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The Asia Foundation



## **GENDER ASSESSMENT OF SMALL-SCALE MINING IN MONGOLIA**

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# Gender Assessment of Small-Scale Mining in Mongolia

In-Country Mixed-Methods Research and Data Collection  
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**Submitted to:**

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*For the implementation of this Project, TAF is acting on behalf of the Swiss Agency for Development and Cooperation (SDC)*

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## Abbreviations and foreign words

ADB	Asian Development Bank
<i>aimag</i>	Province
ASM	Artisanal and Small scale Mining
CMP	Child Money Program
CSW	Commercial Sex Worker
<i>dzud</i>	An extremely cold and/or snowy winter in which livestock are unable to find fodder through the snow cover, and large numbers of animals die due to starvation and the cold
ESEC	Engaging Stakeholders in Environmental Conservation
Fluorspar (also known as Fluorite)	An important industrial mineral composed of calcium and fluorine (CaF <sub>2</sub> ). It is used in a wide variety of chemical, metallurgical and ceramic processes. Specimens with exceptional diaphaneity and color are cut into gems or used to make ornamental objects.
GCSD	Gender Center for Sustainable development
<i>ger</i>	A portable, bent dwelling structure traditionally used by nomads in the steppes of Mongolia. A traditional <i>ger</i> consist of an expanding wooden circular frame carrying a felt cover.
GDP	Gross National Product
GNI	Gross National Income
ILO	International Labor Organization
MDG	Millennium Development Goal
MNT	Mongolian tögrög (sign: ₮). 1.00 USD =1,697.48 MNT (20 Oct 2013)
N	Sample size
NDS	National Development Strategy
NGO	Non Governmental Organization
<i>ninja</i>	Unauthorised or informal gold miner. The name is derived from the green bowls the miners use for panning. When these bowls are carried on their backs, the miners are said to resemble the shells of the Teenage Mutant Ninja Turtles
NSO	National Statistics Office of Mongolia
SDC	Swiss Agency for Development and Cooperation
<i>soum</i>	sub-district
SPDRI	Social Policy Development Research Institute
STI	Sexually Transmitted Infection
TAF	The Asia Foundation
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
USD	United States dollar

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Opinions expressed in this report are those of the authors and do not necessarily reflect the views of TAF, SDC or other institutions the author is affiliated with. The author is responsible for all errors in translation and interpretation.

## Summary

**Introduction and background:** The objective of this consultancy is to conduct an assessment on the gender dimensions of artisanal and small-scale mining (ASM) in Mongolia and develop a gender mainstreaming strategy for the ESEC II project, which is co-financed by TAF and SDC. Mongolia (pop: 2.8 million) is a large landlocked country in Northern Asia. Gender dynamics in Mongolia have been shaped by social-cultural norms, six decades of socialism (1924-1989), and the transition to a market economy in the past 23 years. Mongolia has issued extensive legislation to advance gender equality and women are, on average, better educated and healthier than men. However, diminishing female participation in national politics, increasing wage gaps and male dominance in key economic sectors are emerging phenomena. A wide array of welfare benefits provides a basic level of social and financial security to families and particularly to women.

Estimates of the number of people involved in Mongolia's ASM sector range from 30,000 to 100,000. In the early 1990s, climatic and socio-political factors lead to widespread job loss, which in turn sparked the development of ASM. The main ASM commodities are gold, fluorspar and coal. An estimated 15 to 18 percent of Mongolia's informal miners are children, mostly boys. The Regulation on Extraction of Minerals from Small-Scale Mines does not contain specifications regarding women working in ASM. Estimates of the share of women versus men in ASM range from 19.4 to 45-50 percent women, with women being most prominently present in placer gold mining. Gender disparities in physical strength define the separation of tasks at home and in the mines. Their domestic responsibilities leave female ASM miners with a double working day. These responsibilities at home also make that women, on average, work fewer hours, extract less mineral and earn less than men. As compared to females, male miners are more likely to get in accidents and consume more alcohol. Existing studies provide evidence of sex work, sexual violence, abortions and STIs among women and girls in mining communities.

**Methods:** The gender assessment made use of two different sources of data. The first is a quantitative dataset that contains the results of a survey by the Social Policy Development Research Institute (SPDRI) among 1855 miners at ASM sites throughout Mongolia. The second data source is a field trip (August 11-17) to three different ASM areas (alluvial gold, hard rock gold, and fluorspar). During this field trip, more qualitative gender-specific data were collected by means of 3 focus group discussions with male and female miners; key informant interviews with 10 ASM leaders; Semi-structured interviews with 35 miners and mining service providers; and observations. During the focus group discussions, participants constructed daily activity calendars that provided insight into the gender divide of labor and responsibilities in the mines and at home.

**Results:** In ASM sites surveyed by the SPDRI, just under one third (30.7%) of interviewed miners were women. There were relatively fewer women in hard rock gold mining sites. The overall number of ASM miner reduces to half in winter, but the ratio women to men tends to remain about equal. Women are most likely to enter mining with their husband or other family, though some single women come by themselves. Male and female miners did not differ much in age and education.

The gender division of labor at home shapes female participation in ASM. Most household duties and child care are perceived to be the primary responsibility of women, and women spend more daily hours on these tasks than men. In the home, men's principle tasks are chopping wood, fetching water, and doing small and medium repairs, though men were also said to 'help out' in other tasks such as caring for children. Men were most often considered to be the main breadwinners, but only a slightly lower number of respondents stated that in their households both partners were equal in this respect. Also when it comes to managing the household income, husband and wife typically decide together how the household income is spent. In cases where one of the heads of households decided, the wife was relatively more often named as the main decision maker.

Largely because of their responsibilities at home, women ASM miners work, on average, fewer days a week and fewer hours a day in mining than men. Like at home, activities at ASM sites are subject to a gender-based divide of labor, which is primarily based on (perceived) differences in physical strength and exposure to risk. The divide of mining activities along gender lines is not strict though, and both women and men perform virtually all tasks. Men do all jobs related to actual mining, such as digging, hauling up ore, blasting, crushing stones and loading and transporting ore. They are less present at processing and play a relatively minimal role in the delivery of auxiliary services. Women dominate processing (panning, preparing the processing plant) and the provision of auxiliary services (cooking, cleaning, buying gold), but they also perform mining activities such as hauling up ore with the windlass, sorting stones/tailings, and bagging ore. This general gender division of labor reflected both the actual performance of tasks and perceived appropriateness of tasks for either women or men.

More men than women believed that male miners are better at mining than female miners, while women were more prone to believe that there is no difference. Over half of the SPDR survey respondents were of the opinion that mining is not a respectable source of income for women, with more men (62.7%) than women (52.3) sharing this opinion. Particularly working underground was deemed unsuitable for women. The main motivation behind this thought was that mining is physically very hard work that takes place in harsh conditions. Other miners stated that mining is a suitable job for women because women need to earn an income, mining work is easy, and women possess diverse skills.

Virtually all miners at the visited mine sites were working in mining partnerships, and the few miners working outside of partnerships were mostly male. Forty-four percent of surveyed female miners versus one quarter of surveyed men (24.6%) worked in a partnership headed by a woman, suggesting that women are relatively more likely to be partnership leaders in locations with more women miners. About half of male (48.2%) and female (49.8%) miners had no preference for either a male or a female partnership leader. While there was a slight preference for male leaders, women were believed to be capable mining leaders as well, and were lauded for their skills in management, organization, and advocacy. The advantages of being organized were believed to be equal for women and men and included increased job security, improved access to information, and improved health conditions. Most miners believed that women and men are equal partners in the partnerships. Members have equal say in decisions and incomes are equally shared among partnership members, regardless of sex.

The main reasons to venture into ASM included the lack of alternative job opportunities (mostly men) and job loss (mostly women). For virtually all miners of both sexes ASM was the principle or only source of income for their families. Mining incomes are intermittent and volatile, yet on average ASM was believed to pay better than a Mongolian minimum wage. The relatively favourable mining income is the main reason why many miners want to continue mining in the coming five years. In this context miners also mentioned the lack of alternative work. When asked about their future dreams respondents said they wanted to invest their earnings in an alternative livelihood strategy such as a large herd, a small business, a farm, or simply another job. Most miners did not want their children to become miners like themselves because of the harsh conditions and physically demanding nature of the work.

At the sites visited during the gender assessment, we did not find much evidence of sexual violence or harassment against women or men. It was suggested that the banning of alcohol use on ASM sites by the partnerships has contributed to the reduction of violence in general and gender-based violence in particular. As the most severe ASM-induced environmental impacts miners named land degradation. Women were more likely than men to name water contamination as the most severe environmental impact, probably because of their reliance on clean water for domestic use.

According to a majority of miners, the specific challenges faced by women in ASM differ from those faced by men. Women's domestic responsibilities and their lesser physical strength were named as the main challenges for female miners. Furthermore, particularly for young women who have migrated to the ASM site it is hard to leave their small children behind in the care of others. Meanwhile single mothers may have greater difficulty to combine their ASM work with their responsibilities as a mother.

**Discussion and conclusions:** Given the limited number of ASM sites that could be visited, our field data may not be representative of mine sites throughout Mongolia. Nevertheless, given that the SPDR survey and earlier studies mostly confirm the field data, the researchers are confident that the results provide a reliable portrait of gender relations in (formalized) Mongolian ASM sites. The researchers observe that Mongolia's socialist tradition, which supported a high degree of gender equity, is overtly present in organization of the ASM sector. While ASM is characterized by a clear gender divide of labor, the sector overall equitable and women and men appear to similarly benefit from their work as miners and partnership members. Gender disparities in labor tasks and time commitment in ASM can be attributed to: physical differences between the sexes; a relatively more protective attitude towards women; health concerns; and women's domestic and child care responsibilities. Yet even though male miners work, on average, more hours a week and tend to perform the jobs that are considered 'hardest', when it comes to dividing the mining profits all partnership members receive an equal share.

While the image arises of ASM as a sector with a large degree of gender equity, several markers suggest that particularly men but also many women continue to see women as less worthy miners. In this context, the data suggest that women have a slightly more positive view of the capabilities of female miners than men. Nevertheless, many miners believe that women and men are equally skilled as miners and ASM leaders of partnerships and NGOs. Moreover, ASM is a viable livelihood option for women because of the option to work flexible hours, the equal pay in partnerships, and the opportunities to strengthen their leadership potentials and gain self confidence as ASM leaders.

# Table of Contents

Abbreviations and foreign words.....	iii
Acknowledgements.....	iv
Summary .....	v
Table of Contents.....	viii
1. Introduction .....	1
1.1 General.....	1
1.2 Study goal and objectives .....	1
1.3 Lay-out of the report.....	1
2. Background .....	2
2.1 Mongolia .....	2
2.2 Gender relations in Mongolia .....	3
2.3 Gender Based Violence in Mongolia.....	5
2.4 Small-scale mining in Mongolia .....	6
2.5 Mongolia’s policy and legal framework related to small-scale mining and gender .....	8
2.6 Gender and Small-scale mining in Mongolia .....	9
3. Methods.....	14
3.1 Literature Review .....	14
3.2 The SPDRI dataset .....	14
3.3 Gender Assessment field work .....	14
3.3.1 Focus group discussions.....	16
3.3.2 Key informant interviews.....	17
3.3.3 Semi-structured interviews with miners and mining service providers .....	17
3.3.4 Observation sheets .....	18
3.4 Mini-survey .....	19
4. Results.....	20
4.1 Demographic make-up of the mining population.....	20
4.2 Gender division of labor in and around the household .....	22
4.3 Gender division of labor in ASM .....	24
4.4 Is mining a suitable job for women?.....	29
4.5 Differential time commitment .....	31



4.6	Male and female roles in the partnerships.....	33
4.7	Mining as a livelihood strategy .....	35
4.8	Sexual violence, harassment and security issues .....	41
4.9	Health and environment.....	43
4.10	Gender-specific barriers and opportunities for advancement in mining .....	46
5.	Discussion and conclusions.....	49
	Recommendations .....	53
	References .....	59
Annex I	Research instruments .....	62
	Qualitative interviews with women not involved in ASM .....	62
	Interview guide for key informant interviews .....	63
	Semi-structured interviews with miners and mining service providers .....	64
	Observation sheet.....	67
Annex 2	.....	70

# 1. Introduction

## 1.1 General

The Asia Foundation (TAF) in collaboration with the Swiss Agency for Development and Cooperation (SDC) is executing a project *Engaging Stakeholders in Environmental Conservation Phase II* (ESEC II). This project commenced in August 2013, and is expected to last for three years and five months. The aim of the ESEC II project is to ensure that Mongolia's artisanal mining sector contributes to sustainable local development, including the realization of the right to a healthy environment and the right to decent work. This will be achieved through the attainment of the following outcomes: 1) Mongolian government authorities endorse sustainable green ASM rehabilitation approaches, 2) local stakeholders agree on co-financed *soum* (sub-district) level ASM environmental action plans, and 3) local stakeholders jointly implement and finance the agreed *soum* ASM environmental action plans.

## 1.2 Study goal and objectives

The main objective of the present gender assessment is to provide a comprehensive analysis of the gender dimensions of artisanal and small-scale mining (ASM) in Mongolia and develop a gender mainstreaming strategy for the ESEC II project. The gender assessment is to provide the basis for gender responsive actions, which shall be addressed within the scope of the ESEC II project by identifying needs, labor division, participation, access to resources and development, control of assets, decision-making powers between women and men in their assigned gender roles.

## 1.3 Lay-out of the report

In the following pages the report proceeds as follows. The next chapter provides a background description of Mongolia, the general status of gender relations in Mongolia, and basic information about its small-scale mining sector. Chapter 3 briefly describes the methods used for data collection and analysis. The results are presented in Chapter 4.

## 2. Background

### 2.1 Mongolia

Mongolia is the world's largest landlocked country located in Northern Asia, between China and Russia (Figure 1). With 2.8 million people (NSO 2010) spread out across 1.5 million km<sup>2</sup> of steppes, deserts and mountains, Mongolia is the most sparsely populated country in the world. Women slightly outnumber men (Table 1). Mongolia has an extreme continental climate with long, cold winters, with January, temperature averages dropping as low as -30°C (-22°F). During winter, the country also is hit by so-called *dzud*; extremely cold and often snowy weather conditions during which large numbers –in some years several millions- of livestock die due to starvation and the cold. Summers are short and hot.

Figure 1. Map of Mongolia with its aimags and main cities.



After gaining independence at the beginning of the 20<sup>th</sup> century, Mongolia came under strong Soviet influence. After the breakdown of communism in late 1989, Mongolia experienced its own Democratic Revolution in 1990, which led to a multi-party system, a new constitution (1992), and a transition to a market economy. This transition has brought many stresses to the national economy, and has been named both as a reason for growth of the informal sector -including informal gold mining- and increased gender inequality.

With a GDP of US\$ 10.3 billion and a per capita GNI of USD 5,100 (PPP), Mongolia is classified as a lower middle income country (World Bank 2013). Mongolia's economy is centered on agriculture and mining. Mongolia has rich mineral resources, and copper, coal, molybdenum, tin, tungsten, and gold account form a large part of industrial production. Development of the country's rich mineral deposits has been a critical source of economic growth during the period of economic transition. More details about Mongolia are presented in the fact sheet (Table 1)

## 2.2 Gender relations in Mongolia

Gender dynamics in Mongolia have been shaped by social-cultural norms, six decades of socialism, and the transition to a market economy that started in 1990. During the socialist period women's status improved. With Soviet support, the state invested in girls' education and as a result a new generation of well-educated women emerged. These women could also use state-funded child care and maternity leave and improved health services and experienced less domestic responsibility and more equal labor force participation and remuneration (ADB Mongolia 2010).

A steady progress in terms of human development is that Mongolia has, among others, embraced Millennium Development Goal number 3; 'Promote gender equality and expand participation of women in political decision making'. In 2005 the Mongolian Parliament passed a resolution on MDG 3 in order to improve the social, professional and cultural status of Mongolian women and to promote their participation in broader development policies and programs. The most recent status of these goals is described in the UNDP Human Development Report 2013. This report indicates that 83 percent of adult women have reached a secondary or higher level of education compared to 81.8 percent of their male counterparts.

When gender dynamics are looked at more closely, however, a persistent gender gap becomes apparent. Concerning education and health, available data demonstrate that women are, on average, better educated and healthier than their male counterparts. However, a reversal in women's participation in national politics, increasing wage gaps and continued male dominance in key sectors of the economy are emerging phenomena. For example, in 2012, female labor force was 54.3 percent versus 65.5 percent for men. Meanwhile only 12.7 percent of parliamentary seats are held by women (UNDP 2013). Changes in the economy and labor market, as well as social factors such as taking care for children, doing household work and early retirement, explain the relatively lower employment rates for women. The Asian Development Bank (2010) has warned that: 'These fundamental inequalities are likely to result in long-term, gender-specific vulnerabilities unless they are pro-actively addressed'. Gender relations in Mongolia are also being transformed by high rates of male suicide and early mortality, alcoholism, gender-based violence and unemployment (ibid.).

Table 1. Mongolia fact sheet

Indicator	Value
<b>GEOGRAPHY AND POPULATION</b>	
Total area	604,247 ml <sup>2</sup> (1,565,000 km <sup>2</sup> )
Arable land	0.4% (2011)
Population, total	2.78 million (2010)
Male	1.35 million
Female	1.43 million
<b>EDUCATION</b>	
Literacy, total (no gender difference)	97.4% (2010)
Adjusted net enrolment rate, Primary (% of primary school age children), total (no gender difference)	98.8% (2011)
Ratio of female to male tertiary enrolment (%)	1.5 : 1 (2011)
<b>HEALTH</b>	
Life expectancy at birth, female	72.5 (2011)
Life expectancy at birth, males	64.6
<b>ECONOMY</b>	
GDP, current US\$ (2012)	US\$ 10.3 billion
Annual GDP growth	12 %
Per capita GNI, current international US\$, PPP (2012)	US\$ 5,100
% of population living below the national poverty line	27.4% (2012)
<b>DEVELOPMENT</b>	
Human Development Index ranking	108, out of 186 countries (UNDP 2013)
% of rural population with access to an improved water source	53% (2011 data)
% of population with access to electricity	86.2% (2010)
<b>LABOR</b>	
Labor force participation rate, total (% of total population ages 15+)	59.8% (2011)
Males	65.5%
Females	54.3%
% of female children ages 7-14 in employment	8.6 (2007 data)
% of male children ages 7-14 in employment	11.4 (2007 data)
<b>GENDER</b>	
CPIA gender equality rating (1=low to 6=high)	4 (2012)
Female headed households (% of households with a female head)	28.5% (2008)
Gender Inequality Index ranking	56, out of 148 countries (UNDP 2013)
Proportion of seats held by women in national parliaments (%)	14.9% (2012)
Proportion of women in ministerial level positions (%)	7.1% (2012)

Source: World Bank data bank, Mongolia. URL: <http://data.worldbank.org/country/mongolia>, unless indicated otherwise

The economic boom that took place before September 2008 fuelled the expansion of welfare benefits. This trend was important for women, especially poor women without secure employment. Among the most important benefits that were introduced was the Child Money Program (CMP) for families with three and more children. It was the first of a new generation of social assistance interventions targeted at the poor. The allowance consisted of a monthly payment of MNT 3,000 (about US\$ 2,14) per child. Since October 2012 the Mongolian government issues a monthly child allowance of 20000 MNT (12.5 USD) for all children between the age of 0-18 years.

