in solving their land problems; 13.9% in improving the legal environment, 10.8% in rehabilitating the mined out areas; 10.4% in receiving loans and financial support; 10.2% in improving labor protection and safety; 9.9% would like to receive technical and technological support; 9.6% to introduce the system of responsible partnerships and 7.5% to have official registration. Only 0.7 % of those 8702 survey participants expressed no willingness to receive any support.

APPENDIX

SURVER QUESTIONNAIRY

Approved by Appendix II decision no. 184, dated on July 06, 2012 by Chairman of National Statistical Office.

Form BUS-1

The information confidentiality is kept under Law on Personal Confidentiality of Mongolia and Para 3 article 22 of Law of Statistics of Mongolia.

SURVEY ON ARTISANAL AND SMALL SCALE MINING 2012

PART 1. ADDRESSES

information on administration and territory under artisanal and small scale mining

no	Question	Answer
1.1	**Province/Capital**	..... Code ☐☐
1.2	**Soum/District**	..... ☐☐
1.3	**Bagh/Khoroo**	..... ☐☐
1.4	**Location** (capital-1, province center-2, soum center-3, countryside-4)	
1.5	**Name of natural resource deposit**	.....
1.6	**Enumerator**	..... ☐☐☐
1.7	**Operator**	..... ☐☐
1.8	**Number of questionnaire**	..... ☐☐☐
1.9	**Contact phone number**	.....

PART 2. GENERAL INFORMATION

no	Question	Answer	Step
2.1	**Can you tell about your administrative citizenship? (as officially registered)**	code Name of province/capital ..... ☐☐ Name of soum/district ..... ☐☐ Name of bagh/khoroo ..... ☐☐	
2.2	**Surname**	.....	
2.3	**First name**	.....	
2.4	**Personal number**	☐☐☐☐☐☐☐☐☐☐	
2.5	**Gender**	Male..... 1 Female 2	
2.6	**Age** (by full years)	☐☐	
2.7	**How many people are in your family?**	1. Number of family members ..... ☐☐ 2. From which, number of people, working in artisanal and small scale mining ..... ☐☐	
2.8	**What is the highest level of your education gained?**	Uneducated ..... 1 Primary ..... 2 General ..... 3 High school ..... 4 Technical and vocational ..... 5 Special vocational ..... 6 Higher 7	
2.9	**What is your profession?**	Profession ..... ☐☐☐☐	
2.10	**How long have you been working in artisanal and small scale mining?**	Years ..... ☐☐	

no	Question	Answer		Step
2.11	**What is you employment status***	Partnership leader/employer	1	
		Partnership member.....	2	→ 2.13
		Artisanal miner	3	→ 2.17
		Small scale mining supporting activities	4	
		Unpaid participant to family business	5	
				Question 2.16
2.12	**How many members are in your partnership?**	1. Total		
		2.From which female.....		
2.13	**What is name of your partnership?**	.....		
		.....		
2.14	**How do you distribute the income from your partnership?**	Income is equallyn distributed to members.....	1	
		Income is distributed by results.....	2	
		Income is distributed by constant percentage.....	3	
		income is not distributed.....	4	
2.15	**Is your partneship subordinated to non-governmental organization?**	Yes	1	
		No	2	
				Question 2.17
2.16	**What is your role in artisanal and small scale mining?**	Family member.....	1	
		To purchase natural resource mined.....	2	
		Trade of food and goods.....	3	
		Caterer services	4	
		Transportation service.....	5	
		Others (specify) _____	6	
				Questions completed.
2.17	**What is your reason to run artisanal and small scale mining?** (More than one choice is possible)	Could not find permanent workplace	A	
		Could not find another job wit good wages.....	B	
		Lost livestock.....	C	
		To have additional income.....	D	
		To make it own business.....	E	
		Others (specify) _____	F	
2.18	**In what kind of dwelling do you live during artisanal and small scale mining?**	Ger.....	1	
		House.....	2	
		Tent	3	
		Temporar dwelling.....	4	
		Hole.....	5	
		Others (specify) _____	6	
		No dwelling.....	7	
				Question 2.20
2.19	**What is the ownership status of the swelling you live during artisanal and small scale mining?**	Own	1	
		Joint	2	
		Rental.....	3	

*** notes:**

1. If partnership leader/employer fills 1,2,3 to question 2.14, then at partnership level, if fills 4 of 2.14, then, provide only own information.
2. If partnership member fills 4 to question 2.14, then provide only own information.

no	Question	Answer		step
2.20	**What is the source of electricity in the place where you run artisanal and small scale mining?**	Centralized system	1	
		Diesel station	2	
		Renewable energy equipment	3	
		Small scale electric generator	4	
		No electricity source	5	
2.21	**What is the source of water in the place where you run artisanal and small scale mining?**	Centralized system	1	
		Water distribution point, connected to centralized system	2	
		Protected well	3	
		Protected spring and streams	4	
		Distilled bottled water	5	
		Water distribution point, not connected to centralized system	6	
		Portable water	7	
		River, lakes, unprotected wells, springs, streams	8	
2.22	**Do you run artisanal and small scale mining in another place?**	Yes	1	
		No	2	
2.23	**Do you run activites other than artisanal and small scale mining?**	Yes	1	
		No	2	→ **Question 3.1**
2.24	**If yes, what kind of other business do you run?**	..... code		
		.....		

PART 3. LOSSES FROM ARTISANAL AND SMALL SCALE MINING

no	Question	Answer		Step
3.1	**Have you got in following accidents during artisanal and small scale mining?** (More than one answer is possible)	No	A	→ **3.3**
		Felt airless	B	
		was buried	C	
		was burnt	D	
		was frozen	E	
		Fell into hole	F	
		Others (specify)	G	
3.2	**What losses you had because of accidents?** (More than one answer is possible)	Health	A	
		Material	B	

no	Question	Answer	Step
3.3	**From what kind of disease you suffered most during artisanal and small scale activites?** (Choose the most common 3)	Not get sick ..... A Respiratory system ..... B Backache ..... C Digestion ..... D Cardiovascular disease ..... E Skin and subcutaneous cellulose ..... F Bone and muscle system, connecting tissue disease ..... G Urine and genital disease ..... H Injuries, intoxication and other outside diseases .... I Nervous system..... G Infectious and some parasitic diseases ..... K Others (specify) _____ L	
3.4	**How far it is from your mining site to medical service?**	1. Soum/district hospital of the mining ..... [ ] km 2. Other soum/district hospital ..... [ ] km	

PART 4. CONTRIBUTION TO SOCIAL AND LOCAL DEVELOPMENT

no	Question	Answer	Step
4.1	**Did you make the following insurance in 2011?** (More than one answer is possible)	Health insurance ..... A Social insurance ..... B Unemployment insurance ..... C Others (specify) _____ D Not insured ..... E	
4.2	**What changes in your life you had by running artisanal and small scale mining?** (More than one answer is possible)	Provided permanent workplace ..... A Income source for living ..... B Bought own dwelling ..... C Bought own transporation vehicle ..... D Paid tuition fee ..... E Others (specify) _____ F No changes ..... G	
4.3	**What kind of contribution you made to social and local development from artisanal and small scale mining?** (More than one answer is possible)	Provided permanent workplace ..... A Monetary donation to local development ..... B Personally participated in local decoration works ..... C Others (specify) _____ D Did not contribute ..... E	

PART 5. TROUBLES AND DIFFICULTIES

Page 5

no	Question	Answer	Step
5.1	**Did governmental and/or non governmental organization support in your artisanal and small scale activities?**	Yes ..... 1 No ..... 2 → Question 5.3	
5.2	**What kind of support you received?** (More than one answer is possible)	Professional consultancy ..... A Involved to training ..... B Received equipment at discount price ..... C Soft loan ..... D Non-repayable grant ..... E Others (specify) _____ F	
5.3	**List any troubles and difficulties faced during artisanal and small scale mining?** (Choose the most common 3)	No troubles and difficulties ..... A Legal atmosphere is unsatisfied ..... B Poor yield of natural resources ..... C Limited working area ..... D Financial problems (to take loan) ..... E Poor equipment ..... F Organizational problems ..... G Too much control and pressure ..... H Tax problems ..... I Others (specify) _____ J	
5.4	**Is it difficult for you to contact administrative organizations?**	Yes ..... 1 No ..... 2 → Question 5.8	
5.5	**List the related organizations** (More than one answer is possible)	Local governmental organization ..... A Professional inspection organization ..... B Tax organization ..... C Legal organziation ..... D Natural resource authority ..... E Others (specify) _____ F	
5.6	**What kind of troubles and difficulties do you face?**	Related to land permission ..... A Related to special permission on natural resources ..... B Related to laws and regulations ..... C Related to bureaucracy of public servants ..... D Others (specify) _____ E	
5.7	**How then above problems were solved?** (More than one answer is possible)	Under laws and regulations ..... A Made contracts and/or agreements ..... B Paid fines and payment ..... C Gave reward, gift, bribery ..... D Solved by force ..... E Others (specify) _____ F Not solved ..... G	

no	Question	Answer		Step
5.8	**What difficulties to you face to sell the natural resource mined?** (More than one asnswer is possible)	No purchase place	A	
		Purchase place is far	B	
		Impossible to give to local banks	C	
		Changers buy at the price lower than market	D	
		Others (specify) _____	E	
5.9	**How did you solve the land for natural resource mining?**	Not solved	1	
		Made written agreement with soum/district Governor	2	
		Made oral agreement with soum/district Governor	3	
		Made written agreement with the owner of special permission for natural resources	4	
		Made oral agreement with the owner of special permission for natural resources.....	5	
		Made trial agreement with soum/district Governor and the owner c special permission for natural resources	6	
		Work without contract on a business entity field	7	
		Other (specify) _____	8	
5.10	**What kind of support do you want to receive from governmental anc non-governmental organizatior for you artisanal and small scale mining?** (Choose the most common 3)	To solve land problem	A	
		To improve legal atmosphere	B	
		To take loan and financial support	C	
		To take technical support	D	
		To be officially registered	E	
		To introduce responsible partnership system	F	
		To improve labor protection and safety	G	
		To rehabilitate the environment.....	H	
		Others (specify) _____	I	

PART 6. EQUIPMENT

CHECK !!

1. If partnership leader/employer fills 1,2,3 to question 2.14, then at partnership level, if fills 4 of 2.14, then, provide only own informatio
2. If partnership member fills 4 to question 2.14, then provide only own information.

no	Question	Answer		Step
6.1	**Do you use any tools and equipment in artisanal and small scale mining?**	Yes.....	1	
		No	2 →	**6.4**
6.2	**What is the ownership of most used tool/equipment?**	Own.....	1	
		Joint	2	
		Rental.....	3	

no	Question	Answer	step
6.3	**What is the quantity of the tools and equipment you use?**	1. Manual tool (hammer, shovel, hack, etc)..... ☐☐ pcs 2. Metal finder ..... ☐☐ pcs 3. Electric generator..... ☐☐ pcs 4. Conditioner ..... ☐☐ pcs 5. Drill ..... ☐☐ pcs 6. Lifting equipment ..... ☐☐ pcs 7. Water gun (scrubber)..... ☐☐ pcs 8. Pump ..... ☐☐ pcs 9. Small scale drill (compressor) .... ☐☐ pcs 10. Other 1 _____ ☐☐ pcs 11. Other 2 _____ ☐☐ pcs 12. Other 3 _____ ☐☐ pcs	
6.4	**Do you use labor protection uniform?**	Yes ..... 1 No 2	

PART 7. ACTIVITY INFORMATION

CHECK !!
1. If partnership leader/employer fills 1,2,3 to question 2.14, then at partnership level, if fills 4 of 2.14, then, provide only own information.
2. If partnership member fills 4 to question 2.14, then provide only own information.

no	Question	Answer	Step
7.1	**What kind of natural resource do you mine?**	Gold ..... 1 Coal ..... 2 Spar ..... 3 Tungsten steel ..... 4 Tin ..... 5 Limestoney ..... 6 Precious stone ..... 7 Sand, gravel ..... 8 Other (specify) _____ 9	
7.2	**What is you mining type?** (More than one answer is possible)	Pit ..... A Mine ..... B	

no	Question	Answer	Step
7.3	**Do you work on permitted field?**	Yes ..... 1 No ..... 2 →	**7.5**
7.4	**What type of permission do you have on the field you working at?**	Land under local special exploitation ..... 1 Land with exploitation licence by business unit ..... 2 Other (specify) _____ 3	
7.5	**What is the size of the field you using?**	☐☐☐☐ m^2	
7.6	**What is the size of broken field since your artisanal and small scale mining?**	☐☐☐☐ m^2	
7.7	**Did you make rehabilitation in 2011?**	Yes..... 1 No ..... 2 →	**7.10**
7.8	**What is the size of rehabilitated field?**	☐☐☐☐ ha	
7.9	**To whom do you hand over the rehabilitated field?** (More than one answer is possible)	Soum/district Governor's Office ..... A Conservation inspector ..... B Other (specify) _____ C	
7.10	**To whom you sell the natural resource mined?** (More than one answer is possible)	To business unit ..... A To individual ..... B Others (specifyy) _____ C	
7.11	**In what months do you mine?** (circle)	Months 1 2 3 4 5 6 7 8 9 10 11 12	
7.12	**List the the months with minimum, mean and maximum income in 2011** (Not double the months)	Level — months 1. Maximum 1 2 3 4 5 6 7 8 9 10 11 12 2. Mean 1 2 3 4 5 6 7 8 9 10 11 12 3. Minimum 1 2 3 4 5 6 7 8 9 10 11 12	
7.13	**How much was your monthly income in minimum, mean and maximum periods?**	1. Maximum income ☐☐☐☐☐☐☐☐ MNT 2. Mean income ☐☐☐☐☐☐☐☐ MNT 3. Minimum income ☐☐☐☐☐☐☐☐ MNT	

no	Question	Answer					Step
7.14	**What is the sales amount of natural resource in 2011**		measure unit	number of months with sales	Physical quantity(monthly average)	**total**	
		month with max income					
		month with mean income					
		month with min income					
		total	X				
		name	*measure unit*	*name*	*measure unit*		
		gold	*g*	*Limestone*	*t*		
		coal	*t*	*Precious stone*	*t*		
		spar	*t*	*Sand, gravel*	*t*		
		tungsten steel	*t*	*other*	....		
		tin	*t*				
7.15	**What is the amount of expenses in 2011, related to artisanal and small scale mining?**	1. Wages				MNT	
		2. Monetary and non-monetary grant to workers.....				MNT	
		3. Fuel, lubricate and combustible material.....				MNT	
		4. Transportation expenses				MNT	
		5. Labor protection				MNT	
		6. Electricity and heating				MNT	
		7. Spare parts				MNT	
		8. Raw materials.....				MNT	
		9. Loan interest.....				MNT	
		10.Rent of machines and mechanisms				MNT	
		11. Rent of buildings and facilities.....				MNT	
		12. Compensation of losses from natural disaster				MNT	
		13. Payment to land owner				MNT	
		14. Expenses related to environment rehabilitation				MNT	
		15. Other (specify) _____				MNT	
		16. Total.....				MNT	
7.16	**Did you pay taxes and deductions in 2011?**	Yes ..... 1 No ..... 2 → **Question 7.18**					
7.17	**What is the amount of taxes and deduction and paid in 2011?**	1. Tax on auto and transportation vehicles				MNT	
		2. Tax of citizens, whose income is impossible to be determined at every occasion				MNT	
		3. Membership tax				MNT	
		4. Other (specify) _____				MNT	
		5. Total				MNT	

no	Question	Answer	Step
7.18	**Did you make investment for the mining in 2011?**	Yes ..... 1 No ..... 2 ↴ **Questionnaire completed**	
7.19	**What is the amount of your investment?**	Buildings and facilities ..... ☐ MNT Transportation vehicles ..... ☐ MNT Equipment ..... ☐ MNT Other .... ☐ MNT **Total** ..... ☐ MNT	
7.20	**What is the percentage to investment source?**	1. By bank loan..... ☐ 2. By project and program financing ..... ☐ 3. By own investment ..... ☐ 4. Other ..... ☐ **5. Total** ..... **100** **%**	

