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Ending child labour in mining

Field experience and analysis of interventions from Mongolia

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Facts about artisanal mining in Mongolia

Main minerals mined: Gold, fluorspar and coal

Size: The estimates of number of artisanal miners vary. A survey by PTRC estimated that there are 45,902 informal miners in gold and fluorspar of which adult compose 37,906 miners and children compose 7,996 miners (17.4 percent), and that about 9 in every 10 informal miner mine gold. A survey by Eco-Minex in 2003 estimated that there are 100,000 informal gold miners alone. The official estimate by MoIT says that 30,000 are involved in informal mining.

Location: Areas with high concentration of informal gold mining can be found in Bayankhongor, Khentii, Uvurkhangai, Tuv *aimags*. Areas with high concentration of informal fluorspar mining can be found in Dornogovi and Khentii. Informal coal mining is mainly found in the Nailaki district of Ulaanbaatar.

Value and markets: Gold: 0.1 gramme of gold is 1000 MNT and 1 tsen gold costs 44,500-45,000 MNT.

Monthly income: of artisanal miners mining fluorspar is 122,214 MNT and 119,026 MNT for gold. The average monthly salary is 93,600 in the formal mining sector, and 108,900 MNT in the transport, communication and warehouse sector.

Mining techniques: simple technology and equipment.

Hazards: collapse of tunnels and walls; falling down in open shafts; explosions; lifting heavy loads; exhaustion and fatigue; dust; working in water and in dangerous positions; extremely cold climate; skin exposure to mercury; inhalation of mercury vapour; and mercury in the food chain; and dirty drinking water.

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Glossary

Aimag	Province within Mongolia.
Artisanal mining	Mining activities, both formal and informal, that are characterized by being small-scale and labour-intensive, usually unmechanized apart from perhaps a water-pump or a compressor. Artisanal miners do not typically hold exploration and mining licenses.
Bagh	Village, a subdivision of a *soum*.
Child labour	Work undertaken by children below the minimum age for employment and harmful work by children above the minimum age.
Dzud	The heavy and cold snow storms or very dry winters with no snow at all (the most recent in Mongolia occurred during 2001 and 2002) which killed a large part of herders' livestock, thus severely affecting herders' livelihood.
Enlightenment centre	Local education centres in rural areas used for training and school activities.
Fluorspar	A mineral composed of calcium fluoride, CaF_2. Fluorspar is used for steel making, aluminium smelting, as a component in production of cement, enamels, glass and fibreglass, iron and steel castings, and welding rod coatings.
Ger	A traditional Mongolian tent commonly used by herders and artisanal miners and in the outskirts of cities
Hard-rock gold mining	The gold is found within ore-bearing rock. This type of gold mining is often undertaken in deep shafts and with various techniques and tools such as sledgehammers, chisels and wedges, compressed air drills, and large amounts of explosives. To produce a fine powder, the ore is crushed and milled and amalgamated with large quantities.
Hazardous child labour	Defined by the ILO C. 182 as labour which because of its nature and circumstances in which it is undertaken is dangerous for the physical and mental/moral development of a child.
Informal mining	In Mongolia, this refers to mining activities that are unapproved, largely uncontrolled and virtually unregulated. Informal miners usually operate as individuals or in groups of 2 to 50 people. Informal miners usually do not hold exploration or mining licenses. When the bill regulating artisanal mining of minerals is approved, then informal gold miners will have the opportunity to become formal artisanal miners if they have a permit (a temporary permission) from the legal holder of an Exploration License or Mining License and approval of the local government.
Khoroo	Lowest administrative unit in the capital city, Ulaanbaatar.
MNT	Mongolian currency, *Tugrugs* (MNT). USD 1 equals 1175 MNT (*as of 31 May 2006)*
Placer gold mining	Mining of gold-bearing sediment, such as gravel, sand, silt or clay, generally deposited in rivers, streams and on hillsides. These sediments are found in flood plains or river terraces.
Small-scale mining	Although varying by country, it typically refers to mining that has few employees, a low level of mechanization and artisanal in character.
Soum	District in rural areas, the administrative unit below *aimag*.
TBP	Time-bound programme.

Organizations

CMTU	Confederation of Mongolian Trade Unions
Eco-Minex International	A British-Mongolian joint venture based in Ulaanbaatar, undertaking geological and business consultancy for local placer gold companies and investors, and exploring on its own account for placer gold, placer tin and placer coltan.
IGM project	Informal Gold Mining Project, implemented by MONEF and supported by the ILO
ILO	International Labour Organization
ILO-IPEC	International Programme on the Elimination of Child Labour of the ILO
JICA	Japanese International Cooperation Agency
MNMA	Mongolian National Mining Association
MoESC	Ministry of Education, Science and Culture
MoIT	Ministry of Industry and Trade
MONEF	Mongolian Employers' Federation
MoSWL	Ministry of Social Welfare and Labour
MRPAM	Mineral Resources and Petroleum Authority of Mongolia
MVA	Mongolia Volunteers' Association
PTRC	Population Teaching and Research Centre of the National University of Mongolia
SAM Project	Support Artisanal Miners Project
UNFPA	United Nation's Population Fund
WCUB	Women's Council of Ulaanbaatar City
WHO	World Health Organization

Executive summary

In Mongolia, a sparsely populated developing country, the mining sector has developed rapidly during the last decade due to large mineral resources and an attractive tax and regulative framework for mining. The most economically important minerals are gold, copper and fluorspar. Most mining companies are mining gold. The majority are small-scale Mongolian-owned companies; many of the larger are foreign-owned. More than 70 per cent of foreign investments are in the mining sector.

Since the beginning of the 21st century, an increasing number of Mongolians – mainly ex-herders and unemployed workers – have turned to artisanal mining as a survival strategy. They work and live under extreme conditions. Their work becomes illegal when they mine on land and explore resources for which mining companies have the legal right.

Approximately 17 per cent of the artisanal miners are children. This work can be classified as one of the worst forms of child labour 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. Many use explosives. About 42 per cent of the mining children frequently suffer from pain in spine and limbs; 28 per cent suffer from kidney and urinary diseases; and 28 per cent report fatigue extreme enough to potentially affect their physical and mental development. Few child miners get any medical care.

A number of initiatives are being undertaken in the informal mining sub-sector to combat child labour, for research, to address the environment concomitants of artisanal mining, and to develop a policy and legal framework. The ILO has supported three Mongolian organizations to stop child labour in mining – Mongolian Employers' Federation (MONEF), the Mongolian Volunteer Association (MVA) and the Women's Council of Ulaanbaatar City (WCUB) – and tried different approaches and types of interventions. The IGM project carried out by MONEF addressed child labour in gold mining through a sectoral approach, while MVA and WCUB have focused exclusively on combating child labour in gold and coal mining respectively.

These different approaches to the social and environmental problems associated with small-scale mining have various advantages and disadvantages. The main advantage of the sectoral approach is that it has brought to the fore crucial structural issues that would need to be addressed in the longer run to sustainably end child labour in the mining sector. The disadvantage of the sectoral approach is that it requires coordination of various specialized interventions, operating in parallel, to reach a good level of quality and effectiveness. The advantages of the thematic approach has led to local authorities placing a clear priority on child labour, but has the downside of leaving the other structural problems in the mining sector untouched and thus unable, by itself, to sustainably end child labour in the sector.

The analysis of the three projects that have child labour components points to the importance of working through local authorities and establishing structures and clear roles and tasks for effective and smooth project implementation. It also shows the importance of non-formal education and of finding flexible ways to provide and teach mining children, as well as showing that skills training courses were effective in educating older children and taking them away from work, at least temporarily, although not in finding formal sector jobs as many of the trainees later returned to artisanal mining work. The project by MONEF was effective in raising a nation-wide discussion on the informal mining sub-sector. It helped improve the draft law on

Artisanal Mining of Minerals, tested ways of improving working conditions and raised awareness on child labour in mining and drew attention to dysfunctional aspects of the mining sub-sector.

Seven promising practices in combating child labour in mining were identified:

- Creating a forum for social dialogue on artisanal mining and child labour among government, workers, and the mining companies, helped in drawing their attention to artisanal mining, and in inculcating a sense of responsibility and involvement in discussions of problems, approaches and solutions. Such dialogue was held both at national level and at local level. It was also used to negotiate revisions on the draft Law on Artisanal Mining of Minerals with concerned stakeholders at national and local levels.
- Employers' interest in eliminating child labour and for a timely and appropriate policy response to the growing artisanal mining sub-sector was generated by involving enterprises in constructive action, such as designing and providing skills training, helping children and youth to find jobs, and in solving the conflict between artisanal miners and formal mining companies.
- Hiring artisanal miners with teaching qualifications as non-formal education teachers was found to be an effective and quick way of providing children with education and taking them away from work in mining areas far away from the nearest formal schools. These teachers also carried out additional functions of raising awareness in the mining community on education and child labour, monitoring children in the mining sites, helping them to register at the local administrative unit, and preparing their personal records for registration in formal school. Because the teachers were artisanal gold miners themselves, they were able to communicate well with the children and their parents.
- Using generic training models that had been developed to meet the specific educational and training needs of the children who had been working in mining were more appropriate than standard curricula. The modules were taught in the beginning of the skills training course to help children adjust to studying after years of hard work, and in the end of the course to facilitate the transition to a formal sector employment.
- Setting up clear guidance on actions to be provided for children and actions to be provided for parents, and pairing the task force members who were implementing the project with specific children ensured that no child was left behind and that solutions were well-adapted to the problems being encountered.
- Integrating mercury-awareness in the secondary school curriculum ensured that both teachers and students learned about the risks of this toxic material and made students active partners in awareness-raising campaigns in communities and at mining sites.
- Setting up multi-age classes helped mining children who have missed several years in school and who were older than their grade level to overcome their reluctance to go to school and to keep up with their studies.

Despite well-executed interventions and promising practices, there are many problems left to deal with, the main ones being:

a) the increasing number of children entering mining work;
b) difficulties in reaching all mining children and taking any initiative to scale;

c) the local authorities' lack of capacity and resources to provide education and other social services to artisanal miners and their children;
d) difficulties of mining children and youth to adjust to the routines of school and study;
e) difficulties experienced by youth in finding and maintaining jobs;
f) lack of an adequate legal framework or, where laws have been or are in the process of being enacted, structures and procedures for how to enforce these laws;
g) the artisanal miners' lack of an association to represent them; and
h) the life-threatening working conditions of artisanal miners.

The report concludes that child labour in artisanal mining in Mongolia is closely linked with several other problems in the sector such that, unless solutions are sought for the problems of artisanal miners as a whole, it will not be possible to permanently end child labour in artisanal mining. This means that programmes to combat child labour in mining must either address other concerns of the sector at the same time or they should be implemented as part of larger programmes addressing the major issues of the sector (the legal framework, for example).

The key recommendations of this report are:

- to undertake **immediate actions** to withdraw children or reduce their exposure to dangerous work in parallel with **longer term actions** to regulate the informal mining sub-sector in Mongolia and improve the working and living conditions of artisanal miners;
- to invest in skills training for mining children, especially older ones, to carefully identify skills in demand as well as possible employers, and to link trained children with companies so as to lead to long-term employment prospects and job alternatives for these children;
- to address informal and formal mining together as one sector and to take a holistic approach by looking at the sector from legal, social, economic, environmental and administrative perspectives;
- to consult *aimags* with high concentrations of informal miners on how to best support local government and social partners with human and financial resources so that they will be able to handle the influx of artisanal miners and child labour;
- to explore with artisanal miners different options for organizing them (e.g. associations, cooperatives);
- to take action against mercury pollution in all *soums* where mercury is being used.
- to carry out action-oriented research to better understand the dynamics of the situation and define viable solutions, e.g. alternative livelihood opportunities and business potentials, work undertaken by girls in mining communities, and social services for artisanal miners in remote areas.

1. Introduction

The publication gives an overview of the problem of child labour in the informal mining sector in Mongolia and interventions taken to combat it. It further gives examples of promising practices and recommendations for Mongolia and for other countries. It also compares and contrasts advantages and disadvantages of various types of interventions.

It is intended to be used by the public, national and international agencies in Mongolia, ILO's constituents worldwide and those in countries with artisanal mining in particular, and various specialized groups interested in child labour and mining.

This publication is based on review of documentation, interviews with national and international partners in Mongolia and ILO staff, and the insights and experience of the author, who worked for the ILO with its interventions in the mining sector in Mongolia from 2003 to 2006.

2. Child labour in artisanal mining

Mining is the economic sector with the highest fatality rate worldwide, yet hundreds of thousands of children still risk their lives and health in deep narrow tunnels, with limited air, space and light, and under constant threat of collapse.[1]

2.1 The problem

In the world today, ILO estimated that there are 218 million working children. About 58 per cent of those children are in what is often called hazardous child labour.[2] The mining industry is one of the most dangerous industries worldwide. More than one million children work as miners all over the world. They are almost exclusively found in artisanal small-scale mining operations in Africa, Asia and Latin America. Artisanal small-scale mining employs about 13 million people worldwide, and up to 80 to 100 million people depend on income from these miners.[3]

Children can be found mining coal, clay, emeralds, fluorite, gem stones and gold, but also other minerals. Often they work alongside adults, but also in groups with other children. They participate in all aspects of the mining process. Mining processes vary depending on the minerals mined, but almost always involve lifting heavy loads, digging, crushing, and processing the ore to extract the valuable minerals. Work may take place underground or in lakes and rivers. In the more extreme cases children, are engaged in digging tunnels, drilling and blasting, working long hours in narrow, dusty unsupported tunnels as much as 100 meters deep, sometimes in water with little oxygen and light. Some children are in direct contact with mercury in the processing and others are sent down without breathing equipment to mine underwater.