Despite recent strong economic growth, inequalities are increasing, particularly between urban and rural areas. Women in particular are entering the informal sector in greater numbers (including ASM), a sector that offers a lower degree of social protection and lower wages than the formal sector. Women continue to receive less pay than men, have fewer employment opportunities and are found in less managerial positions across professions and sectors (Purevjav 2011).

### 2.3 Gender Based Violence in Mongolia

Gender-Based Violence (GBV) is a challenge in Mongolia, and the Centre for Citizens' Alliance (CCA) has labeled violence against women as "one of the most pressing issues" in the situation of women in Mongolia (SDC and CCA 2008). According to the SDC (2008), the rate of domestic violence – physical, emotional and psychological – has been steadily increasing in recent years.

Reliable and recent figures on GBV are hard to get by, but data scattered in reports from different sources sketch an alarming picture. The ADB (2010) reports that one third of women have been exposed to some form of violence, with most cases of GBV taking place within the home. A 1999 survey on Violence Against Women and Children by the National Center for Violence Against Women and the Center for Child Rights found that an estimated one in ten women, and 60.2% of children had reportedly experience physical violence (cited in UNFPA 2003). Almost all (98%) victims of domestic violence are women. Meanwhile the United States Department of State reports that of unemployed women under the age of 35, one-half are self-reported victims of workplace sexual harassment.

A 2009 report by the NCAV, CCA and Center for Human Rights Development revealed that one out of every two survey respondents reported of being a victim of a marital rape. One out of every three respondents said that the marital rape would go on unless it is reported by a third party and intervened by law enforcement organizations.

Because victims of GBV are often ashamed and hide their situation from the outside world, including law enforcement institutions, police statistics typically underreport cases of domestic violence and other forms of and gender-based violence, including date rape and rape within the marriage. Another reason for underreporting of GBV is that domestic violence tends to be conceptualized as comprising only physical, not psychological, abuse (UNFPA 2003). Also, sexual abuse within families, including incest, is not well understood in terms of domestic violence (ibid.).

Studies by NGOs help establish a more complete picture of GBV in Mongolia, but the sample size of some of the existing studies is very small. As a result, reliable quantitative and qualitative data on the

prevalence of GBV in a broader sense and related issues (e.g. the relation between alcohol use and GBV) continue to be lacking (TAF 2013).

Increased domestic and gender-based violence in Mongolia has been associated with male unemployment, economic hardship and alarming rates of alcoholism (Purevjav 2011; UNFPA 2003). Indeed, various studies associate high alcohol consumption by men with incidents of domestic violence. For example, respondents to a survey about date rape reported “drinking” as the main contributing factor to date rape (NCAV, CCA and Center for Human Rights Development 2009).

The ADB report (2010) associates the transition from socialism to a market economy with the increase of GBV. For example, the trafficking of women and girls appears to be a fairly recent phenomenon, though its dynamics are not fully understood (ADB 2010). Also sexual harassment in the workplace appears to be a relatively newly-emerged form of gender-based violence against women in Mongolia (UNIFEM 2002, cited in UNFPA 2003)

There is little information about the presence, form and commonality of GBV at ASM sites in Mongolia. The UNFPA (2007) provides anecdotal evidence of GBV in ASM sites, often related to alcohol consumption. This report also quotes a female physician who complains about drunk miners who use verbal and physical aggression against health workers. A recent research project from the Centre for Social Responsibility in Mining from the University of Queensland Sustainable Minerals Institute, entitled “Mapping Gender Based Violence and mining infrastructure in Mongolian mining communities, a comparative analysis” should shed more light on this issue. We have not been able to access the findings from his research project, which was executed January to October 2013.

We do not know whether people are trafficked to work in the ASM sector, either as miners or as service providers such as sex workers. Neither have we found secondary sources that present evidence of GBV in ASM communities. The reported general trends (increased domestic violence increased trafficking) suggest that in general, women have become relatively more vulnerable to violence by their male partners and other men, and it is likely that they also affect relations between women and men at the ASM sites.

## 2.4 Small-scale mining in Mongolia

In Mongolia, small-scale and artisanal miners are also named *ninja*<sup>1</sup>miners or 'informal' miners. The word informal refers to the fact that they work without licenses and outside the law. Presently the government is working on regulation the ASM sector, among others a new legal instrument Regulation No. 308. This regulation stipulates, among others, that in order to be recognized as formal miners, miners have to organize into partnerships. Nevertheless, informal ASM continues to exist.

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<sup>1</sup>The term “ninja miner” comes from their carrying a green, plastic pan on their backs for use in mining and their consequent resemblance to the “ninja turtles” from the well-known cartoon series. The term is often used to refer to all informal miners in Mongolia (Bjerregaard 2009)

Estimates of the number of people involved in small-scale mining range from 30,000 (MPAM 2005) to 100,000 (Greyson et al. 2004). The latter figure is equivalent to 20 percent of the rural work force (Bjerregaard 2009). The World Bank even estimates that about 600,000 Mongolians (~ 20 percent of the population) may rely to some extent on ASM. This figure is based on direct employment (mine workers, etc.), people who provide goods and services to the mines, and induced employment (owners and workers in local shops, restaurants, and other small businesses in communities where mining revenues are spent) (Eftimie 2012). As of January 2013, SDC/SAM estimated that more than 5000 artisanal and small-scale miners were organized and working in partnerships. Miners interviewed during the gender assessment fieldwork were part of these organized or formal miners. They proclaimed that they were NOT *ninja* miners as they had organized in partnerships and NGOs, and entered into a formal (verbal) agreement with the local government. They felt that the term *ninja* had a negative connotation that they did not want to be associated with.

The development of small-scale mining was a response to factors that influenced opportunities in agriculture and animal husbandry. Among these factors were severe winters with heavy snowfall between 1997 and 2002, and uncontrolled use of natural resources by powerful elites. These factors, combined with the relative geological wealth of Mongolia's rural areas and the liberal Mineral Resource Law from 1997 resulted in many rural people who turned to ASM as an alternative livelihood (Purevjav 2011). At present, small scale mining contributes over \$811 million per year to Mongolia's GDP (Eftimie 2012). An additional estimated \$505 million is spent each year in local economies related to mining activities.

ASM occurs in nearly every *aimag* and the miners are men and women from diverse backgrounds, including former and current herders, pensioners, unemployed, and persons who have temporarily or permanently left low-paying jobs or unsuccessful businesses in the hope to earn more in mining (Bjerregaard 2009). Also many students on summer break will arrive at the gold fields with their parents to help pay tuition. Big scores are rare; recently it was estimated that the average *ninja* makes about \$10 a week (Grainger 2013). Nowadays ASM is one of the main causes of migration within Mongolia. Although some families and individuals are only temporary residents, others establish themselves permanently at the site (IPEC 2007). As far as we could discern, no or very few migrants from other countries work in Mongolia's informal mining sector.

Small-scale and artisanal miners work independently and in small units, with simple tools and relying on their own strength and endurance. Small-scale miners mine several commodities but the by far most important are gold, fluorspar and coal. The majority of the small-scale miners in Mongolia mine gold and there are two types of small-scale gold miners: hard rock miners and placer miners. Mining activities vary depending on the mineral being mined but the operation often involves digging pits and tunnels, draining, excavating soil and evacuating water, drilling and blasting, crushing and processing (IPEC 2007).

Between 15 and 18 percent of Mongolia's informal miners may be children, and their numbers often double during school holidays. Children constitute more than 21.5 percent of the miners in informal gold mining and 15 percent in informal fluorspar mining (ILO 2007). Child labor in mines is internationally



considered as one of the worst forms of child labor as the children in artisanal mining work long hours in water, in narrow tunnels, in overheated conditions, in dust and with limited oxygen and light. Most children lift and carry excessive weights. Some handle mercury. Others work with sharp or rotating equipment and many use explosives (ILO 2007). Most children start mining at the age of 12, but there are those starting even before the age of 8. About 20 percent of the child miners are between 5 and 12, while about half of all child miners are in the age group 15–17. Children work alongside adults and take part in all or most parts of the mining process (IPEC 2007).

There is evidence of children being trafficked for labor at mine sites in other countries, particularly at artisanal mine sites (TAF 2008). In reference to trafficking, the ADB Country Gender Assessment of 2010 reports that “the scope and nature of human trafficking is changing, notably that it is becoming more organized and extensive”. Even though it is well possible that women and girls – as well as boys and men- are trafficked to work in Mongolian ASM sites, either as miners or doing other jobs , we have not found any references in the existing literature to this extend.

## 2.5 Mongolia’ s policy and legal framework related to small-scale mining and gender

Mongolia has issued extensive legislation to advance gender equality, as laid down in the **Mongolian Constitution, Labor Law, Family Law, Civil Code** and **Criminal Code**(Purevjav 2011).The **Mongolian Constitution** declares in its Article 14, that “[a]ll persons lawfully residing within Mongolia are equal before the law and the Court.” (Government of Mongolia 1992). The Constitution explicitly prohibits discrimination on the basis of sex and declares that: “men and women shall enjoy equal rights in political, economic, social, cultural fields and in family relationship. Marriage shall be based on the equality and mutual consent of the spouses ...” (ibid.).

The Mongolian **Labor Code of 1999, as amended in 2003**, prohibits gender-based discrimination in employment in several sections, and provides for far-reaching protection of pregnant women, breastfeeding women, mothers of young children (under the age of 3) and single mothers (Government of Mongolia 2003). These regulations are not maintained, however, in the case of informal labor.

Important steps forward in strengthening women’s rights and fighting violence against women were approval of a **Domestic Violence Law** (2004) and the 2012 **Law on Combating Human Trafficking**.

Mongolia’s National Development Strategy (NDS) for the years 2007-2021 lists as one of its objectives of the NDS is that, in accordance with MDG 3, the gender gap will be eliminated by 2015 (Government of Mongolia 2008). The Policy on gender equality (section 4.2) provides action points to promote “gender equality in the family, economic and social relations, politics, cultural life and human rights”. Among others, it is the country’s aim to “cultivate the culture of equal participation of men and women in property and labor relations.” (ibid.)

With regard to mining, the **Mongolian Constitution** provides that the subsoil with its mineral resources is Mongolian State Property. Private land ownership rights do not include subsoil resources (Art. 6).

Instead, rights to subsoil resources are regulated through the **Mining Law** and the **Mineral Resource Law**. The **Mining Law** (2006) stipulates that in order to explore and mine, citizens or companies need to obtain special licenses from Mineral Resource Authority of Mongolia, and must enter into agreement with the governor on the land and water use. We have not been found existing studies that provide evidence of a gender component in citizens' ability to access these licenses. During field work, it was brought forward that women are very outspoken and skilled in lobbying with lower government. In 2010, the government amended the Mineral Resource Law with a **Regulation on Extraction of Minerals from Small-Scale Mines** (Government Resolution No 308). This Government Resolution, which provides the legal framework for the artisanal and small-scale mining sector, stipulates that children below the age of 18 are prohibited to work in small-scale mining. In the previous Temporary Government Resolution No.72, which replaced by the Resolution No. 308, pregnant women and women with children between ages of 0 and 3 were prohibited to work in ASM. The present regulation, however, does not contain specifications regarding women working in ASM.

The Regulation on Extraction of Minerals from Small-Scale Mines designates that one needs to be locally registered (reflected in the Resolution No.308 under 7.4.3) in order to legally conduct small scale mining and be eligible for social and welfare benefits. One major problem for small-scale gold miners is that they are not registered in the *soum* where they are working. There are no specific and visible gender-based barriers for women and men in accessing the registration.

In the context of small-scale mining, the **Policy on Informal Employment** (2006) is also of particular relevance. This legal instrument provides crucial recognition to informal sector workers and makes the government responsible for providing informal sector workers with legal, economic, labor and social protection. In order to be eligible for these social services, however, one needs to be registered in *soum* where one is working. Various studies point out that because of their mobile living and working conditions and complications with the registration system, a significant share of miners is not registered. These miners do not have access to Mongolia's extensive social safety net. We have not found evidence of

In the context of mining, the Mongolian Constitution, the **Subsoil Law** and the **Water Law** are also of relevance. None of these Land Laws contain articles that are gender specific or give preference to one of the sexes over the other sex. Nevertheless, it is possible that in the interpretation and the practical execution of these laws, men and women are not equitably endowed. The present study should shed more light on these issues.

## 2.6 Gender and Small-scale mining in Mongolia

In explaining the considerable female participation in small-scale mining in Mongolia, Purevjav contents that women are attracted to the sector:

... due to their exclusion from employment in large-scale mining and deepening rural poverty. Despite policy commitments to gender equality, women in Mongolia struggle to find equal employment and women are attracted to ASM due to the absence of barriers that characterize employment in the formal sector (2011: 197).

Other surveys encountered by the consultant have not explicitly focused on gender relations in small-scale mining in Mongolia and most data about miners are presented in an aggravated manner, which does not allow for distinguishing differences in the experiences of women and men. Nevertheless, studies from International Labor Organisation (ILO), the Asian Development Bank (ADB), the United Nations Population Fund (UNFPA)/Mongolian School of Public Health and selected Mongolian researchers provide several preliminary insights in differences between male and female participation in small-scale mining, and in the relations between women and men in mines. We summarize these points below.

### **Gender imbalance in demographics**

- More men than women are involved in small-scale mining. Estimates and calculations of the share of women versus men in small-scale mines range from 19.4 percent women (Navch et al. 2006) to 35.3% woman (UNFPA and School of Public Health 2007), 40-45% women (ADB 2010) and 45-50% women (Bjerregaard 2009).
- ILO surveys have found that 70-82 percent of the children involved in mining and mining support services may be boys (IPEC 2007; Navch et al. 2006). However in some *aimags*<sup>2</sup>, the proportion of girls to boys is almost the same or even higher.
- On average, male gold miners tend to be younger than female gold miners (Navch et al. 2006; UNFPA/School of public Health 2007)
- Male gold miners are more likely than female gold miners to be single, while female gold miners are relatively more likely to be married (UNFPA/and School of public Health 2007)
- On average, female gold miners tend to be slightly higher educated than male gold miners (UNFPA/School of public Health 2007).

### **Gender shapes activity profiles and work load in and around the mines**

- Placer mining is relatively more accessible to women than hard-rock mining, as it has lower initial costs than hard-rock mining and does not require working in groups of 4-5 persons (Purevjav 2011).
- Gender disparities in physical strength define the separation of tasks at the mines and in the home. Male gold miners are relatively more likely to crush stones, to blast and to dig, while female gold miners engage in processing and predominate in assisting from the surface (Bjerregaard 2009). They generally remove and fetch soil, pan the soil for gold and fetch water (UNFPA and School of Public Health 2007). Nevertheless, apart from drilling and blasting, which tend to be exclusively male jobs, one may find both sexes performing any mining-related activities (Navch et al. 2006).
- Because of their typically smaller and more flexible bodies, women -particularly younger women- often work underground as “tunnellers”. This entails climbing and digging their way down into holes that can be up to 15 meters deep (Bjerregaard 2009).

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<sup>2</sup> Bayankhonger, Dundgori, and Khenhi (IPEC 2007)

- Whether or not they are involved in mining, women carry the main responsibility for household chores and child care (Bjerregaard 2009), thus submitting them to a double working day. This challenge is further exacerbated for migrant women, as they may lack their traditional support networks, or *khureelel*, which otherwise assist in domestic matters.
- The reports provide contrasting information about the handling of mercury by the sexes. The UNFPA/School of public Health (2007) survey finds that men engage in the amalgamation of gold with mercury, but the ILO report on informal gold mining (Navch et al. 2006) finds that among surveyed gold miners, relatively more women than men are involved in amalgamating with mercury (see also: Bjerregaard 2009).
- Men are more likely than women to work all year round rather than temporary, but differences between the sexes are small (Navch et al. 2006).
- Because women need time to take care of children and household chores, they are relatively more likely than men to be engaged on a temporary basis. Men tend to work, on average, more days/week but the differences are small (one hour to one day/week in different sites).
- Among mining children, boys tend to work longer hours than girls in the mines (resp. 11.4 hours/day and 8.7 hours/day; Navch et al. 2006).
- Women who are small-scale miners often are away from home for several days to months in a row. They may take the youngest children with them to the mine site, while the older, school-aged children stay at home, sometimes in the care of the oldest children. In these case, older girls often take on the responsibility to care for younger siblings, which may add a significant work load.
- There are references to the presence of female Commercial Sex Workers (CSWs) in ASM areas but not to the presence of male CSWs.

### **Gender differences in earnings**

- Men extract more mineral and earn more than women.
- Also among children, boys have been found to extract more mineral and earn more than girls. The 2006 ILO child labor study found that boys in gold mining extracted on average 6.1 grams of gold, while girls extracted 5.7 grams of gold per month. Boys in fluorspar mining excavated on average 14.3 tons of minerals per month, while girls excavated 5.1 tons/month and earned nearly three times less than boys.

### **Gender differentiates exposure to mining-related occupational and health risks**

- As compared to women, men are more often involved in accidents. Among miners surveyed by UNFPA/ School of public Health (2007), men were involved in 2.4 times more accidents than women.
- Existing literature provides contrasting information about whether women or men are more involved in processing ore through amalgamation with mercury. Mercury exposure is particularly dangerous for pregnant women and their unborn children.
- Among mining children, boys are more frequently than girls involved in accidents.

- Men tend to consume larger quantities of alcohol than women, and they are more likely than women to engage in binge drinking, thus jeopardizing their health and safety on the job.
- Female small-scale miners expressed fear and anxiety at having to live and work amongst a large number of drunken men. They felt threatened by these men, who often turn violent and fight one another. Fear for encounters with drunken men also limited their freedom of movement (Bjerregaard 2009).
- Female small-scale mines who work on their own, single women, and women who are female heads of households, are particularly vulnerable to violence by (drunk) men in the community as they have no one to protect them in case of violence and harassment.
- Partner violence and sexual violence are serious problems throughout Mongolia, and affects women both physically and mentally. This problem may particularly troublesome for migrant women in small-scale mining communities because they are isolated from their own social support networks of family and friends (*khureelel*) (Bjerregaard 2009).
- More boys than girls have been found to use drugs and consume alcohol.
- A recent study by TAF (2008) provides evidence of sex work by women in mines. Existing reports are inconclusive about the occurrence of sex work by girls; information about this practice is usually obtained from hearsay. There is no evidence of men and boys who are involved in sex work in and around mines.
- Women and girls in mining communities risk becoming a victim of sexual violence, including rape, but it is not clear how common these acts are (The UNFPA/School of public Health 2007)
- Health workers reported growing numbers of pregnancies, abortions and sexually transmitted infections (STIs) among school-age girls in mining communities (UNFPA/School of public Health 2007)
- A rise in STIs affects both women and men. However, because women and girls are typically at a disadvantage when negotiating condom use, their risk for acquiring STIs is higher than that of men.
- Female small-scale gold miners are relatively more likely than other women to suffer from genitor-urinary and gynaecological diseases and complications of labor, delivery and pregnancy as a result of their difficult working conditions, such as working underground and in water.
- When they are pregnant, women from informal ASM sites do not receive antenatal care because they have no registration (UNFPA 2007)
- Mining-related water pollution is a concern to all inhabitants of mining areas, but it may affect women more than men because women are the primary users of water for household consumption (Bjerregaard 2009). In a polluted environment, finding clean water takes up more of their time and effort.
- Due to unhygienic living conditions and inadequate sanitation at make-shift mining settlements, illness is common, especially among children. Women likely bear the responsibility for caring for family members who fall ill (Bjerregaard 2009).