THANK YOU VERY MUCH

…day …month 2012

APPENDIX

OUTPUT TABLES

TABLE 1. Number of artisanal and small-scale miners, by region, aimags and the capital city, gender and percentage to the total

Region, aimag and the capital city	Number of artisanal miners	Of which:	Percentage to the total	Of which:
		Female		Female
TOTAL	**13 375**	**3 915**	**100.0**	**100.0**
West region	**3 380**	**1 010**	**25.3**	**25.8**
Bayan-Ulgii	253	24	1.9	0.6
Gobi-Altai	751	214	5.6	5.5
Zavkhan	40	8	0.3	0.2
Uvs	1 705	653	12.7	16.7
Khovd	631	111	4.7	2.8
Khangai region	**3 967**	**1 355**	**29.7**	**34.6**
Arkhangai	120	51	0.9	1.3
Bayankhongor	1 926	687	14.4	17.5
Bulgan	216	94	1.6	2.4
Uvurkhangai	646	247	4.8	6.3
Khuvsgul	1 059	276	7.9	7.0
Central region	**4 403**	**1 295**	**32.9**	**33.1**
Gobisumber	52	26	0.4	0.7
Darkhan-Uul	295	104	2.2	2.7
Dornogobi	461	142	3.4	3.6
Dundgobi	416	98	3.1	2.5
Umnugobi	175	27	1.3	0.7
Selenge	1 254	284	9.4	7.3
Tuv	1 750	614	13.1	15.7
East region	**365**	**87**	**2.7**	**2.2**
Dornod	59	13	0.4	0.3
Sukhbaatar	35	14	0.3	0.4
Khentii	271	60	2.0	1.5
Ulaanbaatar	**1 260**	**168**	**9.4**	**4.3**

TABLE 2. Number of artisanal and small-scale miners, by region, aimags and the capital city and age group

Region, aimag and the capital city	TOTAL	Age group							
		10-14	15-17	18-19	20-24	25-29	30-34	35-39	40-44
TOTAL	**13 375**	**236**	**329**	**363**	**1 765**	**2 011**	**2 090**	**2 013**	**1 787**
West region	**3 380**	**187**	**180**	**136**	**392**	**447**	**488**	**455**	**461**
Bayan-Ulgii	253	12	12	12	43	36	36	23	35
Gobi-Altai	751	4	13	11	72	133	123	109	112
Zavkhan	40	-	-	-	-	3	8	8	13
Uvs	1 705	170	139	105	222	185	208	223	203
Khovd	631	1	16	8	55	90	113	92	98
Khangai region	**3 967**	**27**	**89**	**123**	**589**	**623**	**585**	**599**	**490**
Arkhangai	120	-	5	2	22	17	29	8	13
Bayankhongor	1 926	18	47	62	330	351	265	245	210
Bulgan	216	-	1	3	27	43	41	26	21
Uvurkhangai	646	8	17	26	68	92	89	120	74
Khuvsgul	1 059	1	19	30	142	120	161	200	172
Central region	**4 403**	**17**	**51**	**69**	**519**	**662**	**721**	**721**	**629**
Gobisumber	52	-	2	2	1	7	14	8	6
Darkhan-Uul	295	-	3	8	37	40	49	43	41
Dornogobi	461	11	10	8	51	65	69	78	62
Dundgobi	416	-	2	10	37	72	65	71	63
Umnugobi	175	1	1	2	12	28	32	40	22
Selenge	1 254	-	4	12	150	176	213	208	207
Tuv	1 750	5	29	27	231	274	279	273	228
East region	**365**	**4**	**3**	**5**	**45**	**35**	**61**	**74**	**66**
Dornod	59	-	-	-	7	5	7	19	9
Sukhbaatar	35	4	-	-	3	3	3	12	6
Khentii	271	-	3	5	35	27	51	43	51
Ulaanbaatar	**1 260**	**1**	**6**	**30**	**220**	**244**	**235**	**164**	**141**

TABLE 2 continuation

Region, aimag and the capital city	TOTAL	Age group					
		45-49	50-54	55-59	60-64	65-69	70 +
TOTAL	**13 375**	**1 439**	**844**	**355**	**94**	**37**	**12**
West region	**3 380**	**349**	**187**	**72**	**19**	**5**	**2**
Bayan-Ulgii	253	20	15	5	3	1	-
Gobi-Altai	751	81	54	32	4	2	1
Zavkhan	40	6	1	1	-	-	-
Uvs	1 705	159	65	18	6	1	1
Khovd	631	83	52	16	6	1	-
Khangai region	**3 967**	**432**	**262**	**111**	**21**	**14**	**2**
Arkhangai	120	10	10	2	2	-	-
Bayankhongor	1 926	193	132	56	10	7	-
Bulgan	216	23	17	12	1	1	-
Uvurkhangai	646	82	46	20	2	2	-
Khuvsgul	1 059	124	57	21	6	4	2
Central region	**4 403**	**509**	**311**	**131**	**43**	**13**	**7**
Gobisumber	52	4	6	-	1	1	-
Darkhan-Uul	295	36	28	6	3	-	1
Dornogobi	461	48	32	19	6	1	1
Dundgobi	416	49	27	15	2	2	1
Umnugobi	175	21	5	9	2	-	-
Selenge	1 254	143	89	32	11	6	3
Tuv	1 750	208	124	50	18	3	1
East region	**365**	**41**	**15**	**9**	**5**	**1**	**1**
Dornod	59	8	1	-	2	-	1
Sukhbaatar	35	4	-	-	-	-	-
Khentii	271	29	14	9	3	1	-
Ulaanbaatar	**1 260**	**108**	**69**	**32**	**6**	**4**	**-**

TABLE 3. Number of artisanal and small-scale miners, by region, aimags and the capital city and number of family members

Region, aimag and the capital city	TOTAL	Group of family member number			
		Single member	2-5	6-9	10 and above
TOTAL	**13 375**	**545**	**9 832**	**2 908**	**90**
West region	**3 380**	**57**	**2 081**	**1 224**	**18**
Bayan-Ulgii	253	3	126	121	3
Gobi-Altai	751	13	587	151	-
Zavkhan	40	-	32	8	-
Uvs	1 705	28	922	745	10
Khovd	631	13	414	199	5
Khangai region	**3 967**	**167**	**2 994**	**771**	**35**
Arkhangai	120	5	75	34	6
Bayankhongor	1 926	70	1 485	361	10
Bulgan	216	6	182	25	3
Uvurkhangai	646	14	527	103	2
Khuvsgul	1 059	72	725	248	14
Central region	**4 403**	**220**	**3 502**	**649**	**32**
Gobisumber	52	2	38	12	-
Darkhan-Uul	295	9	212	66	8
Dornogobi	461	35	348	60	18
Dundgobi	416	29	316	71	-
Umnugobi	175	17	134	23	1
Selenge	1 254	64	1 005	181	4
Tuv	1 750	64	1 449	236	1
East region	**365**	**34**	**275**	**55**	**1**
Dornod	59	3	41	15	-
Sukhbaatar	35	1	26	8	-
Khentii	271	30	208	32	1
Ulaanbaatar	**1 260**	**67**	**980**	**209**	**4**

TABLE 4. Number of artisanal and small-scale miners, by region, aimags and the capital city and education level

Region, aimag and the capital city	TOTAL	Education level						
		No education	Primary school	Secondary school	High school	Technical and vocational	Specialized secondary	Diploma
TOTAL	**13 375**	**554**	**1 870**	**3 735**	**5 397**	**903**	**354**	**562**
West region	**3 380**	**211**	**728**	**1 029**	**1 077**	**140**	**80**	**115**
Bayan-Ulgii	253	8	89	72	51	17	7	9
Gobi-Altai	751	60	145	221	247	30	17	31
Zavkhan	40	2	1	4	28	-	3	2
Uvs	1 705	133	405	530	506	57	38	36
Khovd	631	8	88	202	245	36	15	37
Khangai region	**3 967**	**209**	**721**	**1 203**	**1 455**	**117**	**84**	**178**
Arkhangai	120	17	44	38	15	2	2	2
Bayankhongor	1 926	37	179	587	893	83	49	98
Bulgan	216	-	59	97	35	12	3	10
Uvurkhangai	646	83	218	219	109	4	4	9
Khuvsgul	1 059	72	221	262	403	16	26	59
Central region	**4 403**	**107**	**323**	**1 065**	**2 039**	**520**	**146**	**203**
Gobisumber	52	2	5	24	19	1	1	-
Darkhan-Uul	295	10	10	54	157	49	7	8
Dornogobi	461	14	60	136	193	18	15	25
Dundgobi	416	8	54	166	160	11	3	14
Umnugobi	175	11	31	41	71	15	4	2
Selenge	1 254	22	56	218	519	319	54	66
Tuv	1 750	40	107	426	920	107	62	88
East region	**365**	**8**	**40**	**133**	**134**	**14**	**17**	**19**
Dornod	59	1	4	29	22	-	2	1
Sukhbaatar	35	3	8	13	6	3	1	1
Khentii	271	4	28	91	106	11	14	17
Ulaanbaatar	**1 260**	**19**	**58**	**305**	**692**	**112**	**27**	**47**

TABLE 5. Number of artisanal and small-scale miners, by region, aimags and the capital city and group of working years in artisanal mine

Region, aimag and the capital city	TOTAL	Group working years in artisanal mine						
		Up to 1 year	2-3	4-5	6-7	8-9	10-11	12 and above
TOTAL	**13 375**	**2 941**	**4 249**	**2 576**	**1 173**	**751**	**942**	**743**
West region	**3 380**	**924**	**1 377**	**719**	**133**	**84**	**105**	**38**
Bayan-Ulgii	253	8	121	102	12	5	3	2
Gobi-Altai	751	217	284	179	36	13	14	8
Zavkhan	40	9	9	7	6	5	4	-
Uvs	1 705	367	740	358	72	60	81	27
Khovd	631	323	223	73	7	1	3	1
Khangai region	**3 967**	**818**	**1 358**	**818**	**416**	**212**	**251**	**94**
Arkhangai	120	1	25	25	30	11	25	3
Bayankhongor	1 926	308	636	476	241	114	128	23
Bulgan	216	13	57	57	29	34	22	4
Uvurkhangai	646	38	166	166	105	47	72	52
Khuvsgul	1 059	458	474	94	11	6	4	12
Central region	**4 403**	**864**	**1 118**	**755**	**461**	**334**	**458**	**413**
Gobisumber	52	15	9	18	6	3	1	-
Darkhan-Uul	295	22	46	52	29	31	71	44
Dornogobi	461	162	100	62	60	22	33	22
Dundgobi	416	177	237	-	-	1	-	1
Umnugobi	175	31	45	55	16	3	16	9
Selenge	1 254	210	342	245	124	80	130	123
Tuv	1 750	247	339	323	226	194	207	214
East region	**365**	**160**	**116**	**48**	**16**	**8**	**8**	**9**
Dornod	59	45	9	3	-	1	-	1
Sukhbaatar	35	4	15	12	4	-	-	-
Khentii	271	111	92	33	12	7	8	8
Ulaanbaatar	**1 260**	**175**	**280**	**236**	**147**	**113**	**120**	**189**

TABLE 6. Number of artisanal and small-scale miners, by region, aimags and the capital city and occupational classification

Region, aimag and the capital city	TOTAL	Group of occupational classification					
		Military service occupation	Manager	Specialist	Technician and assistant specialist	Clerk and office worker	Trade and service worker
TOTAL	**13 375**	**3**	**10**	**832**	**86**	**45**	**395**
West region	**3 380**	**-**	**1**	**177**	**22**	**7**	**40**
Bayan-Ulgii	253	-	-	17	3	1	3
Gobi-Altai	751	-	-	48	5	-	4
Zavkhan	40	-	-	4	-	-	1
Uvs	1 705	-	-	60	9	3	21
Khovd	631	-	1	48	5	3	11
Khangai region	**3 967**	**1**	**5**	**235**	**9**	**12**	**102**
Arkhangai	120	-	-	4	1	-	2
Bayankhongor	1 926	-	4	136	5	10	62
Bulgan	216	-	-	12	-	2	22
Uvurkhangai	646	-	1	11	-	-	6
Khuvsgul	1 059	1	-	72	3	-	10
Central region	**4 403**	**1**	**2**	**309**	**42**	**21**	**184**
Gobisumber	52	-	-	1	-	-	2
Darkhan-Uul	295	-	-	23	3	1	16
Dornogobi	461	-	1	35	6	1	12
Dundgobi	416	-	-	16	2	-	1
Umnugobi	175	-	-	12	-	3	5
Selenge	1 254	1	1	95	14	4	21
Tuv	1 750	-	-	127	17	12	127
East region	**365**	**-**	**-**	**30**	**1**	**1**	**11**
Dornod	59	-	-	1	1	-	1
Sukhbaatar	35	-	-	2	-	1	-
Khentii	271	-	-	27	-	-	10
Ulaanbaatar	**1 260**	**1**	**2**	**81**	**12**	**4**	**58**

TABLE 6 continuation

Region, aimag and the capital city	Group of occupational classification				
	Qualified specialist in agriculture, forestry and fishing	Workers in production, construction, handicraft and related works and services	Operator of machines, mechanisms, equipment, assembler	Simple work, occupation	No profession
TOTAL	**883**	**907**	**1 961**	**56**	**8 197**
West region	**158**	**159**	**271**	**3**	**2 542**
Bayan-Ulgii	-	15	15	-	199
Gobi-Altai	-	29	52	-	613
Zavkhan	-	3	8	-	24
Uvs	27	71	115	2	1 397
Khovd	131	41	81	1	309
Khangai region	**539**	**166**	**458**	**10**	**2 430**
Arkhangai	1	-	2	-	110
Bayankhongor	465	119	377	10	738
Bulgan	8	22	35	-	115
Uvurkhangai	15	7	9	-	597
Khuvsgul	50	18	35	-	870
Central region	**167**	**404**	**807**	**4**	**2 462**
Gobisumber	1	4	3	-	41
Darkhan-Uul	1	35	70	-	146
Dornogobi	22	37	85	-	262
Dundgobi	2	12	13	-	370
Umnugobi	23	13	23	-	96
Selenge	14	83	220	-	801
Tuv	104	220	393	4	746
East region	**8**	**31**	**54**	**4**	**225**
Dornod	-	2	10	-	44
Sukhbaatar	1	-	1	-	30
Khentii	7	29	43	4	151
Ulaanbaatar	**11**	**147**	**371**	**35**	**538**

TABLE 7. Number of artisanal and small-scale miners, group of occupational classification and working years in artisanal mine

Group of occupational classfication	TOTAL	Group of working years in artisanal mine						
		Up to 1 year	2-3	4-5	6-7	8-9	10-11	12 and above
Total	**13 375**	**2 941**	**4 249**	**2 576**	**1 173**	**751**	**942**	**743**
Military service occupation	3	1	-	1	1	-	-	-
Manager	10	3	2	4	-	1	-	-
Specialist	832	287	242	135	58	27	41	42
Technician and assistant specialist	86	18	30	11	7	8	6	6
Clerk and office worker	45	11	11	7	5	4	4	3
Trade and service worker	395	90	99	85	41	27	33	20
Qualified specialist in agri-culture, forestry and fishing	883	179	312	177	92	47	67	9
Workers in production, construction, handicraft and related works and services	907	181	245	171	85	61	85	79
Operator of machines, mechanisms, equipment, assembler	1 961	330	513	409	196	167	203	143
Simple work, occupation	56	5	9	13	5	6	5	13
No profession	8 197	1 836	2 786	1 563	683	403	498	428