The most immediate threats to their young lives are tunnel collapse, explosions, suffocation and the use of dangerous equipment. Other risks are equally serious but their consequences are only evident after some time. Among such hazards are contamination by toxic metals, skeletal damage from carrying heavy loads, lung damage from inhaling dust and particles, and chronic exhaustion.

Children in mining communities are also involved in mining-related or other services in the mining area, e.g. processing ore, food selling, cleaning, cooking and looking after younger children. Mining also tends to attract prostitution and sometimes girls and boys below the age of eighteen are involved. Artisanal mining is an unregulated activity which takes place outside the legal framework and control. The mining communities not infrequently include socially marginalized groups, are overcrowded, lack basic requisites (clean water and sanitation) and social services (health care and schools), and are prone to violence, conflicts, and drug and alcohol abuse. Therefore, children living in mining communities grow up in a rough environment and thus face a number of risks in addition to the work related hazards.

Boys and girls, some as young as seven but the majority in their teens, mine because their families are poor and they must, or feel they must, help their parents and siblings to survive. Some mine to have their own money or because they cannot go to school. Many children are driven by the excitement and chance of getting rich. Some mine to fulfil their dreams, while others mine because they see no other options.

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[1] http://www.ilo.org /public/english/bureau/inf/magazine/30/mines.htm#note1.
[2] Of the estimated 218 million of child workers in the world 2004, 126 million were in hazardous child labour.
[3] The ILO estimated in 1999 that that 10 million people are working in informal mining all over the world and that 80–100 million people are depending on the income from those miners. In 2005 the ILO estimated that the number of informal miners were around 13 million.

Sometimes children are the preferred workers because they are quick, obedient, cheap, tolerant, and small enough to get into narrow tunnels. Some children work for their families, some for employers and some for themselves. Whatever the reason, their lives should not be risked in the most dangerous sector worldwide.

2.2 Response

Child labour in mining has for years been a concern for countries and the international community. The ILO has sought to curb child labour in mining through establishing international regulations, carrying out research, and by undertaking direct interventions to stop children from doing mining work.

International labour standards on mining deal with hours of work, provide special restrictions on women's work in mining, provide guidance on health (e.g. the need for regular medical examinations) and safety (e.g. minimum standards for countries' mine safety and health regulations). With regard to child labour, there are three main international legal instruments on child labour: the UN Convention on the Rights of the Child; the ILO Minimum Age Convention (No. 138); and the ILO Worst Forms of Child Labour Convention (No. 182). They all state that children below the age of 18 should not be involved in work which poses a risk to their lives or which is harmful for their physical and mental development. The conventions and their main content are presented in annex 1.

The ILO's interventions to stop child labour have a long history. Since the foundation of ILO-IPEC in 1992, child labour in mining has been one of the key areas of interventions all over the world. In Africa, ILO-IPEC has undertaken action on child labour in mining in Tanzania and Niger, in Asia in Indonesia, Mongolia and the Philippines, and in Latin America in Bolivia, Colombia, Ecuador and Peru. IPEC's general approach in these countries has been to prevent more children from entering or returning to work by helping them go to school, to raise awareness about the negative consequences of the work, and to mobilize communities to take action. Children and parents have been also commonly provided with skills training and other support services, all with the purpose of stopping children from working.

In June 2005 the theme of the World Day against Child Labour (WDACL) was child labour in mining and quarries. This was an expression of the determination manifested by ILO and its constituents to once and for all stop child labour in mining and quarries. On the WDACL, tripartite delegations of 13 countries along with global workers' organizations and employers' organizations, committed themselves to eliminate child labour in mining before 2015. Mongolia was one of these countries.

Selected experience from ILO-IPEC's worldwide interventions to combat child labour in small-scale mining

The problem of child labour in small scale mining cannot be handled in isolation from the rest of the sector (the Philippines)

Sector and issue specific studies are necessary for developing strategies and designing activities (Tanzania)

Communities must be involved in the process (Tanzania)

Communities need support to build monitoring capacity at their level (Tanzania)

It is important to influence attitudes of parents to achieve their acceptance and participation in the project. (Colombia)

Teachers need to be trained and the school curriculum adjusted to suit children working in mining (Colombia)

Parents are interested in other sources of income, such as starting up micro-enterprises. They want to learn new skills so that they can enter other economic activities or to find jobs elsewhere. (Colombia)

It is necessary to build social security schemes which will help orphans and children from poor families. (Tanzania)

Vocational schools should enable school leavers to acquire jobs in various fields. (The Philippines)

If the productivity of small-scale mining is improved, the value of child labour can be reduced. (South America)

Children are ambivalent about being withdrawn from mining. While they like earning their own money, they are aware of the dangers. They want to stop working in the mines but only if they can earn the same amount of money elsewhere, or if they receive money to finish their studies. (Colombia)

3. Mining in Mongolia

Mining is crucial for Mongolia but in its informal sub-sector it involves thousands of children risking their young lives in conditions of unimaginable hardship and danger. But there is no simple solution to stop it. Complex factors interact to make mining the only option for many individuals and families in Mongolia today.

3.1 The mining sector

In 2004, mining attracted 71 percent of Mongolia's foreign investment, accounted for 18 percent of its gross domestic product and 58 percent of its gross industrial output.[4] It produces revenue from mineral exports, brings in tax income, creates employment, and has generated a new, but still small, industry of mining support services in rural areas. The mining sector is bound to be a priority in a country with little arable land, small manufacturing and commerce sectors, and a low technology and skills base. Mongolia, with about 36 percent of its population living under the poverty line, is a country struggling to embrace free market economics and to survive economic competition from its powerful neighbours, China and Russia. [5] In its informal aspects, mining has become a survival strategy for ex-herders, the unemployed and children trying to find an income.

Large-scale placer gold-mining operation in Zaamar Soum

Mongolia has resources of more than 80 different minerals, of which the most economically significant metals are copper, gold and fluorite. Other minerals of potential economic interest found in Mongolia are silver, rare earth elements, uranium, phosphates and industrial minerals.

Mongolia Facts

Population: 2,475,400, of which 32% are 0–14; 63% between 15 and 64; and 4% 65 years and over.

Size: 1,564,116 sq. km

Growth: Growth was 10.6% in 2004 and 5.5% in 2005, largely because of high copper prices and new gold production. Mongolia's economy continues to be heavily influenced by its neighbours. For example, Mongolia purchases 80% of its petroleum products and a substantial amount of electric power from Russia, leaving it vulnerable to price increases. China is Mongolia's chief export partner and a main source of the "shadow" or "grey" economy.

Sectors: The mining sector is Mongolia's single largest industry, accounting for 55% of industrial output and more than 40% of export earning.

Informal economy: The World Bank and other international financial institutions estimate the grey economy to be at least equal to that of the official economy, but the informal sector's size is difficult to calculate since the money does not pass through the hands of tax authorities or the banking sector.

Sources: National Statistical Office, 2002, http://www.nso.mn/yearbook/2002/yearbook2002.pdf; http://www.infomine.com/countries/mongolia.asp; World Factbook, CIA 2006.

The introduction of the Minerals Law in 1997 resulted in a rapid increase in the number of mining operations. The mining sector's contribution to GDP rose sharply from 10 per cent and

[4] Economic overview of Mongolia 2004, Mongolia National Camber of Commerce Industry and Trade, The calculation is for the first half of 2004.

[5] CIA,The World Factbook, http://www.cia.gov/cia/publications/factbook/geos/mg.html.

USD 96 million in 2002 to 18 per cent in 2004 and it is projected to double from its 2002 level to USD 189 million in 2008.

Gold production increased from 8 to 12 tons between 1997 and 2001, but fell from 12 tons in 2001 to 10.7 in 2002 due to weakened gold prices. Gold is produced by 136 registered gold mines in 12 *aimags*. Gold is mainly mined from placer, alluvial deposits, and to a much lesser extent in hard-rock mines which are considered to be under-explored. Gold placer deposits are located in Zaamar, Bayangol, Tolgoit and the North-Central goldfields. According to the 2003 report of the World Bank, the technology used by the placer gold operators is outdated, inefficient and costly. This is reflected in poor mining techniques and recovery rates, and inadequate environmental rehabilitation. It is also strongly believed that the inefficient technology used is one of the reasons for the start-up of the informal gold mining sub-sector where artisanal miners extract gold from the tailings.

As with gold, copper production increased steadily from 1997 to 2001, after which the price decreased leading to stagnation in Mongolia's copper production and decline in exports. Copper is only mined in one place, Erdenet, and exploited by Copper Mining Erdenet, a Russian-Mongolian joint venture employing more than 6,000 people.

Fluorspar (fluorite) is calcium fluoride which is used in steel making, aluminium smelting, as a component in production of cement, enamels, glass and fibreglass, iron and steel castings, and welding rod coatings. It is mainly mined in the trans-Mongolia province. With an annual production of over 500,000 tons of ore and 180,000 tons of concentrate, Mongolia is ranked the fourth country in fluorite production in the world behind China, Mexico and South Africa.[6]

Facts about the formal mining industry of Mongolia

Mineral resources: More than 80 different minerals of which the most economically significant metals are copper, gold and fluorite. Other minerals of potential economic interest are silver, rare earth elements, uranium, phosphates and industrial minerals.
Mining as part of GDP: 18% of Mongolia's GDP in 2004
Export: In 2004 mineral products worth USD 346,538,000 was exported. Mongolia is a major exporter of copper and molybdenum as well as a leading world producer of fluorspar. A significant proportion of the country's exports come from the Erdenet copper deposit, which is one of the largest copper reserves in the world.
Mining companies: More than 420 companies hold mining licenses. The vast majority are small Mongolian companies, holding less than 100 hectares, while several of the largest companies are foreign owned.

Sources: Government of Mongolia, Economic Growth Support Poverty Reduction Strategy: Implementation Progress Report 2005; http://www.qgxgold.com/html/shtml/qgx_mongolia_mining.shtml.

Mongolia's annual coal production is currently about 5 million metric tons, and mainly used for steam and electricity generation. There are 14 coal mines in Mongolia and large coal reserves estimated at 100 billion metric tons.[7] Most of these reserves are not being mined because of lack of infrastructure.

Of the over 420 companies holding mining licenses, 94 percent are gold producers and the vast majority are small Mongolian companies, holding less than 100 hectares. The five largest gold companies are: Altan Dornod Mongolia Co. (Russian); Erdenet (Mongolian-Russian); Cameco Gold Mongolia (Canadian); Mongolgazar Co. (Mongolian) and Boroo Gold Co. (Canadian).

[6] Mongolia Mining Sector: Managing the Future, World Bank 2004.
[7] http://www.mbendi.com/indy/ming/coal/as/mn/p0005.htm.

The number of exploration licenses has multiplied fivefold since 2001 and the amount of land held for exploration has increased by over 500 percent. The 2,600 exploration licenses in Mongolia cover 40 million hectares, which counts for 26 percent of Mongolia's area. The government, through its Office of Geology, is the single largest landholder, but the remaining license areas are held by only seven companies which control 50 percent of the total license area. The four largest of these companies are foreign-owned.

Although there are over 140 registered mining projects in Mongolia, the sector is dominated by the Erdenet copper/molybdenum mine, the fluorspar mines of Mongolrostsvetmet, and the top five placer gold mining companies, accounting for 81 per cent of 2001 output.

The mining law in Mongolia is considered relatively competitive, enabling for the private sector and attractive for foreign direct investments. This law, paired with the abolition of the 10 percent gold tax, largely explains the rapid increase in the number of exploration licenses. The government's 2002 plan for the development of the mining sector up to 2010, includes a commitment to reinforce the already favourable legal environment for private mineral exploration activities. It also recognized that the mining sector was moving away from state ownership and control toward a market-driven, private sector-oriented industry regulated by the government. The government has, however, chosen not to privatize either Erdenet or Mongolrostvetment, Mongolia's two largest companies, seeking instead technical alliances to improve competitiveness.

The mining sector brings Mongolia income from tax and royalties which the registered mining companies are required to pay. It also increases the foreign currency in Mongolia, and secondarily to spending by the mining companies, their suppliers, subcontractors and staff on goods and services, which by extension can lead to increased household income, production and job opportunities. Mining companies carefully monitor national regulations on mining and taxation, and without these incentives, may be unwilling to invest in Mongolia despite its wealth of minerals because of risks related to political and economic uncertainty and the poorly developed infrastructure. Some argue that, in addition, foreign mining companies bring new technology to the mining sector and that without technological improvement and upgrading, Mongolia would not be able to benefit from its resources.[8]

However, others feel that the mining companies do not leave enough benefit behind for Mongolia as they exporting most of the profit, pay low taxes and fees, and mainly employ foreign workers. Another concern, is that the technologies of the mining companies, particularly those in gold mining, cause more environmental damage than necessary, and make it impossible for herders to use the land for their livestock. In April 2006, about 3,000 people demonstrated on the streets of Ulaanbaatar demanding the government's resignation because of alleged corruption, mishandling of mineral wealth and calling for negotiating more favourable terms from Ivanhoe Mines Ltd. to mine huge copper deposits in the southern Gobi region.[9]

A substantial proportion of the Mongolian population is engaged in mining. The formal mining sector employs over 13,000 people,[10] while the number of informal – artisanal – miners is several times higher. These miners, which compose large parts of the rural workforce is

[8] The World Bank report from 2003 defines the benefits of mining for Mongolia in terms of fiscal, trade and income mechanisms. Further explanations can be found in their report.
[9] "Continuing protests in UB" 14 April 2006, Shards of Mongolia.
[10] Economic overview to Mongolia, 2004.

composed of men, women, elderly, children, who travel hundreds or even thousands of miles to mine; a hard, risky, brutal life in harsh terrain and climate.

3.2 The artisanal miners

The artisanal miners work independently and in small units, with simple tools and are termed ninjas[11] or "informal" miners. The word informal refers to the fact that they work without licenses and outside the law.