### **Access to and use of social services, including health services.**

- Women in mining communities were found to be more likely to be covered by health insurance than men ((UNFPA/School of public Health 2007).
- Women were twice as likely as men to express a need for health services in mining communities.
- Poor access to health services may affect women more than it affects men, because women tend to be responsible for caring for ill children and other relatives, and taking them to a health post.
- One study suggests that women rarely come to the hospital when injured and instead attempt to treat themselves, whereas male ninja miners regularly come to the hospital for treatment of their injuries (Bjerregaard 2009).

A survey conducted by the Asia Pacific Forum on Women, Law and Development among female small-scale miners concluded that

“issues of greatest concern to female ninja miners were those related to health and security. Other challenges included a heavier workload for ninja women, the difficulty of being separated from their children and the worrying trend of young girls abusing alcohol at ninja mining settlements.” (Bjerregaard 2009:39)

## 3. Methods

The results presented in the subsequent chapter combine findings from two different sources of data. The first is a quantitative dataset that contains the answers of a survey conducted by the Social Policy Development Research Institute (SPDRI) at ASM sites throughout Mongolia. The second data source is a field trip to three different ASM areas, during which more qualitative data were collected. These methods are described in greater detail below.

### 3.1 Literature Review

The consultant reviewed existing documents about the ASM sector in Mongolia, including academic studies, research reports, legal documents, web sites and grey literature. These sources have been produced by the Mongolian government, international development organizations (ILO, TAF, SDC), individual consultants and other researchers, and the Sustainable Artisanal Mining program; a collaboration between SDC and the Mongolian Ministry of Mining. The consulted documents helped establish an initial understanding of the general living and working conditions in ASM sites in Mongolia, and guided the development of more focused questions. In addition, existing literature served to provide information about informal mine sites, which were not visited in the context of the present field work nor part of the SPDRI survey.

### 3.2 The SPDRI dataset

Between August 20 and October 14, 2013, the SPDRI conducted a survey with 1855 artisanal miners working at formal ASM sites throughout Mongolia. This survey contained a large number of questions about diverse topics related to the working lives of the miners. The gender consultant was asked to suggest gender-related questions, and some of those were added to the survey. The consultant received a dataset that was limited to the answers to 16 questions that were deemed most relevant to the gender assessment. In the text, specific reference is made to the SPDRI survey when its data are used. Because this survey was conducted in formal ASM sites only, the results do not necessarily reflect the reality in informal ASM sites.

### 3.3 Gender Assessment field work

In the period August 11 to 17, a gender assessment team went on a field trip to three different mining areas, in order to collect information about the roles and responsibilities of women and men in ASM, and the relations between these groups at and around the sites. The gender assessment team consisted of the gender consultant and four staff members of The Asia Foundation with experience in ASM and/or gender research. The visited ASM sites were:

1. **Tunkhel village in Mandal *soum*, “Budanch” hard rock gold mine site (Selenge *aimag*)** is situated on about 135 km north of Ulaanbatar. The site can be reached by driving for approximately 20 km on a dirt road from Tunkhel village. This village also features the nearest health post/hospital, elementary school and government registry. At the mine site miners live in *gers* and wooden shelters. They have no access to electricity, and use candles for light at night.

At the Budinch hard rock mine site (Figure 2), five partnerships were active at the time of the interview, employing 30 to 40 miners. Only three or four miners (10%) were women. Due to its proximity to the village (Tunkhel), miners bought food and drinks in the village and there were no food vendors present at this site. Neither were there any gold buyers; the miners transport the mined gold to the Bornuur or Mandal processing plant and sell the gold there.

Figure 2. Mine entrance at the Budanch hard rock mine site



- 2. Sharyn gol, “Buyantin Khundii” alluvial/placer gold mine site (Darkhan-Uul *aimag*)** is situated on about 210 km north of Ulaanbaatar. The nearest village, Sharyn gol, is located on a distance of 10 km and can be reached in 15 minutes driving. Buyantin Khundii is a relatively new mining site, which was entered just a couple of days prior to the field visit after oral agreement from the governor. The local ASM NGO is comprised of 64 partnerships. Of the approximately 600 miners active at the site about 40 percent are women. Seven or eight service providers work on the site, most of whom are women. Among them are three women who were appointed by the NGO to cook lunch and dinner for miners. Most miners, however, buy food and drinks in the village. In addition, there are four to five gold buyers, who are regulated by the NGO.

The nearest health post, elementary school and government registration centre are located in the *soum* center. The mine site is not connected to the power grid but miners use small diesel generators for mining. Drinking water is brought in by vehicle. Some miners work at mining site during the day and go back home (to the village) in the evenings, but others stay at mining site for a maximum of 3-5 days.

- 3. Airagsoum, “Altat” fluorspar mine site (Dornogovi *aimag*)** is 350 km south of Ulaanbaatar, and can be reached by train and car. From the village, miners travel 8 km (10 min.) by car or motorbike to get to the mine site. Mined fluorspar is transported and sold to the larger fluorspar company which owns the mining title (Khukhtur LLC).



The village, Airag *soum*, features a health post, an elementary school and a government registration centre. At the mine site, electricity is obtained with a diesel generator. The miners take water and food from the *soum* centre with them to the mine site. Six ASM partnerships work at the Altat mine site. Of the 30 miners working at this site, only three or four are women. The miners who sleep at the mine site stay either in a *ger* or in an old train wagon.

None of the visited mine sites could be reached by public transportation and all sites were in reach of the mobile phone network. At none of the sites children under the age of 18 were working

At each site, a number of different methods were employed to collect a broad spectrum of mostly qualitative information. These methods are explained below.

### 3.3.1 Focus group discussions

For the focus groups, 10 to 20 miners were asked to get together in an available *ger* (Figure 3). The session started by explaining the project and the purpose of the focus group exercise. Next the participants were divided in two to four groups to construct daily activity calendars. Each group was given an empty flipchart and a series of pictograms showing different activities, including getting up, making food, driving, chopping wood, caring for the children, mining (panning, digging), and so forth. The groups were asked to organize the pictograms on the paper sheet in order to show what they do during a typical day, from the morning to the evening. They also were asked to distinguish male and female activities, and to either represent winter or summer (Figure 2).

Figure 3. Focus group discussion; participants at the Airag fluorspar mine site (left) and daily activity calendar developed by placer gold miners for the summer period (right)



After the groups had worked for about 30 minutes, they were asked to place their daily activity calendar on the wall. One person from each group presented the calendar and the focus group facilitators guide a discussion of remarkable or interesting features and of similarities/differences between the different calendars.

### 3.3.2 Key informant interviews

At the three sites, a total of 10 key informant interviews were conducted. These in-depth interviews with open-ended questions were conducted with particularly well-informed persons such as partnership or NGO leaders. The Interviews focused on:

- Roles and responsibilities of women and men in mining partnerships/NGOs
- Roles and responsibilities of male and female miners
- Roles and responsibilities of women and men working in the mining service economy, including Commercial Sex Workers (CSW).
- Household budget decision-making; roles of women and men
- Sexual, domestic, and intimate partner violence in and around mining communities
- Power and gender relations within the mining partnerships.

*Figure 4. TAF researcher interviewer a miner at the Sharyn gol alluvial gold mining site*



### 3.3.3 Semi-structured interviews with miners and mining service providers

The gender assessment team conducted a total of 35 semi-structured interviews with closed ended and open ended questions with miners (Figures 4 and 5). The interviewers made an effort to interview both male and female miners. These interviews focused on:

- Reasons for entering mining

- Gender-based roles and responsibilities in and around the mines
- Perceptions of male and female involvement and behavior in small-scale mining
- Incomes and expenditures
- Specific challenges for women and men to enter and fare well in mining
- Personal goals and aspirations
- Perception of environmental degradation and its effect in their lives
- Female and male perception on environmental rehabilitation

Semi structured interviews also were performed with women who delivered services to the miners but who themselves were not involved in mining. The gender assessment team interviewed four female service providers at and near the gold mining sites. No service providers were encountered at the fluorspar site.

*Figure 5. Two TAF researchers conducting interviews with hard rock gold miners in Tunkhel Village*



### 3.3.4 Observation sheets

At each mine site, we recorded site details on an observation sheet. This sheet contained questions that could partly be answered by observation and partly required the input from key informants. Information focused on infrastructure (access roads); living conditions (type and quality of living arrangements); access to civil and health services; distance to the nearest village; access to drinking water and electricity; observed population size and type, including the presence of children and women; and the observed gender division of labor.

The various research instruments are attached as annex 1.

### 3.4 Mini-survey

In response to inquiries from SDC to the draft report, a “mini-survey” was conducted to obtain more information about Gender-Based Violence in small-scale mines, and about the ways that women in and around ASM sites deal with pregnancy. The respondents were twelve representatives from organized ASM sites (placer gold, hard rock gold and fluorspar throughout Mongolia. The questions specifically asked about changes in the situation at ASM sites after formalization. The brief survey of five questions is attached as Annex 2.

## 4. Results

### 4.1 Demographic make-up of the mining population

The majority of Mongolia's small-scale gold mining population consists of men. Nevertheless, women constitute a significant proportion of the miners. In formal ASM sites surveyed by the Social Policy Development Research Institute (SPDRI), just under one third (30.7%) of interviewed miners were women. There was a small yet statistically significant age difference between male and female miners, with female miners (Mean age 39.4) being, on average, slightly older than their male colleagues (Mean age 37.0). The age ranges of male and female miners were remarkably similar; women miners were between the ages of 17 and 66, and male miners were between 17 and 69 years of age. In terms of education, surveyed male and female miners reported similar educational achievement. More than 90 percent of male and female miners had completed 8<sup>th</sup> grade, and about half of interviewees (M/F) had at least completed secondary education.

At the mine sites visited during qualitative data collection, gold miners and partnership leaders confirmed that more men than women are working in ASM. However, they explained that the gender balance differs based on the deposit that is being mined. At the fluorspar site the research team encountered few women, and local miners estimated the proportion of women at the site at about 15 to 20 percent, regardless of the season. Also in hard rock gold mining, fewer women than men find employment because the work requires more physical strength and there are few services performed at the sites. An interviewed partnership leader estimated the share of women in the hard rock gold mining population to be about 30 percent. In alluvial mining, on the other hand, the proportion of women versus men was more equal; estimated at 40 percent women versus 60 percent men. At all sites the overall number of ASM miners reduces to half in winter, but the ratio women to men tends to remain about equal to that in summer.

The statistical data (SPDRI survey) suggest much smaller differences between sites with different deposits in the proportion of women (Figure 6). In sites with only hard rock gold mining, the proportion of women was 22.4 percent; in the placer mining sites (without hard rock mining) 33.4 percent of the miners were women; in the sites with both placer mining and hard rock mining women constituted 33.3 percent of the mining population; and among fluorspar miners 32 percent were women. These data compare to those of the UNFPA (2007) in informal gold mining sites, which found that overall 65 percent of artisanal miners were men and 35 percent were women. This survey finds slightly larger gender differences in the numbers of women and men involved in ASM, with women representing 29 percent of the mining population in hard rock gold mining and 39 percent among placer gold miners.

In the visited mine sites the team did not encounter children under the age of 18. Reports about informal mine sites have documented the presence of children in ASM sites though, with boys outnumbering girls (IPEC 2007; MNEC 2011).

In semi-structured interviews the gender assessment team asked ASM miners where they lived (Figure 7). In this respect we noted significant differences between female and male miners. Whereas almost

three quarters of interviewed male miners lived with their friends and/or colleagues from the partnership, most women reported that they lived with their husband (and children), either on site or in the nearby *soum* centre. This observation confirms information gathered from key informant interviews that women are most likely to enter mining when their spouse is also a miner, and that they tend to enter the mine sites with their husband. Single women who work in ASM often come with other family, for example grown up sons, though some single women come by themselves. Men who did not live with their colleagues reported that they lived with their spouse (and children).

Figure 6. Proportion of women and men in ASM sites with different deposits

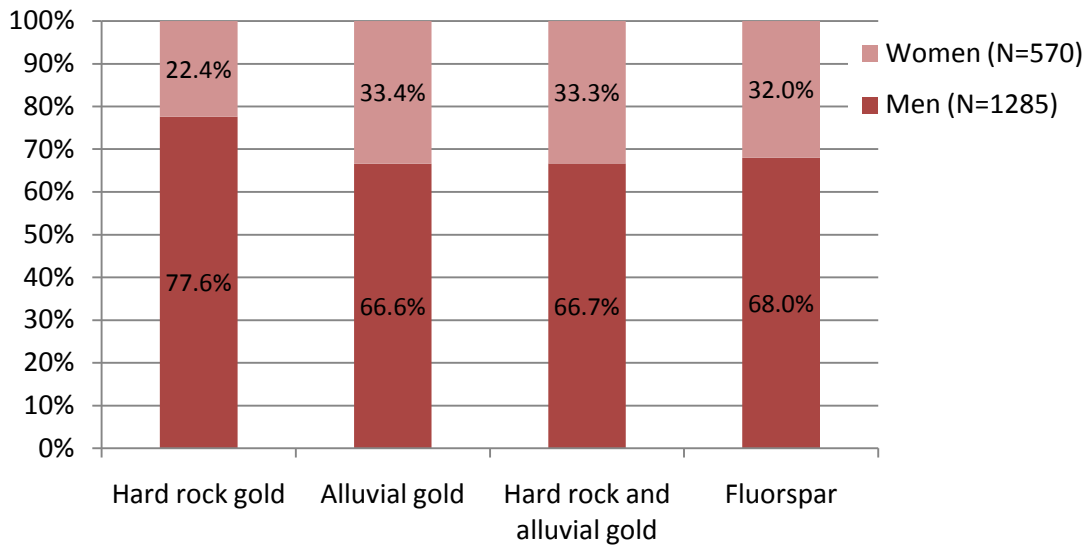


Figure 7. Miner's ger in the Gobi desert



## 4.2 Gender division of labor in and around the household

The gender division of labor at home shapes female participation in ASM. As a focus group participant at the hard rock gold mine said: “Women do not engage in mining because they have other things to do.” One focus group participant, a male gold miner, said he did not want his wife to come to the site because she should take care of the children.

In Mongolia, as a rule of thumb, women perform the lion’s share of household tasks and caring for dependent family members. Figure 9 displays the time commitment to household tasks, as self-estimated by male and female respondents to the SPDR survey. The survey data confirm that on average, women spend many more hours a day on domestic tasks than men. The majority a men estimated that typically, they did not spend a single hour a day on cleaning, cooking and washing clothes. The typical woman would daily spend between one and three hours on each one of these tasks.

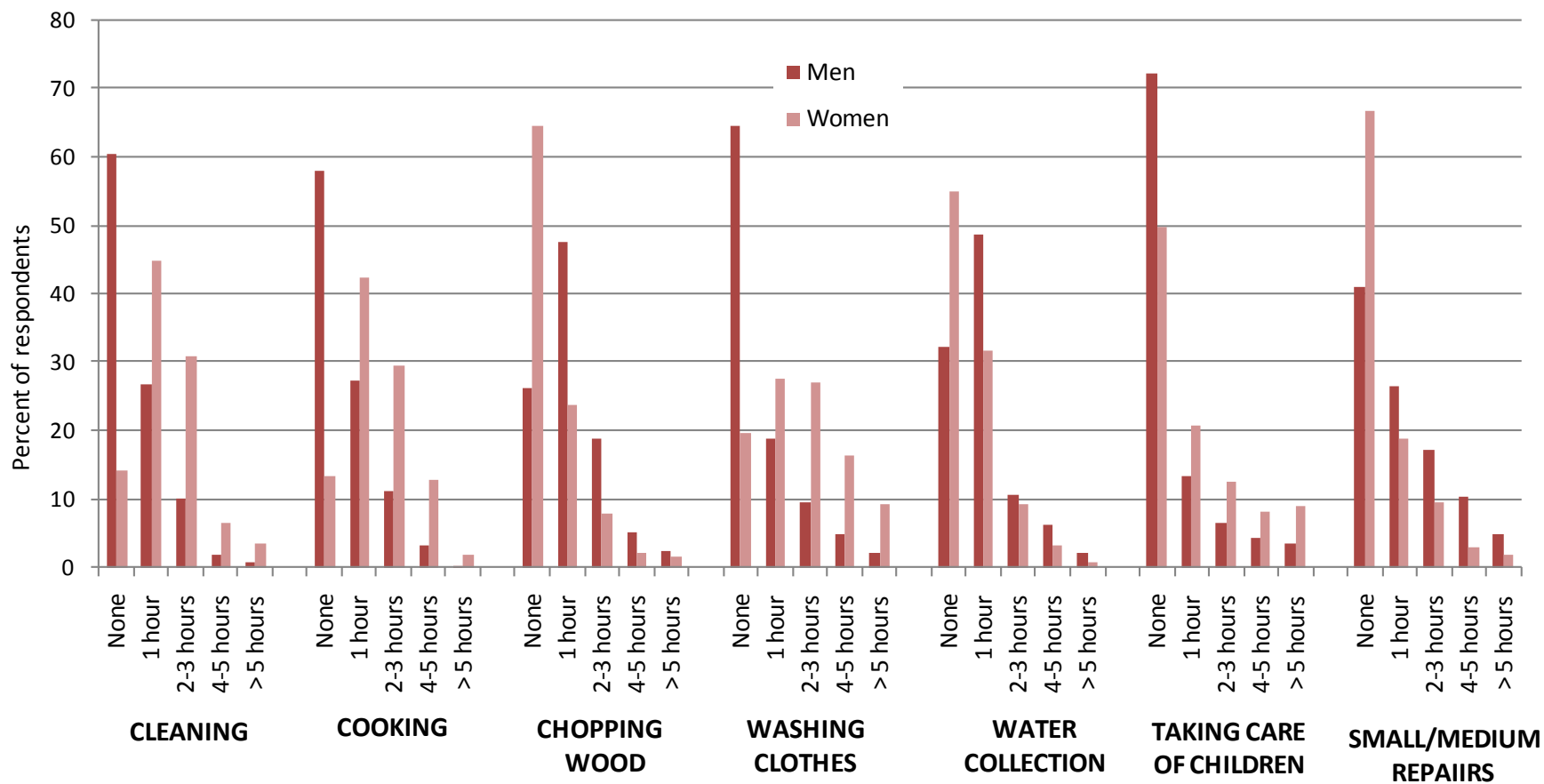
With regard to child care, the majority of SPDR survey respondents (57.8%) agreed with the proposition that taking social care of the children is the primary responsibility of women rather than men. More women (67.4% agreed) than men (53.6%) agreed with this statement, suggesting that women think more traditionally when it come to child rearing responsibilities. Almost one third (31.0%) of respondents disagreed, and 11.2 percent said they did not know.