TABLE 8. Number of artisanal and small-scale miners, by region, aimags and the capital city and type of minerals

Region, aimag and the capital city	TOTAL	Type of minerals							
		Gold	Coal	Fluorspar	Wolfram	Tin	Limestone	Gemstone	Salt
TOTAL	**13 375**	**10 458**	**1 368**	**1 010**	**305**	**47**	**10**	**128**	**49**
West region	**3 380**	**2 946**	**108**	**-**	**270**	**-**	**10**	**-**	**46**
Bayan-Ulgii	253	25	5	-	213	-	10	-	-
Gobi-Altai	751	722	29	-	-	-	-	-	-
Zavkhan	40	40	-	-	-	-	-	-	-
Uvs	1 705	1 585	74	-	-	-	-	-	46
Khovd	631	574	-	-	57	-	-	-	-
Khangai region	**3 967**	**3 899**	**-**	**-**	**-**	**-**	**-**	**68**	**-**
Arkhangai	120	120	-	-	-	-	-	-	-
Bayankhongor	1 926	1 926	-	-	-	-	-	-	-
Bulgan	216	216	-	-	-	-	-	-	-
Uvurkhangai	646	646	-	-	-	-	-	-	-
Khuvsgul	1 059	991	-	-	-	-	-	68	-
Central region	**4 403**	**3 557**	**-**	**786**	**-**	**-**	**-**	**60**	**-**
Gobisumber	52	-	-	52	-	-	-	-	-
Darkhan-Uul	295	295	-	-	-	-	-	-	-
Dornogobi	461	73	-	328	-	-	-	60	-
Dundgobi	416	10	-	406	-	-	-	-	-
Umnugobi	175	175	-	-	-	-	-	-	-
Selenge	1 254	1 254	-	-	-	-	-	-	-
Tuv	1 750	1 750	-	-	-	-	-	-	-
East region	**365**	**56**	**-**	**224**	**35**	**47**	**-**	**-**	**3**
Dornod	59	56	-	-	-	-	-	-	3
Sukhbaatar	35	-	-	-	35	-	-	-	-
Khentii	271	-	-	224	-	47	-	-	-
Ulaanbaatar	**1 260**	**-**	**1 260**	**-**	**-**	**-**	**-**	**-**	**-**

TABLE 9. Amount of mined natural resource, by region, aimags and the capital city and type of minerals

Region, aimag and the capital city	Type of minerals							
	Gold /kg/	Coal /tonn/	Spar /tonn/	Wolfram /tonn/	Tin /tonn/	Limestone /tonn/	Gemstone /tonn/	Salt /tonn/
TOTAL	**354.6**	**141 970.6**	**38 482.7**	**108.3**	**5.5**	**66.6**	**14.7**	**1 062.3**
West region	**71.7**	**1 752.3**	**-**	**105.4**	**-**	**66.6**	**-**	**1 051.6**
Bayan-Ulgii	1.4	55.2	-	95.0	-	66.6	-	-
Gobi-Altai	21.1	881.6	-	-	-	-	-	-
Zavkhan	2.8	-	-	-	-	-	-	-
Uvs	32.3	815.5	-	-	-	-	-	1 051.6
Khovd	14.0	-	-	10.4	-	-	-	-
Khangai region	**139.6**	**-**	**-**	**-**	**-**	**-**	**8.6**	**-**
Arkhangai	2.6	-	-	-	-	-	-	-
Bayankhongor	55.7	-	-	-	-	-	-	-
Bulgan	5.1	-	-	-	-	-	-	-
Uvurkhangai	9.0	-	-	-	-	-	-	-
Khuvsgul	67.2	-	-	-	-	-	8.6	-
Central region	**141.9**	**-**	**29 429.6**	**-**	**-**	**-**	**6.1**	**-**
Darkhan-Uul	15.4	-	-	-	-	-	-	-
Dornogobi	1.6	-	21 424.4	-	-	-	6.1	-
Dundgobi	0.2	-	8 005.2	-	-	-	-	-
Umnugobi	6.2	-	-	-	-	-	-	-
Selenge	49.7	-	-	-	-	-	-	-
Tuv	68.8	-	-	-	-	-	-	-
East region	**1.4**	**-**	**9 053.1**	**2.8**	**5.5**	**-**	**-**	**10.7**
Dornod	1.4	-	-	-	-	-	-	10.7
Sukhbaatar	-	-	-	2.8	-	-	-	-
Khentii	-	-	9 053.1	-	5.5	-	-	-
Ulaanbaatar	**-**	**140 218.3**	**-**	**-**	**-**	**-**	**-**	**-**

TABLE 10. Number of artisanal and small-scale miners, by region, aimags and the capital city and employment status

Region, aimag and the capital city	TOTAL	Employment status				
		Leader of partnership / employer	Member of partnership	Proprietorshiper (singly) in artisanal mining	Auxiliary worker in artisanal mining	Unpaid family worker
TOTAL	**13 375**	**295**	**1 635**	**6 772**	**1 960**	**2 713**
West region	**3 380**	**26**	**172**	**1 853**	**249**	**1 080**
Bayan-Ulgii	253	-	-	201	2	50
Gobi-Altai	751	15	105	482	48	101
Zavkhan	40	-	-	40	-	-
Uvs	1 705	11	66	659	156	813
Khovd	631	-	1	471	43	116
Khangai region	**3 967**	**61**	**520**	**2 052**	**365**	**969**
Arkhangai	120	7	50	17	3	43
Bayankhongor	1 926	49	441	752	106	578
Bulgan	216	5	29	111	19	52
Uvurkhangai	646	-	-	371	79	196
Khuvsgul	1 059	-	-	801	158	100
Central region	**4 403**	**181**	**860**	**2 030**	**716**	**616**
Gobisumber	52	-	-	-	52	-
Darkhan-Uul	295	27	101	131	16	20
Dornogobi	461	30	86	204	55	86
Dundgobi	416	39	317	26	26	8
Umnugobi	175	1	6	159	-	9
Selenge	1 254	60	210	501	402	81
Tuv	1 750	24	140	1 009	165	412
East region	**365**	**26**	**83**	**217**	**12**	**27**
Dornod	59	-	-	52	1	6
Sukhbaatar	35	-	-	29	2	4
Khentii	271	26	83	136	9	17
Ulaanbaatar	**1 260**	**1**	**-**	**620**	**618**	**21**

TABLE 11.Number of auxiliary workers in artisanal mining, by region, aimags and the capital city and role in artisanal mining

Region, aimag and the capital city	TOTAL	Role in artisanal mining				
		Buyer of mineral resources	Trader of foods and other goods	Business in beanery	Long-haul truck driver	Others
TOTAL	**1 960**	**336**	**349**	**264**	**486**	**525**
West region	**249**	**21**	**68**	**68**	**60**	**32**
Bayan-Ulgii	2	-	1	1	-	-
Gobi-Altai	48	2	21	12	12	1
Uvs	156	13	38	45	34	26
Khovd	43	6	8	10	14	5
Khangai region	**365**	**24**	**143**	**69**	**107**	**22**
Arkhangai	3	-	2	-	1	-
Bayankhongor	106	8	35	26	32	5
Bulgan	19	2	11	-	5	1
Uvurkhangai	79	5	58	8	6	2
Khuvsgul	158	9	37	35	63	14
Central region	**716**	**45**	**115**	**42**	**232**	**282**
Gobisumber	52	-	-	-	-	52
Darkhan-Uul	16	4	-	2	10	-
Dornogobi	55	8	-	-	14	33
Dundgobi	26	-	10	6	10	-
Selenge	402	19	62	21	142	158
Tuv	165	14	43	13	56	39
East region	**12**	**2**	**2**	**6**	**2**	**-**
Dornod	1	-	-	1	-	-
Sukhbaatar	2	1	1	-	-	-
Khentii	9	1	1	5	2	-
Ulaanbaatar	**618**	**244**	**21**	**79**	**85**	**189**

TABLE 12. Number of auxiliary workers in artisanal mining, by gender and role in artisanal mining

Gender	TOTAL	Role in artisanal mining				
		Buyer of mineral resources	Trader of foods and other goods	Business in beanery	Long-haul truck driver	Others
TOTAL	**1960**	**336**	**349**	**264**	**486**	**525**
Male	**1290**	**268**	**120**	**32**	**464**	**406**
Female	670	68	229	232	22	119

TABLE 13. Number of auxiliary workers in artisanal mining, by age group and role in artisanal mining

Age group	TOTAL	Role in artisanal mining				
		Buyer of mineral resources	Trader of foods and other goods	Business in beanery	Long-haul truck driver	Others
БҮГД	**1 960**	**336**	**349**	**264**	**486**	**525**
10-14	3	-	1	-	-	2
15-17	15	-	4	2	1	8
18-19	33	3	10	5	6	9
20-24	204	28	32	33	49	62
25-29	262	56	29	28	78	71
30-34	332	79	59	32	80	82
35-39	328	67	55	41	90	75
40-44	311	47	54	50	69	91
45-49	212	27	54	34	47	50
50-54	145	15	21	26	32	51
55-59	71	9	19	7	21	15
60-64	25	3	3	4	8	7
65-69	16	2	7	1	4	2
70 and above	3	-	1	1	1	-

TABLE 14. Number of artisanal miners, by mining method and type of minerals, duplicated numbers

Type of minerals	Mining method			
	Open-Pit Mining	%	Underground Mining	%
TOTAL	**5 238**	**100.0**	**2 741**	**100.0**
Gold	4 597	87.8	1 809	66.0
Coal	38	0.7	672	24.5
Fluorspar	203	3.9	175	6.4
Wolfram	236	4.5	68	2.5
Tin	39	0.7	17	0.6
Limestone	6	0.1	-	-
Gemstone	101	1.9	-	-
Salt	18	0.3	-	-

TABLE 15. Number of artisanal and small-scale miners, by region, aimags and the capital city and reasons for working on artisanal mining, in duplicated numbers

Region, aimag and the capital city	Reasons for working on artisanal mining					
	No permanent job	There is job with enough salary	Lost the livestock	For additional income	To have own job	Others
TOTAL	**5 772**	**5**	**1 344**	**3 622**	**432**	**20**
West region	**1 067**	**-**	**440**	**1 083**	**152**	**6**
Bayan-Ulgii	125	-	1	114	86	1
Gobi-Altai	276	-	114	346	35	1
Zavkhan	34	-	2	8	3	-
Uvs	417	-	166	362	17	2
Khovd	215	-	157	253	11	2
Khangai region	**1 496**	**-**	**483**	**1 376**	**89**	**3**
Arkhangai	20	-	24	42	8	-
Bayankhongor	829	-	308	555	26	2
Bulgan	115	-	20	36	2	-
Uvurkhangai	188	-	73	198	5	-
Khuvsgul	344	-	58	545	48	1
Central region	**2 433**	**5**	**314**	**928**	**150**	**11**
Drakhan-Uul	243	-	2	27	1	2
Dornogobi	210	-	34	147	31	1
Dundgobi	228	-	102	158	39	-
Umnugobi	103	-	49	83	3	-
Selenge	680	4	30	222	36	1
Tuv	969	1	97	291	40	7
East region	**241**	**-**	**89**	**108**	**29**	**-**
Dornod	41	-	18	17	2	-
Sukhbaatar	15	-	21	7	-	-
Khentii	185	-	50	84	27	-
Ulaanbaatar	**535**	**-**	**18**	**127**	**12**	**-**

TABLE 16. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and source of electricity of the business place that mining activity is going on

Region, aimag and the capital city	TOTAL	No electricity	With electricity	Of which			
				Central power system	Diesel station	Renewable energy system	Small power generator
TOTAL	**8 702**	**4 849**	**3 853**	**1 166**	**47**	**1 758**	**882**
West region	**2 051**	**1 279**	**772**	**14**	**13**	626	**119**
Bayan-Ulgii	201	55	146	4	-	141	1
Gobi-Altai	602	463	139	5	4	93	37
Zavkhan	40	38	2	-	-	-	2
Uvs	736	287	449	5	7	368	69
Khovd	472	436	36	-	2	24	10
Khangai region	**2 633**	**1 591**	**1 042**	**50**	**10**	784	**198**
Arkhangai	74	10	64	-	1	63	-
Bayankhongor	1 242	559	683	5	2	575	101
Bulgan	145	33	112	36	1	29	46
Uvurkhangai	371	240	131	7	6	105	13
Khuvsgul	801	749	52	2	-	12	38
Central region	**3 071**	**1 858**	**1 213**	**453**	**17**	243	**500**
Drakhan-Uul	259	117	142	70	1	20	51
Dornogobi	320	199	121	31	-	51	39
Dundgobi	382	120	262	1	2	72	187
Umnugobi	166	140	26	1	2	2	21
Selenge	771	660	111	21	5	3	82
Tuv	1 173	622	551	329	7	95	120
East region	**326**	**121**	**205**	**38**	**3**	103	**61**
Dornod	52	50	2	-	-	2	-
Sukhbaatar	29	8	21	-	-	21	-
Khentii	245	63	182	38	3	80	61
Ulaanbaatar	**621**	**-**	**621**	**611**	**4**	2	**4**

TABLE 17. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and source of drinking water

Region, aimag and the capital city	TOTAL	Drinking water source						
		Water station connected to the central water supply system	Protected dug well	Protected springs	Distilled bottled water	Water station not connected to the central water supply system	Tanker truck	Unprotected dug well, spring, river, lake and pond
TOTAL	**8 702**	**39**	**637**	**135**	**110**	**28**	**2 589**	**5 164**
West region	**2 051**	**1**	**13**	**13**	**11**	**-**	**308**	**1 705**
Bayan-Ulgii	201	-	1	-	-	-	10	190
Gobi-Altai	602	-	6	11	7	-	18	560
Zavkhan	40	-	-	-	-	-	39	1
Uvs	736	1	6	1	4	-	34	690
Khovd	472	-	-	1	-	-	207	264
Khangai region	**2 633**	**5**	**44**	**66**	**3**	**-**	**264**	**2 251**
Arkhangai	74	-	-	-	-	-	1	73
Bayankhongor	1 242	1	15	5	1	-	50	1 170
Bulgan	145	1	23	-	-	-	59	62
Uvurkhangai	371	1	6	1	1	-	138	224
Khuvsgul	801	2	-	60	1	-	16	722
Central region	**3 071**	**22**	**500**	**41**	**96**	**20**	**1 243**	**1 149**
Drakhan-Uul	259	-	64	2	14	6	50	123
Dornogobi	320	4	76	6	11	-	173	50
Dundgobi	382	-	179	2	1	-	13	187
Umnugobi	166	-	2	-	7	-	140	17
Selenge	771	3	26	8	5	-	274	455
Tuv	1 173	15	153	23	58	14	593	317
East region	**326**	**8**	**80**	**15**	**-**	**8**	**156**	**59**
Dornod	52	-	6	-	-	-	2	44
Sukhbaatar	29	2	23	-	-	-	1	3
Khentii	245	6	51	15	-	8	153	12
Ulaanbaatar	**621**	**3**	**-**	**-**	**-**	**-**	**618**	**-**

TABLE 18. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and type of accident, in percentage