Estimates of the number of artisanal miners vary from 30,000 to 100,000. And these figures are for gold miners alone. A recent study by the Population Teaching and Research Centre of the National University of Mongolia (PTRC) estimates that there are close to 46,000 artisanal miners of gold and fluorspar.[12]

The artisanal miners are drawn from many occupational sectors, and enter mining for different reasons. They include: the unemployed; local herders and farm workers affected by extreme climatic conditions (*dzud*); former employees of mining companies; the elderly; unemployed young people recently graduated from higher education; and a significant proportion of children working alongside their parents. Although both well and poorly educated people can be found in mining, most have only secondary school or lower. The largest portion of miners is in the age group 25 to 34 years; there are more males than females.

A common characteristic of a great many artisanal miners is that they have lost their main source of income. Mining is, therefore, a choice of necessity and an alternative to poverty. In the economic reforms during the 1990's many people lost they jobs in state-owned industries. But still today unemployment and the limited number of opportunities for formal sector employment drive Mongolians into informal sector jobs. Herders turned to mining when their livestock died in the extremely cold winters of 2001 and 2002. Overgrazing and desertification have degraded the land reducing the number of people who can be supported by nomadic herding.[13] In addition, it cannot be ignored that the main attraction for people is the profit they can make from mining and selling gold, fluorspar and coal. The formal gold mining companies often leave unprocessed ore and gold in their tailings which are relatively easy for the artisanal miners to mine. Rumours about a great gold vein and poor miners becoming rich make many people turn to artisanal mining. The artisanal mining activity is projected to continue and increase.[14]

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[11] Refers to the circular green pans which many of the gold miners hang on their backs while walking to and from the gold fields. From the air, the pan makes them appear to resemble the "ninja turtles" of movie and cartoon fame.

[12] Population Teaching and Research Centre of the National University of Mongolia, *Assessment of the child labour situation in gold mining*, Ulaanbaatar, 2002.

[13] Of the total pasture land, 70% has been degraded through overgrazing combined with drought. Other human factors contributing to the problem of desertification include poor pasture utilization, inadequate water supplies for livestock, deforestation in mountain and desert areas, and soil erosion due to poor agronomic practice, and mining activities. Dashnyom, N. Sustainable Livestock Development in Mongolia, International Review for Environmental Strategies, Vol. 4, no.2, pp 287–296.

[14] Ninja Gold Miners of Mongolia: Assistance to Policy Formulation for the Informal Gold Mining Sub-sector, a report by Eco-Minex and MBDA, 2003., estimates that there are gold mining opportunities sufficient to support 250,000 informal placer gold miners in summer seasons for the next five to ten years.

Nalaikh District

Nalaikh District of Ulaanbaatar used to be a coal mining district. In 1993, a major fire in a coal mine in Nalaikh resulted in closure of the coal mines there. When the miners lost their jobs and could not find new ones, they continued mining and this became the start of the artisanal coal mining. Around 1,000 are involved in artisanal mining operations in the area. More than 20 percent of these miners are children. The unorganized nature and the lack of professional monitoring make the artisanal coal mining much more dangerous than the old formal mining operations

In Mongolia today artisanal mining is one of the main causes of migration. Although some families and individuals are only temporary residents, others establish themselves permanently at the site. Research shows that a majority of the artisanal miners have lived in the same area for more than five years.[15] Furthermore, most of them plan to stay for at least five more years. If the miners plan to stay and mine in the area they tend to register in the *soum*, while those who plan to migrate do not bother, which means they limit their access to education, health and other social services. Studies show that 76 percent of the miners are registered, and that miners living in *baghs* in almost all cases register, while those living in the mining sites tend not to do so.[16] About 64 percent of the miners are living in *baghs*. The 36 percent of miners who live on or near the mining sites, tend to be more marginalized and social excluded.

Artisanal miners use simple tools and rely on their own strength and endurance in what is laborious work. 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, and crushing and processing.

All of these tasks confront the artisanal miners with a range of risks and hazards: weak geological structures that are prone to collapse; dangerous overhangs; limited oxygen; unstable ground; rock falls during excavation; rock dust; and explosives. Other risks arise from burning of rubber tires, working long hours in narrow tunnels, from crushing and milling, and exposure to metallic mercury through the skin, through inhalation of mercury vapour, and through food and drinking water. The unorganized nature of the operations, the lack of personal protective equipment and the extreme climate exacerbate these hazards.[17]

Mercury

Mercury (Hg) is a metal which miners use in hard-rock gold mining to separate gold from ore through amalgamation. There are few alternatives to using mercury in the amalgamation process. In Mongolia artisanal miners mix mercury with ore and heat it over the fire or oven. This process is often done at home by women and children. Mercury is easily absorbed through the skin, respiratory and gastrointestinal tissues. Mercury that is released in the environment eventually ends up in surface water or soils. Mercury attacks the central nervous and endocrine systems and adversely affects the mouth, gums, and teeth. High exposure over long periods of time will result in brain damage and ultimately death. It can pose a major health risk to an unborn fetus. A survey by PTRC found that 50 percent of the children involved in hard-rock gold mining in Bornuur *soum* handle mercury.

[15] More than 62% of the informal miners have lived in the same area for more than five years and are thus not categorized as migrants. About 22% of the miners have lived in the same area for less than five years and 15% have lived in the same area for less than a year. Source: Population Teaching and Research Centre of the National University of Mongolia, 2006.
[16] A majority of those living in the mining sites are not registered but almost all (97%) of those living in bagh areas are registered.
[17] Very cold in the winter and high temperatures and strong sun in the summer.

Injuries are frequent and sometimes fatal. The accident rate for adult miners is between 12 to 14 percent, with the higher percent being gold mining and the lower fluorspar mining. The most common injuries are caused by collapse, accidents with explosives and from accidentally slipping and falling into pits. Also, the artisanal miners often suffer from skin problems due to handling mercury. Most miners – more than 90 percent – assess their working conditions as very poor.[18]

Artisanal miners are observed to employ few protective measures and most of these are limited to some protective clothing such as gloves and rubber waterproof boots, and a few safer methods for digging tunnels and using explosives. The miners often have no or very limited knowledge about proper handling of mercury. The mercury is sold covertly and used at home by women and children.[19]

Communication

In rural areas of Mongolia telecommunications are poorly developed. In most *soums* there is only one or a few faxes and telephones, and in *baghs* even less. *Baghs* and mining communities are often out of reach for mobile phone networks and there are no paved roads to the mining sites.

Some *soums* have turned into mining communities and new mining communities have sprung up just by the mines; sometimes the *gers* or tents are only meters away from the pits. Work goes on around the clock and especially during the summer, people work in shifts to maximize their profit and guard their pits. Many of the mining communities are overcrowded and have no health or medical care facilities, the nearest *bagh* centre being many hours drive away.[20] As these communities have been built ad hoc and near where the minerals are found, little thought has been given to the necessities of a good living. There are often no toilets or sanitation system and no clean water. Studies show an alarming number of people including children drinking water from unprotected sources. Often there is a *ger* selling food, some communities have pool tables, others karaoke and some have TV.

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. The high concentration of people, often with a high proportion of young men, and few structures, combined with harsh work, poor living conditions, alcohol abuse and a constant desperation for more profit, makes these communities often very unstable.

Their monthly income varies, but in general an adult artisanal miner earns about 120,000 MTN (which equals USD 102 and EUR 80) with a slightly higher income in fluorspar than in gold mining. It is significant that this income is actually higher than the monthly average income of some formal sector workers.[21] However, a large part of the artisanal miners' income goes for rent for equipment and tools, as well as fees for processing the mineral. What is left is largely spent on basic daily needs. Some save for their children's education. Most miners say that their livelihood has not changed for better or worse, but some 35 percent say it has improved. Most miners intend to continue work in mining in the future. It seems like most miners have not made

[18] The accident rate is 13.8% in informal gold mining and 12.1% for informal fluorspar mining.
[19] One female informal miner told the author that she does not use gloves when dealing with mercury because the gloves she finds are too large and thick. She thinks gloves for surgery would be better. The same woman said that she drinks milk to protect herself from the mercury.
[20] Up to 80% of the miners are supposedly covered by medical insurance. However, a quarter of them have not paid the fee and thus only about 55% of the miners actually have insurance that enables them access to the health centres. In general, there is virtually no access to health care in the mining sites and only limited access in the *bagh* areas.
[21] "Economic Growth Support Poverty Reduction Strategy: Implementation progress report 2005 by the Government of Mongolia in 2005.

enough to escape from mining, and most are trapped in a vicious cycle of harsh and risky work and few improvements.

3.3 The children

I have worked for 5 years in informal fluorspar mining. When I was only 8 my parents made me leave school to work here. I studied well and was talented artistically, I sang and danced. I was very interested in studying at school. I sometimes think that my parents are very stupid and I wonder even now why they made me leave school. My two sisters now study at school. I work from morning until evening to pay for expenses for their studies. When I want to wear nice clothes as other children they say I do not need them because I have this kind of work. I do not have any right to spend money earned by myself. I am ready to leave right now, as long as I go away from here I do not care where to go.
(A 13 year old girl working in fluorspar mining, Khentii, Mongolia)

Facts about child labour in artisanal mining in Mongolia

Size: Some estimate that children under 18 years comprise 20 percent of the 100,000 artisanal gold miners; other studies document 7,309 in gold mining and 687 children in fluorspar mining. There are no reliable estimates of the number of children working in coal mining but based on local authorities' estimate of around 20-30 children working in Nalaikh, it would suggest that the total number of children currently working in coal mining is around hundred at most. The ILO-IPEC coal mining project has been effective in withdrawing children from coal mining.
Sex: A majority of the child miners are adolescent boys, but also girls are involved in mining and mining support services and work at home.
Age: Average age is 14, with most children starting at the age of 12.
Consequences: Multiple negative and life threatening effects on their health and development; lost school years; trapped in risky, labour intensive and low paid work; poor prospects for the future and for providing for families, parents, own children, and to contribute to the future development of Mongolia.
Income: Children in fluorspar mining earn MNT 250,000 MNT (USD 212.77) per month and children in gold mining earn MNT 75,655 (USD 64.39) per month.

Between 15 and 18 percent of the artisanal miners are children, and their numbers often double during school holidays.[22] The nature of the work and the conditions in which they work make it without question one of the worst forms of child labour. As such, it is the duty of the government, workers' and employer's organizations, signatories of the ILO Convention 182 on the Worst Forms of Child Labour, to take action to end it. Mining is also listed as one of the sectors in which children are not allowed to work until they are 18 years old.

Mining involves younger children as well as adolescents. 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. The average age of a child miner is 14. Surveys show that there are a higher proportion of younger children in gold mining that in other types of mining.[23] Overall in Mongolia, there are many more boys mining than girls. This is partly because boys are perceived as more suitable for the mining work and because girls work at home or go to school. However, studies show that in some *aimags*[24] the proportion of girls to boys is almost the same or even higher. Further investigation of

[22] According the PTRC children constitute more than 21.5% (or 7,306 children) of the miners in informal gold mining and 15% (or 687 children) in informal fluorspar mining. According to the same survey there are 17.4% of children in informal mining.
[23] About 10% lack birth certificates and 20% do not have medical insurance.
[24] Bayankhonger, Dundgori and Khenhi.

the reasons for this is needed.[25] In general in Mongolia, parents attach more importance to the education of girls than that of boys.

Differences between boys and girls in mining work

Proportion: About 82% of the children working in artisanal mining in Mongolia are boys and 18% are girls. Boys and girls start working in mining at about the same age.
Education: Among the children working in gold mining there are more boys out of school (35%) than girls (23%), while the opposite is true for fluorspar mining where there are more working girls (25%) out of school than boys (21%).
Hours of work: The average mining child works 8–9 hours per day. Boys generally work longer hours than girls.
Income: Boys extract more minerals and earn more than girls. Boys in gold mining extract on average 6.1 grams of gold and earn MNT 69,400, while girls extract 5.7 grams and earn MNT 64,600. Boys in fluorspar mining excavate on average 14.3 tons a month and earn MTN 123,715, while girls excavate 5.1 tons and earn MTN 43,451, nearly three times less than boys.
Accidents: Boys are more frequently than girls involved in mining accidents.
Other concerns: More boys than girls take drugs and drink alcohol.
Non-mining work by girls: Little is known about the non-mining work of girls in mining communities. A survey by PTRC in 2002 reports prostitution of girls in mining communities being mentioned by miners but does not give further details. More recent surveys on child labour have found very little evidence of prostitution.

Source: PTRC survey, 2006. Population Teaching and Research Centre of the National University of Mongolia, Assessment of the child labour situation in gold mining, Ulaanbaatar, 2002.

Children work alongside adults and take part in all or most parts of the mining process. Children are more vulnerable to the dangers of mining work than adults as their bodies are still developing, they are smaller and weaker, they are less trained to properly assess their own strengths and are prone to take more risks. Children report working long hours in water, in narrow tunnels, in cold or overheated conditions, in dust and underground with limited oxygen and light. Most children lift and carry loads of rock, mud and sand which are much too heavy for them. Some children handle mercury in the amalgamation process, others work with rotating items such as drills and compressors and many use explosives.[26] Few children have any protective gear and many do not know how to protect themselves. Children's accident rate is estimated to be as high as that of adults – 12 to 14 percent – but could in real terms be higher as children may have been working for shorter periods of time than adults.[27] Mining work is damaging for children's health and 42 percent of the child miners state that they frequently suffer from pain in the back or limbs, 28 percent report kidney and urinary diseases and 28 percent complain of chronic fatigue. Exhaustion can stunt children's physical development and affect their intellectual development. Few children got any medical care when hurt or sick.