In focus group discussions both women and men emphasized time and time again that men also helped out in household activities such as playing with the children, cutting wood, reparations, and fetching water (Figure 8). “Even though men work really hard”, one woman asserted, “they also help out at home and with child care ....”. In the morning, for example, one partner may bring the children to school/kindergarten, while the other partner prepares breakfast. A woman at the placer gold mine explained: “We do not like to take superior positions, so all our relations are very equal, men and women”. The findings from the focus groups contrast somewhat with the statistical data, which suggest that almost three-quarters of interviewed men do not spend any time on social care for their children (Figure 3).

Figure 8. Daily activities performed by women (left) and men (right) in summer



Figure 9. Time spent per day by women (N=570) and men (N=1285) on selected household activities





At the household level, men are primarily responsible for chopping wood, fetching water, and performing small and medium repairs in and around the home (Figure 9). The majority of women reported that they did not spend any time on these tasks. Because chopping wood, collecting water and making repairs can be done in the early morning or late evening hours, they may be easier to combine with a full-time job in mining than, for example, cooking and taking care of the children.

Because women spend, on average, relatively more hours a day on domestic duties and child care, they have less time left to engage in ASM activities. Particularly women with small children at home cannot work, as some male mines do, from 8:00 am to 8:00pm in the mines, or vice-versa during the night shift. Women who do work in ASM, therefore, often assume tasks that can be performed part-time. For example, one woman explained: “When I come, I just come to help. When men come home it is important that the dinner is ready.”

### 4.3 Gender division of labor in ASM

Mining tasks in Mongolian ASM communities are subject to a gender-based divide of labor but the divide is not strict though, and both women and men may venture into virtually all tasks. Individual and group interviews, coupled with observations, provided a picture of what are typical jobs for women versus men at ASM mine sites. Despite the different work techniques used to mine different deposits, the findings were largely comparable across sites. Table 2 summarizes of this information, keeping in mind that all listed jobs may be performed by either sex but they may be most often be performed by either women or men.

Table 2. Typical mining, processing, and service jobs that women and men mostly perform at the ASM sites

	Mining									Processing			Auxiliary services					
	Digging	Go underground	Crush stones	Use compressor to pull up rocks	Operate windlass	Bag ore	Sorting stones	Transporting ore	Loading and unloading trucks	Dynamite blasting	Panning/Washing ore	Clean the mills at the processing plant	Use water pump	Prepare food/Deliver food	Dish washing	Clean up	Selling gold	Organization/ Coordination
Men																		
Women																		

When asked what jobs male miners perform at the ASM site, the most common answer was something in the line of “all mining jobs”. Indeed, when the various jobs are specified, it appears that men perform virtually all jobs related to actual mining (getting material out of the ground), are somewhat less present at processing, and play a relatively minimal role in the provision of auxiliary services such as preparing food and cleaning.

During focus group discussions in all mine sites, ASM miners explained that men tend to take care of the heaviest mining work and of the lion’s share of the underground work, which mostly involves digging (Figure 10). At the fluorspar site, none of the interviewed women were digging. A male ASM NGO leader at a hard rock gold mining site explained that working underground is not a suitable job for women because physically they are not able to carry the ore. Also other physically very heavy tasks are often delegated to male miners. A female ASM leader at the visited placer mine conveyed: “Our men at the site have a good heart. They don’t want their wives to do physically demanding work.” Another reason for having fewer women working underground is that the underground work is most risky, and men do not want to expose their wives and other women to these risks.

*Figure 10. Male miners digging and working underground*

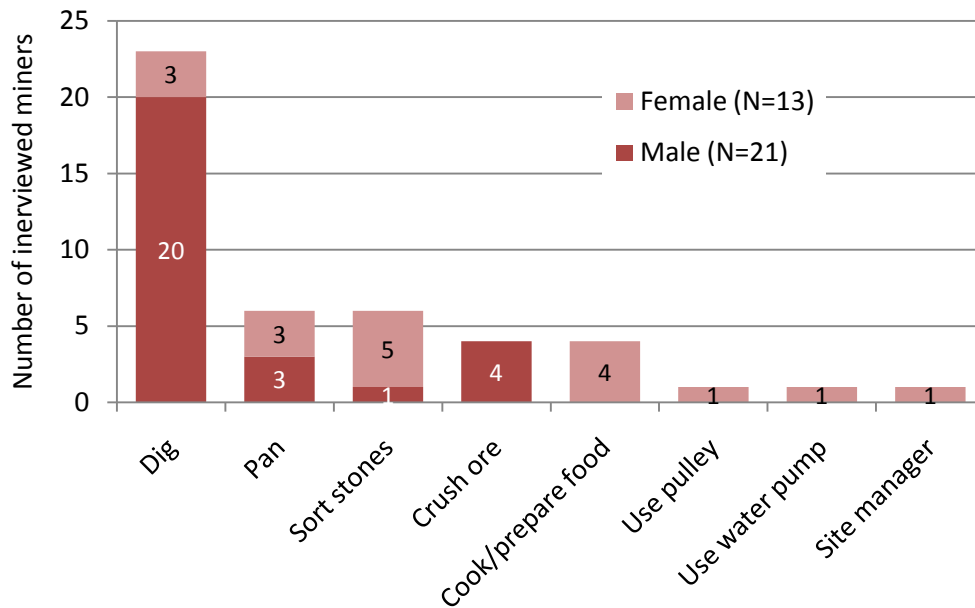


In the structured interviews, women and men were asked what kind of jobs they themselves performed at the mine site. Their responses confirmed the general trends that had been recorded. Almost all men (95.2%) and a smaller share of women reported that they were involved in digging (Figure 10). Another typical male job is ore crushing, which primarily occurs in the hard rock gold mining. Also dynamite blasting (hard rock mining) was only performed by men, and only by men with specific experience or skills.

Both women and men are involved in gold processing (panning and use of the water pump) (Figures 11 and 12). The washers who were encountered at the alluvial mine site were not part of the mining partnerships but had formed their own two or three-person working units (Box 1).

The processing methods included panning (with an actual pan or a rubber sheet), washing ore with a narrow sluice, and washing ore using a small water pressure pump and a sluice box. In fluorspar mining processing was not done by the ASM miners because they sold the raw material to the larger mining companies. At the hard rock mine site miners brought their ore for processing to a further away location, and only one man at that site said he was panning.

Figure 11. Jobs performed by male and female miners, as reported in structured interviews



Another mining activity that is often performed by women is sorting stones (Figure 11). In fluorspar mining, this activity involves sorting the ore that is howled to the surface; separating deeper purple, higher grade material from the lighter colored lower grade ore. In hard rock mining, women often collect the smaller stones that have dropped at the surface when transporting ore.

Figure 12. Female gold processors at work



Food preparation is another job that is virtually exclusively performed by women, just like many other auxiliary services. Due to their strict regulations, there were no independent service providers present at the visited ASM sites. Miners explained that the establishment of bars, cantinas, brothels and other independent businesses was forbidden. NGO and partnership members do engage in these activities, but on a small scale. At the placer mine site, for example, female NGO board members operated a cantina. These members were not paid for their work with the NGO and selling snacks to the miners provided some income. Seven to eight men provided transportation between the village and the mine site.

**Box 1. Working conditions of a female gold processor**

Altantsetseg<sup>3</sup> is a middle-aged woman who works in the processing site of the placer gold mine of Sharyn Gol, in Darkhan Uul province. She and her colleague works on the shores of an artificial lake. The ASM partnerships that have dug their pits on about 1 km distance from the lake bring their materials to her working spot. Here the ore is washed using gravity processing. Altantsetseg and her companion do not apply any chemicals. At the same lakeshore, two other processing units are active; one consisting of three women and one consisting of a couple.

The miners themselves wash their material but Altantsetseg and her colleagues at the washing site prepare everything. They are responsible for keeping the processing location tidy, meaning they clean the tools, prepare the necessary materials, and make sure there is no slippery mud along the shoreline. As a reward the washing unit gets to wash the tailings; the materials that are spilled into the lake. They do not take a fee or fixed amount of ore.

As a gold processor, Altantsetseg works long days. The processors are the first to start work and the last ones to leave, because the last partnership to wash may need their services. Women with small children cannot easily do this work, but Altantsetseg's has grown up children and that is why she can be involved. Her main responsibility now, she says, is to bring cash home.

Particularly in winter, working in ore processing is really hard, explains Altantsetseg: "We need to dig to prepare the facilities, prepare the road, and remove mud that can become slippery from the waterside. We also need to warm up water to wash the gold. This is very hard in the winter because the water may be frozen." The women and men from the processing units have to enter the water, which even with rubber suits is very cold. The carpets of the sluices also get frozen and they have to be heated to defrost them. In summer the miners can use the hoses to pump water on the sluicebox, but in winter the hydraulic machine cannot be used because the hoses get frozen up. Hence then they only use the pans and carpets.

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<sup>3</sup> Not her real name

At this same site three or four gold buyers were active, all women. One of these female gold buyers, who also was a partnership member, explained that she would buy gold from the different partnerships on site, and next sell it against a small profit to gold shops/jewelers in Ulaanbaatar. She started this business with her own money. Gold buyers also are likely to extend loans to mining partnerships, for example to buy equipment.

A slight majority of both male (61.9%) and female (53.8%) interviewees from the structured interviews were of the opinion that certain jobs in mining better suit men, while other jobs are more appropriate for women. As jobs that best fit the skills and physical activities of women, interviewees mentioned: handling the windlass, panning, preparing equipment, preparing food, sorting the tailings, and the 'finer' work.

With regard to the gender divide of labor at ASM sites, our findings confirm those of other studies in posing that gender disparities in physical strength define the separation of tasks at the mines and in the home (Bjerregaard 2009; Navch et al. 2006; UNFPA and School of Public Health 2007). The activities we listed as typical male or female jobs at ASM sites were also in other reports named as such. Moreover, our findings are in line with the earlier observation that apart from drilling and blasting, which tend to be exclusively male jobs, one may find both sexes performing any mining-related activities (Navch et al. 2006).

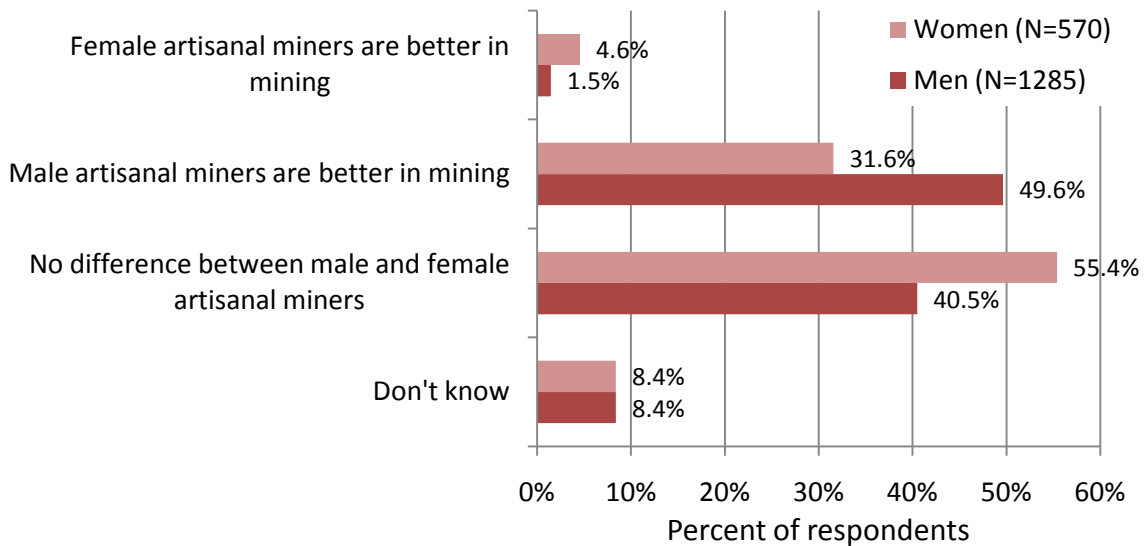
The overall congruency in findings between this study and earlier ones suggests that the gender divide of labor is largely similar in formal and informal mines, when considering mining and processing activities. Also in informal mines, women and men may work together in some form of partnerships. Anthropologist High reports about placer miners in the Yanga area:

“In the mines, men and women work alongside each other in teams of four to 16 people. Some scrape loose the gravel inside deep mining holes with a small metal pick, whilst others help transport bags of gravel to the river to start the panning process. Plastic washing pans are filled with the gravel, placed under water and swirled around in large circles” (High 2012: 10)

In contrast to the report by Bjerregaard (2009), we did not find that (young) women often work underground as “tunnellers”. In the contrary, women and men at the visited sites reported that women were much less likely than men to perform the most dangerous jobs such as working underground. It is possible that the situation is different in informal mine sites but we have not been able to confirm this information.

SPDRI survey respondents were asked whether they believed that either men or women were better at mining. Figure 13 displays the responses. Women were more likely than men to answer that women are better at mining, but overall not many respondents shared this opinion. Significantly more men than women were of the opinion that men are better at mining, while women were more prone to believe that there is no difference in the mining skills of female and male artisanal miners.

Figure 13. Opinions of male and female survey respondents as to whether either women or men are better at mining



Both respondents of the SPDRI survey and interviewees who participated in the gender assessments were asked whether they believed that mining is a suitable source of income for women. Given the wide variety of activities that women perform in and around the mines, it was surprising to find that well over half of the SPDRI survey respondents (59.5%) were of the opinion that mining is NOT a respectable source of income for women. More men (62.7%) than women (52.3) shared this opinion.

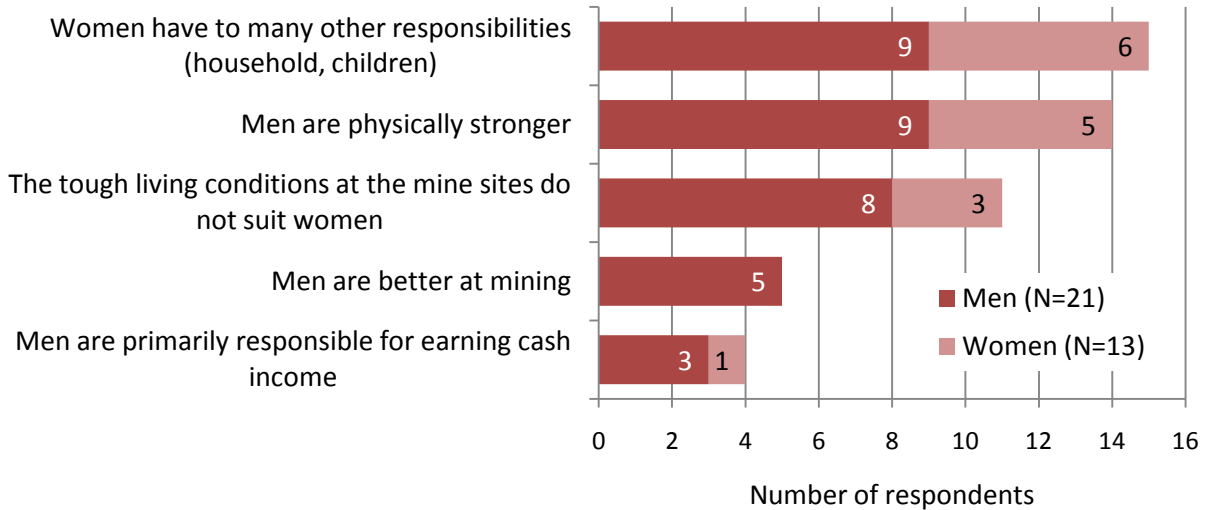
The above finding can largely be explained by the observation that many Mongolians understand ‘mining’ as being engaged in actual digging activities underground. This perception surfaced during the focus group discussions when men engaged in hard rock gold mining mentioned that “women do not work in mining”, even though there were women present who worked at that same mine site. Sorting the stones, hauling up ore with the windlass, and mining-related jobs where women are well represented may not be considered true ‘mining’. Other ‘female jobs’ such as cooking and cleaning tools even less qualify as mining activities, even though they are performed by women who are members of the partnership who share in the partnership earnings.

Smaller shares of women (27.4%) and men (15.9%) did not agree with the statement; they were of the opinion that ASM IS a suitable job for women. One fifth of respondents said that they did not know.

Respondents to the structured interviews provided more detail on why they believed that ASM better suits men than women (Figure 14). The most mentioned reason by female and male miners alike was that mining is physically very hard work that takes place in harsh conditions. Among others, women miners answered:

- “I think it is more suitable for men since health wise it has negative impacts for women.”
- “Women do not manage to conduct mining job for long hours.”
- “Women are physically not strong enough.”
- Women have other responsibilities and duties.”

Figure 14. Reasons mentioned for the relatively larger involvement of men in the ASM sector



Explanations of male miners mirrored the responses of their female colleagues. They responded, among others:

- “It is a physically demanding job.”
- “Because of the harsh conditions, it negatively affects the skin and health of women.”
- “Women are physically not strong enough”
- “It is more suitable for women to own a small business at the site, which provides us with food.”
- “I think women are better at preparing food, washing dishes and taking care of their children; and men are more suitable for the mining since it requires physical capacity.”

Persons who answered that mining is a suitable job for women, referred to the need for women to earn an income, the fact that the mining work is easy, and the diverse skills that women possess. Women who were of the opinion that mining is a suitable job for their sex, provided diverse motivations including:

- “We need to do whatever is possible to get bread on our table.”
- “Women have a high sense of responsibility and can manage things well.”
- “It is easy work.”

Men provided similar justifications, such as:

- “Even though artisanal mining is a hard work for women, there are no other ways to earn an income.”
- “The work is not so hard.”

#### 4.5 Differential time commitment

The survey data suggest that male ASM miners work more time in mining than women. As compared to their female colleagues, male ASM miners were relatively more likely to work six to seven days a week in mining, and relatively less likely to work between two and five days a week (Table 3). In addition, male artisanal miners were relatively more likely than female miners to work eight to ten, or even more than ten hours a day (Table 4).