Region, aimag and the capital city	TOTAL	Not affected by accident	Affected by accident	Percentage to the total					
				Felt airless	Was buried	Was burnt	Was frozen	Fell into hole	Others
TOTAL	**8 702**	**8 162**	**540**	**28.0**	**29.3**	**1.9**	**4.4**	**32.0**	**4.4**
West region	**2 051**	**1 969**	**82**	**12.4**	**28.6**	**1.9**	**7.6**	**45.7**	**3.8**
Bayan-Ulgii	201	199	2	-	-	-	33.3	66.7	-
Gobi-Altai	602	585	17	5.0	25.0	5.0	-	60.0	5.0
Zavkhan	40	38	2	33.3	-	-	-	66.7	-
Uvs	736	703	33	22.9	25.0	-	10.4	41.7	-
Khovd	472	444	28	-	41.9	3.2	6.5	38.7	9.7
Khangai region	**2 633**	**2 433**	**200**	**24.4**	**25.6**	**3.1**	**5.1**	**37.4**	**4.3**
Arkhangai	74	73	1	-	100.0	-	-	-	-
Bayankhongor	1 242	1 206	36	33.3	42.9	-	-	23.8	-
Bulgan	145	140	5	-	20.0	-	-	80.0	-
Uvurkhangai	371	301	70	42.6	17.0	-	-	37.2	3.2
Khuvsgul	801	713	88	7.1	25.9	7.1	11.6	41.1	7.1
Central region	**3 071**	**2 857**	**214**	**36.6**	**32.6**	**1.1**	**2.9**	**24.4**	**2.5**
Drakhan-Uul	259	245	14	-	78.6	-	-	21.4	-
Dornogobi	320	317	3	-	33.3	-	-	-	66.7
Dundgobi	382	379	3	-	33.3	-	33.3	33.3	-
Umnugobi	166	147	19	23.8	33.3	-	4.8	33.3	4.8
Selenge	771	736	35	37.0	28.3	-	-	28.3	6.5
Tuv	1 173	1 033	140	41.7	30.2	1.6	3.1	22.9	0.5
East region	**326**	**322**	**4**	**-**	**20.0**	**-**	**20.0**	**40.0**	**20.0**
Dornod	52	51	1	-	-	-	50.0	50.0	-
Sukhbaatar	29	27	2	-	50.0	-	-	50.0	-
Khentii	245	244	1	-	-	-	-	-	100.0
Ulaanbaatar	**621**	**581**	**40**	**35.7**	**33.3**	**-**	**-**	**14.3**	**16.7**

TABLE 19. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and type of disease

Region, aimag and the capital city	TOTAL	Number of person not get sick	Number of person get sick	Total number disease case	Type of disease (in duplicated number)			
					Respiratory system	Backache	Digestion	Cardiovascular disease
TOTAL	**8 702**	**6 091**	**2 611**	**4 257**	**1 017**	**2 050**	**264**	**207**
West region	**2 051**	**1 645**	**406**	**614**	**154**	**327**	**21**	**17**
Bayan-Ulgii	201	153	48	94	29	31	1	-
Gobi-Altai	602	513	89	137	17	70	8	11
Zavkhan	40	30	10	18	3	9	1	3
Uvs	736	632	104	131	18	81	9	1
Khovd	472	317	155	234	87	136	2	2
Khangai region	**2 633**	**1 739**	**894**	**1 464**	**321**	**679**	**121**	**78**
Arkhangai	74	57	17	23	-	16	3	-
Bayankhongor	1 242	879	363	637	148	320	44	35
Bulgan	145	115	30	70	5	23	12	14
Uvurkhangai	371	250	121	196	67	94	15	3
Khuvsgul	801	438	363	538	101	226	47	26
Central region	**3 071**	**2 014**	**1 057**	**1 824**	**403**	**905**	**104**	**99**
Drakhan-Uul	259	115	144	261	26	126	12	23
Dornogobi	320	259	61	74	7	53	1	4
Dundgobi	382	284	98	192	69	80	13	12
Umnugobi	166	95	71	121	47	57	3	9
Selenge	771	514	257	481	139	221	41	33
Tuv	1 173	747	426	695	115	368	34	18
East region	**326**	**278**	**48**	**74**	**13**	**37**	**5**	**4**
Dornod	52	48	4	8	2	4	-	-
Sukhbaatar	29	10	19	31	8	13	-	2
Khentii	245	220	25	35	3	20	5	2
Ulaanbaatar	**621**	**415**	**206**	**281**	**126**	**102**	**13**	**9**

TABLE 19 continuation

Region, aimag and the capital city	Type of disease (in duplicated number)					
	Epidermis and subcutaneous cellulose	Bone and muscle system, connecting tissue disease	Urine and genital disease	Injuries, intoxication and external disease	Nervous system	Infectious and some parasitic diseases
TOTAL	**106**	**312**	**140**	**64**	**86**	**11**
West region	**34**	**31**	**13**	**9**	**6**	**2**
Bayan-Ulgii	23	4	5	-	-	1
Gobi-Altai	6	16	2	3	4	-
Zavkhan	1	-	-	-	-	1
Uvs	3	8	5	4	2	-
Khovd	1	3	1	2	-	-
Khangai region	**34**	**79**	**61**	**26**	**59**	**6**
Arkhangai	-	2	2	-	-	-
Bayankhongor	4	26	10	6	44	-
Bulgan	2	8	6	-	-	-
Uvurkhangai	2	1	3	7	-	4
Khuvsgul	26	42	40	13	15	2
Central region	**32**	**180**	**61**	**19**	**18**	**3**
Drakhan-Uul	2	23	44	2	3	-
Dornogobi	1	4	1	1	2	-
Dundgobi	11	2	4	1	-	-
Umnugobi	1	3	-	-	1	-
Selenge	10	16	8	10	1	2
Tuv	7	132	4	5	11	1
East region	**2**	**6**	**4**	**1**	**2**	**-**
Dornod	-	-	1	-	1	-
Sukhbaatar	1	3	2	1	1	-
Khentii	1	3	1	-	-	-
Ulaanbaatar	**4**	**16**	**1**	**9**	**1**	**-**

TABLE 20. Number of artisanal and small-scale miners engaged in mining operation, by type of disease and age group

Age group	TOTAL	Number of person not get sick	Number of person get sick	Total number disease case	Type of disease (in duplicated number)			
					Respiratory system	Backache	Digestion	Cardiovascular disease
TOTAL	**8 702**	**6 091**	**2 611**	**4 257**	**1 017**	**2 050**	**264**	**207**
10-14	6	6	-	-	-	-	-	-
15-17	70	54	16	29	3	14	2	1
18-19	146	109	37	49	13	24	4	-
20-24	1 108	863	245	374	96	188	28	13
25-29	1 408	1 036	372	569	149	276	32	16
30-34	1 488	1 027	461	755	186	362	50	33
35-39	1 405	960	445	733	185	353	36	40
40-44	1 213	820	393	626	141	306	38	26
45-49	974	644	330	578	118	273	41	44
50-54	569	378	191	338	83	157	19	20
55-59	240	145	95	163	34	75	13	12
60-64	54	36	18	32	8	15	-	1
65-69	18	11	7	10	1	6	1	1
70 and above	3	2	1	1	-	1	-	-

TABLE 21. Number of artisanal and small-scale miners engaged in mining operation, by type of disease and gender

Gender	TOTAL	Number of person not get sick	Number of person get sick	Total number disease case	Type of disease (in duplicated number)			
					Respiratory system	Backache	Digestion	Cardiovascular disease
TOTAL	**8 702**	**6 091**	**2 611**	**4 257**	**1 017**	**2 050**	**264**	**207**
Male	7 313	5 178	2 135	3 408	858	1 668	198	142
Female	1 389	913	476	849	159	382	66	65

TABLE 20 continuation

Age group	Type of disease (in duplicated number)					
	Epidermis and subcutaneous cellulose	Bone and muscle system, connecting tissue disease	Urine and genital disease	Injuries, intoxication and external disease	Nervous system	Infectious and some parasitic diseases
TOTAL	**106**	**312**	**140**	**64**	**86**	**11**
10-14	**-**	**-**	**-**	**-**	**-**	**-**
15-17	-	5	1	2	1	-
18-19	-	-	6	1	1	-
20-24	14	19	7	2	6	1
25-29	15	39	18	10	10	4
30-34	16	53	29	15	8	3
35-39	**18**	**55**	**22**	**8**	**15**	**1**
40-44	20	46	25	9	14	1
45-49	12	49	17	11	12	1
50-54	8	30	8	3	10	-
55-59	2	14	5	3	5	-
60-64	1	2	2	-	3	-
65-69	**-**	**-**	**-**	**-**	**1**	**-**
70 and above	-	-	-	-	-	-

TABLE 21 continuation

Gender	Type of disease (in duplicated number)					
	Epidermis and subcutaneous cellulose	Bone and muscle system, connecting tissue disease	Urine and genital disease	Injuries, intoxication and external disease	Nervous system	Infectious and some parasitic diseases
TOTAL	**106**	**312**	**140**	**64**	**86**	**11**
Male	**91**	**240**	**91**	**57**	**56**	**7**
Female	15	72	49	7	30	4

TABLE 22. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and type of insurance

Region, aimag and the capital city	TOTAL	Number of person not insured	Number of person insured	Total number of insurance policy	Type of insurance (in duplicated number)			
					Health insurance	Social insurance	Unemployment insurance	Others
TOTAL	**8 702**	**2 824**	**5 878**	**7 559**	**5 808**	**1 574**	**108**	**69**
West region	**2 051**	**704**	**1 347**	**1 628**	**1 346**	**249**	**26**	**7**
Bayan-Ulgii	201	8	193	207	193	14	-	-
Gobi-Altai	602	107	495	582	492	74	15	1
Zavkhan	40	17	23	34	22	10	-	2
Uvs	736	404	332	445	338	100	4	3
Khovd	472	168	304	360	301	51	7	1
Khangai region	**2 633**	**718**	**1 915**	**2 211**	**1 893**	**287**	**26**	**5**
Arkhangai	74	3	71	74	71	1	2	-
Bayankhongor	1 242	310	932	1 137	919	196	20	2
Bulgan	145	31	114	134	114	20	-	-
Uvurkhangai	371	136	235	252	235	16	1	-
Khuvsgul	801	238	563	614	554	54	3	3
Central region	**3 071**	**879**	**2 192**	**3 136**	**2 158**	**875**	**49**	**54**
Drakhan-Uul	259	60	199	225	198	27	-	-
Dornogobi	320	101	219	322	201	112	4	5
Dundgobi	382	11	371	801	371	360	42	28
Umnugobi	166	24	142	179	143	33	-	3
Selenge	771	331	440	542	438	104	-	-
Tuv	1 173	352	821	1 067	807	239	3	18
East region	**326**	**131**	**195**	**296**	**194**	**93**	**6**	**3**
Dornod	52	33	19	21	20	-	1	-
Sukhbaatar	29	4	25	31	25	5	-	1
Khentii	245	94	151	244	149	88	5	2
Ulaanbaatar	**621**	**392**	**229**	**288**	**217**	**70**	**1**	**-**

TABLE 23. Number of artisanal and small-scale miners engaged in mining operation, by type of mineral resource and type of insurance

Type of mineral resource	TOTAL	Number of person not insured	Number of person insured	Type of insurance (in duplicated number)				
				Total number of insurance policy	Health insurance	Social insurance	Unemployment insurance	Others
TOTAL	**8 702**	**2 824**	**5 878**	**7 559**	**5 808**	**1 574**	**108**	**69**
Gold	6 778	2 158	4 620	5 592	4 572	928	59	33
Coal	710	438	272	346	267	78	1	-
Spar	784	153	631	1 216	613	520	48	35
Wolfram	254	27	227	253	228	24	-	1
Tin	41	15	26	27	26	1	-	-
Limestone	6	-	6	6	6	-	-	-
Gemstone	111	32	79	101	79	22	-	-
Salt	18	1	17	18	17	1	-	-

TABLE 24. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and contribution to the public and local development

Region, aimag and the capital city	TOTAL	Number of person not made contribution	Number of person not made contribution	Total number of contribution	(duplicated number)			
					Provided permanent job	Monetary donation to local development	Participated to local landscaping works	Others
TOTAL	**8 702**	**7 100**	**1 602**	**1 884**	**654**	**851**	**338**	**41**
West region	**2 051**	**1 705**	**346**	**363**	**94**	**179**	**63**	**27**
Bayan-Ulgii	201	201	-	-	-	-	-	-
Gobi-Altai	602	499	103	105	27	34	21	23
Zavkhan	40	31	9	11	4	3	4	-
Uvs	736	571	165	176	52	109	13	2
Khovd	472	403	69	71	11	33	25	2
Khangai region	**2 633**	**2 226**	**407**	**523**	**136**	**328**	**59**	**-**
Arkhangai	74	20	54	55	-	54	1	-
Bayankhongor	1 242	954	288	399	124	234	41	-
Bulgan	145	143	2	3	2	1	-	-
Uvurkhangai	371	371	-	-	-	-	-	-
Khuvsgul	801	738	63	66	10	39	17	-
Central region	**3 071**	**2 347**	**724**	**843**	**370**	**278**	**182**	**13**
Darkhan-Uul	259	175	84	94	63	26	5	-
Dornogobi	320	223	97	123	61	48	11	3
Dundgobi	382	150	232	298	111	147	31	9
Umnugobi	166	142	24	26	3	16	7	-
Selenge	771	610	161	178	92	23	62	1
Tuv	1 173	1 047	126	124	40	18	66	-
East region	**326**	**219**	**107**	**136**	**49**	**61**	**26**	**-**
Dornod	52	41	11	13	1	5	7	-
Sukhbaatar	29	22	7	7	-	-	7	-
Khentii	245	156	89	116	48	56	12	-
Ulaanbaatar	**621**	**603**	**18**	**19**	**5**	**5**	**8**	**1**

TABLE 25. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and whether received governmental and/or non governmental organization's support

Region, aimag and the capital city	TOTAL	Whether received governmental and/or non governmental organization's support			
		Yes	%	No	%
TOTAL	**8 702**	**1 568**	**18.0**	**7 134**	**82.0**
West region	**2 051**	**206**	**10.0**	**1 845**	**90.0**
Bayan-Ulgii	201	1	0.5	200	99.5
Gobi-Altai	602	129	21.4	473	78.6
Zavkhan	40	-	-	40	100.0
Uvs	736	72	9.8	664	90.2
Khovd	472	4	0.8	468	99.2
Khangai region	**2 633**	**564**	**21.4**	**2 069**	**78.6**
Arkhangai	74	61	82.4	13	17.6
Bayankhongor	1 242	448	36.1	794	63.9
Bulgan	145	53	36.6	92	63.4
Uvurkhangai	371	1	0.3	370	99.7
Khuvsgul	801	1	0.1	800	99.9
Central region	**3 071**	**770**	**25.1**	**2 301**	**74.9**
Drakhan-Uul	259	48	18.5	211	81.5
Dornogobi	320	59	18.4	261	81.6
Dundgobi	382	290	75.9	92	24.1
Umnugobi	166	2	1.2	164	98.8
Selenge	771	257	33.3	514	66.7
Tuv	1 173	114	9.7	1 059	90.3
East region	**326**	**25**	**7.7**	**301**	**92.3**
Dornod	52	-	-	52	100.0
Sukhbaatar	29	-	-	29	100.0
Khentii	245	25	10.2	220	89.8
Ulaanbaatar	**621**	**3**	**0.5**	**618**	**99.5**

TABLE 26. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and type of difficulties faced