So why do these children mine? The nomadic herding tradition is centuries old and most people were herders until very recently. In herding families, it was almost inevitable that a child would grow up to be a herder, so there was little to learn but the parents' herding skills, and gradually the children would take on herding jobs. This ethos continues and children are expected to work alongside their parents. This perhaps explains why only twelve percent of children

[25] PTRC survey from 2006 show that 82% of the child miners are boys.
[26] About half of all children working in hard-rock gold mining use mercury. Mercury is used in the process of extracting the gold from the ore in hard rock gold mining (Navch, T., Bolormaa, Ts., Enkhtsetseg, B. Khurelmaa, D., and Munkhjargal B., *Informal gold mining in Mongolia: A baseline survey report covering Bornuur and Zaamar soums, Tuv Aimag*, ILO, Bangkok, 2006).
[27] One in every eight children were involved in accidents according to PTRC's baseline survey (Navch et al., op cit) and 23% according to a 2002 PTRC survey (Population Teaching and Research Centre of the National University of Mongolia, *Assessment of the child labour situation in gold mining*, Ulaanbaatar, 2002), and 14% according to PTRC's 2005 national baseline survey report (ILO and Population and Teaching Research Centre of the National University of Mongolia, *Baseline survey of child and adult miners in informal gold and fluorspar mining in Mongol*a, Ulaanbaatar, 2006).

surveyed said they had entered mining, with all its hardship and danger, because of parental pressure. Almost all the others said it was to help their parents. This does not mean that the children have no other aspirations. They would want to study if opportunities are offered, and they would like to do other, safer types of work. But there are rarely schools or colleges around the artisanal mining sites. To go to them would mean travelling a long way and boarding, which is expensive and children prefer to be close to their families and earning money to support them unless they know that their parents can manage without their assistance or that by going away to study they will be in a position to support their parents even more.[28]

One in every 7 children above the age of 7 years old is illiterate. Between 25 and 35 percent of the child miners are out of school. A few have graduated while most have simply dropped out. Many of those children have been out of school for some years. Of the mining children aged 7–15 (the age of compulsory education) 24 percent of the children in gold mining and 10 percent of those mining fluorspar are out of school. Most children who are out of school are not registered in the *soum* they live. There are clear correlations between not going to school, not being registered and living near the mining sites. Of those children living in *bags,* 9 out of 10 are attending school. Children in artisanal mining communities often do not go to school because they are under work pressure, because they are too far away from the school or because they are not registered in the *aimag*. The school attendance of children in mining communities is also related to their migration history as well as to their family background.[29] Children who provide for themselves and children from single-headed households are more often not attending school.

Table 1. Population distribution by engagement in mining activity

All figures are percentages, unless otherwise indicated

Age group	Engagement in mining activity			All
	Gold	Fluorspar	None	
Children				
5–8	5.2	4.4	32.6	24.4
9–11	16.5	14.8	23.9	21.6
2–14	34.1	25.5	24.6	27.2
5–17	44.2	55.3	18.9	26.8
Total	100.0	100.0	100.0	100.0
Estimated no. of children (aged 5–17)[a]	7,309	687	18,703	26,699
Adults				
18–25	25.8	19.4	26.7	25.6
25–34	33.1	39.4	23.1	30.5
35–44	27.3	26.5	23.8	26.1
45–54	11.6	13.0	13.0	12.1
55–64	1.9	1.6	6.8	3.4
65 and over	0.3	0.1	6.6	2.3
Total	100.0	100.0	100.0	100.0
Estimated no. of adults (aged over 18)[a]	33,960	39,46	17,001	54,907

a Total number, not percentage.

Source: ILO and Population and Teaching Research Centre of the National University of Mongolia, Baseline survey of child and adult miners in informal gold and fluorspar mining in Mongolia, Ulaanbaatar, 2006.

[28] Children give the following reasons for working in mining: (1) to add to household income; (2) to have their own money; (3) to work as their parents are unemployed; and (4) to gain work experience.

[29] Around 40% of the child miners have migrated at some time in their lives and around 20% have migrated within the last 5 years.

The living conditions of the working children are of serious concern. Around 15 to 20 percent of the mining children live in a structure which is not suitable for living i.e. in tent, hut, incomplete *ger* or in cars. Alarmingly, most children in mining communities drink water from ponds or springs.[30] Most of them do not have access to toilets or washing facilities. Not only adults but also children drink alcohol. Close to a majority of the boys (43 percent) and a third of the girls (29 percent) who work in gold or fluorspar mines have tried alcohol and a smaller proportion of the boys regularly drink alcohol. Of the children working in gold mines, 66 percent have tried drugs (inhaling petrol and glue or smoke cannabis) a least once or twice, 20 percent use it weekly and 10.5 per cent use drugs on a daily basis. This is a reflection of the hardships children and young people are facing in informal mining. The mining communities at the mining sites are hardly desirable places for children to grow up in. Children could easily adopt the same behaviours as adults, they have little time and space for play and fun. And often playing in these areas is dangerous as they can fall into pits or the ground could collapse because of the many interlinked tunnels underneath.

Table 2. Distribution of working children by mining type and school attendance, by selected characteristics

All figures are percentages, unless otherwise indicated.

	Mining type						
	Gold			Fluorspar			
Selected characteristics	Study at school	Study in informal school	Do not study	Study at school	Study in informal school	Do not study	Total
Age							
5–12	69.9	4.3	25.8	92.1	0.0	7.9	100.0
13–15	71.8	2.1	26.1	76.1	11.1	12.8	100.0
6–17	51.0	0.0	49.0	60.4	0.0	39.6	100.0
Sex							
Male	62.6	2.1	35.3	73.4	4.8	21.8	100.0
Female	75.7	1.1	23.2	74.6	0.0	25.4	100.0
Migration status							
Migrant	34.3	0.5	65.2	37.0	0.0	63.0	100.0
Non-migrant	76.8	2.4	20.8	82.4	4.9	12.7	100.0
Family situation							
Live w/ 2 parents	70.8	0.3	28.9	81.6	2.7	15.7	100.0
Live with 1 parent	53.2	3.2	43.6	66.2	9.7	24.1	100.0
Not living with parents or orphan	49.2	11.4	39.4	42.5	0.0	57.5	100.0
All	65.0	1.9	33.1	73.7	3.9	22.4	100.0
Estimated no. of child workers [a]	4,752	139	2,418	506	27	154	

a Total number, not percentage.

Source: ILO and Population and Teaching Research Centre of the National University of Mongolia, Baseline survey of child and adult miners in informal gold and fluorspar mining in Mongolia, Ulaanbaatar, 2006.

Child miners contribute substantially to the income of their households and in some cases their income is even the main source of support for the family. Children in artisanal fluorspar

[30] Only 7% of the children in gold mining and 28% in fluorspar mining living close to the mining sites drink water from protected wells.

mining earn a much higher monthly income (MNT 250,000) than children in gold mining (MNT 75,655). About 13 percent of the children are in debt to friends, other people, relatives and employers. Most child miners express a desire to go to school, but there are still some who prefer to continue mining.

Although it is risky to project trends based on studies that have been done by different agencies at different points in time, all research in Mongolia points to a steep and rapid increase in child labour in artisanal mining. The National Child Labour Survey carried out in 2002 and 2003 estimates that of 68,580 economically active children aged 5–17 in Mongolia only 552 (0.08 percent) are in mining and quarrying. However, as this survey used the sampling frame of the Population and Housing Census 2000 which excludes migrant households near mining areas, it substantially underestimates child labourers in this sector. In contrast, a nationwide statistical survey undertaken by PTRC in 2005 estimates that there are roughly 8,000 children in the same age group working in gold and fluorspar mining alone.[31] Both surveys were financially and technically supported by the ILO. Even accounting for the methodological problems, this indicates that the problem is growing far more rapidly than expected, in fact children are entering work faster than they are being withdrawn by programmes.[32]

3.4 The artisanal miners and the mining companies

Artisanal miners operate in a legal grey area, a legal limbo. The existing national legislation on mining of minerals is not designed to regulate artisanal mining but to create an attractive environment for investors, both local and foreign. At the present time, it is practically impossible for artisanal miners to mine legally.[33] Artisanal mining has tended to follow in the tracks of the mining companies, and often takes place within these companies' concessions. This angers the companies, which then try to chase them away, sometimes with violence. Recently, artisanal miners have started operating in virgin areas, including those under state protection for nature and wildlife. This has generated hostility on the part of local authorities and communities and further complicates the issue of artisanal mining.

The new settlements of miners have grown up close to the mining sites but distant from established communities and from social services such as schools, and health and emergency care. Because the artisanal miners are not legal, there has been no pressure from central government to provide infrastructure and services for the artisanal mining communities. Anything that is provided to the artisanal miners tends to be at the initiative of a sympathetic local governor or volunteers. Often the closest thing to an artisanal mining community is the accommodation and living areas of the formal miners, but the artisanal miners are usually excluded and banned from these. The local authorities often lack human and financial resources to address the influx of artisanal miners even if there is good will to support them with services.

The relationship between the mining companies and the artisanal miners is uneasy at best. Even when the artisanal miners are operating in areas that have been "mined out" by mining companies, they are still trespassing on the concession area, and the mining companies tend to see them as a nuisance as they need to protect their concession area and sometimes intend to reprocess the land. They hire security firms which, far from police or neutral witnesses, often

[31] ILO and Population and Teaching Research Centre of the National University of Mongolia, *Baseline survey of child and adult miners in informal gold and fluorspar mining in Mongolia*, Ulaanbaatar, 2006.
[32] National Statistics Office of Mongolia, *Report of the National Child Labour Survey 2002–2003*, Ulaanbaatar, 2004 and ILO and Population and Teaching Research Centre of the National University of Mongolia, ibid.
[33] This is because of the licenses required, the need to change their registration, the lack of land for exploration and the difficulties in selling small amount of gold legally.

employ vicious methods to scare off the artisanal miners. On the other hand, the artisanal miners sometimes steal equipment of the formal mining companies and break into their shafts at night. There have been several cases of artisanal miners dying in accidents in the formal mining companies mines at night time. Mining companies are responsible for ensuring that their areas are protected, in most cases, completely fenced and that no one can get in and get hurt. The formal mining companies tend to get support from government, local and central, because they have the legal right to mine and because they pay taxes in the locality.

3.5 The Mongolian programme context

This section presents some typical characteristics of the context within which child labour programmes dealing with mining in Mongolia must contend. Obviously this is not a comprehensive picture as local situations vary substantially.

Mongolia has several things in **common** with other developing countries. Among the most noticeable are: high unemployment and poverty associated with the shift from a plan to market economy; weak government and unstable politics; low domestic demand and production; high competition in most economic areas from neighbouring countries (China in particular but also Russia); export of raw material and low technology development.

Some of the **unusual** things about Mongolia include: the richness and variation of mineral resources; dependency on the mining sector in relation to other economic sectors; the beneficial regulatory, financial and tax system for foreign companies investing in mining; poor communication and infrastructure in rural areas; and the general attitude of parents to value girls' education much higher that that of boys.[34]

Among the **unique** things about Mongolia which must be considered when recommending international practices to Mongolia as well as when recommending Mongolian practice to other countries are that: Mongolia is the most sparsely populated country in the world; half of its population are herders who live a nomadic life; there are very few traditional rural employment occupations beyond herding and agriculture; artisanal miners often follow the formal mining operations instead of the other way around which is often not the case in other countries; and there is a harsh climate with extremely low temperatures in the winter and very strong sun in the summer.

[34] This is reflected in the higher representation of females in all higher education, e.g. about 70% of all students in universities are females.

4. Actions for artisanal miners in Mongolia

In recent years a number of initiatives have emerged to solve the child labour problem in the informal mining sub-sector in Mongolia. This chapter gives a brief overview of the ongoing and upcoming interventions, and then describes in more detail three projects to stop child labour.

4.1 Combat child labour

In June 2005 MoSWL, CMTU and MONEF signed a national tripartite agreement to eliminate child labour in mining by 2015. Subsequent to signing the agreement, the three partners jointly developed a plan of action for how to implement the commitment which was finalized and shared with donors in April 2006. The plan includes interventions in nine strategic areas. These are:

- create a knowledgebase on informal mining and miners' access to social welfare;
- improve awareness about the worst forms of child labour among informal miners and involving the miners in the solutions;
- integrate children working in mining in social activities;
- regulate informal mining and create an understanding for the new regulations;
- establish monitoring mechanisms in the informal mining sector;
- improve safety in mining work;
- increase miners' access to social services;
- remove children from work and provide them with social services; and
- use social dialogue in organization and partnership in small-scale mining

Mongolia's policy on child labour, employment promotion and informal employment

According to the ***Labour Code of 2003***, children can enter employment with permission from their parents from the age of 15 years. A list of hazardous jobs prohibited to minors is found in a Ministerial Order dated 1999 although it is not comprehensive for the worst forms of child labour. The governmental policy on the worst forms of child labour can be found in the ***National Programme for the Development and Protection of Children*** (2002-2010), which provides direction for eliminating the worst forms of child labour, and in the ***National Sub-programme on Combating the Worst Forms of Child Labour*** (NSP-WFCL), which were developed by MoSWL and submitted to the Cabinet for discussion and adoption. MoSWL is preparing a Plan of Action on Combating Sexual Exploitation and Trafficking of Children.

The ***Employment Promotion Law***, an important tool of the Government for poverty alleviation, is being amended to expand coverage of employment promotion services, extend the duration of skills training courses, provide adequate funding for this extension, and provide subsidies to trainees. The planned amendment is intended to benefit unskilled adolescents in worst forms of child labour and facilitate their transition to better jobs.

Mongolia's ***Policy on Informal Employment*** was adopted in the beginning of 2006. It provides crucial recognition to informal sector workers and places responsibility on the government to provide them with legal, economic, labour and social protection. It prohibits pressure being placed on those in informal employment and allows informal workers to run their businesses. It further allows individuals and groups who produce goods or services in the informal economy to have land and property rights, as well as rights to technological improvements and investment, and opportunities for collaboration with formal sector businesses and organizations.