*Table 3. Number of days per week a person works in artisanal mining*

	<b>Male (N=1285)</b>	<b>Female (N=570)</b>	<b>Total (N=1855)</b>
<b>No answer</b>	0.1%	0.3%	0.2%
<b>1day</b>	6.4%	6.3%	6.4%
<b>2-3 days</b>	15.0%	21.6%	17.2%
<b>4-5 days</b>	27.0%	34.8%	29.6%
<b>6-7 days</b>	44.2%	28.2%	38.9%
<b>currently don't working</b>	1.0%	2.5%	1.5%
<b>not start mining activities</b>	6.3%	6.3%	6.3%
<b>Total</b>	100.0%	100.0%	100.0%

*Table 4. Typical number of hours a day the person works in artisanal mining*

	<b>Male (N=1285)</b>	<b>Female (N=570)</b>	<b>Total (N=1855)</b>
<b>No answer</b>	0.1%	0.3%	0.2%
<b>1-2 hours</b>	6.5%	4.9%	6.0%
<b>3-4 hours</b>	11.7%	18.1%	13.8%
<b>5-7 hours</b>	22.2%	31.5%	25.3%
<b>8-10 hours</b>	31.4%	22.2%	28.3%
<b>10 more than 10 hours</b>	20.7%	14.2%	18.6%
<b>Has not yet started mining activities</b>	6.3%	6.3%	6.3%
<b>currently not working</b>	1.0%	2.5%	1.5%
	100.0%	100.0%	100.0%



Women, on the other hand, were more likely to work three to four hours, or five to seven hours a day. This finding is in line with other studies, including those at informal mine sites, which report that women's additional responsibilities related to the household and child care affect the time they have available for mining. This assertion was confirmed in focus groups, where participants explained that cleaning, cooking, playing with the children and most other household tasks are activities that women perform throughout the day.

Thus, even if women work part-time in mining, they still have a heavy work load as their mining work is added to their domestic responsibilities. Women who do not have the luxury to work part time, for example because they are the family's main bread winner, are subjected to a double working day. This situation has been documented in earlier studies about women's work in ASM, both in Mongolia and elsewhere. Bjerregaard (2009) argues that the challenge to work to a double working day is further exacerbated for migrant women, as they may lack their traditional support networks which otherwise assist in domestic matters.

**Box 2. A typical working day for miners working at the placer gold mining site in winter**

In winter, family members may get up at about 7-8. It is really cold so they do not hurry. If there is a snow storm they will not leave for the ASM site, but apart from that they do work throughout winter.

Work is started at about 9 o'clock. Women first bring the children to school and do some cooking before they come to the site. In the mornings the miners first discuss occupational safety. Most women work lifting out ore, using the windlass, while men enter the pit and fill the bucket with ore. The partnership members take a lunch break between 12am and 1m, after which they resume work until about 3 o'clock. Next, men and women bring the ore to processing plant to wash, which may take until 6pm. When the gold is extracted, the gold is sold and after taking out the expenses, the profits are equally divided.

Our data suggest that in formal ASM sites it may be relatively easier for women to work part time than in informal mine sites, because women from the first group often work together with their spouse or other relatives in a partnership, whereas women in informal sites are more likely to work by themselves. Moreover, in the formal ASM sites the partnerships and umbrella NGO provide a support network that may help both migrant and local women and their families cope with the many challenges imposed by working in ASM. Such support may include domestic issues.

The typical working hours change with the seasons; primarily summer and winter. Winter working hours are shorter than those in summer. In summer the ASM miners at the gold mining sites may start work at about 8am. At the alluvial gold mining site, the miners said they would

work until 5pm, after which they take the ore to the processing plant. At 7pm or 8pm, they may return home. Miners at the hard rock gold mine site also reported that in summer, they would work until about 8pm. At that time, the night shift would come in for teams who are working in shifts.

In winter (November-February) temperatures drop to -30° C and the miners cannot stay out that long. A typical working day at the placer gold mine in winter may look as described in Box 2.

#### 4.6 Male and female roles in the partnerships

In the past years, many ASM miners have started to formally organize into partnerships. These partnerships often consist of family members and/or acquaintances. The various partnerships at one site or in one region may be represented by an umbrella organization or NGO.

Virtually all miners at the visited mine sites were working in mining partnerships. Key informants informed the researchers that the few miners working alone outside of the partnerships were mostly male. The partnership leader has several tasks. Among others, he or she will take care of administrative matters, such as registration at the *soum* centre. In addition, partnership and/or NGO leaders negotiate with the government for (oral) permission to mine at certain locations. In addition, the partnership leaders look after financial and occupational safety.

When asked about the sex of the partnership leaders, 30.6 percent of the SPDRI survey respondents said the partnership leader was a woman and the remaining miners had a male partnership leader (69.4%). Forty-four percent of surveyed female miners reported that they worked in a partnership headed by a woman, versus one quarter of surveyed men (24.6%). This finding suggests that women are relatively more likely to be partnership leaders in locations where there are relatively more women miners. At the visited placer gold mining site, for example, 50 of the 64 ASM partnerships were headed by a woman. In addition, six out of nine members of the board committee were women and two out of the five representatives from the monitoring council of the NGO as well. A female NGO leader at this mining site noted: "... women are good at managing financial issues and handling money. In addition, women play a role as instructors for occupational safety issues." Field observations show that also in the more male-dominated hard rock mine and fluor spar mine sites, a significant share of the partnership and NGO leaders are women.

When asked whether they preferred to have a male or female leader of the partnership, half of the SPDRI survey respondents stated that it did not matter. With 48.2% of men and 49.8% of women responding that they had no preference for either a male or a female partnership leader, there was virtually no difference between male and female respondents in providing this opinion. Twenty-nine percent of female survey respondents and 38.3 percent of males preferred their partnership leader to be a man, and 10.1 percent of men and 18.9 percent of women had preference for a female partnership leader. These answers suggest that even though the mining population is predominantly male, miners of both sexes generally feel that sex does not matter in electing a partnership head.

While there is a slight preference for male leaders, both the SPDRI survey results and the qualitative interviews suggest that women are believed to be capable mining leaders as well. Indeed, at the visited ASM locations women were very active in organizational work and NGO work and both male and female interviewees lauded the qualities of female leaders. Female partnership leaders were said to be experienced in coordination work, good in details, and better than men in organizing. In addition, a female ASM leader added: "... women are much more outspoken and better at advocating for their interests".

Both male and female miners asserted that being organized brings many advantages. One of the most important advantages is that being organized allows miners to negotiate mining rights with local government. Even though these arrangements are often based on oral agreements they do provide a certain level of security and lowers the stress of possibly being "kicked out". As a female miner noted: "Our ASM NGO is protecting us where our *soum* Governor is not". Having some level of security also helps organize the site and motivates involvement in restoration. Other advantages of being organized included:

- Allocation of mining land (through oral agreement) and development of better working relations with local authorities
- Improved occupational safety measures to prevent accidents at the site.
- Improved access to information.
- Enrollment to health and social insurances
- At the alluvial gold mining site, gold miners were serviced with public cafeteria and single mothers were paid for preparing food.

The advantages of being organized, we were told, are equal for women and men. Both male and female ASM leaders communicate, advocate and negotiate with the government, and according to some informants women are particularly skillful in doing so. We do not have indications that female ASM NGO leaders bring different types of issues to the table in communication with government officials than male leaders.

The SPDRI survey data suggest that most miners believe that women and men are equal partners in the partnerships. Survey respondents were asked whether they agreed with the statement: "Within the partnership/NGOs, women and men treated equally, they have equal benefits and equal pay per level of work". Just over two thirds of respondents (77.1%, excl. missing cases) answered affirmatively to this statement, while 8.1 percent did not agree. From the survey responses, it is not possible to distil why these persons did not agree. The remaining respondents said they did not know. There are no significant differences between male and female miners in responding to this question.

Within the ASM partnerships, the various members generally have equal say in decisions, regardless of sex, age or job. Decisions are taken democratically, for example with voting, and the various interviewees unanimously agreed that women and men have equal voice in this process. One female partnership leader at the hard rock gold mining site mentioned that even though

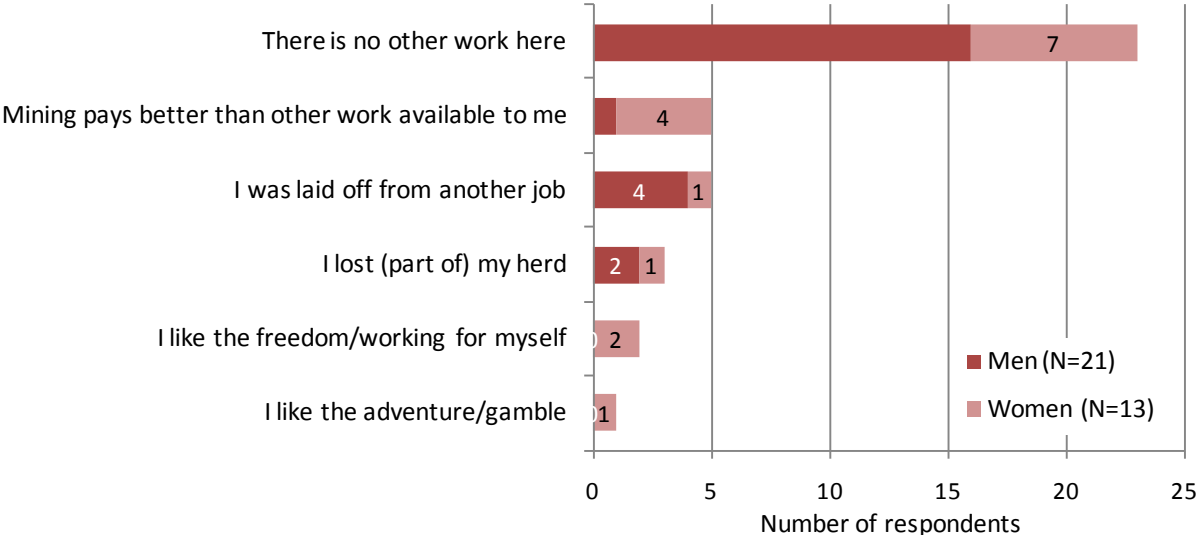
women and men generally have equal voice within her partnership, when it comes to determining where to dig a new pit, usually her husband (partnership member) and the other male members decide. In all other cases, however, interviewees brought forward that female and male partnership members decide together where to start digging. At the placer gold mining site, for example, the NGO board members decide about mining land related issues, which are discussed on a weekly meeting of ASM partnerships. During these meetings, women and men equally participate in decision making.

With regard to general registration as a *soum* resident, ASM leaders provided contrasting information with regard to whether either women or men were more likely to do so. One male ASM NGO head voiced the opinion that male miners who are coming from other *soums* tend to register as a temporary resident faster as compared to female miners/wives of miners because women are occupied with household duties and children. On the other hand, a female NGO head from another site mentioned that women are more organized as compared to men. In her vision, women are skilled in preparing all the necessary documents for faster processing of the registration as a temporary resident.

### 4.7 Mining as a livelihood strategy

ASM is one of many livelihood strategies available to Mongolians. In structured interviews, the research team asked miners why they had ventured into mining. In response, most miners reasoned that there is no other work in the near surroundings (Figure 15). Particularly women were likely to mention that mining pays better than other jobs available to them. Relatively more men said that they had been laid off from a job.

Figure 15. Reasons for entering ASM, mentioned by male and female miners who were interviewed for the gender assessment.

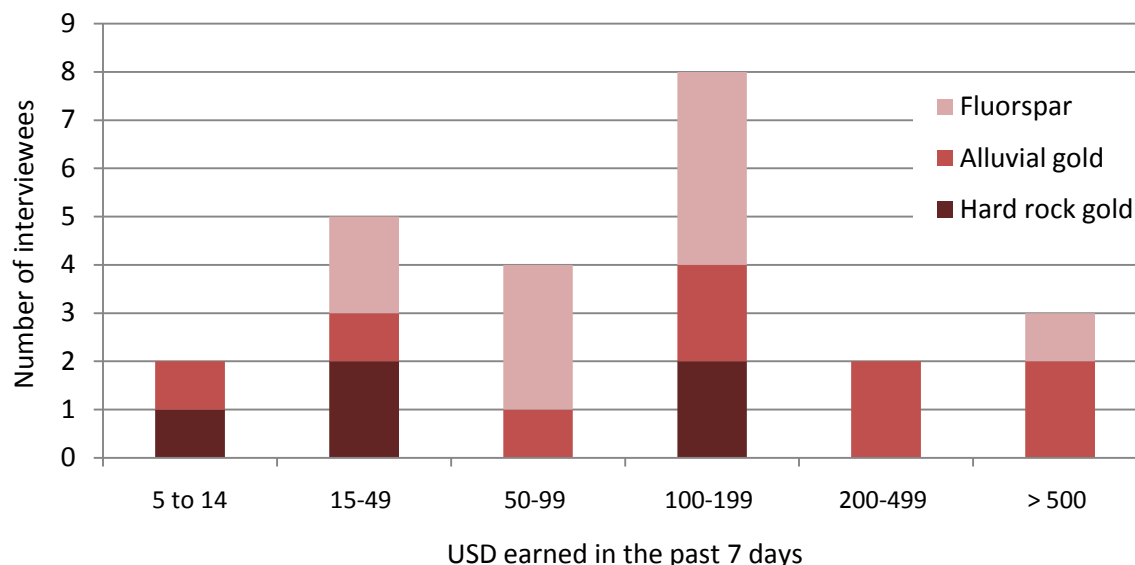


For virtually all miners interviewed during the gender assessment, both women and men, ASM was the principle or only source of income for their families. The short period of fieldwork did not

allow for obtaining precise measures of miners' incomes, yet we have indications that the earnings exceed the minimum wage and even earnings many skilled jobs. The same argument has been brought forward for informal gold mining sites (High 2008, 2012). Interviewed gold miners said they received 34 to 36 USD/gram of gold, which is well below the world market price of gold (~43 USD/gram) in that period.

Artisanal and small-scale miners do not receive a base pay but their incomes depend on how much ore is extracted. ASM leaders estimated that full-time miners at the hard rock mine site make about 300,000 to 400,000 MNT/week (USD 178-237), while miners at the placer mine may make about 200,000 to 300,000 MNT/week (USD 119 to 178). Miners at the fluorspar site were estimated to make about 400,000 MNT/week (USD 237). The listed amounts are more or less in line with reports from the largest share of interviewed miners, who estimated that they had made between 100 and 200 USD in the week prior to the field visit (Figure 16).

Figure 16. Reported earnings in the past 7 days, by miners interviewed during the gender assessment



Mining incomes are intermittent and volatile though, and a large share of miners had not managed to earn this amount in the week preceding the interview. For example, because miners may need to dig for several days prior to reaching the gold bearing material, there are also weeks that they do not earn anything or just a little bit. Still their wages usually exceed Mongolia's minimum wage of 115 USD per month (192,000 MNT).

Focus group participants and other interviewees at all sites argued convincingly that within the partnerships, incomes are equally shared. This is regardless of the specific job that is performed because all jobs, we were told, have their value and are needed in the mining process. A placer gold miner explained: "We deduct the expenses and then equally share. That is the good thing about ASM." A colleague at another site confirmed: "After washing ore is sold and divided into equal shares. It has to be the same."

The fact that many partnerships are made up of family members probably plays a role in the equitable divide of incomes. One woman reasoned that since she and her husband were part of the same partnership, it would not make a difference for their family if he earned more; in the end all the money would flow back to the same family.

Figure 17. A male and a female partnership member hauling up ore with a windlass



Information from secondary sources suggests that also in informal mines, *ninja* miners in one team divide the incomes equally among the team members. From her ethnographic fieldwork in informal small-scale alluvial gold mines in the Uyanga region, High reports:

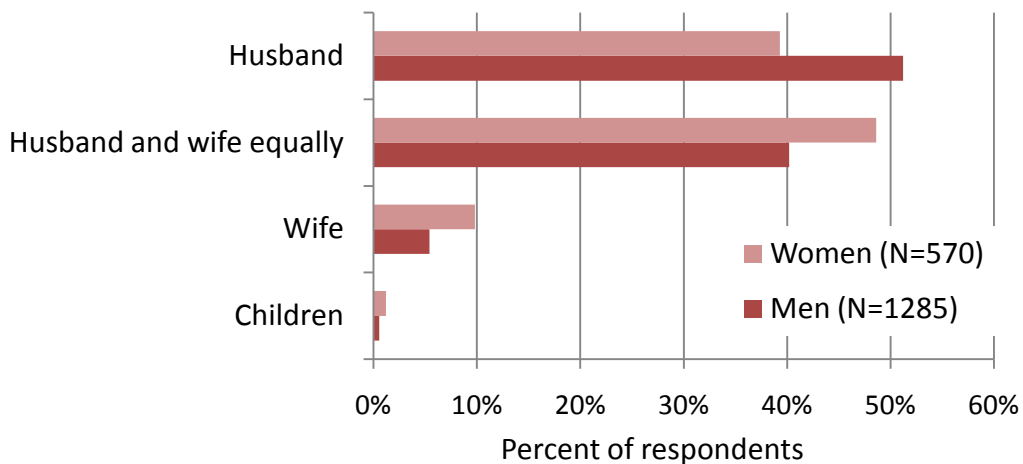
At the end of each work day, miners [in a team] divide their earnings between them. To my surprise, miners receive the same amount regardless of their age, gender, or experience. Even people working inside mining holes are remunerated similarly to those working above ground, despite facing considerable dangers such as landslides, poisonous gases, and little oxygen (2012: 11).

Our findings and those of High (2012) contrast what is reported in other studies about ASM, namely that women receive lower levels of pay for the same work in ASM and generally earn less in ASM (e.g. IPEC 2007; Purevjav 2011). We can only speculate about the reasons behind the discrepancy in findings. It is possible that women who work solitary as, for example, panners earn less than male panners because they tend to work fewer hours a day. Hence we suspect that

whether or not women work in mining teams/partnerships is what determines their wages in comparison to those of men, rather than whether or not they work in a formalized mine site.

SPDRI survey respondents were asked whether the male or female head of household was considered the family's "breadwinner". Half of men (51.2%) and 39.3 percent of women reported that in their family, the man was the main breadwinner (Figure 18). A slightly lower number of respondents (42.8%) reported that the husband and wife equally contributed and hence were equally considered breadwinners. Smaller numbers of respondents, namely 9.8 percent of women and 5.4 percent of men, lived in families where the wife was the main breadwinner.