Region, aimag and the capital city	TOTAL	Number of person not faced difficulties	Number of person faced difficulties	Total number of faced difficulties	Type of difficulties (duplicated number)		
					Legal framework is unsatisfied	Poor yield of natural resources	Limited working area
TOTAL	**8 702**	**1 616**	**7 086**	**15 681**	**2 517**	**3 586**	**3 436**
West region	**2 051**	**447**	**1 604**	**3 748**	**510**	**966**	**645**
Bayan-Ulgii	201	14	187	484	54	146	51
Gobi-Altai	602	84	518	1 229	145	365	255
Zavkhan	40	-	40	90	17	11	8
Uvs	736	313	423	897	131	176	163
Khovd	472	36	436	1 048	163	268	168
Khangai region	**2 633**	**535**	**2 098**	**4 312**	**880**	**1 124**	**1 093**
Arkhangai	74	1	73	112	6	11	69
Bayankhongor	1 242	125	1 117	2 414	534	675	568
Bulgan	145	-	145	393	141	94	98
Uvurkhangai	371	90	281	551	29	218	263
Khuvsgul	801	319	482	842	170	126	95
Central region	**3 071**	**310**	**2 761**	**6 534**	**1 026**	**1 301**	**1 507**
Drakhan-Uul	259	36	223	573	56	133	153
Dornogobi	320	38	282	614	71	190	137
Dundgobi	382	72	310	645	111	163	78
Umnugobi	166	13	153	322	37	103	39
Selenge	771	86	685	1 596	276	494	277
Tuv	1 173	65	1 108	2 784	475	218	823
East region	**326**	**81**	**245**	**519**	**77**	**157**	**128**
Dornod	52	2	50	141	17	42	41
Sukhbaatar	29	-	29	61	5	22	5
Khentii	245	79	166	317	55	93	82
Ulaanbaatar	**621**	**243**	**378**	**568**	**24**	**38**	**63**

TABLE 26 continuation

Region, aimag and the capital city	Type of difficulties (duplicated number)					
	Financial problem (to take loan)	Equipments are not sufficient	Organizational problem	Too much control and pressure	Tax problem	Others
TOTAL	**994**	**1 629**	**711**	**2 296**	**471**	**41**
West region	**251**	**556**	**166**	**569**	**81**	**4**
Bayan-Ulgii	17	124	6	76	9	1
Gobi-Altai	115	210	22	75	42	-
Zavkhan	5	4	6	36	2	1
Uvs	41	114	93	157	20	2
Khovd	73	104	39	225	8	-
Khangai region	**215**	**408**	**174**	**377**	**39**	**2**
Arkhangai	4	18	3	1	-	-
Bayankhongor	126	202	93	179	37	-
Bulgan	4	24	2	30	-	-
Uvurkhangai	8	4	3	25	-	1
Khuvsgul	73	160	73	142	2	1
Central region	**376**	**395**	**330**	**1 248**	**338**	**13**
Drakhan-Uul	19	16	22	172	2	-
Dornogobi	83	47	15	17	46	8
Dundgobi	35	115	17	72	54	-
Umnugobi	18	22	1	99	1	2
Selenge	185	138	106	83	37	-
Tuv	36	57	169	805	198	3
East region	**34**	**49**	**25**	**36**	**8**	**5**
Dornod	2	4	13	22	-	-
Sukhbaatar	9	13	3	3	-	1
Khentii	23	32	9	11	8	4
Ulaanbaatar	**118**	**221**	**16**	**66**	**5**	**17**

TABLE 27. Number of artisanal and small-scale miners engaged in mining operation, by type of difficulties and minerals

Type of difficulties	TOTAL	Type of mineral resource							
			Coal	Spar	Wolfram	Tin	Limestone	Gemstone	Salt
TOTAL	**8 702**	**6 778**	**710**	**784**	**254**	**41**	**6**	**111**	**18**
Number of person not faced difficulties	1 616	1 096	273	153	18	10	2	52	12
Number of person faced difficulties	7 086	5 682	437	631	236	31	4	59	6
Total number of difficulties faced	15 681	12 855	711	1 335	579	59	9	121	12
Legal framework is unsatisfied	2 517	2 183	31	198	67	-	2	36	-
Poor yield of natural resources	3 586	2 936	68	365	173	15	1	25	3
Limited working area	3 436	2 994	86	259	63	19	-	11	4
Financial problem (to take loan)	994	689	130	134	31	3	1	4	2
Equipments are not sufficient	1 629	1 051	266	158	120	18	3	10	3
Organizational problem	711	633	25	39	10	-	-	4	-
Too much control and pressure	2 296	2 005	83	94	105	2	2	5	-
Tax problem	471	352	5	81	9	2	-	22	-
Others	41	12	17	7	1	-	-	4	-

TABLE 28. Number of artisanal and small-scale miners engaged in mining operation, by group of working year and type of changes in their life by running artisanal mining

Group of working year	TOTAL	Number of person no changes in their life	Number of person no changes in their life	Changes (duplicated number)						
				Total number of changes in their life	Got permanent work	Household income source for living	Bought own dwelling	Bought own transportation vehicle	Paid tution fee	Others
TOTAL	**8702**	**1920**	**6782**	**9114**	**1 454**	**4 996**	**346**	**1 122**	**1 092**	**104**
Up to 1 year	1 797	652	1 145	1 388	240	760	29	107	213	39
2-3	2 819	629	2 190	2 872	560	1 505	72	324	379	32
4-5	1 565	304	1 261	1 686	217	978	72	228	182	9
6-7	769	120	649	902	122	524	41	124	84	7
8-9	508	83	425	607	80	336	25	101	58	7
10-11	693	77	616	898	125	493	47	139	90	4
12 and above	551	55	496	761	110	400	60	99	86	6

TABLE 29. Number of artisanal and small-scale miners engaged in mining operation, by changes in life, gender and age group

Gender and age group		TOTAL	Number of person no changes in their life	Number of person no changes in their life	Total number of changes in their life	Changes (duplicated number)					
						Got permanent work	Household income source for living	Bought own dwelling	Bought own transportation vehicle	Paid tution fee	Others
TOTAL		**8702**	**1920**	**6782**	**9114**	**1454**	**4996**	**346**	**1122**	**1092**	**104**
Gender	Male	7313	1641	5672	7568	1195	4166	291	966	865	85
	Female	1389	279	1110	1546	259	830	55	156	227	19
Age group	10-14	6	3	3	-	-	-	-	-	-	-
	15-17	70	17	53	56	10	32	-	-	14	-
	18-19	146	32	114	142	23	76	3	11	27	2
	20-24	1108	253	855	1114	199	601	36	133	133	12
	25-29	1408	326	1082	1430	253	812	64	208	72	21
	30-34	1488	322	1166	1520	249	886	66	197	104	18
	35-39	1405	336	1069	1470	230	810	66	211	130	23
	40-44	1213	261	952	1311	203	686	42	149	220	11
	45-49	974	186	788	1107	160	563	40	116	219	9
	50-54	569	114	455	636	85	336	22	69	117	7
	55-59	240	50	190	257	30	154	5	26	41	1
	60-64	54	17	37	48	8	28	2	2	8	-
	65-69	18	2	16	19	4	10	-	-	5	-
	70 and above	3	1	2	4	-	2	-	-	2	-

TABLE 30. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and difficulties related to the administrative organizations

Region, aimag and the capital city	TOTAL	No difficulties	Difficulties encountered	Percentage to the total					
				Local governmental organization	Special inspection office	Tax office	Law enforcement organization	Mineral resource authority	Other
TOTAL	**8 702**	**6 403**	**2 299**	**39.1**	**21.3**	**5.0**	**24.6**	**9.1**	**0.9**
West region	**2 051**	**1 446**	**605**	**50.6**	**22.1**	**4.8**	**16.2**	**5.6**	**0.8**
Bayan-Ulgii	201	83	118	53.6	32.3	3.6	1.6	6.3	2.6
Gobi-Altai	602	457	145	68.6	12.0	1.7	14.9	2.9	-
Zavkhan	40	7	33	43.2	5.4	2.7	45.9	2.7	-
Uvs	736	517	219	46.6	19.0	7.7	22.2	4.3	-
Khovd	472	382	90	30.8	36.5	2.9	14.4	14.4	1.0
Khangai region	**2 633**	**2 096**	**537**	**33.7**	**23.7**	**7.8**	**22.0**	**12.4**	**-**
Arkhangai	74	73	1	-	-	-	-	-	-
Bayankhongor	1 242	1 043	199	35.5	23.4	11.0	7.3	22.8	-
Bulgan	145	76	69	12.0	62.0	4.0	21.0	1.0	-
Uvurkhangai	371	270	101	47.4	11.8	10.5	26.3	-	3.9
Khuvsgul	801	634	167	36.1	8.2	2.2	50.8	2.7	-
Central region	**3 071**	**2 010**	**1 061**	**35.2**	**18.4**	**4.3**	**32.3**	**8.5**	**1.2**
Darkhan-Uul	259	109	150	34.4	25.2	1.0	37.0	1.6	0.7
Dornogobi	320	266	54	33.3	12.5	31.3	12.5	8.3	2.1
Dundgobi	382	294	88	17.3	37.0	10.2	35.4	-	-
Umnugobi	166	117	49	11.4	18.6	2.9	38.6	7.1	21.4
Selenge	771	681	90	56.4	12.0	6.0	7.7	17.1	0.9
Tuv	1 173	543	630	37.2	15.1	1.8	34.8	10.9	-
East region	**326**	**257**	**69**	**42.3**	**35.2**	**-**	**6.3**	**16.2**	**-**
Dornod	52	5	47	38.0	40.7	-	1.9	19.4	-
Sukhbaatar	29	28	1	100.0	-	-	-	-	-
Khentii	245	224	21	54.5	18.2	-	21.2	6.1	-
Ulaanbaatar	**621**	**594**	**27**	**35.7**	**31.0**	**7.1**	**9.5**	**16.7**	**-**

TABLE 31. Number of artisanal and small-scale miners engaged in mining operation, who encountered problems to contact administrative organizations, by region, aimags and the capital city and status of problems solution

Region, aimag and the capital city	TOTAL	Not solved	Solved	Total number of solution	Duplicated number					
					Under the laws and regulations	Made contracts and/or agreements	Paid fines and payment	Gave reward, gift and bribery	Solved by force	Others
TOTAL	**2 299**	**1 595**	**704**	**838**	**151**	**142**	**425**	**32**	**60**	**28**
West region	**605**	**438**	**167**	**190**	**46**	**40**	**70**	**5**	**20**	**9**
Bayan-Ulgii	118	105	13	13	13	-	-	-	-	-
Gobi-Altai	145	103	42	51	17	27	6	1	-	-
Zavkhan	33	25	8	8	1	1	5	1	-	-
Uvs	219	134	85	97	10	9	53	3	13	9
Khovd	90	71	19	21	5	3	6	-	7	-
Khangai region	**537**	**460**	**77**	**81**	**40**	**19**	**16**	**4**	**2**	**-**
Arkhangai	1	1	-	-	-	-	-	-	-	-
Bayankhongor	199	158	41	41	19	19	2	1	-	-
Bulgan	69	41	28	30	21	-	9	-	-	-
Uvurkhangai	101	99	2	2	-	-	-	1	1	-
Khuvsgul	167	161	6	8	-	-	5	2	1	-
Central region	**1 061**	**613**	**448**	**554**	**57**	**81**	**336**	**23**	**38**	**19**
Drakhan-Uul	150	90	60	79	23	8	36	4	8	-
Dornogobi	54	45	9	11	1	7	-	-	3	-
Dundgobi	88	46	42	58	8	30	15	5	-	-
Umnugobi	49	44	5	5	-	-	3	-	2	-
Selenge	90	77	13	16	4	10	2	-	-	-
Tuv	630	311	319	385	21	26	280	14	25	19
East region	**69**	**63**	**6**	**7**	**4**	**1**	**2**	**-**	**-**	**-**
Dornod	47	44	3	3	3	-	-	-	-	-
Sukhbaatar	1	1	-	-	-	-	-	-	-	-
Khentii	21	18	3	4	1	1	2	-	-	-
Ulaanbaatar	**27**	**21**	**6**	**6**	**4**	**1**	**1**	**-**	**-**	**-**

TABLE 32. Number of artisanal and small-scale miners engaged in mining operation, who encountered problems to contact administrative organizations, by type of minerals and status of problems solution

Type of minerals	TOTAL	Not solved	Solved	Total number of solution	Duplicated number					
					Under the laws and regulations	Made contracts and/or agreements	Paid fines and payment	Gave reward, gift and bribery	Solved by force	Others
TOTAL	**2 299**	**1 595**	**704**	**838**	**151**	**142**	**425**	**32**	**60**	**28**
Gold	1 991	1 364	627	741	122	103	405	27	56	28
Coal	35	29	6	6	4	1	1	-	-	-
Spar	130	82	48	67	10	33	16	5	3	-
Wolfram	112	96	16	17	14	-	2	-	1	-
Tin	1	-	1	1	-	-	1	-	-	-
Limestone	1	-	1	1	1	-	-	-	-	-
Gemstone	29	24	5	5	-	5	-	-	-	-

TABLE 33. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and type of difficulties faced to sell the natural resource mined

Region, aimag and the capital city	TOTAL	No difficulties	Difficulties encountered	Number of difficulties	Duplicated number				
					No purchase place	Purchase place is far	Impossible to give to local banks	Changers buy t the price lower than market	Others
TOTAL	**8 702**	**944**	**7 758**	**10 813**	**1 563**	**1 106**	**1 943**	**6 158**	**43**
West region	**2 051**	**147**	**1 904**	**2 867**	**573**	**284**	**481**	**1 524**	**5**
Bayan-Ulgii	201	2	199	350	113	41	3	191	2
Gobi-Altai	602	9	593	1 047	260	168	172	447	-
Zavkhan	40	-	40	88	23	16	14	35	-
Uvs	736	135	601	765	69	31	126	536	3
Khovd	472	1	471	617	108	28	166	315	-
Khangai region	**2 633**	**248**	**2 385**	**2 930**	**360**	**269**	**333**	**1 968**	**-**
Arkhangai	74	-	74	104	12	9	19	64	-
Bayankhongor	1 242	7	1 235	1 615	128	173	253	1 061	-
Bulgan	145	-	145	198	2	46	18	132	-
Uvurkhangai	371	211	160	162	44	2	6	110	-
Khuvsgul	801	30	771	851	174	39	37	601	-
Central region	**3 071**	**132**	**2 939**	**4 340**	**429**	**447**	**1 081**	**2 369**	**14**
Darkhan-Uul	259	20	239	299	22	3	48	226	-
Dornogobi	320	26	294	454	100	95	24	226	9
Dundgobi	382	39	343	387	24	88	59	215	1
Umnugobi	166	7	159	258	37	11	78	130	2
Selenge	771	16	755	1 191	87	193	346	564	1
Tuv	1 173	24	1 149	1 751	159	57	526	1 008	1
East region	**326**	**28**	**298**	**442**	**86**	**101**	**45**	**202**	**8**
Dornod	52	-	52	125	38	2	35	49	1
Sukhbaatar	29	-	29	33	2	-	1	29	1
Khentii	245	28	217	284	46	99	9	124	6
Ulaanbaatar	**621**	**389**	**232**	**234**	**115**	**5**	**3**	**95**	**16**

TABLE 34. Number of artisanal and small-scale miners engaged in mining operation, by type of minerals and difficulties faced to sell the natural resource mined

Type of minerals	TOTAL	No difficulties	Difficulties encountered	Number of difficulties	Duplicated number				
					No purchase place	Purchase place is far	Impossible to give to local banks	Changers buy t the price lower than market	Others
TOTAL	**8 702**	**944**	**7 758**	**10 813**	**1 563**	**1 106**	**1 943**	**6 158**	**43**
Gold	6 778	431	6 347	8 999	1 128	779	1 854	5 229	9
Coal	710	435	275	287	142	15	3	107	20
Spar	784	75	709	913	123	240	69	473	8
Wolfram	254	-	254	396	93	47	7	248	1
Tin	41	1	40	49	6	3	8	31	1
Limestone	6	-	6	8	3	-	1	3	1
Gemstone	111	2	109	134	55	17	1	59	2
Salt	18	-	18	27	13	5	-	8	1

TABLE 35. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and solution of land issue for natural resource mining