Supported by ILO-IPEC, the following initiatives have been or will be carried out to combat child labour:

MVA implemented a project to withdraw children from hazardous work in *artisanal gold mining* in four *soums*.[35] Their interventions included capacity building of local authorities on child labour, raising awareness about mercury, and providing education for children.

WCUB implemented a project to withdraw children from work in *coal mines* in Nalaikh. Among their interventions were setting up a child labour monitoring system, mobilization of local partners, education for children, and awareness-raising.

Time-Bound Programme (TBP) which started early in 2006 tries to stop child labour in artisanal mining of coal, gold and fluorspar in five *aimags* (Bayankhongor, Tuv, Uvurkkhangai, Dornod and Dornogobi) and in Ulaanbaatar. These area-based interventions will focus on building capacity of *aimag* and *soum* governments and engaging employers' and workers' organizations in bringing their comparative advantages to bear on the child labour problem. The selected rural *aimags* (except Dornod) have high concentrations of artisanal miners in gold and fluorspar mining and it can thus be assumed that there are several thousands of children working in mining in these *aimags*. Mongolia's TBP aims at creating a favourable policy environment (policy, legislation, capacity, knowledge) for the elimination of child labour and developing local pilot actions as a basis for further replication. The ILO-IPEC Support Project will target a total of 6,000 children in different forms of child labour, including child labour in mining.

4.2 Specialized research

JICA carried out an environmental study on mercury pollution and poisoning of miners and their families in 2003. The study identified high levels of mercury in several *soums* and has recommended evacuation from these areas.[36]

Mongolian Business Development Centre and **Eco-Minex** in 2003 carried out the first comprehensive study on artisanal gold mining. It estimates that there are 100,000 artisanal gold miners in Mongolia and that they produce around 2 tons of gold in 2002 which accounts for about 16 percent of the official production.[37]

World Bank: in 2003 published the report *Mongolian Mining Sector: Managing the future* which assesses the medium-term growth potential of Mongolia's mining sector and its potential contribution to economic growth, poverty reduction, and regional development. It includes a chapter about artisanal mining and recommends progressive elimination of child labour in the sector.

Mongolia Human Rights Commission published a report in 2003 which looks into the application of fundamental principles and rights of workers in both the formal and informal mining sectors in Mongolia. The report calls for elimination of child labour in the sector, regulation of informal mining activities, training for informal and formal miners on rights and safety and health at work, and including artisanal miners in social insurance schemes. [38]

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[35] Sumber, Jargalant and Bornuur *soums* of Tuv Aimag, and Bayangol *soum* of Selenge Aimag.
[36] Dr. Baatar Tumenbayar, Action research on mercury pollution in Boroo area Mongolia, JICA Mongolia Office, Ulaanbaatar, 2003.
[37] Mongolian Business Development Agency and Eco-Minex, *Ninja Gold Miners of Mongolia: Assistance to Policy Formulation for the Informal Gold Mining Sub-sector*, Ulaanbaatar, 2003.
[38] National Human Rights Commission of Mongolia, *Report on the Application of Fundamental Principles at Work and Labour Legislation in Selected Mining Sectors*, Ulaanbaatar, 2003.

4.3 Health and social services

UNFPA will start a project during 2006 which aims at improving access of artisanal miners, migrants and other underserved groups to basic social services, including reproductive health care, and strengthening local mechanisms for assessing and addressing vulnerabilities. The project will be implemented in seven *aimag* centres [39] and two districts in Ulaanbaatar.[40]

WHO is working with the Ministry of Health, the Health Development Centre and local governments to promote 100 percent condom use in mining communities. A Poison Information Centre with a call-in line and a web-based information system will be developed and they plan to train area doctors on treatment of mercury poisoning, and prevention and treatment of silicosis.

4.4 Workers' rights

CMTU made their problem analysis on artisanal mining after visiting 15 *soums* in 5 *aimags* with high concentration of artisanal gold and fluorspar mining during the autumn of 2005. Strategy and action plans have been developed and action is planned to start later this year. Focus of their intervention will be to help transform artisanal miners' work into decent work, and to eliminate the worst forms of child labour in mining. It is also planned that they will work to support organization of miners, and promote their rights and collective interests. The initiative of this work came from CMTU after having been involved in the IGM project. ILO-IPEC helped CMTU in identifying methods for analysing the sector and covered costs of field visits and meetings.

4.5 Integrated initiatives and projects

The Informal Gold Mining Project (IGM project), which is implemented by MONEF, addresses several issues in the sub-sector. Although taking children away from work is at the core of the project, it also tries to improve working conditions, minimize accidents in mining work, and reform the legal framework governing small-scale mining. At national level the project uses social dialogue and consultations to create a transparent and inclusive law reform, while at local level creating practical solutions to child labour and poor working conditions.

Support for Artisanal Mining Project (SAM Project) is a Swiss-funded project of 8 years implemented in collaboration with MRPAM (Mineral Resources and Petroleum Authority of Mongolia). The SAM Project started in July 2005 and has so far mainly focused on creating a proper legal framework, but in April 2006 it assisted the Mongolia Rescue Service establish a mobile mining rescue unit which will carry out on-site trainings on mining safety and labour protection for artisanal miners.[41] The longer term objectives are to support organizations of artisanal miners, transfer skills and technology, and make artisanal mining part of the national policy on rural development.

Thus far, initiatives in the informal mining sub-sector have largely been funded by international donors and implemented together with national agencies.

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[39] Arvaikheer, Bayankhongor, Darkhan, Tsetserleg, Erdenet, Sukhbaatar and Zuunmod.
[40] The project is titled Reducing Socio-Economic Vulnerabilities of Selected Peri-urban and Informal Mining Communities in Mongolia.
[41] The mobile rescue unit is composed of five rescue workers and equipped with tools and vehicles. "The first mobile mining rescue unit", *UB Post*, April 2006.

Table 3. Partners' initiatives and coverage

Agency/ problem	Regulation & rights	Conflict	Local capacity	Child labour	Unemployment, livelihood opps. & skills training	Access to services	Organizing workers	Health, nutrition, water and sanitation	Mercury & environment	Working conditions	Productivity	Awareness & moblization	Other soc. problems: alcohol, prostitution etc.	Remarks
CMTU	√					√	√			√				Planned to start in 2006
Eco-Minex & MBDC	√	√	√	√	√	√	√	√	√	√	√		√	Only addressed through research in 2003
Gov., CMTU, MONEF	√			√								√		Commitment to eliminate CL in June 2005
IGM project	√	√	√	√		√			√	√		√		Undertaken 2003–2006. MONEF partner in TBP
ILO-IPEC TBP			√	√	√	√			√			√		Started January 2006
MVA			√	√	√				√			√		Undertaken before 2006 & partner in TBP
SAM Project	√	√	√		√	√	√		√	√	√	√		Ongoing started 2005
UNFPA			√			√		√					√	Starting 2006
JICA									√					Research 2003
WCUB			√	√	√	√						√		Undertaken before 2006. Governor's Office in Nalaikh District has take over.
WHO									√				√	Ongoing and planned
World Bank														Research in 2003 covering both formal and informal mining.
NHRCM	√													Research in 2003

5. Three projects

In the last few years the ILO has supported three projects that include reduction of child labour in mining among their aims. This section provides short descriptions of each of these projects.

5.1 MVA: Mercury awareness and child labour interventions

Project Facts

Title: Awareness raising of the local community and removal of children from hazardous work in gold extraction and processing
Implementing agency: Mongolian Volunteer Association (MVA)
Project duration: 17 months
Starting: September 2003
Budget: USD 39,350
Key project components: Training staff of local authorities on child labour and mercury; creating income generation opportunities; providing educational, training and recreational opportunities for working children; establishing child labour monitoring mechanism
Children targeted: 175
Geographical location: Sumber, Jargalant, Bornuur of Tuv Aimag and Bayangol of Selenge Aimag.

The MVA implemented interventions for children in gold mining in four *soums* where children are working in artisanal gold mining and use mercury. In each of the four *soums* the governor headed a local project task force composed of social workers, *bagh* governors, community representatives, medical staff, teachers, one environmental specialist and volunteers, who together implemented the project. The task force members had responsibility for, and direct contact with, a number of children and their parents.

MVA and ILO-IPEC brought in specialists from the Ministry of Health who taught local medical staff, teachers and social workers about the hazards of mercury, and how to prevent and treat mercury poisoning. Informational material such as videos, posters, flyers, and school lesson guides were produced and provided to schools and community centres. Mercury awareness was integrated into the health curriculum in the secondary school curriculum in the target *soums*. Teachers organized student drawing contests on the theme "Mercury is toxic". The mercury awareness-raising campaign included information on child labour in general, and students helped the task force to carry out these campaigns at home and in the mining sites. The campaign led to increased awareness on the part of local authorities and communities about the hazards of mercury and can be credited with a decrease in children handling mercury at home.

The task force identified children working in mining, those who were out of school, those who were close to dropping out of school and those children who had been working with mercury. Children who had been in contact with mercury were then examined by *soum* doctors trained on mercury poisoning and issued a health insurance book. If necessary, they were provided with treatment or referred to more specialized health institutions for diagnoses and treatment. These children were carefully monitored and their parents advised on mercury hazards.

Non-formal education classes were set up in schools or in "Enlightenment centres" for those children who had never attended school or who had dropped out of school to work. The cost of training premises and non-formal education teachers was covered by the *soum* Enlightenment centre and by local government funds. The project paid for school equipment and textbooks. About half of the 40 children who attended non-formal education classes were able to transfer to the regular *soum* school. And those who were not yet ready for regular school were allowed to continue in non-formal school. Some children were given shoes, school bags and white shirts to encourage them to start school. Games, competitions, sport, theme days and other recreational activities were organized for the children to give them incentive to continue.

Working children over 15 years and parents of working children got the chance to take skills training courses organized by the Employment Services Office in the *soums*. Training needs were defined jointly by all partners and based on local opportunities. The courses included training in writing a business plan and there was a possibility for the trainees to obtain a small grant from the project in order to cover the initial cost of starting up a business. Most of the parents and young trainees started businesses in areas other than mining.

Establishing communication routines became one of the first tasks of the project and it turned out to be crucial for its implementation. All communication between MVA in Ulaanbaatar and the *soums* was channelled through the *soum* communication service and the governors ordered the communication staff to quickly pass on messages from MVA to the field coordinators. The field coordinators called MVA at a specific time each Wednesday and MVA visited every *soum* monthly. Also, the field coordinators used the help of relatives in Ulaanbaatar to pass on messages to MVA, and they visited MVA every time they were in Ulaanbaatar.

In summary, the project was able to reduce the number of children working in mines as a result of these activities and to integrate child labour concerns into the local governors' action plans.

5.2 MONEF: A sectoral approach

Project Facts

Title: Informal gold mining project (IGM project)

Implementing agency: Mongolian Employers' Federation (MONEF)
Project duration: 24 months

Starting: July 2004

Budget: USD 100,960

Key project components: Withdrawing children from mining work through education and skills training; improving occupational safety and health; and contribute towards creating a legal framework that would allow artisanal miners to benefit from mineral resources legally.

Children targeted: 142

Location: Bornuur and Zaamar *soums* of Tuv Aimag and nationally.

The IGM project is built on the idea that child labour in artisanal gold mining cannot be addressed in isolation from other immediate and deeper structural problems in the informal mining sub-sector. MONEF has focused on the most pressing problems – child labour and occupational safety and health – while creating a policy framework that will allow today's artisanal gold miners to benefit from the resources of Mongolia over the long term. Within the ILO, the project brings together a number of technical areas, e.g. international labour standards, child labour, occupational safety and health, and informal economy.

To take children away from hazardous work, non-formal education classes were established in two *gers* in a mining site in Zaamar that had a large number of young children not attending school. Three artisanal gold miners from the mining community who had teaching qualifications were given specialized training on non-formal education techniques and became the project's teachers. The non-formal education classes were equipped with teaching materials, textbooks, exercise books and sports equipment. The school has followed the national non-formal education curriculum and has been inspected and approved by the education authorities of Tuv Aimag. In addition to the regular non-formal education curriculum, the teachers have regularly organized competitions, sports matches, quizzes and other recreational activities for the children and taught them about hygiene, including how to wash properly. For students aged 14–15, additional training in practical skills such as handicraft production, was added to the curriculum. The non-formal education school has linked with the local government school in order to facilitate its students' transition into the formal school system.

Older gold mining children and young people aged 16 to 19, have been given opportunities to attend three months' professional training in mining skills so as to help them find safe and better paid work in the formal mining sector. Courses were provided at Erdenet Technical College in panning, welding and in driving bulldozers. Working children and young people who were not interested in continuing mining work were trained on other skills such as welding, sewing and computer graphics at the Mongolian-Korean College. At the start, all students went through preliminary sessions on generic job skills to help them adjust to studies and training, and to prepare them for employment at the end of the course. MONEF also made an effort to help the graduates find employment through its network of contacts and its Labour Information Unit, and by encouraging contracts between colleges and companies. Although much is left to do on this aspect, MONEF managed to negotiate work opportunities with the Gobi Cashmere Company, an auto repair company in Tumurtiin Ord, an iron mining company in Selenge Aimag, in the Mongol Amical Company in Buyan and Dul for welding, and in formal gold mining companies in Zaamar Soum.

To improve working conditions in mining, MONEF formed a group along with the relevant authorities to oversee work on this component.[42] The project reproduced information materials on mercury risks and safety, and translated an international handbook on safety in small-scale mining. The working group undertook assessments of risks throughout the mining process in hard-rock and placer gold mining to be used in defining hazardous mining practices and to further develop specific training materials. Due to the high frequency of accidents, first aid training was provided for artisanal miners in both *soums* by Red Cross trainers. A partnership was also developed with the Social Health Institute to explore a new safe mercury technology that would improve the safety in mills.