Figure 18. Responses to the question: "who is the main breadwinner in your family?" (N=1855)

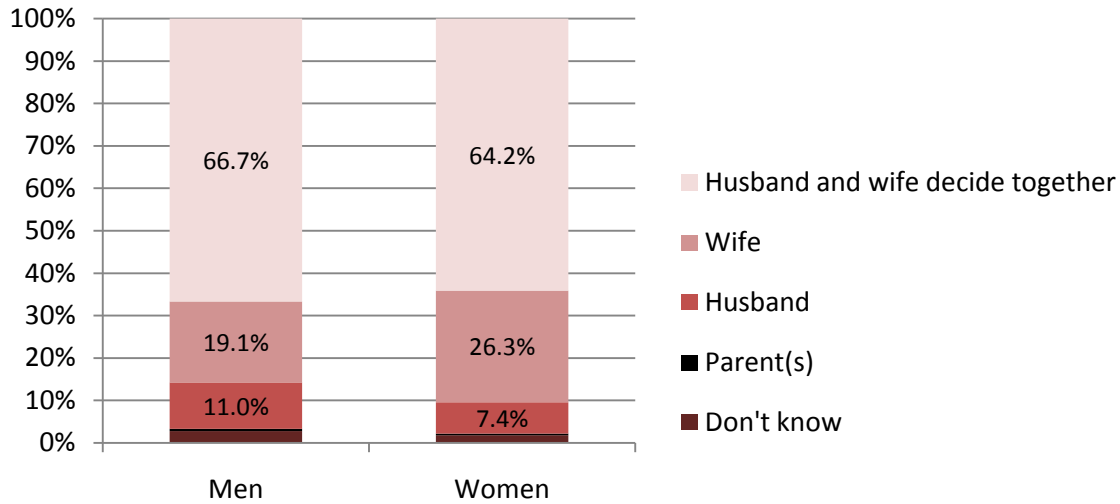


The SPDRI survey asked miners about who has the primary say over how the household income is spent. The majority of respondents reported that the husband and wife decide together how the household income is spent, with little difference between female and male respondents (Figure 19). This does not mean that all decisions are taken together, but both partners decide about their own domains. A male miner conveyed: "My wife mainly make decisions related to food and other daily necessities; and I make my own decision whenever else it is needed".

In cases where one of the heads of households decided, the wife was relatively more often named as the person deciding about spending of the household income. "We decide together," explained one the men, "however my wife has more power". A female ASM leader related women's experience as household managers to their skills as partnership leaders. Within the partnership, she said: "...women hold more decision making power in financial and social issues. Most of the partnerships are family driven and housewives are decision makers for household expenditure and family care."

In a few selected cases, parents decided about spending of the household income. Respondents to the structured interviews provided similar answers, with most miners declaring that they made decisions about the allocation of their income together with their spouse.

Figure 19. Who has the primary say in discussions about spending of the household income.



We encountered not much of a difference between women and men who were interviewed in the context of the gender assessment. In terms of how long they had been involved in ASM, half of the interviewed men and about seventy percent of interviewed women had been working in ASM for already more than five years, and another quarter of men and women had been involved for between three and five years. These data suggest that ASM is a serious job choice for both women and men, and a profession they pursue for years in a row.

The relatively favorable mining income was the main reason why the majority of miners who were interviewed during the gender assessment said they wanted to continue mining in the near future (coming five years). In this context miners also mentioned the lack of alternative work (in that location); particularly alternative work that would pay a decent income. Comments provided by male and female miners were similar, and included:

- Yes, artisanal mining is the main source of our income and we don't have any other work options
- Yes, if I have a sustainable work I can feed my family
- There are no other jobs available and I didn't graduate from any college or university
- Yes, I need to earn money to put bread on the table.

The lower number of miners who said they would like to quit mining in the upcoming years, motivated this choice by saying, among others:

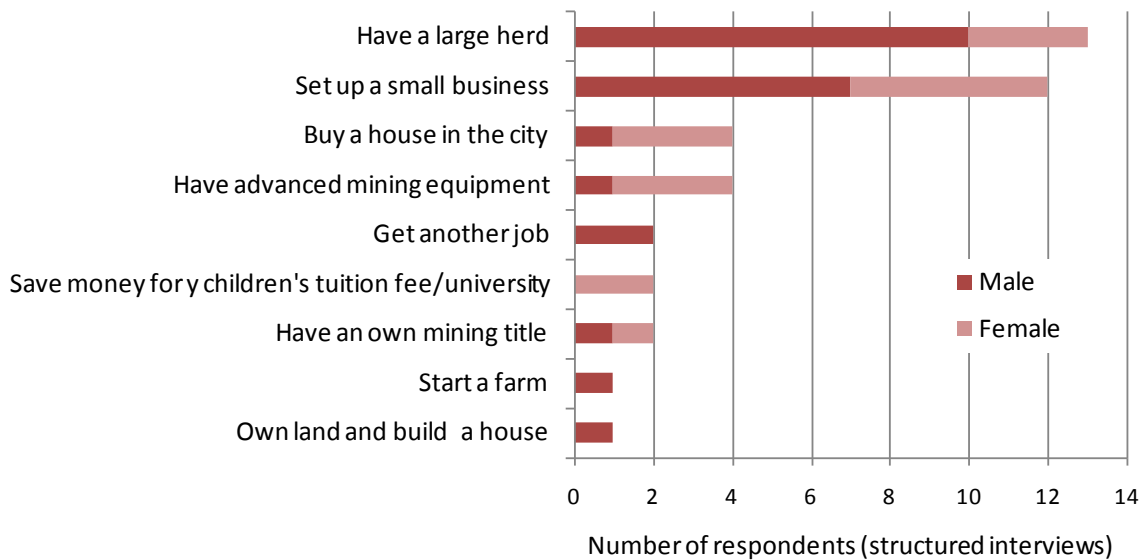
- "Mining is hard work"
- "My son has already graduated, so we don't have to work for the tuition anymore."
- "Next year, my daughter will study in University, so we will move to Ulaanbaatar"
- "It is better to do an easier job that is healthier and safer"
- "I am aging and becoming too feeble to do this physically demanding work."



In response to the question of what they would do when the resource gets depleted, most male and female miners reported that they would move to another ASM site. A selected few respondents to the structured interviews said they would become herders, and others said they were not sure and had not thought about it as of yet.

When asked about their future dreams and about what they wanted to accomplish with mining, most respondents to the structured interviews said they wanted to invest their earnings in an alternative livelihood strategy such as a large herd, a small business, a farm, or simply another job (Figure 20). A smaller number of respondents wanted to improve their mining operations by obtaining advanced equipment and a mining title. Two women mentioned that they were saving money to send their children to advanced education.

Figure 20. What do miners wish to accomplish with ASM?



As a livelihood strategy, ASM has helped many persons earn a decent income at a time that there are few available jobs. Nevertheless, only four out of the thirty-four persons who participated in structured interviews for the gender assessment said they wanted their children to become miners as well. Even those people were not in favor of their children entering ASM per se, but they believed it was a decent income earning activity in a time of job scarcity. Only one man said he would like his son to enter mining as a career option, because the boy just earned his excavator operator certificate.

The grand majority of respondents, however, said they did not want their children to become miners like themselves. They did not want their children to work in the same harsh conditions, doing this physically demanding work. Instead, they wanted their children to study, obtain a degree/diploma and/or to obtain an easier and healthier job. Two persons with daughters specifically mentioned that mining was not suitable for women as they should not engage in “physically and mentally hard work”.

## 4.8 Sexual violence, harassment and security issues

In the literature review, we observed that Gender-Based Violence (GBV) – physical, emotional and psychological – is a serious problem in Mongolia and, according to some institutions, on the rise. Unemployment, economic hardship and excessive alcohol consumption have been associated with domestic violence and other forms of GBV, both at a national level and specifically in ASM sites (e.g. UNFPA 2003, 2007).

Existing studies report that alcohol use in (non-formal) mine sites is high. For example, the ILO (2006) reports that “many miners drink alcohol to help them endure the work and to keep warm. This makes the work more risky for themselves and others. It also causes quarrels, fighting and violence”. Also High (2012: 13) reports that “male and female miners gather in the evenings for informal drinking sessions, lasting well into the early hours of the following day. It is also common among miners to shirk for several days and take part in longer binges”. In yet another paper, High explains that drinking of mostly cheap vodka occurs on a daily basis and, while alcohol is mostly consumed in the evenings after work, drunk miners can be observed throughout the day: “I estimate that alcohol is the single most common and financially significant expenditure in the mines” (High 2008). She also describes that brawls erupt as miners get increasingly drunk, and records the “absence of formalized relations of respect” between particularly migrant miners (High 2012). During a more recent research project, Cane also observed that drinking and conflict are generally more common in informal mining communities than in regular communities (pers. com 17 December 2013). Given the established relation between excessive alcohol consumption and GBV, it is likely that the drinking behavior in informal ASM sites creates a situation that feeds GBV.

At the sites visited during the gender assessment, we did not find much evidence of sexual violence or harassment against women or men. A factor that has probably affected this situation is that in the visited ASM sites, alcohol use was banned by the miners’ partnerships and umbrella NGOs. On different instances, miners told the gender assessment team that when ASM had just started, it was disorganized and miners used a lot of alcohol. Excessive alcohol use had caused problems such as violence. Now miners at the visited ASM sites did not use alcohol anymore, and incidences of violence have become rare. We have been informed that mining partnerships at other sites have taken similar measures to ban alcohol.

A female ASM leader noted that it makes a difference when miners live in the village near the mine site. At the placer gold mining site where she was interviewed, the mines were located on about 10 km from the *soum* centre and miners return to their homes and their families at night or stay at most two days. Working in a family context offers some social protection. Moreover, the fact that the miners often sleep in their family homes creates a different atmosphere than the situation where many -primarily male- miners are staying for extensive periods away from home in a location with little diversion. In the later case, alcohol consumption and incidences of GBV or harassment of women would be more likely. In this context, a report by UNFPA (2007) provides the example of female miners at an informal mine site who co-habit with male informal

miners “in order to be away from sexual violence and to have our security ensured” (UNFPA 2007: 56)

In reference to harassment, one female partnership leader reported: “No, we do not have a problem with sexual harassment but [sometimes] when I go underground [to dig for minerals] into the mine tunnel some men start to throw stones and assault me verbally.” She suggested that the competition for mining land causes some miners to behave that way. It was not common behavior though, she asserted.

The female ASM NGO leader at the placer gold mining site indicated that sexual jokes are regarded as innocent and non-offensive. However, violence is not acceptable. A female partnership leader at the placer gold mining site reported that at that site, sexual harassment and violence are not an issue, due to the strict regulations on the site. “If you do not abide by the regulations,” she said, “you can leave the site.” Single women were said to be relatively more vulnerable. At the placer gold mining site, single women constituted about 20 percent of the female ASM NGO members.

An ASM leader at Tunkhel village (hard rock gold mining site) stated that government officials work closely with ASM leaders and control the mine site several times a week. In order to continue working, he explained, the partnerships have to maintain two strict rules. Firstly, minors (<18 yr) may not enter the work site and, secondly, the use of alcohol is not permitted. The board members of the local ASM NGO also guard the site. Usually there are two persons at day time and four persons at night on watch, among others to control alcohol consumption and prevent unauthorized outsiders from starting to work at the site.

Given the absence of alcohol on site and the presence of external control, one would expect that in formalized ASM sites, where miners have organized into formal partnerships, GBV is less likely to occur than in informal ASM sites. This finding was not uniformly supported by the 19 ASM leaders who were asked whether GBV had decreased in their site as a result of formalization (Figure 21). About one third of respondents reported that in this respect, nothing had changed. In their opinion there was not more violent behavior against women before formalization.

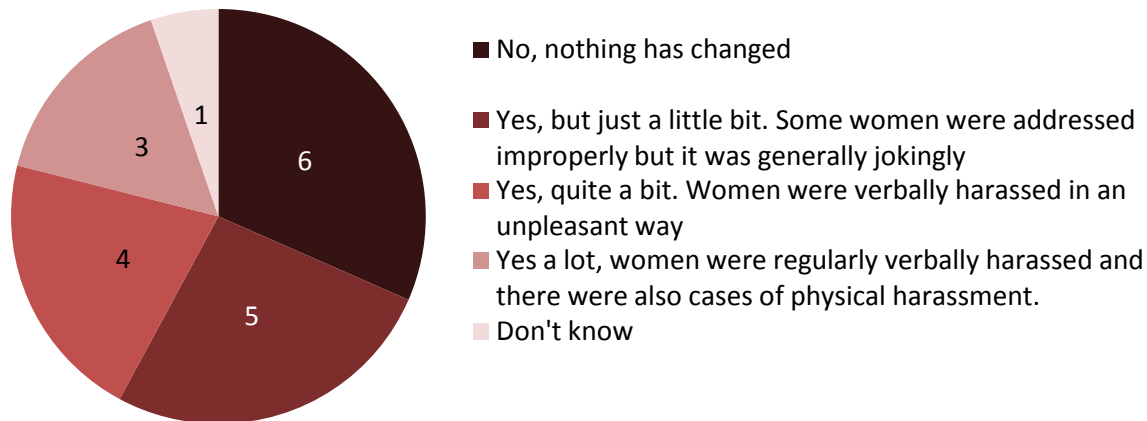
According to other miners, however, the situation for women had improved as a result of formalization and subsequent organization into partnerships. Three representatives from one placer gold mining site (2 pers.) and one hard rock mine site even said that the situation had improved “a lot”. Before formalization women were regularly verbally harassed and there were cases of physical harassment, whereas this was no longer the case now the miners had become formal. One of the ASM leaders who provided this answer added that pressure from the local government to reduce violence against women helped a lot in improving the situation.

In her study on *Gender Based Violence and mining infrastructure in Mongolian mining communities*, Cane found few incidences of GBV in communities surrounding large-scale mines, but other socially undesirable behaviors were linked to the presence of a large-scale mine,

resulting in an increase in general violence, sex work and STIs (pers. com. 17 December 2013). Even though this study did not look at small-scale mine sites some of its findings appear relevant. For example, Cane and her research team found that after an alcohol ban at one of the large-scale mines, the number of incidences of alcohol-related violence in surrounding communities dropped by a lot. This finding again suggests that a control on alcohol consumption in and around mines may benefit the social stability among miners and their home communities.

In conclusion, the data suggest that GBV is less likely to be a problem in ASM sites when: mine sites are located near the home community; ASM miners work in a family context; female ASM miners work with their spouse; ASM miners are formalized and work in partnerships; local government actively advocates the reduction of GBV; and alcohol consumption is not allowed on-site.

Figure 21. Answers to the mini-survey question: “Before your mine site was formalized, do you believe there was more violent behavior towards women at the site?” (N=19)



#### 4.9 Health and environment

In previous sections artisanal miners postulated that its impact on health is one of the reasons why ASM is not a suitable job for women. ASM is, however, similarly tough on men’s health. Hence we suspect that this answer reflects a relatively more protective attitude when it comes to women’s health. Moreover, people may not want women to perform heavy digging work because they are afraid it may damage their reproductive system and, in the case of pregnant women, may negatively affect the outcome of the pregnancy.

Indeed, one specific concern with regard to women’s health is whether women continue to work in mining and minerals processing when they get pregnant and if so, what kind of mining activities they perform and up to what stage of their pregnancy. Twelve partnership leaders from different ASM sites in Mongolia reported on what women working in ASM activities do when they become pregnant. From the answers listed in Table 5 it becomes clear that there is no uniform response.

Different women at the same site may react differently to their pregnancy. While some women stop working in ASM as soon as they find out that they are pregnant, others continue to work for a couple of months; often performing the lighter activities such as collecting gold ore from the surface, rather than digging. No-one answered that pregnant women continued to work in either mining or processing up to the moment of delivery.

Secondary sources, on the other hand, report that complications of labor, delivery and pregnancy are relatively more common among female informal gold miners, as compared to other women, due to difficult working conditions such as working underground and in water (UNFPA 2007). This observation suggests that at least for some women, their work in ASM jeopardizes the health of their unborn baby and that of themselves. Because women who work in partnerships often work alongside their spouses or other close relatives, it is likely that these women receive special care and are left to do the lighter tasks if they continue work at the ASM sites. Women who work by themselves, however, and particularly single mothers, may need to continue hard for long hours in order to support their families. Hence they will be at a greater risk for complications related to maternal health.

*Table 5. Involvement in mining and processing by pregnant women (N=12)*

Response to pregnancy	N
Women stop working in/around the mines as soon as they get pregnant	4
Women continue to work in mining for a while but they perform the lighter tasks	7
Women stop working in mining when they get bigger (after month 6)	2
Women continue to work in mining up to just prior to delivery.	0
Women continue to work in processing for a while but they perform the lighter tasks	1
Women stop working in processing when they get bigger (after month 6)	4
Women continue to work in processing up to just prior to delivery	0
Pregnant women do other activities in and around the ASM sites, such as cooking and operating shops	3

Another concern with regard to pregnancy is whether pregnant women receive adequate antenatal care when they are pregnant and postnatal care once they have delivered. At the formal mine sites from the study, access to antenatal and postnatal care was not mentioned as a problem, probably because the mine sites were located on less than an hour travel from a local community with health facilities. At more isolated sites, access to health care facilities will be more difficult. Given the immense distances between communities and sometimes poor state of the road network in Mongolia's rural areas, emergency cases in isolated ASM sites may not be able to reach timely help. Another concern is, as the UNFPA (2007) observed, that women from informal ASM sites do not receive antenatal care when they are pregnant because they have no registration. Even though miners at formal ASM sites should, theoretically, be registered in the *soum* where they work, practical considerations and bureaucratic hurdles may cause certain miners to not be registered (Box 3). For these miners, access to health care is difficult, regardless of whether or not they work at a formal or informal site.

A specific concern with regard to women's and men's work in gold processing plants is their handling of mercury, which is used to separate gold from other soil particles. Exposure to mercury is especially dangerous to pregnant women as elevated levels of mercury in the body pose a risk to a developing fetus. Exposure to methyl-mercury, which primarily results from the consumption of contaminated fish, is most dangerous. Nevertheless, the regular handling of mercury without adequate protection and exposure to mercury fumes when burning the gold-mercury amalgam are, in the long run, harmful as well.

As we mentioned in the literature review, existing studies provide contrasting information about whether either men or women are more likely to handle mercury. Provided that women are relatively more likely than men to work in processing related activities, it could be inferred that women also are relatively more likely to work with mercury (see also Navch et al. 2006; Bjerregaard 2009). We have no direct reports or observations of mercury use because mercury was not used at the gold mining sites visited by the research team; since miners are formalized they claim that they don't use mercury anymore (TAF, pers. com. 9 Dec. 2013). For example, the hard rock mine site visited in Tunkhel village of Selenge aimag has a processing plant which uses shaking tables for the gold extraction from ores. At the alluvial gold mining site, simple gravity-based processing techniques with sluices and baskets to wash gold were used without mercury.

Results from the mini-survey, however, suggest that mercury is still used at formal mine sites, including by pregnant women. Twelve ASM leaders were asked whether they had ever seen pregnant women using mercury for gold processing. Only one person responded that he had never seen this himself, but he added that he had seen it on TV. Of the remaining ASM leaders, four responded that they had seen pregnant women handling mercury at formal mine sites and seven reported that they had observed this at both formal and informal sites.

The gender assessment team asked miners what was, in their eyes, the most severe environmental impact of ASM. By far the most common perception was that ASM causes (pasture) land degradation by means of soil disturbance and leaving a crater landscape (Figure 22). A smaller number of respondents referred to water contamination. This effect was mentioned relatively more often by women, probably because the domestic duties of women (cooking, washing) requires access to clean water. Mercury pollution was not mentioned by any miner as a negative environmental effect of ASM.