Region, aimag and the capital city	TOTAL	Not solved	Solved	Of which						
				Made written agreement with soum/district Governor	Made oral agreement with soum/district Governor	Made written agreement with owner of special permission for natural resources	Madeoral agreement with owner of special permission for natural resources	Made trial agreement with soum/district Governor and the owner of special permission for natural resources	Work without contract on business entity field	Others
TOTAL	**8 702**	**5 980**	**2 722**	**1 219**	**352**	**77**	**487**	**184**	**393**	**10**
West region	**2 051**	**1 750**	**301**	**154**	**21**	**2**	**5**	**17**	**102**	**-**
Bayan-Ulgii	201	166	35	1	1	1	-	2	30	-
Gobi-Altai	602	436	166	95	11	1	1	13	45	-
Zavkhan	40	35	5	-	-	-	-	-	5	-
Uvs	736	645	91	57	6	-	4	2	22	-
Khovd	472	468	4	1	3	-	-	-	-	-
Khangai region	**2 633**	**1 844**	**789**	**468**	**22**	**1**	**5**	**104**	**183**	**6**
Arkhangai	74	14	60	-	-	-	-	-	60	-
Bayankhongor	1 242	623	619	424	2	1	4	103	85	-
Bulgan	145	72	73	40	-	-	1	1	31	-
Uvurkhangai	371	343	28	1	20	-	-	-	1	6
Khuvsgul	801	792	9	3	-	-	-	-	6	-
Central region	**3 071**	**2 164**	**907**	**464**	**300**	**5**	**21**	**57**	**56**	**4**
Darkhan-Uul	259	167	92	2	83	-	-	-	5	2
Dornogobi	320	216	104	78	-	-	4	-	21	1
Dundgobi	382	19	363	355	-	-	-	8	-	-
Umnugobi	166	162	4	-	-	-	-	-	4	-
Selenge	771	544	227	8	192	5	17	-	4	1
Tuv	1 173	1 056	117	21	25	-	-	49	22	-
East region	**326**	**153**	**173**	**131**	**8**	**-**	**-**	**-**	**34**	**-**
Dornod	52	50	2	1	-	-	-	-	1	-
Sukhbaatar	29	22	7	-	1	-	-	-	6	-
Khentii	245	81	164	130	7	-	-	-	27	-
Ulaanbaatar	**621**	**69**	**552**	**2**	**1**	**69**	**456**	**6**	**18**	**-**

TABLE 36. Number of artisanal and small-scale miners engaged in mining operation, by type of natural resource and solution of land issue for natural resource mining

Type of minerals	TOTAL	Not solved	Solved	Of which						
				Made written agreement with soum/district Governor	Made oral agreement with soum/district Governor	Made written agreement with owner of special permission for natural resources	Made oral agreement with owner of special permission for natural resources	Made trial agreement with soum/district Governor and the owner of special permission for natural resources	Work without contract on business entity field	Others
TOTAL	**8 702**	**5 980**	**2 722**	**1 219**	**352**	**77**	**487**	**184**	**393**	**10**
Gold	6 778	5 288	1 490	659	342	7	27	167	279	9
Coal	710	139	571	8	1	69	456	6	31	-
Spar	784	206	578	518	7	-	4	8	40	1
Wolfram	254	214	40	1	1	1	-	2	35	-
Tin	41	32	9	1	-	-	-	-	8	-
Limestone	6	5	1	-	1	-	-	-	-	-
Gemstone	111	89	22	22	-	-	-	-	-	-
Salt	18	7	11	10	-	-	-	1	-	-

TABLE 37. Number of artisanal and small-scale miners engaged in mining operation, by region, aimags and the capital city and willingness to receive support from governmental and/or nongovernmental organization in their artisanal mining activities

Region, aimag and the capital city	TOTAL	Not willing to receive support	Willing to receive support	Of which				
				Supports to receive	Duplicated number			
					To solve land problem	To improve legal framework	To take loan and financial support	To take technical and technological support
TOTAL	**8 702**	**65**	**8 637**	**19 125**	**5 280**	**2 653**	**1 984**	**1 899**
West region	**2 051**	**4**	**2 047**	**4 920**	**1 209**	**532**	**474**	**581**
Bayan-Ulgii	201	-	201	482	94	30	33	98
Gobi-Altai	602	-	602	1 414	284	162	214	253
Zavkhan	40	-	40	104	25	21	7	5
Uvs	736	1	735	1 797	497	150	117	153
Khovd	472	3	469	1 123	309	169	103	72
Khangai region	**2 633**	**19**	**2 614**	**5 340**	**1 653**	**890**	**622**	**504**
Arkhangai	74	-	74	144	72	12	13	33
Bayankhongor	1 242	3	1 239	2 760	946	529	303	238
Bulgan	145	-	145	404	135	114	70	50
Uvurkhangai	371	15	356	603	182	66	79	11
Khuvsgul	801	1	800	1 429	318	169	157	172
Central region	**3 071**	**8**	**3 063**	**7 204**	**2 168**	**1 073**	**624**	**585**
Darkhan-Uul	259	1	258	647	246	132	35	17
Dornogobi	320	2	318	663	203	87	118	69
Dundgobi	382	-	382	802	89	158	66	151
Umnugobi	166	1	165	356	70	57	36	38
Selenge	771	2	769	1 822	485	255	287	229
Tuv	1 173	2	1 171	2 914	1 075	384	82	81
East region	**326**	**7**	**319**	**679**	**190**	**125**	**83**	**66**
Dornod	52	-	52	139	48	31	14	2
Sukhbaatar	29	-	29	70	22	8	8	11
Khentii	245	7	238	470	120	86	61	53
Ulaanbaatar	**621**	**27**	**594**	**982**	**60**	**33**	**181**	**163**

TABLE 37 continuation

Region, aimag and the capital city	Duplicated number				
	To be officially registered	To introduce responsible partnership system	To improve labor protection and safety	To rehabilitate the environment	Other
TOTAL	**1 429**	**1 841**	**1 960**	**2 068**	**11**
West region	**346**	**569**	**407**	**799**	**3**
Bayan-Ulgii	57	100	46	24	-
Gobi-Altai	65	64	161	211	-
Zavkhan	12	12	7	15	-
Uvs	137	292	127	324	-
Khovd	75	101	66	225	3
Khangai region	**433**	**343**	**391**	**504**	**-**
Arkhangai	3	4	6	1	-
Bayankhongor	151	117	180	296	-
Bulgan	7	20	7	1	-
Uvurkhangai	93	9	52	111	-
Khuvsgul	179	193	146	95	-
Central region	**538**	**755**	**738**	**715**	**8**
Darkhan-Uul	58	61	29	63	6
Dornogobi	28	35	37	86	-
Dundgobi	13	50	200	75	-
Umnugobi	13	36	26	80	-
Selenge	149	143	160	112	2
Tuv	277	430	286	299	-
East region	**91**	**66**	**30**	**28**	**-**
Dornod	18	13	5	8	-
Sukhbaatar	2	2	9	8	-
Khentii	71	51	16	12	-
Ulaanbaatar	**21**	**108**	**394**	**22**	**-**

TABLE 38. Number of equipments and tools, by type of equipments and region, aimags and the capital city

Region, aimag and the capital city	Type of equipments and tools									
	Hand tool (hammer, shovel, hack etc.)	Metal finder	Electric generator	Conditioner	Drill	Lifting equipment	Water gun (scrubber)	Pump	Small scale drill (compressor)	Others
TOTAL	**22 354**	**1 265**	**1 375**	**694**	**2 147**	**1 345**	**694**	**986**	**697**	**2 598**
West region	**5 919**	**421**	**345**	**55**	**268**	**115**	**242**	**171**	**107**	**805**
Bayan-Ulgii	903	-	1	2	12	-	5	12	11	97
Gobi-Altai	1 466	107	25	8	24	8	54	36	14	385
Zavkhan	116	5	13	2	4	1	1	-	6	2
Uvs	1 827	122	166	40	137	103	125	104	59	219
Khovd	1 607	187	140	3	91	3	57	19	17	102
Khangai region	**5 891**	**498**	**209**	**29**	**300**	**214**	**201**	**518**	**187**	**1 093**
Arkhangai	117	-	-	-	9	36	13	15	3	100
Bayankhongor	2 199	290	129	22	87	87	35	110	62	242
Bulgan	217	38	10	1	76	62	13	23	31	36
Uvurkhangai	753	37	2	-	3	-	1	1	1	503
Khuvsgul	2 605	133	68	6	125	29	139	369	90	212
Central region	**6 658**	**334**	**588**	**190**	**795**	**393**	**233**	**229**	**327**	**608**
Drakhan-Uul	440	1	30	57	46	53	48	25	30	212
Dornogobi	787	15	28	2	125	145	-	8	97	30
Dundgobi	390	1	69	-	88	16	2	-	17	-
Umnugobi	362	70	67	6	42	20	-	1	26	6
Selenge	1 794	15	166	43	295	93	46	87	99	26
Tuv	2 885	232	228	82	199	66	137	108	58	334
East region	**908**	**-**	**53**	**14**	**125**	**103**	**5**	**56**	**68**	**81**
Dornod	220	-	5	-	-	-	3	35	-	35
Sukhbaatar	105	-	-	-	-	-	-	-	-	-
Khentii	583	-	48	14	125	103	2	21	68	46
Ulaanbaatar	**2 978**	**12**	**180**	**406**	**659**	**520**	**13**	**12**	**8**	**11**

TABLE 39. Number of artisanal and small-scale miners engaged in mining operation*, by whether use labor protection uniform and gender

Gender	TOTAL	Whether use labor protection uniform			
		Yes	%	No	%
TOTAL	**7 273**	**2 569**	**35.3**	**4 704**	**64.7**
Male	6 193	2 250	36.3	3 943	63.7
Female	1 080	319	29.5	761	70.5

TABLE 40. Number of artisanal and small-scale miners engaged in mining operation*, by whether use labor protection uniform and age group

Age group	TOTAL	Whether use labor protection uniform			
		Yes	%	No	%
TOTAL	**7 273**	**2 569**	**35.3**	**4 704**	**64.7**
10-14	6	1	16.7	5	83.3
15-17	61	14	23.0	47	77.0
18-19	110	42	38.2	68	61.8
20-24	895	362	40.4	533	59.6
25-29	1 158	416	35.9	742	64.1
30-34	1 238	425	34.3	813	65.7
35-39	1 168	394	33.7	774	66.3
40-44	1 033	367	35.5	666	64.5
45-49	848	304	35.8	544	64.2
50-54	490	163	33.3	327	66.7
55-59	200	55	27.5	145	72.5
60-64	50	20	40.0	30	60.0
65-69	14	6	42.9	8	57.1
70 and above	2	-	-	2	100.0

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 41. Number of artisanal and small-scale miners engaged in mining operation*, by whether use labor protection uniform and education level

Education level	TOTAL	Whether use labor protection uniform			
		Yes	%	No	%
TOTAL	**7 273**	**2 569**	**35.3**	**4 704**	**64.7**
No education	340	112	32.9	228	67.1
Primary school	1 098	309	28.1	789	71.9
Secondary school	2 128	725	34.1	1 403	65.9
High school	2 811	1 071	38.1	1 740	61.9
Technical and vocational	425	182	42.8	243	57.2
Specialized secondary	191	74	38.7	117	61.3
Diploma	280	96	34.3	184	65.7

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 42. Number of artisanal and small-scale miners engaged in mining operation*, by whether use labor protection uniform and region, aimags and the capital city

Region, aimag and the capital city	TOTAL	Whether use labor protection uniform			
		Yes	%	No	%
TOTAL	**7 273**	**2 569**	**35.3**	**4 704**	**64.7**
West region	**1 982**	**804**	**40.6**	**1 178**	**59.4**
Bayan-Ulgii	201	8	4.0	193	96.0
Gobi-Altai	600	116	19.3	484	80.7
Zavkhan	40	16	40.0	24	60.0
Uvs	670	617	92.1	53	7.9
Khovd	471	47	10.0	424	90.0
Khangai region	**2 183**	**529**	**24.2**	**1 654**	**75.8**
Arkhangai	72	17	23.6	55	76.4
Bayankhongor	801	286	35.7	515	64.3
Bulgan	138	37	26.8	101	73.2
Uvurkhangai	371	136	36.7	235	63.3
Khuvsgul	801	53	6.6	748	93.4
Central region	**2 236**	**556**	**24.9**	**1 680**	**75.1**
Darkhan-Uul	158	77	48.7	81	51.3
Dornogobi	245	92	37.6	153	62.4
Dundgobi	65	25	38.5	40	61.5
Umnugobi	160	110	68.8	50	31.3
Selenge	564	149	26.4	415	73.6
Tuv	1 044	103	9.9	941	90.1
East region	**251**	**125**	**49.8**	**126**	**50.2**
Dornod	52	4	7.7	48	92.3
Sukhbaatar	29	9	31.0	20	69.0
Khentii	170	112	65.9	58	34.1
Ulaanbaatar	**621**	**555**	**89.4**	**66**	**10.6**

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 43. Number of artisanal and small-scale miners engaged in mining operation*, by region, aimag and the capital city and type mining field

Region, aimag and the capital city	TOTAL	Number person working in not permitted field	Number person working in permitted field	Of which		
				Land under local special needs	Land with exploitation licence by business entity	Others
TOTAL	**7 273**	**5 625**	**1 648**	**692**	**930**	**26**
West region	**1 982**	**1 523**	**459**	**194**	**263**	**2**
Bayan-Ulgii	201	22	179	3	176	-
Gobi-Altai	600	415	185	164	19	2
Zavkhan	40	40	-	-	-	-
Uvs	670	578	92	24	68	-
Khovd	471	468	3	3	-	-
Khangai region	**2 183**	**1 936**	**247**	**155**	**91**	**1**
Arkhangai	72	4	68	-	68	-
Bayankhongor	801	673	128	116	12	-
Bulgan	138	90	48	39	8	1
Uvurkhangai	371	368	3	-	3	-
Khuvsgul	801	801	-	-	-	-
Central region	**2 236**	**1 914**	**322**	**231**	**86**	**5**
Darkhan-Uul	158	149	9	2	7	-
Dornogobi	245	165	80	63	12	5
Dundgobi	65	9	56	56	-	-
Umnugobi	160	145	15	8	7	-
Selenge	564	411	153	99	54	-
Tuv	1 044	1 035	9	3	6	-
East region	**251**	**163**	**88**	**79**	**8**	**1**
Dornod	52	50	2	2	-	-
Sukhbaatar	29	29	-	-	-	-
Khentii	170	84	86	77	8	1
Ulaanbaatar	**621**	**89**	**532**	**33**	**482**	**17**

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 44. Number of artisanal and small-scale miners engaged in mining operation*, by type of minerals and type mining field

Type of minerals	TOTAL	Number person working in not permitted field	Number person working in permitted field	Of which		
				Land under local special needs	Land with exploitation licence by business entity	Others
TOTAL	**7 273**	**5 625**	**1 648**	**692**	**930**	**26**
Gold	5 803	5 059	744	480	261	3
Coal	710	167	543	33	493	17
Fluorspar	340	164	176	150	20	6
Wolfram	254	101	153	3	150	-
Tin	41	41	-	-	-	-
Limestone	6	1	5	-	5	-
Gemstone	101	89	12	12	-	-
Salt	18	3	15	14	1	-

Note: *Information of partnership members, which is equally distribute income is not included

TABLE 45. Number of artisanal and small-scale miners engaged in mining operation*, by region, aimags and the capital city and whether made rehabilitation