An aim of the IGM project was to create a policy framework that would allow artisanal miners to form partnerships and mine legally. MONEF started a process where the government, CMTU and MONEF – the social partners – met regularly to discuss the project and define their respective stands on child labour, working conditions and the legal framework with regard to artisanal mining. Parallel to this dialogue, MONEF also started a legal working group which held a series of consultative meetings about the draft law on artisanal mining with stakeholders at national level and in the two pilot sites. The consultations centred on compiling a study of the legislative and regulatory framework of the informal gold mining sub-sector in Mongolia, which included recommendations on how to revise the draft Law on Artisanal Mining of Minerals.[43] Because artisanal gold miners do not currently have any group representing their interests, MONEF tried to ensure that in all consultations and meetings there were representatives of artisanal gold miners from Bornuur and Zaamar *soums*, selected by the miners themselves. If this was not possible, MONEF would, at a minimum, find out the views of the artisanal miners and raise them in meetings. Interventions to lobby for legal change were combined with interventions to raise awareness about the situation of artisanal gold miners. These interventions involved research, seminars, TV and radio discussion and documentary programmes, films and presentations at academic forums.

[42] The working group is composed of representatives from MoSWL, the Professional State Inspection Agency, the Social Health Institute, the School of Mining Engineering at the University of Science and Technology, MNMA, National University of Mongolia, Magic Team Co. Ltd, and a local project coordinator.

[43] The second version of the Artisanal Mining Law was approved in a government meeting on 4 January 2006 and passed on to the Great State Khural (the Mongolian Parliament). At the time of this publication it has still not been enacted.

5.3 WCUB: Ending child labour in coal mining

Project Facts

Project title: Providing education alternatives and rehabilitation to working children and children at the risk of hazardous work in Nalaikh coal mines

Implementing agency: Women's Council of Ulaanbaatar City (WCUB)

Project duration: 23 months

Starting: April 2003

Budget: USD 13,614

Key project components: Training staff of the local administration on child labour; removal of children from hazardous work by providing education to children and skills training and support to parents; and establishing child labour monitoring and tracking system

Children targeted: 193 children withdrawn or prevented;

Location: Nalaikh District (25 km south east of Ulaanbaatar City).

The WCUB mobilized first the governor and then the whole local administration to work for children in coal mining. Throughout its lifetime, the project worked with and through the district governor and the local district authorities. An agreement was signed between WCUB and the Nalaikh District Governor's Office about supporting the project and a plan of action was drawn up. The governor, who himself used to be a miner, put a nine member task force in place to oversee implementation of the project. WCUB and the task force team also received help from the Social Development Policy Department, the governor's Education Office, the Non-Formal Education centre, the Red Cross, World Vision, Cultural *Centre*, and the Physics and Sport Committee. They also worked closely with HIV/Aids projects, which gave the children information and education about sexual relations and HIV prevention.

To challenge the general acceptance of child labour in Nalaikh, the project arranged awareness-raising campaigns and meetings, wrote books, leaflets, newspaper articles, and produced and broadcasted TV films and radio programmes. As about 20 percent of the targeted children were Kazakh, awareness-raising and trainings on child labour and safety requirements in mining were held in both Mongolian and Kazakh languages, and Kazakh leaders were approached so that they could spread the information among their own people.[44]

After conducting a needs assessment on the targeted children and their families, the task force organized a programme of non-formal education and skills training. To make it easier for older children to start school, multi-age classes for each level of their non-formal education classes were provided. They also provided parents with skills training, and help to either start their own businesses including renting them equipment, or to find a job through employment services. It also provided *gers* to homeless families. When the parents had paid back the full cost of renting the equipment, WCUB would open a bank saving account for their children. Parents participated in the project team and in the project council and signed an agreement entitled "Remove and prevent my own children from work".

A child labour monitoring team including the *khoroo* governor, a labour inspector, a social worker and local citizens was established. The team developed a short questionnaire that they would use when monitoring. They monitored child labour in mining by visiting the mining sites every quarter, got information on any children found there and interviewed adult miners at the mining sites about the work and general situation of the children working there. This information was reported to the Social Development Division of the district, which in turn forwarded to *khoroo* and school social workers for follow up. The Division puts collected data in a database. The monitoring team distributed flyers, brochures, and initiated informational meetings among coal miners and people in the communities. In school, teachers noticing signs of difficulties for the targeted children would immediately inform the task force, who would help the children to keep up with their studies, continue school and support their families. The monitoring team held regular meetings to review the data they had collected and to compare notes on children.

[44] Of the 193 children targeted by the project 36 were Kazakhs.

Eventually, child labour monitoring was integrated into the responsibilities of the *khoroo* and school social workers and labour inspectors.

Child labour monitoring (CLM)

Child labour monitoring is a method developed by the ILO and used in many countries worldwide to ensure that children are not involved in hazardous work. It draws on many partners in society to keep watch on worksites, schools, and in the community to identify children working. Community monitors augment the labour inspectors so that a wider number of worksites, especially in the informal and agricultural sectors, can be covered. Monitors visit the worksites regularly to check whether there are children working and, in the case of older youth, their working conditions. The monitoring teams meet regularly to review monitoring reports, refer working children to services, and to decide on remedies for those children who are still working or who might drop out of school.

At the end of the project, the governor's action plan for 2004-2008 included a reference to elimination of the worst forms of child labour and the Local Social Economical Policy referred specifically to removal of children from coal mining. Action against child labour was also integrated into the job descriptions of social workers who work in the *khoroo* and schools, and into the job descriptions of social workers of the Social Development Policy Department who deal with teenagers and children in difficult circumstances.

6. What worked well

6.1 Project structure and working methods

Working through governors and task forces

The projects by MVA and WCUB both worked through the local government and made the governors head of the task forces. This meant that the governors and the local authorities were always involved and informed of the various activities, and coordinated most of the work. This set-up resulted in a natural division of roles and responsibilities and the project work became part of their daily work without any noticeable disturbance of the current work of the authorities. Having the governors leading the work gave the project a high priority and ensured progress. Although MVA and WCUB took a back seat role, they still injected new information, expertise and support to the task force.

The task force team members had a set of specific tasks based on their capacity and each of them worked directly with three to five children and their families. That the task force had direct contact with the working children and their families resulted in new and useful learning for all involved. They developed a sense of ownership for the projects and made child labour in mining a key issue for their future work in their communities. Child labour was included in the governors' action plans and, also in the responsibilities of social workers and labour inspectors in Nalaikh.

Working through local field staff and artisanal miners

MONEF's interventions to withdraw children from mining work took place at the mining sites where the children worked. As these sites were far away from the *soum* centre it was not easy to work through the governor's office and so instead, MONEF named local coordinators from among the artisanal gold miners. These worked together with the *soum's* environmental inspectors who were monitoring rehabilitation of land after mining operations and thus often travelled to the distant artisanal mining sites and knew the artisanal miners. This approach meant that the project was very close to the miners and that they could immediately start a non-formal school and themselves select which children to target. On the positive side, it demonstrated to the local authorities that there are children in far away mining sites who work and who cannot go to school, and that something can actually be done to change this. On the downside, it meant that the implementation structure was looser and less connected to local authorities than was the case with the other projects, and although the governor was involved, this project did not achieve the same ownership, learning and sustainability.

6.2 Withdrawal of younger children

To stop younger children from mining, the projects tried to make them go to formal schools or non-formal education classes. For the MVA and WCUB projects, the non-formal education classes were carried out in the formal school or in the Enlightenment centres of the *soum*. This created a strong link to – and made transfer to – formal school relatively easy. On the other hand, since the IGM project's non-formal education classes were right by the mining sites, more effort was required to transition children into formal school at the *bagh*, especially because space in the school and dormitory was limited. Although the formal school in the *soum* centre was far from the mining sites, it had the advantage of being close to where the children lived, enabling it to have contact with the parents, and allowing the children to stay at home with their families.

In terms of content, the non-formal education classes were very similar as they all followed the national non-formal education curriculum and used the same non-formal education textbooks. All projects reported that children gained confidence in themselves and their ability to study, and that they had gained hope and motivation to do other things in the future than digging pits and tunnels, and panning in rivers. The non-formal education classes had a number of other benefits for the children such as increased safety awareness, understanding about the danger of mercury and improvement in their hygiene.

The non-formal education was combined with various recreational activities for working children and their siblings and parents. These activities were effective not only in stopping them from working and encouraging them to study, but also in increasing their involvement and interaction with other children and with adults. Children became more aware of their abilities and talents. Children also came to have more influence with their parents.

The non-formal education component of the MVA project was financed entirely by local funds; project funds were only used to purchase equipment. The non-formal education classes run by the WCUB and the IGM projects, on the other hand, were completely covered by project funds. There is a danger that the IGM project's school will always be perceived as the project's school and that local authorities will be reluctant to take over responsibility for it in the future. This is also due to the poor financial support from the central government in general for non-formal education training, and in particular to *soums* which have high concentration of miners.

6.3 Withdrawal of older children

About half of all children working in artisanal mining are in their late teens, aged around 15-17. For these children returning to school is often not an option. They have long ago given up ambitions of study and feel awkward going to school with younger students. What is important for them is to work and earn money. All projects included skills training. MVA and WCUB focused on skills training that could be provided in the local area through the labour offices, while the IGM project drew on the training provided by Erdenet Technical College and the Mongolian-Korean College in Ulaanbaatar. MONEF's approach stands out as the project invested substantially in order to build the skills training programme up to a professional level. Contracts were signed with each college and boarding was arranged for students. The generic modules, which were developed by MONEF in collaboration with colleges and other project partner organizations, were very useful in preparing students for studies or for employment. A greater number of adolescents was trained through the IGM project than through the other projects and the IGM project's courses were longer and more intense. The IGM project also tried to negotiate jobs through its Labour Unit and contacts. For the other two projects, skills training was undertaken as a temporary measure and was seen as a way of immediately withdrawing children from hazardous work, rather than a serious investment that would lead to employment.

Students of the IGM Project's skills training courses learn bulldozer driving at Erdenet Technical College, 2005.

Few of the children trained by the MVA and WCUB project were able to find jobs and it turned out to be very difficult for the children trained by the IGM project to find jobs as well. Most of the children trained in Erdenet and Ulaanbaatar by the IGM project returned to their communities without having employment. However, the difficulties for young people to find jobs is a general problem in Mongolia, not only for children in mining communities. Unfortunately, formal mining companies are often reluctant to recruit workers from the local communities, further reducing the chances for children in mining communities to find jobs.

6.4 Helping parents provide for their children

The main cause of children dropping out of school and starting work is their parents' poverty and unemployment. Parents are both the problem and the solution. This is why both MVA and WCUB made parents one of the main target groups by assessing their situation and providing them with skills training or business training. Both MVA and WCUB claim that working with parents was part of the success of the project and that it helped parents help their children. The assumption of these projects was that the parents would not continue working in artisanal mining if an option was provided.

MONEF analysed the situation differently. They argued that most parents wanted to continue mining and that there were few other income-earning opportunities for them in the rural areas. Thus, MONEF's strategy was to improve parents' working conditions and productivity, and make artisanal mining a legal option for them by reforming the regulations concerning small-scale mining. Although this way of thinking is very interesting from a theoretical or long term perspective, it was not able to initiate work to improve productivity of the specific target group of parents due to the delay in revision of the legal framework.

6.5 Child labour monitoring system

Child labour monitoring was included in all projects but in slightly different ways. WCUB had the textbook model with a well-composed team, clear responsibilities and tasks, a schedule of regular visits and links to services for referral of any working children identified. MVA linked its monitoring efforts to education and monitoring was done directly by the task force members. In the case of the IGM project, monitoring was carried out by non-formal education teachers and the local project coordinator who lived at the mining site and was able to observe children daily both in and outside school. The IGM project also recorded names, age, and sex of miners at the mining sites and reported these periodically to the local governor. In all projects, monitoring was seen as an instrument to assess the situation of the children and the impact of various activities. It was also useful in ensuring that all children were covered and that no one was omitted. Child labour monitoring also helped in registering new children in the area, and those that had left so that local authorities could know the number of children who were not enrolled in school. Staff of WCUB participated in an ILO-IPEC training on child labour monitoring in 2003 together with ILO-IPEC partners from other Asian countries, and this may partly explain their advanced and well-functioning child labour monitoring system.

6.6 Raising other concerns which have impact on child labour

MVA's campaign on mercury gave local authorities important knowledge and raised awareness among children and the community as a whole. It resulted in shifting use of mercury from homes to the central milling sites. It also clearly resulted in fewer children handling mercury and contributed to parents' acceptance of withdrawing their children from mining altogether.

The IGM project, having a broader approach, was successful in generating data on artisanal gold mining and putting the topic on the agendas of the government, the Parliament and the trade union. Much of the credit for the improved knowledge and public debate on artisanal mining can be given to the IGM project, although there were also other actors who contributed to this. It was also thanks to the IGM project that CMTU and MoSWL came to draw up their strategies for artisanal mining. The project's attempt to address the legal aspect of artisanal mining by undertaking a legal review and arranging discussions and consultations with stakeholders is also noteworthy. The draft law has still not been enacted, but the process of examining the current regulative framework, reviewing various drafts of the law and formulating revisions to the draft have been transparent and inclusive. On the other hand, the project's component on occupational safety and health was unable to have the impact expected for three reasons: a) a lack of clarity in the mandate and tasks of the working group; b) because central authorities and employers were understandably slightly reluctant to work on working conditions of artisanal miners until the legal status of artisanal mining could be regularized; and c) because other components of the project were easier for MONEF to work on and were thus given higher priority.