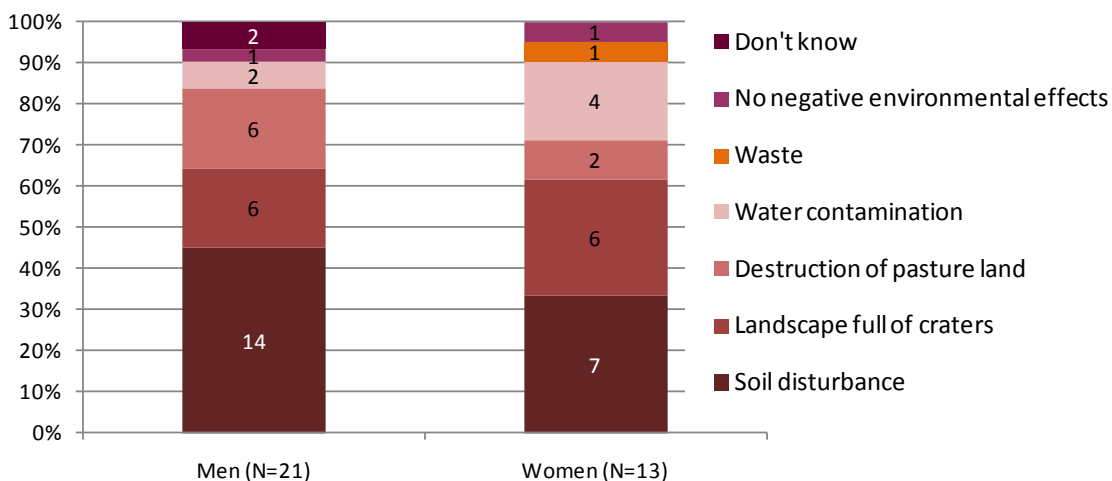
When miners were asked in what ways the environmental impacts of ASM affected their lives, half of the interviewees responded that these impacts did not affect their personal or family lives. Not everyone agreed though. Three women specifically referred to health effects such as respiratory problems. One man named this health problem as well. In addition, several miners mentioned that pasture land was degraded.

At all sites visited during the gender assessment, miners performed some degree of rehabilitation. In the simplest cases, the pits were filled and the location was left for natural regeneration. At

the fluorspar site, however, an enthusiast miner showed a former pit location where he planned planting trees in the dessert to provide shade to cattle.

Both women and men were equally involved in restoration measures at the ASM sites visited for the gender assessment. At the visited pacer gold mining site, the partnerships were asked to assign one member to participate in environmental rehabilitation. These members were often women.

Figure 22. The most severe environmental effects of ASM as perceived by male and female miners interviewed during the gender assessment.



#### 4.10 Gender-specific barriers and opportunities for advancement in mining

Working in ASM comes with multiple challenges, particularly in Mongolia’s harsh climate. According to some miners, women and men are confronted with similar challenges such as the tough living conditions, the hard physical work, and related health risks. Added to these factors is the economic volatility, as a miner explained: “If we cannot find the ore after a long time of digging and large investments, it hits both women and men equally.”

According to a majority of miners who were interviewed for the gender assessment, however, certain challenges faced by women in ASM differ from those faced by men. They named women’s domestic responsibilities and the physical strength required for mining as the main challenges that female miners are confronted with. They commented, among others:

- “Women cannot do hard physical work, i.e. cannot pull out the car if it's stuck in mud.”
- “The harsh conditions negatively affect health.”
- “Women have other responsibilities such as taking care of children, helping the kids with their school, cleaning the house, preparing food...”

- “If women do mining there is no time to prepare food and children are left behind without care.”

### **Box 2. Fluorspar mining as an alternative source of livelihood**

Uranchimeg has been working at the Fluorspar ASM site in Airag *soum* (Dundgobi aimag) for the past two years. She used to live with her family in Ulaanbaatar, but the grand share of earnings from her urban job went to transportation. Fluorspar mining, she has found, pays good money and the costs of living are much less in the countryside. A local ASM leader estimated that the average fluorspar miner may earn about 250 USD/month, which amounts to twice the minimum wage.

As Uranchimeg moved with her husband to Airag *soum*, their children stayed behind in Ulaanbaatar, in the care of their grandparents. In addition to the stress of separation from her children, the move has brought bureaucratic hurdles. “For me it is really hard.” she laments: “In order for my children to go to school in Ulaanbaatar, they have to be registered there.” As a result, Uranchimeg and her husband have not been able to register in the *soum* where they are working.

At the mine site, Uranchimeg’s main task is to sort the fluorspar; separating the highest quality, dark purple ore from the light colored stones of lesser quality and value. She herself does not enter the pit, but some other women do. Particularly when the material is soft, she explains, women can work with the pick axe. In addition to the mining work, the women on site work in organizational aspects and lobby for mining rights with the local government. Uranchimeg recalls one occasion when the previous governor had sent in the police to threaten the ASM miners and confiscate their material. Six female miners filed an official complaint with higher government, and after investigation of their case it was determined that the governor had acted wrongly. This governor had to resign, says Uranchimeg satisfied.

Working in partnerships makes ASM more efficient, ascertains Uranchimeg. Three or four partnerships have already bought an excavator to move the ore, and this has really facilitated the work. Because virtually all land in Airag *soum* has been allocated to larger mining companies, the ASM partnerships are not able to obtain mining titles. By making (verbal) agreements with the companies, however, Uranchimeg and her colleagues may earn a good living as ASM miners for the years to come.

In qualitative interviews, the same issues surfaced when talking about specific challenges faced by women. Mining leaders ventilated that it is particularly hard for young women who have migrated to the mine site to leave their small children behind in the care of their grandparents or others. In addition to the stress of being separated from their children, this arrangement can



create administrative problems (Box 2). On the other hand, it is not uncommon in Mongolian culture that young children are left in the care of the grand parents or other relatives for some years, while the parents or the mother works in another location. In this sense the situation of women miners would not be much different than the situation of women from the countryside who work in the capital city while their children stay with relatives in the rural regions.

At several instances it was brought up that particularly single mothers are having a hard time as ASM miners. Their main challenge is to combine their work as a mother with mining work, as they do not have a partner to share these responsibilities with. In addition, they have to singlehandedly find a partnership to work with, in a profession that is thought to be most suitable to men.

ASM leaders generally reported that there are no traditional beliefs that ban women from mining (underground) or that limit the freedom of movement of women in their menstrual period, as exist in other countries. One female interviewee reported that gold is believed to disappear from the mine when women enter the underground mine. We explicitly asked about this issue elsewhere but we were told that there are no such taboos. More in-depth research is warranted to find out when, how, and where this notion proliferates, and what is consequences are. To our knowledge there are no legal provisions that prevent women from participating in, or benefitting from, ASM.

## 5. Discussion and conclusions

In the past decades, ASM has become a viable livelihood strategy for large numbers of diverse people in Mongolia. These people include people who have become unemployed, herders who have lost cattle, students, and many others. A significant share of ASM miners are women. The present study analyses differences and similarities between the experiences of male and female miners; the typical jobs they perform as miners and partnership members, the challenges they confront, and their power of decision-making at home and at the work-place. In addition, the study explored relationships between the women and men and possible inequities in these relationships.

Given the limited time available for field work during the gender assessment and the limited number of ASM sites that could be visited, the present results may not represent the situation in mine sites throughout the country. For example, at all visited sites the miners were organized in partnerships and NGOs, and they all had some form of verbal mining agreement with the *soum* government. In these rather organized sites, alcohol and child labor were banned, there was no sex work, the use of mercury was forbidden, miners received health and safety instructions and they were involved in rehabilitation. This situation, however, may not be typical for all ASM sites. According to 2012 data from the Artisanal and Small-scale Mining Division of the Mineral Resource Authority of Mongolia there are 1272 formal ASM miners and 4925 informal ASM miners, recorded in 11 *aimags*. It is possible that the situation is different at informal and less organized sites, but we are not able to provide information about such locations. Given that the statistical results, which were collected throughout Mongolia, and the available literature mostly confirm what we found in qualitative interviews we are confident that the results provide a reliable portrait of gender relations in (formalized) Mongolian ASM sites.

The data demonstrate that about twice as many men as women are mining (30.7% women). Informants indicated in qualitative interviews that the proportion of women miners at a site depends on the type of deposit that is being mined, with women being more prominently present in alluvial gold mining. Also in earlier studies it has been brought forward that alluvial mining better suits women than hard rock gold mining. The statistical data, however, did not reveal large differences between sites with different deposits in terms of their gender balance, though the hard rock mine sites featured relatively fewer women than the alluvial gold and fluorspar mine sites. Male and female miners did not differ much in terms of age and education. Also their reasons for entering mining were comparable; a lack of alternative jobs that pay sufficiently, job loss, and the loss of cattle were among the main drivers of ASM. For these same reasons, miners of both sexes wanted to continue working in this profession.

Mongolia's socialist tradition, which supported a high degree of gender equity, is overtly present in organization of the ASM sector. We find that while ASM is characterized by a clear gender divide of labor, the sector overall equitable and women and men appear to similarly benefit from their work as miners. Regardless of the type of deposit that was being mined, men were primarily responsible for digging, working underground, loading and offloading trucks with ore, hauling up

ore, and other physically demanding tasks. Working underground is also considered most risky because of the chances of caving in mining pits. However, we do not have data proving that male miners relatively more often experience accidents. Women's main tasks at the mine sites concentrated on collecting/sorting stones, hauling up ore with the windlass, processing, and service activities such as cooking and cleaning. We have not heard about the phenomenon of "tunnellers" (See background); mostly young women who are entering the underground tunnels.

At the visited mining sites, services were not much provided and all controlled by the ASM NGOs. While men were most likely to work in transportation, women dominated jobs such as cooking and buying gold. The divide of mining and service activities along gender lines is not strict and both women and men may venture into virtually all tasks. Another difference between male and female involvement in mining is that men tend to work more days a week, and more hours a day than women. These findings are largely in line with those of earlier studies.

When male and female miners are working solitary, both the differential time investment and differences in physical ability are likely to result in gender differences in mining incomes, as reported in earlier studies. When working in partnerships, however, these time investment and job specialization do not affect the division of shares between the members. The equal sharing of mining proceeds occurred in all partnerships in the three visited mine sites (alluvial gold, placer gold and fluorspar), and hence this arrangement does not seem to depend on mineral deposit or proportion of women active at the site. More research is warranted before we can conclude that the equal shares arrangement is the norm in ASM partnerships throughout Mongolia.

There are several reasons for the gender disparities in labor tasks and time commitment. In the first place, women are believed to be physically not strong enough to perform the 'male tasks'. Secondly, working underground is considered to be the most risky job, and men do not want to expose women to these risks. Third, mining is believed to negatively affect women's health. And fourth, women perform the lion's share of household tasks and caring for dependent family members, and hence they have less time left to engage in ASM activities. Within the household, men are responsible for fetching water, chopping wood, and doing small repairs, but these tasks can be scheduled more flexibly than, for example, caring for children and cooking. For the mentioned reasons, a majority of both women and men were of the opinion that mining is not a suitable job for women.

More men than women believe that mining is not a respectable source of income for women, and that men are better than women in mining. These findings suggest that women have a slightly more positive view of the capabilities of female miners than men. In this context it must be noted that processing ore, collecting stones from the surface, cooking and providing other services may not be considered 'mining'. About half of surveyed miners, women more so than men, believed that women and men are equals in terms of mining skills. Persons who answered that mining is a suitable job for women, referred to the need for women to earn an income, the fact that the mining work is easy, and the diverse skills that women possess. Female miners

typically either come with their husband or they are single women responsible for their family's income.

Women are not only active as mine workers, they also are prominently present as ASM leaders, heading both partnerships and NGOs. Being organized brings many advantages including improved job security, improved safety and better access to information and services. These benefits are equal for male and female miners. Within the ASM partnerships decisions are taken democratically, and male and female members generally have equal say in decisions. This way of doing things mirrors decision-making structures at the household level, where decisions about expenditures and other important matters are typically taken jointly and where women have a strong voice in particularly financial and social (care) matters. The equitable fashion in which decisions are taken also make the partnerships and NGOs the venue of choice to discuss and address a variety of mining-related issues such as occupational safety and environmental restoration. Gender-Based Violence was not identified as a problem at the visited mine sites, yet the general findings suggest that also such sensitive topics can be discussed in the context of the ASM partnerships and NGOs.

The proportion of female partnership leaders (30.6%) equals the proportion of women in ASM in general, suggesting that women have equal chances at leadership roles in the ASM sector. This observation is supported by the finding that half of the surveyed male and female miners had no preference for either a male or a female partnership leader. Women leaders were lauded for the fact that they are outspoken, good managers and excellent organizers. Even though the mining population is predominantly male and there is a slight preference for male leaders, the data provide convincing evidence that miners of both sexes consider women to be capable ASM leaders.

Even though male miners work, on average, more hours a week and tend to perform the jobs that are considered 'hardest', when it comes to dividing the mining profits all partnership members receive an equal share. Sex, tasks, output and leadership function are not considered in parting the earnings. Mongolia's socialist tradition and the fact that many partnerships are composed of family members may contribute to this equitable financial structure. Existing studies have argued that female ASM miners earn less than their male colleagues. We suspect that at least some proportion of the interviewed female miners in these studies was not organized in partnerships, and hence their earnings would depend on the amount of gold they extracted as an individual. Because female miners work, on average, fewer hours than men, a female solitary miner would likely earn less than a male solitary miner. In other words, organization into partnerships appears to level income differences between male and female miners. This arrangement may make membership of an ASM partnership particularly attractive to women, as they would fare worse in a system where payment is based on time expenditure or tasks.

Sexual violence and harassment were not perceived as problems at the visited ASM sites. These behaviors are often related to alcohol use and the use of alcohol was not permitted at the visited

sites. Interviewees conveyed that also at the household level, domestic violence is not deemed acceptable behavior. Largely because of the formalized nature of the visited mine sites, also other health and security issues were positive as compared to the situation described in earlier studies among informal 'ninja' miners. Sex work, drunkenness, and mercury use, for example, were absent from the visited sites. Also, because the working locations were located close to the *soum* centres, miners who were registered in the *soum* had access to health care.

While the image arises of ASM as a sector with a large degree of gender equity, several markers suggest that particularly men but also many women continue to see women as less worthy miners. For example, many interviewees perceive mining as a job that is not suitable for women, believe that men are better at mining, and have preference for a male partnership head. Furthermore, even if women are mining full-time, they continue to have the primary responsibility for child care, caring for the elderly and sick, and household chores such as cooking, cleaning, washing clothes. As a result many Mongolian mining women, like working women in other sectors and in parts of the world, are faced with a double burden (see also literature review). Particularly single mothers may have difficulty combining mining with their responsibilities at home, while they also miss the companionship and/or protection of a spouse at work and as home. These women were identified as being particularly vulnerable. Because the visited sites did not feature significant migrant populations, we cannot tell whether their situation would be worse in this respect, as suggested in earlier research.

All in all, however, ASM is for many reasons an attractive livelihood option for women. In the first place, because miners are self-employed and often work in a family context, women can work somewhat flexible hours to combine mining with their household duties. Secondly, women receive equal pay to men, and the earnings tend to be better than in many other available jobs. Third, women are considered capable ASM leaders and have acquired leadership positions that they were observably proud of. In this sense, mining also allows women to explore and strengthen their leadership potentials and gain self-confidence.

# Recommendations

Considering:

1. That ASM is an important and growing livelihood activity for women and men in Mongolia, which has helped not only the rural poor but also other Mongolian families respond to the economic hardship and high unemployment rates following the Transition and several extreme climatic events;
2. That the main objective of the present gender assessment has been to provide a comprehensive analysis of the gender dimensions of artisanal and small-scale mining (ASM) in Mongolia; identifying needs, labor division, participation, access to resources and development, control of assets, and decision-making powers between women and men in their assigned gender roles;
3. The recommendations are to provide guidelines to promote the integration of gender dimensions in the ESEC II project, and suggest gender responsive actions, which shall be addressed within the scope of the ESEC II project;
4. The data collected in the framework of this consultancy and our key findings reported here above

We provide recommendations which serve to provide input about:

- Desirable focal points of project efforts,
- The most suitable organizations and government departments to execute proposed measures, and
- The best communication strategies to equally reach both women and men in Mongolia's small-scale gold mining areas.

We organized our recommendations in four sections; quick wins, policy, communication, and cooperation. "Quick wins" are specific activities that can be done with relatively little effort and can normally be done in a short period of time. "Policy" refers to measures that should be taken in the policy realm, which can be proposed government interventions as well as strategies that organizations can follow to support or steer such interventions. "Cooperation" focuses on ways in which various organizations working with ASM and/or gender issues in Mongolia can build capacity for the development and implementation of programs that benefit gender equity in the ASM sector. Recommendations under the label "Research" include suggestions to support gender-sensitive Monitoring and Evaluation and identify areas where additional research on the gender dimensions of ASM in Mongolia is warranted.

We recommend the following **quick wins**;

1. **Reduce and where possible eliminate barriers for women to attend ASM-related workshops and meetings by both the Government of Mongolia (GoM) and organizations**
  - a. Because women tend to have the principle responsibility for domestic activities and child care, it will be more difficult for women (particularly with small children) than for men to attend workshops and meetings in Ulaanbaatar. Whenever possible, therefore, these meetings should be held in the locality where people live and work.
  - b. Women may not be able to participate in activities that take place in the early morning, when the children need to be made ready and/or brought to school, and women may start cooking for the day. Mid-morning until an hour prior to lunch time, or directly after lunch may be the hours that women are most available.
  - c. For women with small children it may be difficult to participate in project activities in weekends, when the children are at home.
  - d. Work closely with female ASM leaders to discuss the most appropriate hours/days for workshops and meetings, so that both women and men can attend.
  
2. **Facilitate the participation of single mothers in SDC/SAM projects** as they were named as being particularly vulnerable and they constitute a significant proportion of female ASM workers.
  - a. Arrange for child care (e.g. a kids' corner with fun activities in a separate room) during project activities.
  - b. Ask ASM leaders to identify single mothers who are working onsite, and make a particular effort to engage them in project activities.
  
3. Both GoM departments and organizations should **use gender-neutral language** and ensure that both women and men feel included when discussing ASM matters.
  - a. Do not just refer to miners as "he" and "him", but either specify the gender or use gender-neutral terms.
  - b. The term 'mining' is often understood as only including the actual work underground, in which women are less represented. Hence when organizing meetings and workshops for people involved in ASM, it would be good to specify that all persons involved in ASM and ASM service activities are invited.
  
4. **Organize project activities in the most suitable time of the year for both women and men**
  - a. Both male and female miners are less likely to continue working in winter, and when they do work they work shorter hours. In places where the miners live near the mine site, winter may be a particularly good time for indoors workshops and meetings because it will have less of an impact on miners' working days.
  - b. Field trainings and demonstrations, by contrast, will be more effective in summer, when there are more people out at the working locations.

5. **Invite both women and men to trainings and workshops even if the sessions address areas that are dominated by one sex**, as we found that in practice virtually every job can be done by every person and even if they are not involved, women can influence men through their position in the partnerships.
  - a. The male head of household is typically considered the main breadwinner. However, both in the household and in ASM partnerships, decisions about financial management are typically taken by women and men together. Hence any training about financial matters (e.g. saving, investment, microfinance) should involve both women and men.
  - b. Trainings or other ESEC II project activities aimed at banning the use of mercury should specifically target miners working in gold processing as well as ASM leaders of either sex.