Region, aimag and the capital city	TOTAL	Whether made rehabilitation in 2011			
		Yes	%	No	%
TOTAL	**7 273**	**397**	**5.5**	**6 876**	**94.5**
West region	**1 982**	**264**	**13.3**	**1 718**	**86.7**
Bayan-Ulgii	201	66	32.8	135	67.2
Gobi-Altai	600	108	18.0	492	82.0
Zavkhan	40	5	12.5	35	87.5
Uvs	670	35	5.2	635	94.8
Khovd	471	50	10.6	421	89.4
Khangai region	**2 183**	**15**	**0.7**	**2 168**	**99.3**
Arkhangai	72	-	-	72	100.0
Bayankhongor	801	7	0.9	794	99.1
Bulgan	138	7	5.1	131	94.9
Uvurkhangai	371	-	-	371	100.0
Khuvsgul	801	1	-	800	99.9
Central region	**2 236**	**108**	**4.8**	**2 128**	**95.2**
Darkhan-Uul	158	14	8.9	144	91.1
Dornogobi	245	27	11.0	218	89.0
Dundgobi	65	6	9.2	59	90.8
Umnugobi	160	34	21.3	126	78.8
Selenge	564	4	0.7	560	99.3
Tuv	1 044	23	2.2	1 021	97.8
East region	**251**	**7**	**2.8**	**244**	**97.2**
Dornod	52	-	-	52	100.0
Sukhbaatar	29	-	-	29	100.0
Khentii	170	7	4.1	163	95.9
Ulaanbaatar	**621**	**3**	**0.5**	**618**	**99.5**

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 46.Number of artisanal and small-scale miners engaged in mining operation*, by type of natural resource and whether made rehabilitation

Type of minerals	TOTAL	Whether made rehabilitation in 2011			
		Yes	%	No	%
TOTAL	**7 273**	**397**	**5.5**	**6 876**	**94.5**
Gold	5 803	288	5.0	5 515	95.0
Coal	710	3	0.4	707	99.6
Spar	340	31	9.1	309	90.9
Wolfram	254	70	27.6	184	72.4
Tin	41	4	9.8	37	90.2
Limestone	6	1	16.7	5	83.3
Gemstone	101	-	-	101	100.0
Salt	18	-	-	18	100.0

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 47. Operating expenditures of 2011, by type of natural resource

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Expenditure type	TOTAL	Type of minerals							
		Gold	Coal	Spar	Wolfram	Tin	Limestone	Gemstone	Salt
Total	**8 513.0**	**5 711.2**	**1 420.5**	**1 144.7**	**94.1**	**8.2**	**2.5**	**110.1**	**21.8**
Wages	1 615.2	1 312.8	57.0	209.6	-	-	-	20.4	15.5
Monetary and non-monetary grant to workers	176.8	97.3	3.7	72.1	0.1	-	-	0.7	3.0
Fuel, lubricate and combustible material	1 977.6	1 593.0	14.3	298.6	35.3	4.9	1.5	29.2	0.7
Transportation expenses	952.6	693.5	17.7	216.3	3.9	1.1	-	18.9	1.3
Labor protection	293.5	187.2	42.4	35.9	12.5	0.1	0.4	14.2	0.7
Electricity and heating	166.1	85.8	69.0	9.4	-	-	-	1.8	-
Spare part	448.0	356.6	25.0	59.3	4.7	0.8	-	1.5	0.1
Raw materials	233.5	158.0	46.6	23.5	5.4	-	0.1	0.1	-
Loan interest	99.2	72.9	0.5	25.1	-	0.2	-	-	0.5
Rent of machinery and equipments	96.9	82.0	-	14.9	0.0	0.0	-	-	-
Rent of building and facilities	36.7	32.3	2.1	2.3	-	-	-	-	-
Compensation of losses from natural disaster	3.2	0.7	2.1	0.5	-	-	-	-	-
Payment to land owner	1 035.1	6.2	1 024.2	4.3	0.4	-	-	-	-
Expenses related to environment rehabilitation	69.3	23.2	36.6	8.8	0.6	-	-	0.2	-
Other costs	1 309.5	1 009.7	79.5	164.5	31.2	1.0	0.5	23.0	0.0

TABLE 48. Operating expenditures of 2011, by type and region, aimags and the capital city

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Region, aimag and the capital city	TOTAL	Of which						
		Wages	Monetary and non-monetary grant to workers	Fuel, lubricate and combustible material	Transportation expenses	Labor protection	Electricity and heating	Spare part
TOTAL	**8 513.0**	**1 615.2**	**176.8**	**1 977.6**	**952.6**	**293.5**	**166.1**	**448.0**
West region	**750.1**	**32.9**	**32.0**	**262.0**	**115.4**	**46.5**	**4.0**	**75.0**
Bayan-Ulgii	86.7	-	0.1	26.6	3.4	14.2	-	2.0
Gobi-Altai	136.5	-	0.4	71.1	13.4	2.9	0.8	21.6
Zavkhan	29.5	-	-	14.2	3.1	0.2	-	0.6
Uvs	290.0	32.9	30.7	79.9	60.1	28.0	2.5	40.1
Khovd	207.4	-	0.9	70.2	35.4	1.1	0.7	10.8
Khangai region	**3 300.6**	**1210.7**	**63.5**	**761.3**	**252.3**	**67.8**	**33.0**	**105.3**
Arkhangai	6.0	-	-	0.1	-	0.7	-	0.0
Bayankhongor	2 325.6	1202.7	58.5	387.6	93.2	45.8	29.5	65.4
Bulgan	131.6	8.0	4.8	35.9	17.2	3.0	2.5	4.1
Uvurkhangai	52.5	-	0.3	28.7	7.6	6.9	0.0	1.6
Khuvsgul	784.9	-	0.0	309.0	134.2	11.3	1.1	34.2
Central region	**2 451.6**	**151.8**	**62.2**	**795.1**	**424.9**	**113.0**	**54.2**	**212.0**
Darkhan-Uul	184.4	-	-	67.9	40.5	24.1	0.4	3.8
Dornogobi	579.0	67.1	56.7	131.9	70.1	25.9	5.3	29.9
Dundgobi	59.5	-	0.6	42.3	4.4	0.8	0.7	1.8
Umnugobi	54.8	-	-	25.7	4.5	5.1	0.1	2.9
Selenge	700.1	78.1	3.6	202.3	86.3	5.4	7.7	36.7
Tuv	873.8	6.6	1.4	325.0	219.1	51.7	40.0	136.9
East region	**601.4**	**162.9**	**15.5**	**150.6**	**146.8**	**24.3**	**5.9**	**30.9**
Dornod	3.5	-	0.0	1.6	0.5	-	0.0	-
Sukhbaatar	2.4	-	-	1.8	0.2	0.3	-	0.0
Khentii	595.5	162.9	15.5	147.2	146.1	24.0	5.8	30.9
Ulaanbaatar	**1 409.4**	**57.0**	**3.5**	**8.6**	**13.1**	**41.8**	**69.0**	**24.8**

TABLE 48 continuation

Region, aimag and the capital city	Of which							
	Raw materials	Loan interest	Rent of machinery and equipments	Rent of building and facilities	Compensation of losses from natural disaster	Payment to land owner	Expenses related to environment rehabilitation	Other costs
TOTAL	**233.5**	**99.2**	**96.9**	**36.7**	**3.2**	**1 035.1**	**69.3**	**1 309.5**
West region	**46.5**	**27.8**	**8.1**	**1.0**	**0.1**	**2.4**	**7.6**	**88.9**
Bayan-Ulgii	4.0	-	-	-	-	0.4	0.6	35.5
Gobi-Altai	1.6	0.5	1.6	-	-	0.0	1.3	21.2
Zavkhan	4.6	0.2	-	-	-	0.1	0.0	6.5
Uvs	0.1	2.5	4.9	0.8	0.1	1.9	3.8	1.7
Khovd	36.2	24.5	1.5	0.1	-	-	2.0	23.9
Khangai region	**49.8**	**14.3**	**17.9**	**27.1**	**-**	**2.8**	**10.9**	**683.9**
Arkhangai	3.1	-	-	-	-	-	-	2.1
Bayankhongor	10.8	12.5	-	2.0	-	0.6	7.5	409.5
Bulgan	6.2	0.3	17.3	25.0	-	1.1	3.2	3.0
Uvurkhangai	2.0	-	-	0.1	-	0.6	0.0	4.8
Khuvsgul	27.7	1.5	0.6	-	-	0.5	0.2	264.6
Central region	**67.6**	**38.7**	**65.9**	**5.1**	**1.1**	**3.2**	**12.8**	**444.0**
Darkhan-Uul	0.5	6.0	0.2	0.2	-	-	0.0	40.7
Dornogobi	1.5	7.4	10.1	0.2	0.5	1.6	3.5	167.5
Dundgobi	0.4	-	0.1	0.7	-	0.2	4.7	2.9
Umnugobi	14.6	0.3	0.2	-	-	-	0.5	0.8
Selenge	35.3	6.7	50.7	1.7	-	0.6	1.3	183.9
Tuv	15.3	18.3	4.6	2.5	0.6	0.9	2.7	48.2
East region	**23.2**	**17.9**	**5.1**	**1.4**	**-**	**2.5**	**1.4**	**13.2**
Dornod	-	-	0.3	-	-	-	-	1.1
Sukhbaatar	0.1	-	-	-	-	-	-	0.1
Khentii	23.1	17.9	4.8	1.4	-	2.5	1.4	12.0
Ulaanbaatar	**46.6**	**0.5**	**-**	**2.1**	**2.1**	**1024.2**	**36.6**	**79.5**

TABLE 49. Number of artisanal and small-scale miners engaged in mining operation*, by regions, aimags and the capital city and whether paid tax and deduction

Region, aimag and the capital city	TOTAL	Whether paid tax and deduction in 2011			
		Yes	%	No	%
TOTAL	**7 273**	**1 820**	**25.0**	**5 453**	**75.0**
West region	**1 982**	**707**	**35.7**	**1 275**	**64.3**
Bayan-Ulgii	201	133	66.2	68	33.8
Gobi-Altai	600	165	27.5	435	72.5
Zavkhan	40	8	20.0	32	80.0
Uvs	670	236	35.2	434	64.8
Khovd	471	165	35.0	306	65.0
Khangai region	**2 183**	**479**	**21.9**	**1 704**	**78.1**
Arkhangai	72	10	13.9	62	86.1
Bayankhongor	801	334	41.7	467	58.3
Bulgan	138	45	32.6	93	67.4
Uvurkhangai	371	3	0.8	368	99.2
Khuvsgul	801	87	10.9	714	89.1
Central region	**2 236**	**583**	**26.1**	**1 653**	**73.9**
Darkhan-Uul	158	7	4.4	151	95.6
Dornogobi	245	89	36.3	156	63.7
Dundgobi	65	42	64.6	23	35.4
Umnugobi	160	96	60.0	64	40.0
Selenge	564	73	12.9	491	87.1
Tuv	1 044	276	26.4	768	73.6
East region	**251**	**39**	**15.5**	**212**	**84.5**
Dornod	52	1	1.9	51	98.1
Sukhbaatar	29	1	3.4	28	96.6
Khentii	170	37	21.8	133	78.2
Ulaanbaatar	**621**	**12**	**1.9**	**609**	**98.1**

Note: Information of partnership members, which is equally distribute income is not included.

TABLE 50. Number of artisanal and small-scale miners engaged in mining operation*, by employment status and whether paid tax and deduction

Employment status	TOTAL	Whether paid tax and deduction in 2011			
		Yes	%	No	%
TOTAL	**7 273**	**1 820**	**25.0**	**5 453**	**75.0**
Partnership leader/em-ployer	295	166	56.3	129	43.7
Partnership member	206	62	30.1	144	69.9
Self-employed artisanal miners	6 772	1 592	23.5	5 180	76.5

TABLE 51. Number of artisanal and small-scale miners engaged in mining operation*, by type of minerals and whether paid tax and deduction

Type of minerals	TOTAL	Whether paid tax and deduction in 2011			
		Yes	%	No	%
TOTAL	**7 273**	**1 820**	**25.0**	**5 453**	**75.0**
Gold	5 803	1 491	25.7	4 312	74.3
Coal	710	41	5.8	669	94.2
Spar	340	120	35.3	220	64.7
Wolfram	254	134	52.8	120	47.2
Tin	41	15	36.6	26	63.4
Limestone	6	4	66.7	2	33.3
Gemstone	101	5	5.0	96	95.0
Salt	18	10	55.6	8	44.4

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 52. Paid taxes in 2011, by region, aimags and the capital city and type of tax

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Region, aimag and the capital city	TOTAL	Of which			
		Tax on transportation vehicles	Presumptive tax	Membership tax	Other taxes
TOTAL	**195.5**	**70.2**	**103.3**	**10.9**	**11.1**
West region	**30.5**	**18.1**	**8.8**	**0.6**	**2.9**
Bayan-Ulgii	3.2	1.6	1.7	-	-
Gobi-Altai	6.7	5.3	0.4	0.5	0.5
Zavkhan	0.2	0.1	0.1	-	-
Uvs	10.9	3.0	6.3	0.1	1.6
Khovd	9.4	8.1	0.3	0.1	0.9
Khangai region	**46.6**	**11.5**	**31.9**	**1.2**	**2.1**
Arkhangai	0.3	0.3	-	-	-
Bayankhongor	40.1	8.5	30.2	0.6	0.7
Bulgan	2.1	0.8	1.1	0.2	-
Uvurkhangai	0.2	-	0.2	-	-
Khuvsgul	4.0	1.8	0.5	0.3	1.4
Central region	**91.0**	**37.3**	**50.5**	**1.8**	**1.4**
Darkhan-Uul	0.2	0.1	0.1	-	0.0
Dornogobi	16.8	5.6	9.7	0.5	1.0
Dundgobi	42.0	1.0	39.8	1.1	0.2
Umnugobi	4.9	4.1	0.8	-	0.1
Selenge	5.0	4.8	0.0	0.1	-
Tuv	22.1	21.7	0.1	0.1	0.1
East region	**25.2**	**2.8**	**11.4**	**7.3**	**3.6**
Dornod	0.0	-	0.0	-	0.0
Sukhbaatar	0.0	0.0	-	-	-
Khentii	25.1	2.8	11.4	7.3	3.6
Ulaanbaatar	**2.2**	**0.5**	**0.7**	**-**	**1.0**

TABLE 53. Paid taxes in 2011, by type of minerals and taxes

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Type of minerals	TOTAL	Of which			
		Tax on transportation vehicles	Presumptive tax	Membership tax	Other taxes
TOTAL	**195.5**	**70.2**	**103.3**	**10.9**	**11.1**
Gold	106.1	58.8	40.9	2.3	4.2
Coal	2.7	0.8	0.8	-	1.1
Spar	79.5	7.9	58.2	8.6	4.8
Wolfram	3.3	1.7	1.6	-	-
Tin	0.9	0.4	0.6	-	-
Limestone	0.1	0.0	0.1	-	-
Gemstone	1.4	0.4	1.0	-	-
Salt	1.3	0.1	0.2	-	1.0

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 54. Number of artisanal and small-scale miners engaged in mining operation*, by regions, aimags and the capital city and whether made invetsment