6.7 Thematic versus sectoral

There are both advantages and disadvantages to the thematic approach[45] used by MVA and WCUB, and the sectoral approach applied in the IGM project. The thematic approach to combatting child labour in artisanal mining was better than the sectoral approach in making local authorities prioritize child labour, take responsibility for addressing it, and in building their capacity to do so. The components of the thematic projects that were aimed at eliminating child labour were often of high quality, such as the non-formal education and awareness-raising interventions. This could partly be explained by these projects having fewer interventions on the whole and thus the opportunity to develop and monitor these interventions more thoroughly.

The shortfall of the thematic approach can be seen in the contradiction and difficulties in ending child labour in an unregulated sector where more than 40,000 adults are working. Children today and in the future will almost certainly stay with their parents and follow in their footsteps. Addressing only child labour will not make the situation in the sector change. This is the principle advantage of the sectoral approach. In Mongolia it was the IGM project that first addressed the interlinked problems in the artisanal gold mining sub-sector in a comprehensive way, and put the problem of child labour in relation to other problems and solutions for the sub-sector. The main shortcoming of the sectoral approach is that it requires a lot from the implementing agency and it must operate on many areas and levels which may reduce the quality of some interventions. This suggests that sectoral projects may require several partners to coordinate and jointly implement them.

[45] Thematic approach in this publication refers to an approach which target only on one topic e.g. child labour.

Strengths, thematic approach	Strengths, sectoral approach
• Local authorities place clearer priority on child labour • Creates learning on the part of the authorities • Better focus and quality of interventions • Easier to find a partner who can implement this kind of focused intervention	• A long term solution to problems in artisanal mining and to child labour as it aims at "cleaning up the sector" • Suitable for informal sectors which exist parallel to a formal sector in the same industry e.g. mining. • Easier to involve stakeholders in solutions as all have an interest: this may not be the case when focusing solely on child labour • Beneficial when a sector is dysfunctional and needs to be regulated in a transparent and balanced way • Easier to get ILO expertise in several areas
Weaknesses, thematic approach	**Weaknesses, sectoral approach**
• Difficult to end child labour in unregulated sectors if adults are still working there (parents stay = children stay) • Leaves out several issues that need to be addressed in order to end child labour • Difficult to get ILO technical advice in other areas than child labour and labour standards • Must be combined with other interventions addressing the future of the sector	• Needs a strong implementing agency • Working simultaneously on several areas on a small scale may reduce quality of some interventions • More effective on policy level than on direct interventions • Needs a number of partners with differing expertise

7. Promising practices

Although interventions on child labour and other problems in the informal mining sub-sector in Mongolia were on a small scale and had a limited duration, there are many promising practices and processes that can be used in Mongolia and other countries. This section presents some of them.

7.1 Social dialogue on artisanal mining and child labour

The IGM project has used dialogue between the government, and the workers' and employers organizations to create attention to, involvement with, and a sense of responsibility for artisanal miners. The social partners were involved in the IGM project since the initial discussions and throughout project implementation. The social dialogue approach was used to handle problems, both at national level -- with MoIT, CMTU and MONEF – and at local level with local authorities, artisanal gold miners and employers. Concerns raised at the local level were brought up to national level for discussion, and the outcome of discussions at national level were reported back to the local level. Social dialogue drew the attention of MoSWL and CMTU to child labour and other problems in the sector, and in June 2005 a tripartite commitment to eliminate child labour in mining by 2015 was signed. In the second half of 2005 CMTU developed a strategy for eliminating child labour and improving social security and employment in artisanal gold mining.

Social dialogue

Social dialogue means all types of negotiation, consultation or simply exchange of information between, or among, representatives of governments, employers and workers, on issues of economic and social policy. It can exist as a tripartite process, with the government as an official party to the dialogue or it may consist of bipartite relations only between labour and management, with or without indirect government involvement. It can take place at the national, regional or at enterprise level. It can be inter-professional, sectoral or a combination of all of these. The main goal of social dialogue is to promote consensus and democratic involvement among the main stakeholders. Social dialogue has the potential to resolve important economic and social issues, encourage good governance, advance social and industrial peace and stability and boost economic progress. Source: www.ilo.org.

In addition to general discussion on mining, the legal working group also sponsored social dialogue on the draft law on artisanal mining with concerned stakeholders at national and local levels.[46]

The tradition of using social dialogue to address labour issues is fairly new in Mongolia and thus it provided MONEF with useful training on how to use dialogue for gaining support for their work and in placing a social issue on others' agenda. This process could be improved further if the priorities of the social partners were defined in relation to each other, so that a proper negotiation could take place and partners bring up their interests and perspectives. In Mongolia. the consensus-building tradition is strong and the positions of the three partners often very similar. This can somewhat defeat the purpose of social dialogue as the workers' and employers' organizations are sometimes more keen to find a compromise than to represent their members' interests. MONEF has taken the lead in initiating social dialogue on artisanal mining.

[46] The second version of the Artisanal Mining Law was approved in a government meeting on 4 January 2006 and passed on to the Great State Khural (the Mongolian Parliament). At the time of this publication it has still not been enacted.

Now the MoSWL can be expected to gradually take over or be more active in starting up consultations.

7.2 Utilizing employers' comparative advantage

The IGM project is based on MONEF's special role as an employers' federation. This means that the project was designed both with an eye to the problems in the sector and to the comparative advantage of employers in relation to these problems. It started from the premise that employers in the mining sector, like all social partners, have a responsibility to contribute to realization of fundamental labour standards, including the elimination of child labour, and that it was in their interest to press for a timely and appropriate policy response to the growing informal mining sub-sector. The strategy capitalized on the fact that MONEF has contact with, and can influence enterprises in sectors other than mining, which was useful in finding providers for skills training for the youth being withdrawn from mining and helping them find jobs.

MONEF was also in a strategic position to help in solving the conflict between artisanal miners and formal mining companies. The project managed to counter employers' anger towards artisanal gold mining in Zaamar and resistance at national level, galvanize their support for the projects and create opportunities for education and training. In large part, this was possible only because MONEF was an employers' organization and not only had access to the formal mining companies but also the contacts, understanding and influence that would make a difference. MONEF took a risk in undertaking the project, and did so more on humanitarian grounds than out of any financial interest for its members. MONEF helped the mining companies see that the project would benefit them by ensuring that companies' concerns would be taken into consideration in the drafting of the law on artisanal mining, that conflict resolution at local level would lead to lower security costs for them, and that by training artisanal miners the companies would be shaping the skills they would need in future for their own workforce.

A key move for MONEF was to forge a close alliance with the mining companies' own association, the Mongolia National Mining Association (MNMA). MNMA knows the sector intimately and has a tremendous influence over its member companies. Repeated consultations with local and Ulaanbaatar-based employers proved to be crucial for generating the understanding and support needed for the project.

MONEF's aim in the project was eliminating child labour, but overall, it must represent its members' interests and work for a favorable business climate in Mongolia. Since well-educated and skilled labour is essential for business, MONEF saw clearly that it had a role in calling for MoSWL and MoESC to increase investments in education and skills training so as to ensure that no groups of children – especially those in remote rural areas -- are left out of the educational system, as well as to help the companies connect and express their priorities to the ministries (MoSWL, MoESC) and training institutes. In the future, MONEF should identify individuals and groups of miners with business potential and training them on starting up their own mining enterprises. As a member of the National Tripartite Committee on Vocational training, MONEF has undertaken a review of the current vocational and skills training system and studied what capabilities employers require from graduates of such programmes. This is a good starting point for further development of the national skills training system in Mongolia.

The five skills training modules developed by the project
Module 1 on child labour (15 hours) includes national and international law on child labour (ILO C 182, 138); reasons and consequences; and employers' responsibilities. Developed and taught by MONEF staff responsible for child labour.
Module 2 on safety and health at work (15 hours) developed and taught by MNMA.
Module 3 on personal development (14 hours) includes matters related to mental and physical development. Developed and taught by teachers of Erdenet Mining College.
Module 4 on preparations for work (15 hours) includes issues about employment contracts, how to count your wage, how to participate in trade unions, your rights and obligations as a worker. Developed and taught by MONEF staff.
Module 5 on time management, efficiency and team building (15 hours) includes how to plan your work, saving and budgeting, self-motivation, and how to interact with others at work. Developed and taught by MONEF staff.

7.3 Hiring artisanal miners as teachers

For the non-formal education schools in the mining sites in Zaamar, MONEF carefully selected and hired three artisanal gold miners with teaching qualifications as teachers. Before the start of the classes, the teachers were provided with five days training at the Non-Formal and Distance Education Centre (NFDEC) in Ulaanbaatar. Besides their teaching duties, the teachers were responsible for convincing parents to send their children to the classes. They were also responsible for raising awareness in the mining community on the importance of education and the danger of mining work for children, and for monitoring children's attendance in school and in the mining sites. The teachers helped the children to register at the local administrative unit and prepare their personal records for registration in formal school. On weekends, the teachers organized recreational activities for both younger and older children to motivate them to stay away from mining.

Because the teachers are artisanal gold miners themselves, they were able to better relate to and communicate with the children and their parents. It was also considered a good way of creating stability and care for the children in the mining community. The teachers became the link between this mining community and the school and authorities in Zaamar Soum.

7.4 Skills training

A set of generic training modules were developed and tested in order to meet the educational and training needs of the children who had been working in mining. The modules were taught in the beginning of the skills training course to help children adjust to studying after years of hard work, and in the end of the course to facilitate the transition to formal sector employment.

Although no formal evaluation of the training modules have been done, knowledge tests and students' own evaluations show that the students have understood and gained from modules and that they particularly appreciated the modules on personal development, preparations for work and personal efficiency. The modules have potential for larger usage and should be shared with the ILO and other specialized agencies in Mongolia in order to identify areas for improvements and for defining how they could be used on a larger scale.

7.5 Pairing task force members with target children

The task force members in the MVA project were each paired with three to five children. They were responsible for:

(a) action for children: helping them start non-formal education or formal school; providing them with school items and uniforms; and monitoring the children; and

(b) actions for families: informing them about available activities; bringing family members to vocational training activities; and providing seed money for parents to start small businesses.

Since the task force members hold key positions in the communities, they functioned as a link between the children and the local administration and could facilitate quick and well-adapted solutions to problems encountered. The clear division of work and responsibilities ensured that none of the targeted children would be ignored. It also proved to be a good way of sensitizing the task force members on child labour, and sustainable as the members are still carrying out their tasks in the *soums*.

7.6 Mercury awareness in the secondary school curriculum

MVA's work on mercury proved to be successful, and in particular making mercury a subject in secondary school was an effective way of ensuring that both teachers and students learned about the risks of mercury and to make students active in awareness raising campaigns on mercury in the communities and in the mining areas.

7.7 Multi-age classes and a new school topic

In Nalaikh, many of the mining children have missed several school years and are thus at the educational level of much younger children. Because they felt ashamed and uncomfortable being in classes with younger children, WCUB started multi-age classes for each level of their non-formal education training programme. Multi-age classes proved to be more suitable for older children.

The non-formal education training sessions also included topics that would help the students to know how to become good students e.g. studying techniques, how to do your homework, how to behave during class, how to build team spirit, and how to treat others. The impact of the multi-age classes was well demonstrated by the fact that all of the children completed their classes and about half of them were transferred to regular school. To facilitate a smooth transfer to formal school for these children, the multi-age classes were also used in formal school. After a certain period of acclimatization, the former mining children were integrated into appropriate grades.

8. The remaining problems

8.1 Child labour

Most children working in mining not yet reached

Despite all the achievements, interventions so far have touched only about 6 percent of the children who mine in Mongolia. All of the interventions have been on a small scale and have targeted children in the hundreds at most, in a few *soums* in only three *aimags*. In Mongolia, thousands of children labour in artisanal mining, spread over much of the country. At the same time, these children are not so many that it would be impossible to reach out to all of them, or to prevent more child labourers from entering artisanal mining. Another limitation of current interventions is that they have worked only with coal and gold mining, while fluorspar mining has been neglected. With the commitment of the government and the workers' and employers' organizations to eliminate all child labour in mining by 2015, this should be within reach if clear strategies can be developed and local authorities and other partners can be mobilized to take action. As the only international organization that supports, or has any plans to support, local interventions against child labour in artisanal mining in Mongolia, it is clear that the ILO has an important role to play in this area in the future. With improved coordination and increased guidance from the central level to *aimags*, the reach can be extended.

Low capacity to provide basic education for mining children

Local authorities often do not have sufficient resources to provide education for the children of artisanal miners living in mining sites. They lack teachers, premises in which new classes can be held, and space in dormitories. In addition, some *soum* authorities still have a policy of barring children from school who are not registered locally. On the other hand, local schools have limited absorption capacity to meet the demand, especially in areas with high concentration of migrant miners. Another problem is that, as a rule, local authorities are not well-equipped to provide alternatives to formal school for children who have been out of school for some years. However, UNICEF has indicated that they will be working on non-formal education in rural areas and this will hopefully raise the capacity of local authorities and, ultimately, reach children of artisanal miners.

Migrant children often left out of school

It is very difficult for children to go to school when their families migrate frequently between artisanal mining sites. These families might be helped to establish themselves in one area. Often school is a reason for families to leave rural areas, but this is not the case for miners, although they would be willing to send their children, especially the younger ones, to a nearby school. For local authorities, meeting the needs of these children requires monitoring and innovative and flexible schools, but the local authorities often lack both practice and resources to provide these.

Difficulties for youth in adjusting to study after years of harsh work

As much as the boys and girls aged 16–19 enjoyed skills training many of them had difficulty adjusting to studying after having worked for several years in harsh outdoor work. These students often came late to class, had trouble keeping up with the pace of study, and even started fighting with the other students at the colleges. A few of them dropped out. Training institutions and colleges are often unprepared to educate, accommodate and manage adolescents like this, either inside or outside the classroom.