## Policy

6. **Promote formalization of ASM sites and the formation of partnerships therein**, as a measure to improve and secure the position of women at ASM sites
  - a. The GoM could provide incentives to miners that are formalized, including assistance from the Mineral Resource Authority of Mongolia with geological exploration or the acquisition of a formal mining title.
  - b. Local government could actively reach out to the *de facto* leaders of informal mine sites to entice them to become formal, for example by entering an agreement with the *soum* government.
  - c. SDC/SAM could provide trainings to miners at informal mine sites about formalization and the establishment of partnerships; how is it done, what resources are needed, what are the benefits, etc.
7. **Ban alcohol from mine sites**
  - a. SDC/SAM could lobby with the national and local governments to ban alcohol from mine sites.
  - b. Local government regulators could establish regulation prohibiting the presence and use of alcohol at ASM sites in their *soum*.
  - c. Local government should organize local authorities (e.g. police) to execute control on alcohol use at mine sites.
8. Within the ESEC II project, **build capacity among national and local level policy makers to ban mercury from gold mining sites**, as pregnant women and other persons continue to be involved in the use of this toxic metal
  - a. Build on the momentum created by the Minamata convention to keep the issue of mercury use in the attention of policy makers at the national and local level.
  - b. Assist national-level policy makers in developing a strategy to work towards compliance with the Minamata Convention. This strategy must suit the socioeconomic, political and legal context of Mongolia and pay particular attention to mercury used in ASM.



- c. Assist national policy makers and local authorities in efforts to ban mercury by presenting information about, demonstrating the use of, and facilitating access to alternative technologies that can be used to replace the use of mercury in gold processing.
- d. Emphasize the particular vulnerability of pregnant women to mercury contamination in work with government officials.

**9. Improve access to antenatal and post-natal care for women working in isolated ASM areas.**

- a. SDC/SAM may lobby with the national government to provide primary health assistance to persons working at isolated ASM sites.
- b. The Ministry of Health is recommended start a pilot project with mobile health clinics or health workers that serve a specific region (e.g. *Soum*) and visit the various ASM sites at least weekly. This strategy is used for poorly accessible rural communities and mining areas in the Amazon region

**10. Establish Mining Information and Service Centers in the mining areas, near the miners**

- a. In order to better reach ASM miners (formal and informal) and to be able to better control the sites, the Mongolian government mining division should establish Mining Information and Service Centers from where information and support mechanisms for ASM miners can be organized. ASM miners should be able to enter the Centre with questions about mining related issues (e.g. how to obtain a mining title) and other matters (e.g. how can they register). The MNEC provides an example of a similar idea, named the Ger Information Center.
- b. Through Mining Information and Service Centers, provide miners with regular information, in the field, about more responsible mining techniques, including protection against mercury – particularly for pregnant women and women in child bearing ages.

**11. Facilitate registration of migrant miners** as being unregistered complicates access to health care, child care facilities and other social support services that are of importance to both sexes but particularly to women.

- a. In a new *soum*, local government could actively entice miners to get registered in the *soum* and provide incentives for registration.
- b. Allow miners to be registered in two *soums*, for example as a guest resident

**Cooperation**

**12. It is advisable that ESEC II works with female and male NGO and partnership leaders as advocates for change.**

- a. Establish a network of mining NGO and partnership leaders, listing their contact details.
- b. Ensure that NGO and partnership leaders obtain regular updates about program activities.

13. **SDC/SAM may assist organizations working on issues related to gender equity and women's rights in their access to ASM areas**, as the areas are typically excluded from NGO projects.
  - a. Make an inventory of NGOs that are active in the field of gender, and document their working areas and interest to work in mining areas.
  - b. Invite suitable NGOs for a meeting to get to know the organization and identify areas of cooperation
  - c. When field trips are organized, invite a member of the most suitable NGO working on gender issues to join.
  
14. **Launch a campaign to ban Gender Based Violence in ASM sites**
  - a. Initiate collaboration between the Gender Center for Sustainable development (GCSD) of Mongolia, The Asia Foundation and SDC/SAM to develop a campaign to eliminate GBV from ASM sites in Mongolia.
  - b. Hire a local gender consultant (e.g. GCSD) to train local government and local authorities in recognition of GBV and ways to deal with it.
  - c. SDC/SAM may advocate with both national and local government to keep a close eye on, and actively prosecute, cases of GBV at both formal and informal ASM sites.

## Research

15. **Conduct a nation-wide study on gender-based violence in ASM areas.**
  - a. Invite a national consultant with extensive experience in gender issues to conduct a study on gender based violence in ASM areas throughout the country.
  - b. Ensure that the study includes both formal and informal sites, in order to better understand differences between the two.
  
16. **In corporate gender in Monitoring and Evaluation**
  - a. In developing and implementing an M&E system, include gender sensitive indicators such as:
    - Percentage of women and men involved in ASM activities, including providing services to miners.
    - Percentages of name and female partnership heads
    - Percentages of male and female ASM workers participating in various project activities
    - Percentage of partnerships where earnings are divided equitably among members (after deduction of expenses).
    - Percentage of women and men who handle chemicals, including mercury
    - Percentage of women who have personal experiences with various forms of sexual harassment.
  - b. In addition to collecting gender specific indicators, it would be good to distinguish sex in all M&E data that are collected in the context of the project. For example, by

specifying data about accidents, incomes, access to credit, and other issues by sex it will be possible to learn about and track changes in the impact of ASM on the livelihoods of women and men.

17. **Conduct a study on the reasons for miners to not formalize**, as formalization appears to bring many benefits to miners and the reasons why large group of miners continue to work in an informal way remain poorly understood.
  - a. Given that its efforts at introducing more responsible mining are aided by the formalization of miners, SDC/SAM may finance a study on the reasons for miners to not organize in partnerships and not formalize.
  - b. Ensure that the study includes both miners who are working at formal sites and miners who work at informal sites, in order to compare their situations

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# Annex I Research instruments

## Qualitative interviews with women not involved in ASM

Women who participate in these interviews have come with their family to the mine site but who are not themselves actively involved in mining or providing services to miners.

1. Record location and date
2. What has been the main reason for your family to live in/move to this location? (e.g. Mining. Cattle herding/pastures, etc.)
3. Within the family, who made the decision to stay here/come here? Was it a joint decision between the partners?
4. How many persons are living with you at this moment, in your household? Are all these persons involved in mining?
5. What does your day look like? Can you describe to me at what time you get up, and what you do from the time that you get up until you go to sleep at night?
6. Why are you yourself not involved in mining? What specific reasons or barriers make that you do not mine?
7. Many other women are involved in mining and in the delivery of services to miners, what do you think of that? Is it recommendable for women to work in this sector?
8. Have you been involved in ASM before and if so, why did you discontinue? If not, why not?
9. How is life in a mining community different from life in a regular community? How has coming here changed your life?
10. What do you see as the most positive impact or contribution of small-scale mining?
11. What do you see as the most negative impact of small-scale mining?
12. How has mining affected the landscape around you and the resources you use? E.g. is there an impact on available pasture land, or on your efforts to find good water for household uses?
13. Do you want to stay in this community for the coming 5 years? Why or why not?
14. Would you want your children to live and work in this community when they grow up? Why or why not?

## Interview guide for key informant interviews

1. Record location and date
2. Are all miners at this site working in partnerships? Or are there also miners who do not belong to partnerships; who work individually or in informal/shifting groups?
3. If there are miners working by themselves, are they more likely to be women or men? Why?
4. What is the advantage of working through a partnership? Are these advantages equal for women and men?
5. What types of ASM activities do male and female miners usually carry out? Is there a strong gender division of labour or can women and men –in theory- do every task? Can you explain why women and men may perform different jobs at the mine site?
6. What types of roles and responsibilities do women and men carry out within the mining partnership? Can women be partnership leaders, and is this common? Why/why not?
7. Are women involved in financial and social decision making in the partnership? Do they have the same power to affect partnership decisions as men? Please explain your answer
8. Who decides whether the partnership moves on to a new pit or where the next pit will be located? Do women and men equally participate in such decisions? Why or why not?
9. Apart from miners, there are also many persons working in the mining service economy, selling water and food stuffs, sex work, buying gold, etc. Are there services that are more likely to be performed by women than by men, and why? And vice-versa, are there certain services that men (almost) exclusively perform? Can you explain these differences?
10. Does your partnership have a mining title or concession to mine on this land? Among the partnership members, how is it decided who can mine at what specific location? Are women and men equally involved in such decisions?
11. Within the households in this community, who owns the land, home and livestock? Are these assets registered in the name of one person, or in name of the couple or household? In practice, who has a say over what happens with these assets, e.g. whether to sell livestock or land?
12. Do you believe that sexual, domestic, and/or intimate partner violence against women and men is a problem in and around this mining community? Please explain.
13. Is it common that female miners are harassed by male miners? Do male miners make sexually explicit jokes or try to physically harass women at the mine site? Is this different for married women than for single women?
14. Is it accepted for a man to beat his wife or domestic partner, for example if she refuses sex, if she has not made dinner or if she neglects the children?
15. Does sex work occur in this mining community and if so, who are the workers? Are they only women older than 18, or also younger women? Are they women from this or a nearby village, or do they come from villages in other *soum/aimag*?
16. To your knowledge, are there any legal provisions that prevent women from participating in, or benefitting from, informal mining?



## Semi-structured interviews with miners and mining service providers

**Location:**

**Date:**

**Interviewer:**

General data about the interviewee

1. Sex (circle): Male / Female
2. Age:
3. Are you registered in this Soum? 1. Yes 2. No
4. With whom do you live here in the mining area?
  1. Alone
  2. With my spouse
  3. With my spouse and children
  4. With my children
  5. With friends/colleagues
  6. With more distant family uncle/aunt etc)
  7. Other: \_\_\_\_\_
  8. Don't know/ No answer
5. For how long have you been working in mining?
  1. Less than a year
  2. 1-2 years
  3. 3-5 years
  4. More than 5 years
  5. Do not remember
  6. No answer
6. Why did you enter mining? (Multiple answers possible)
  1. I was laid off from another job myself
  2. I lost (part of) my herd
  3. There is no other work here
  4. Mining pays better than other work available to me
  5. I like the freedom/working for myself
  6. I like the adventure/gamble
  7. Other: \_\_\_\_\_
7. What kind of work do you do in the mining area (mark all that apply, multiple answers possible)
  1. Dig for minerals
  2. Pan
  3. Crush ore
  4. Sell food/drinks
  5. Sell cigarettes
  6. Sell clothing/boots etc.
  7. Buy gold
  8. Other: \_\_\_\_\_
8. In your perception, are some mining-related jobs better suited to women and others to men?
  1. Yes
  2. No
9. If yes, can you explain your answer or give an example: \_\_\_\_\_  
\_\_\_\_\_

10. What is the main task/responsibility of women at the mine site?

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11. What is the main task/responsibility of men at the mine site?

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12. Do you feel that mining or performing services at the mine site is a suitable job for women?

1. Yes                      2. No

13. Can you explain your previous answer?

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14. When you look around you in the mines, do you think that there are equal numbers of women and men working in mining?

1. Yes, women and men are equally involved
2. No, there are more men working in mining
3. No, there are more women in mining
4. Cannot tell/Don't know

15. Please explain your answer above. Why do you think that might be the case? (Circle all that apply).

1. Men are physically stronger
2. Men are better at mining
3. Women have too many other responsibilities (household, children)
4. Men are primarily responsible for earning cash income
5. The tough living conditions at the mine sites do not suit women
6. Other: \_\_\_\_\_

16. Are there certain conditions at the mine site or characteristics of the mining work that make it particularly challenging for women to enter and fare well in mining?

1. Yes, particular challenges for women are (specify): \_\_\_\_\_
2. No, women and men face the same challenges at the mine site

17. How much did you earn this past week (past 7 days)?

- |              |                |
|--------------|----------------|
| 1. Nothing   | 5. 50-99 USD   |
| 2. < 5 USD   | 6. 100-199 USD |
| 3. 5-14 USD  | 7. 200-500 USD |
| 4. 15-49 USD | 8. > 500 USD   |

18. In your household, who decides what your money is spent on?

- 1. I decide alone
- 2. My spouse
- 3. My spouse and I jointly
- 4. My extended family
- 5. Other: \_\_\_\_\_

19. What do you spend most of the money you earn with mining on?

- 1. Food and other basic necessities for the family
- 2. School and school supplies (incl. uniforms) for the children
- 3. Livestock
- 4. Items for myself
- 5. I am saving money to buy a vehicle/motorbike/transportation means
- 6. Other: \_\_\_\_\_

20. Do you want to continue mining for the coming five years?

- 1. Yes, because: \_\_\_\_\_
- 2. No, because: \_\_\_\_\_

21. What do you want to accomplish with mining, where do you want to be in five years from now>

- 1. Have a large herd
- 2. Have an own mining title
- 3. Have advanced mining equipment
- 4. Get married and establish a family
- 5. Buy a house in the city
- 6. Set up a small business
- 7. Other: \_\_\_\_\_

22. Do you want your children to become miners as well?

- 1. Yes, because: \_\_\_\_\_
- 2. No, because: \_\_\_\_\_

23. In your opinion, what is the most severe environmental effect of informal mining?

- 1. Water contamination
- 2. Mercury pollution
- 3. Soil disturbance
- 4. Leaving a landscape full of craters
- 5. Destruction of pasture land
- 6. Other: \_\_\_\_\_

24. In what ways does the mentioned environmental impact affect your personal life and that of your family?

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## Observation sheet

### General

1. Name area: \_\_\_\_\_ 2. Date: \_\_\_\_\_

3. Type(s) of minerals mined: \_\_\_\_\_

4. Number of active partnerships: \_\_\_\_\_

### Population

5. Est. number of persons working as miners at the site: \_\_\_\_\_

6. Est. shares of women and men among miners: \_\_\_\_\_ % women, \_\_\_\_\_ % men (7)

8. Est. number of service providers at the site: \_\_\_\_\_

9. Est. shares of women and men among service providers: \_\_\_\_\_ % women, \_\_\_\_\_ % men (10)

11. Observed presence of children (<18 years): Yes / No

12. Est. share of children among miners: \_\_\_\_\_ % of mining population

13. Est. shares of boys and girls among children working at mine site: \_\_\_\_% girls, \_\_\_\_% boys (14)

### Access and connectedness

15. Distance from Ulaanbaatar in km: \_\_\_\_\_

16. Distance from Ulaanbaatar in time by common means of transportation: \_\_\_\_\_

17. Distance to nearest village, in time by common means of transportation: \_\_\_\_\_

18. Accessible by paved road? Yes / No

19. Connection to mobile phone network? Yes / No

20. Can be reached by public transportation? Yes / No.

21. If yes, explain:

\_\_\_\_\_

22. Most common types of transportation used by people working at the mine site, with prices:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Public services**

- 23. Distance to nearest health post in km: \_\_\_\_\_
- 24. Distance to nearest health post in time by common means of transportation: \_\_\_\_\_
- 25. Distance to nearest hospital in km: \_\_\_\_\_
- 26. Distance to nearest hospital in time by common means of transportation: \_\_\_\_\_
- 27. Distance to nearest government (Soum) centre to register, in time: \_\_\_\_\_
- 28. Distance to nearest elementary school, in time by common means of transportation: \_\_\_\_\_
- 29. Access to electricity (explain): \_\_\_\_\_  
\_\_\_\_\_
- 30. Access to drinking water (explain): \_\_\_\_\_  
\_\_\_\_\_

**Micro-economy**

- 31. Presence of gold buying centre or independent gold buyers: Yes / No
- 32. Explain: \_\_\_\_\_
- 33. Local price of mineral \_\_\_\_\_ per (unit) \_\_\_\_\_
- 34. Av. cost of tools to work as a miner: \_\_\_\_\_  
\_\_\_\_\_
- 35. Est. av. earnings of a miner working full time (6 days/week, 10 hours/day) \_\_\_\_\_  
\_\_\_\_\_

**Gender division of labour**

- 36. Observed activities performed by women at the mine site: \_\_\_\_\_  
\_\_\_\_\_
- 37. Observed activities performed by men at the mine site: \_\_\_\_\_  
\_\_\_\_\_

38. Observed activities performed by girls under the age of 18 at the mine site: \_\_\_\_\_

\_\_\_\_\_

39. Observed activities performed by boys under the age of 18 at the mine site: \_\_\_\_\_

\_\_\_\_\_

40. Are people working in underground mines? (circle all that apply)

- a. No-one      b. Men      c. Women      d. Boys      e. Girls

41. Are small children and/or babies present at the mine site?    Yes    /    No

42. If yes, who takes care of them? \_\_\_\_\_

43. Where/how do people working at the mine site obtain food and drinks? (e.g. buy on site, a male/ female household member brings it to the site, etc).

\_\_\_\_\_

\_\_\_\_\_

#### **General living conditions**

44. Describe housing conditions (e.g. shares of people living in shelter tents/ger/homes; type of construction materials)

\_\_\_\_\_

\_\_\_\_\_

45. **Other general observations:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Annex 2

1. At the place where you work now, what do female miners and mining service do when they get pregnant? Do they continue working and if so, up to what month? Please check all that apply.

- (a) Women stop working in/around the mines as soon as they get pregnant
- (b) Women continue to work in mining for a while but they perform the lighter tasks
- (c) Women stop working in mining when they get bigger (after month 6)
- (d) Women continue to work in mining up to just prior to delivery.
- (e) Women continue to work in processing for a while but they perform the lighter tasks
- (f) Women stop working in processing when they get bigger (after month 6)
- (g) Women continue to work in processing up to just prior to delivery.
- (h) Other: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. How has formalization affected the involvement of pregnant women miners? Please check the correct boxes

Are women more likely to continue mining while pregnant in informal sites?	Yes	No	Don't know
Do women work in the mining process up to a further stage in the pregnancy at informal sites? (for example before your site was formalized)	Yes	No	Don't know
Are women more likely to continue work in processing while pregnant in informal sites?	Yes	No	Don't know
Do women work up to a further stage in the pregnancy at informal sites? (for example before your site was formalized)	Yes	No	Don't know

3. Have you ever witnessed pregnant women who use mercury for gold processing? If so where?

- (a) No I have never seen pregnant women using mercury for gold processing
- (b) Yes, I have seen pregnant women using mercury for gold processing at an informal mine site
- (c) Yes, I have seen pregnant women using mercury for gold processing at a formal mine site
- (d) Yes, I have seen pregnant women using mercury for gold processing at both informal and formal mine sites.
- (e) I don't know

4. Before your mine site was formalized, do you believe there was more violent behavior towards women at the site?
- (a) No, nothing has changed in this respect
  - (b) Yes, but just a little bit. Some women were addressed improperly but it was generally jokingly
  - (c) Yes, quite a bit. Women were verbally harassed in an unpleasant way
  - (d) Yes, a lot, women were regularly verbally harassed and there were also cases of physical harassment.
  - (e) Other: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Can you explain or give an example of the previous answer?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_