Region, aimag and the capital city	TOTAL	Whether made investment in 2011			
		Yes	%	No	%
TOTAL	**7 273**	**803**	**11.0**	**6 470**	**89.0**
West region	**1 982**	**209**	**10.5**	**1 773**	**89.5**
Bayan-Ulgii	201	2	1.0	199	99.0
Gobi-Altai	600	42	7.0	558	93.0
Zavkhan	40	3	7.5	37	92.5
Uvs	670	101	15.1	569	84.9
Khovd	471	61	13.0	410	87.0
Khangai region	**2 183**	**191**	**8.7**	**1 992**	**91.3**
Arkhangai	72	14	19.4	58	80.6
Bayankhongor	801	87	10.9	714	89.1
Bulgan	138	31	22.5	107	77.5
Uvurkhangai	371	16	4.3	355	95.7
Khuvsgul	801	43	5.4	758	94.6
Central region	**2 236**	**367**	**16.4**	**1 869**	**83.6**
Drakhan-Uul	158	15	9.5	143	90.5
Dornogobi	245	32	13.1	213	86.9
Dundgobi	65	7	10.8	58	89.2
Umnugobi	160	7	4.4	153	95.6
Selenge	564	67	11.9	497	88.1
Tuv	1 044	239	22.9	805	77.1
East region	**251**	**26**	**10.4**	**225**	**89.6**
Dornod	52	-	-	52	100.0
Sukhbaatar	29	4	13.8	25	86.2
Khentii	170	22	12.9	148	87.1
Ulaanbaatar	**621**	**10**	**1.6**	**611**	**98.4**

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 55. Number of artisanal and small-scale miners engaged in mining operation*, by type of minerals and whether made invetsment

Type of minerals	TOTAL	Whether made investment in 2011			
		Yes	%	No	%
TOTAL	**7 273**	**803**	**11.0**	**6 470**	**89.0**
Gold	5 803	709	12.2	5 094	87.8
Coal	710	12	1.7	698	98.3
Spar	340	42	12.4	298	87.6
Wolfram	254	22	8.7	232	91.3
Tin	41	10	24.4	31	75.6
Limestone	6	-	-	6	100.0
Gemstone	101	7	6.9	94	93.1
Salt	18	1	5.6	17	94.4

TABLE 56. Ammount of investment made in 2011, by type of minerals and investment

mln.tug

Type of minerals	TOTAL	Type of investment			
		Buildings and structure	Vehicles	Equipments	Others
TOTAL	**2 148.6**	**244.1**	**1 211.7**	**654.0**	**38.9**
Gold	1 455.5	172.7	783.6	465.6	33.7
Coal	53.1	-	24.0	29.1	-
Spar	589.2	71.4	365.5	148.7	3.6
Wolfram	8.4	-	4.8	3.4	0.2
Tin	13.5	-	8.4	3.7	1.5
Gemstone	20.9	-	17.4	3.5	-
Salt	8.0	-	8.0	-	-

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 57. Ammount of investment made in 2011, by regions, aimags and the capital city and type of investment

mln.tug

Region, aimag and the capital city	TOTAL	Type of investment			
		Buildings and structure	Vehicles	Equipments	Others
TOTAL	**2 148.6**	**244.1**	**1 211.7**	**654.0**	**38.9**
West region	**488.0**	**32.5**	**314.7**	**136.4**	**4.5**
Bayan-Ulgii	3.8	-	3.8	-	-
Gobi-Altai	61.9	-	46.1	14.3	1.5
Zavkhan	2.5	-	1.5	1.0	-
Uvs	289.7	1.0	216.9	70.6	1.3
Khovd	130.1	31.5	46.5	50.5	1.7
Khangai region	**376.5**	**62.1**	**152.4**	**148.8**	**13.3**
Arkhangai	15.1	-	5.0	1.6	8.5
Bayankhongor	195.1	-	98.9	94.0	2.2
Bulgan	114.7	61.6	26.6	26.6	-
Uvurkhangai	20.8	-	19.2	-	1.6
Khuvsgul	30.8	0.5	2.7	26.6	1.0
Central region	**921.4**	**149.5**	**502.5**	**253.3**	**16.1**
Darkhan-Uul	31.3	7.2	17.7	5.7	0.7
Dornogobi	291.1	71.4	157.5	62.2	0.1
Dundgobi	13.3	-	4.5	8.8	-
Umnugobi	45.2	1.0	42.0	-	2.2
Selenge	164.6	31.2	82.3	49.0	2.1
Tuv	376.0	38.7	198.5	127.7	11.2
East region	**321.5**	**-**	**230.1**	**86.4**	**5.0**
Sukhbaatar	1.1	-	0.8	0.3	-
Khentii	320.4	-	229.3	86.1	5.0
Ulaanbaatar	**41.1**	**-**	**12.0**	**29.1**	**-**

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 58. Gross output, intermediate consumption and value added, by regions and aimags and the capital city

Region, aimag and the capital city	Gross output	Intermediate consumption	Of which				
			Raw materials	Spare parts	Electricity and heating	Fuel and lubricate materials	Rent of building and facilities
TOTAL	**25 389.6**	**5 583.6**	**233.5**	**448.0**	**166.1**	**1 977.6**	**36.7**
West region	**4 890.7**	**654.9**	**46.5**	**75.0**	**4.0**	**262.0**	**1.0**
Bayan-Ulgii	1 027.5	86.2	4.0	2.0	-	26.6	-
Gobi-Altai	1 277.3	135.6	1.6	21.6	0.8	71.1	-
Zavkhan	137.7	29.2	4.6	0.6	-	14.2	-
Uvs	1 686.7	222.0	0.1	40.1	2.5	79.9	0.8
Khovd	761.4	181.9	36.2	10.8	0.7	70.2	0.1
Khangai region	**7 820.7**	**2 009.3**	**49.8**	**105.3**	**33.0**	**761.3**	**27.1**
Arkhangai	106.2	6.0	3.1	0.0	-	0.1	-
Bayankhongor	3 080.6	1 051.3	10.8	65.4	29.5	387.6	2.0
Bulgan	331.4	117.4	6.2	4.1	2.5	35.9	25.0
Uvurkhangai	634.3	51.7	2.0	1.6	0.0	28.7	0.1
Khuvsgul	3 668.2	782.9	27.7	34.2	1.1	309.0	-
Central region	**8 903.5**	**2 194.5**	**67.6**	**212.0**	**54.2**	**795.1**	**5.1**
Darkhan-uul	844.3	178.4	0.5	3.8	0.4	67.9	0.2
Dornogobi	1 135.7	445.8	1.5	29.9	5.3	131.9	0.2
Dundgobi	519.3	58.7	0.4	1.8	0.7	42.3	0.7
Umnugobi	338.4	54.4	14.6	2.9	0.1	25.7	-
Selenge	2 560.5	611.1	35.3	36.7	7.7	202.3	1.7
Tuv	3 505.2	846.1	15.3	136.9	40.0	325.0	2.5
East region	**735.4**	**402.6**	**23.2**	**30.9**	**5.9**	**150.6**	**1.4**
Dornod	86.6	3.5	-	-	0.0	1.6	-
Sukhbaatar	16.6	2.4	0.1	0.0	-	1.8	-
Khentii	632.2	396.7	23.1	30.9	5.8	147.2	1.4
Ulaanbaatar	**3039.4**	**322.2**	**46.6**	**24.8**	**69.0**	**8.6**	**2.1**

Note: *Information of partnership members, which is equally distribute income is not included.

TABLE 58 continuation

Region, aimag and the capital city	Of which				
	Rent of machinery and equipments	Transportation cost	Labor protection cost	Expenses related to environment rehabilitation	Other costs
TOTAL	**96.9**	**952.6**	**293.5**	**69.3**	**1 309.5**
West region	**8.1**	**115.4**	**46.5**	**7.6**	**88.9**
Bayan-Ulgii	-	3.4	14.2	0.6	35.5
Gobi-Altai	1.6	13.4	2.9	1.3	21.2
Zavkhan	-	3.1	0.2	0.0	6.5
Uvs	4.9	60.1	28.0	3.8	1.7
Khovd	1.5	35.4	1.1	2.0	23.9
Khangai region	**17.9**	**252.3**	**67.8**	**10.9**	**683.9**
Arkhangai	-	-	0.7	-	2.1
Bayankhongor	-	93.2	45.8	7.5	409.5
Bulgan	17.3	17.2	3.0	3.2	3.0
Uvurkhangai	-	7.6	6.9	0.0	4.8
Khuvsgul	0.6	134.2	11.3	0.2	264.6
Central region	**65.9**	**424.9**	**113.0**	**12.8**	**444.0**
Darkhan-uul	0.2	40.5	24.1	0.0	40.7
Dornogobi	10.1	70.1	25.9	3.5	167.5
Dundgobi	0.1	4.4	0.8	4.7	2.9
Umnugobi	0.2	4.5	5.1	0.5	0.8
Selenge	50.7	86.3	5.4	1.3	183.9
Tuv	4.6	219.1	51.7	2.7	48.2
East region	**5.1**	**146.8**	**24.3**	**1.4**	**13.2**
Dornod	0.3	0.5	-	-	1.1
Sukhbaatar	-	0.2	0.3	-	0.1
Khentii	4.8	146.1	24.0	1.4	12.0
Ulaanbaatar	**-**	**13.1**	**41.8**	**36.6**	**79.5**

TABLE 58 continuation

Region, aimag and the capital city	Value added	Of which				
		Wages	Tax on transportation vehicles	Presumptive tax	Membership tax	Other tax
TOTAL	**19 806.1**	**1 615.2**	**70.2**	**103.3**	**10.9**	**11.1**
West region	**4 235.7**	**32.9**	**18.1**	**8.8**	**0.6**	**2.9**
Bayan-Ulgii	941.3	-	1.6	1.7	-	-
Gobi-Altai	1 141.7	-	5.3	0.4	0.5	0.5
Zavkhan	108.5	-	0.1	0.1	-	-
Uvs	1 464.7	32.9	3.0	6.3	0.1	1.6
Khovd	579.5	-	8.1	0.3	0.1	0.9
Khangai region	**5 811.4**	**1 210.7**	**11.5**	**31.9**	**1.2**	**2.1**
Arkhangai	100.2	-	0.3	-	-	-
Bayankhongor	2 029.3	1 202.7	8.5	30.2	0.6	0.7
Bulgan	213.9	8.0	0.8	1.1	0.2	-
Uvurkhangai	582.6	-	-	0.2	-	-
Khuvsgul	2 885.3	-	1.8	0.5	0.3	1.4
Central region	**6 708.9**	**151.8**	**37.3**	**50.5**	**1.8**	**1.4**
Darkhan-uul	665.9	-	0.1	0.1	-	0.0
Dornogobi	689.9	67.1	5.6	9.7	0.5	1.0
Dundgobi	460.6	-	1.0	39.8	1.1	0.2
Umnugobi	284.0	-	4.1	0.8	-	0.1
Selenge	1 949.4	78.1	4.8	0.0	0.1	-
Tuv	2 659.1	6.6	21.7	0.1	0.1	0.1
East region	**332.8**	**162.9**	**2.8**	**11.4**	**7.3**	**3.6**
Dornod	83.1	-	-	0.0	-	0.0
Sukhbaatar	14.2	-	0.0	-	-	-
Khentii	235.5	162.9	2.8	11.4	7.3	3.6
Ulaanbaatar	**2717.2**	**57.0**	**0.5**	**0.7**	**-**	**1.0**

TABLE 58 continuation

Region, aimag and the capital city	Of which				
	Monetary and non-monetary grant to workers	Loan interest	Compensation of losses from natural disaster	Payment to land owner	Esitmated surplus
TOTAL	**176.8**	**99.2**	**3.2**	**1 035.1**	**16 681.1**
West region	**32.0**	**27.8**	**0.1**	**2.4**	**4 110.1**
Bayan-Ulgii	0.1	-	-	0.4	937.6
Gobi-Altai	0.4	0.5	-	0.0	1 134.1
Zavkhan	-	0.2	-	0.1	107.9
Uvs	30.7	2.5	0.1	1.9	1 385.8
Khovd	0.9	24.5	-	-	544.7
Khangai region	**63.5**	**14.3**	**-**	**2.8**	**4 473.4**
Arkhangai	-	-	-	-	99.9
Bayankhongor	58.5	12.5	-	0.6	715.0
Bulgan	4.8	0.3	-	1.1	197.6
Uvurkhangai	0.3	-	-	0.6	581.6
Khuvsgul	0.0	1.5	-	0.5	2 879.3
Central region	**62.2**	**38.7**	**1.1**	**3.2**	**6 360.9**
Darkhan-uul	-	6.0	-	-	659.7
Dornogobi	56.7	7.4	0.5	1.6	539.9
Dundgobi	0.6	-	-	0.2	417.8
Umnugobi	-	0.3	-	-	278.7
Selenge	3.6	6.7	-	0.6	1 855.5
Tuv	1.4	18.3	0.6	0.9	2 609.3
East region	**15.5**	**17.9**	**-**	**2.5**	**108.8**
Dornod	0.0	-	-	-	83.1
Sukhbaatar	-	-	-	-	14.1
Khentii	15.5	17.9	-	2.5	11.6
Ulaanbaatar	**3.5**	**0.5**	**2.1**	**1 024.2**	**1 627.9**

TABLE 59. Gross output, intermediate consumption and value added, by type of minerals

Type of minerals	Gross output	Intermediate consumption	Of which				
			Raw materials	Spare parts	Electricity and heating	Fuel and lubricate materials	Rent of building and facilities
TOTAL	**25 389.6**	**5 583.6**	**233.5**	**448.0**	**166.1**	**1 977.6**	**36.7**
Gold	18 745.4	4 221.3	158.0	356.6	85.8	1 593.0	32.3
Coal	3 123.9	333.1	46.6	25.0	69.0	14.3	2.1
Fluorspar	2 077.7	833.3	23.5	59.3	9.4	298.6	2.3
Wolfram	1 002.0	93.6	5.4	4.7	-	35.3	-
Tin	58.3	7.9	-	0.8	-	4.9	-
Limestone	27.2	2.5	0.1	-	-	1.5	-
Gemstone	315.4	89.0	0.1	1.5	1.8	29.2	-
Salt	39.7	2.8	-	0.1	-	0.7	-

TABLE 59 continuation

Type of minerals	Of which				
	Rent of machinery and equipments	Transportation cost	Labor protection cost	Expenses related to environment rehabilitation	Other costs
TOTAL	**96.9**	**952.6**	**293.5**	**69.3**	**1 309.5**
Gold	82.0	693.5	187.2	23.2	1 009.7
Coal	-	17.7	42.4	36.6	79.5
Fluorspar	14.9	216.3	35.9	8.8	164.5
Wolfram	-	3.9	12.5	0.6	31.2
Tin	-	1.1	0.1	-	1.0
Limestone	-	-	0.4	-	0.5
Gemstone	-	18.9	14.2	0.2	23.0
Salt	-	1.3	0.7	-	0.0

TABLE 59 continuation

Type of minerals	Value added	Of which				
		Wages	Tax on transportation vehicles	Presumptive tax	Membership tax	Other tax
TOTAL	**19 806.1**	**1 615.2**	**70.2**	**103.3**	**10.9**	**11.1**
Gold	14 524.0	1 312.8	58.8	40.9	2.3	4.2
Coal	2 790.8	57.0	0.8	0.8	-	1.1
Fluorspar	1 244.4	209.6	7.9	58.2	8.6	4.8
Wolfram	908.5	-	1.7	1.6	-	-
Tin	50.3	-	0.4	0.6	-	-
Limestone	24.7	-	-	0.1	-	-
Gemstone	226.4	20.4	0.4	1.0	-	-
Salt	36.9	15.5	0.1	0.2	-	1.0

TABLE 59 continuation

Type of minerals	Of which				
	Monetary and non-monetary grant to workers	Loan interest	Compensation of losses from natural disaster	Payment to land owner	Esitmated surplus
TOTAL	**176.8**	**99.2**	**3.2**	**1 035.1**	**16 681.1**
Gold	97.3	72.9	0.7	6.2	12 928.0
Coal	3.7	0.5	2.1	1 024.2	1 700.7
Fluorspar	72.1	25.1	0.5	4.3	853.5
Wolfram	0.1	-	-	0.4	904.6
Tin	-	0.2	-	-	49.2
Limestone	-	-	-	-	24.6
Gemstone	0.7	-	-	-	203.9
Salt	3.0	0.5	-	-	16.6