Trained but still unemployed

Relatively few of the children who had attended skills training courses were able to find paid employment after finishing the courses and many of them went back to mining work or unemployment. Investments in training are wasted if the children cannot get decent jobs or if they return to artisanal mining.

Weak skills training scheme for children and youth

The vocational education system in Mongolia consists of centre-based training and skills training provided under the government's Employment Promotion Fund. For children in mining, the duration of the skills training courses may be too long and for children who have dropped out of school it may be difficult to get accepted to the shorter skills training courses. Recently, the government amended the Employment Promotion Law by expanding the access to employment services, including skills training for all youth, regardless of school completion. Skills training is often included in child labour projects as a means of taking young people out of work, but they seldom open doors to jobs. Skills training should not be taken as a goal in itself but should instead be seen as a step in helping young people to obtain decent jobs.

Limited coverage and outreach of awareness-raising activities

Awareness-raising activities tend to take place either in the *soum* centre or the mining sites, rarely both. This means that a large part of the *soum* population is excluded and with it often the artisanal miners or the local authorities, both crucial target groups for changing attitudes. Another problem is that fathers and other adult male miners are generally not interested in taking part in awareness-raising or recreational activities mainly because they do not want to leave the mines. In order to effectively raise awareness on issues such as child labour, education, mercury and occupational safety and health, ways must be found to persuade men to take part in awareness-raising activities.

Another challenge in combating child labour in artisanal mining is to fight parents' ignorance and to change their mindsets from passively accepting poverty or their current situation to seeing themselves as the main agents of change in their lives and in their children's lives.

8.2 Sectoral concerns

Still no legal framework in place

No substantial and sustainable improvements in the informal mining sub-sector can be made until the legal framework has been formulated and endorsed. The draft Law on Artisanal Mining of Minerals has been reviewed, discussed and revised, but is still not enacted. Although not perfect, the new draft law provides opportunities for artisanal miners to start up partnerships and mine legally. When the law has been promulgated, other interventions can be undertaken to improve working conditions and safety, enhance productivity, help artisanal miners to become formal miners, give artisanal miners access to social services, and to improve the business climate and working relations between artisanal miners and mining companies. The IGM and SAM Projects lobby for reformation of the legal framework and for a transparent process.

Artisanal miners have no representation

Despite the large number of artisanal miners, they do not have anyone representing them in forums where issues that affect them are being discussed. This is because they have not organized themselves or joined a trade union and because no other existing organization would be a natural representative for artisanal miners. Miners should be helped to organize themselves

and to create a system of representation that can ensure that their concerns and interests are heard in relevant forums. CMTU has included this topic in its strategy on artisanal mining.

Little done to improve working conditions in artisanal mining

Much is known about the occupational hazards in artisanal mining, but little has yet been done to eliminate them. Miners could easily implement simple measures to build safer mine entrances and tunnels that are less prone to collapse, or to reduce accidents caused by falling into open pits or when lifting water and ore, when drilling and blasting, and when processing the minerals. Cheap technology to improve safety often goes hand in hand with improved productivity because it enables miners to mine in the same pit for a longer time. Improving occupational safety and health must also be seen as an important transitional activity while trying to eliminate child labour in artisanal mining, as it will make their work less risky during the inevitably longer process of withdrawing them permanently. The ILO and the Swiss Development Agency are the agencies supporting national agencies in improving working conditions in artisanal mining and should both continue to do so.

Low local capacity to provide support services for artisanal miners

Local authorities handle the influx of miners in different ways. Some are reluctant to support or register artisanal miners as they see them as illegal and criminals, while others try to register and support them. Most *aimag* and *soum* authorities are unprepared and uncertain how to handle the newcomers, confused about the national policy, lack resources and means to monitor artisanal miners, and do not have the capacity to provide them with education, training, health care and other necessary services. CMTU and UNFPA are planning to address this problem.

9. Conclusions and recommendations

9.1 Conclusions

Child labour in artisanal mining, being one of the worst forms of child labour in Mongolia, must be stopped immediately. However, child labour in mining is interlinked with several structural problems in the sector and cannot be sustainably ended if addressed in isolation. If adult miners continue mining in risky and life-threatening conditions with little pay and an illegal status, children are bound to do the same. Therefore, the situation in the informal mining sub-sector needs to be improved by introducing appropriate regulation, creating opportunities for artisanal miners to start legal businesses, and by efforts to improve productivity and working conditions in the mines themselves. Child labour can only be permanently cleared from artisanal mining when the situation in the sector has been improved.

Informal mining needs to be discussed in relation to formal mining. The ultimate objective is to make artisanal mining a viable and legal occupation, but there is a tendency to consider artisanal mining separately from the formal mining sector in order to clear the formal mining sector from any problems. However, simply the fact that artisanal mining exists is a sign of a dysfunctional mining sector in Mongolia.

9.2 Recommendations

Child labour

Child labour in artisanal mining should be eliminated through immediate actions to withdraw children from work but also through longer term actions to regulate the informal mining sub-sector in Mongolia and to improve the working and living conditions of artisanal miners.

Child labour in mining should be attacked simultaneously from two angles: as part of the government's programme to eliminate the worst forms of child labour, and as part of efforts to improve the productivity of the mining industry.

1. Children in mining communities must be provided with education, either in the formal school or if that is not possible, in non-formal education classes. Non-formal education classes should be connected with formal school and funding should as far as possible be provided by the government. Children in mining communities have a right to a free, accessible, and appropriate formal education. As a transitional measure to prepare them for formal classes, non-formal education may be required as well.
2. Children aged 15 and above in hazardous mining work should be given the opportunity to attend vocational skills training courses. Skills training programmes for mining children must focus on skills and capabilities in demand by employers in rural areas. Already in the planning phase it should be possible to identify and approach employers concerning job placements for the youth to be trained. Preferably, employers should be involved in the process of designing the training curriculum and even carrying out parts of the training. Agencies providing skills training courses have a responsibility to help the trainees find jobs. The national policy on skills training and youth employment needs to be reviewed in light of artisanal mining, current rural employment opportunities, and with the active involvement of employers.

3. Local authorities and other groups in the communities should be trained on and expected to use a child labour monitoring system with the ultimate objective of creating social control and zero tolerance toward child labour.

4. To boost efforts and inject new ideas into the ongoing interventions against child labour in mining, international experience in this field should be made available in Mongolia. ILO-IPEC has an important role in this and in arranging exposure trips and thematic discussions for partners.

Artisanal mining

7. Artisanal miners should not be stopped, but should be regulated. There should be legal ways for them to make a living from mining, or opportunities and support given to them to undertake alternatives, such as starting their own businesses.

8. The government needs to take a holistic approach to mining, addressing informal and formal mining together, and looking at the whole sector from legal, social, economic, environmental and administrative perspectives. The government further needs to develop a strategy for how to make artisanal mining part of the formal mining sector. In doing so they should involve concerned ministries and stakeholders to avoiding neglecting any perspective. The government also needs to coordinate various interventions in the informal mining sub-sector.

9. Once enacted, the Law on Artisanal Mining of Minerals needs to be introduced together with considerable awareness raising and training efforts for miners and local authorities.

10. Interventions in local areas should always be implemented by, or operated in close collaboration with, governors and local authorities in order to be sustainable.

11. Artisanal miners need to take part in all discussions at soum level on issues that affect them.

12. The government and MNMA should look into ways of developing the mining service sector as it has potentials for creating new rural job opportunities. Currently the mining service sector is largely attached to the mining companies instead of being provided by separate entrepreneurs.

13. The government needs to consult aimags with high concentration of artisanal miners to define how to support them and their soums with human and financial resources to enforce the law and provide social services to artisanal miners.

Social dialogue

14. Social dialogue should be used as a way to define joint and balanced solutions to problems in the mining sector. All social partners should be encouraged to initiate social dialogue, and common routines for holding such dialogue need to be established. The social dialogue should take place on both national and local level. At national level to address laws and policy, and at local level to define ways of addressing child labour, occupational safety and health, and other labour and social concerns.

Organization and representation

15. In order to support artisanal miners organize themselves, one agency – possibly CMTU – needs to explore different options together with artisanal miners. Solutions that are not well anchored among miners are bound to fail. To establish an association for artisanal miners a bottom-up approach should be used where miners

in *soums* could gather, define their concerns and select among themselves a person who will represent them at aimag level. The aimag representatives will select their national level representative. At national level there will be democratically selected representatives from all aimags. Establishing this kind of organization takes time and requires networking at soum and aimag levels among artisanal miners. The social partners and the ILO should support such organizing of artisanal miners.

Occupational safety and health in artisanal mining

16. Mercury is a serious threat to both people and nature in Mongolia and deserves immediate actions. All soums where mercury is being used must be researched and monitored, and targeted for actions to prevent further mercury pollution and minimize the damage made.

17. Large interventions on occupational safety and health are needed to save lives, prevent accidents and improve working conditions. The government needs to invest in training and in cheap and safe mining techniques and structures. Laws and policies must define who will be responsible for ensuring the safety of artisanal mining operations.

Research

18. More specialized and action-oriented research is needed e.g. on alternative livelihood opportunities in rural areas, artisanal miners' access to social services, rehabilitation of land, work undertaken by girls in mining communities, conflict resolution and business potential among artisanal miners.

The social partners

19. The government needs to define its policy on artisanal mining and how it will be linked to its mining policy, rural employment, the national plan on occupational safety and health and how it fits into Mongolia's national agenda for decent work. The government must also have a clear overview of all interventions in the informal mining sub-sector and coordinate these. For this purpose a reference group with all involved agencies could be set up. MoSWL also need to ensure that monitoring of mining sites will be undertaken through local authorities, and that artisanal mining is included among the responsibilities of the labour inspectors in the future.

20. The government (Ministry of Finance, MoSWL, MoIT and MoESC in particular) must provide local authorities with means and methods to register artisanal miners and to provide them with social services such as education and health and emergency care.

21. MONEF should strengthen its work on vocational and skills training at policy level, continue skills training of children in artisanal mining, and invest in identifying miners with business potential and carry out training on how to register, start up and run businesses.

22. CMTU should focus on combating child labour and on supporting artisanal miners' organization and representation. In this process they should seek international expertise from the ILO. They should also focus more on the miner's rights through research and capacity building.

Annex 1: Further reading

Printed materials

Dashnyom, N. "Sustainable Livestock Development in Mongolia", *International Review for Environmental Strategies*, Vol. 4, no.2, pp 287–296.

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Tumenbayar, Baatar, *Action research on mercury pollution in Boroo area Mongolia*, JICA Mongolia Office, Ulaanbaatar, 2003

World Bank, *Mongolia Mining Sector: Managing the future*, Ulaanbaatar, 2005

Websites

CIA World Factbook: http://www.cia.gov/cia/publications/factbook/geos/mg.html

Communities and Small-Scale Mining: http://www.casmsite.org/index.html

Eldis Gateway to Development Information: http://www.eldis.org/index.htm

International Federation of Chemical, Energy, Mine and General Workers' Unions: http://www.icem.org

International Labour Organization: www.ilo.org

ILO archived article: http://www.ilo.org/public/english/bureau/inf/magazine/30/mines.htm#note1

Mineral Information Institute: http://www.mii.org

Projekt-Consult GmbH http://www.projekt-consult.de/index.htm

National Statistical Office Mongolia: http://www.nso.mn/yearbook/2002/yearbook2002.pdf.

Annex 2: ILO Conventions related to child labour and mining

C31 (and C46 with the same name) Hours of Work (Coal Mines) Convention, 1931. States that in no underground hard coal mine shall the time spent in the mine by any worker exceed seven hours and forty-five minutes in the day. It was revised in 1935 to C45. This Convention never came into force and was withdrawn by the Conference on 30 May 2000.

C45 Underground Work (Women) Convention, 1935. This conventions prescribes that no female, whatever her age, shall be employed on underground work in any mine, with the exempt of national laws or regulations: (a) females holding positions of management who do not perform manual work; (b) females employed in health and welfare services; (c) females who, in the course of their studies, spend a period of training in the underground parts of a mine; and (d) any other females who may occasionally have to enter the underground parts of a mine for the purpose of a non-manual occupation.

C123 Minimum Age (Underground Work) Convention, 1965. The convention came into force in 1967, but was revised in 1973 by Convention No. 138. The conventions specifies that the minimum age shall in no case be less than 16 years and that the employer shall keep, and make available to inspectors, records indicating, in respect of persons who are employed or work underground and who are less than two years older than the specified minimum age.

C124 Medical Examination of Young Persons (Underground Work) Convention, 1965. The convention, which came into force in 1967, specifies that a thorough medical examination, and periodic re-examinations at intervals of not more than one year, for fitness for employment shall be required for the employment or work underground in mines of persons less than 21 years of age.

C138 Minimum Age Convention, 1973. According to the conventions the minimum age for employment shall not be less than the age of completion of compulsory schooling and in any case not lower than 15 years. For developing countries a minimum age of 14 years can be negotiated. For hazardous work the minimum age should not be lower than 18 years. This type of work shall be determined by national laws or regulations and in most countries mining is counted to these types of work.

C176 Safety and Health in Mines Convention, 1995. This convention came into force in 1998. It covers the specific requirements related to safety and health in mining that should be specifies in national laws and regulations, and outlines the responsibilities of employers and rights of workers.

C182 Worst Forms of Child Labour Convention, 1999. Defines the worst forms of child labour and commit the member states should take urgent actions to eliminate the worst forms of child labour. This convention provides specifics of what constitutes hazardous child labour which is one form of worst forms of child labour. The recommendation to this convention (r190) specifies that work underground, under water, at dangerous heights or in confined spaces should be defined as hazardous work.