

Artisanal mining

A family affair



Small scale ‘subsistence’ mining in developing countries is the only means for some families to earn a living but employing children in mining operations can have devastating long term consequences on their health and welfare. Should these children be prevented from working if it means that their families lose vital income? Rebecca Wood reports on a world caught on the horns of a dilemma.

In Mererani, a town in Northern Tanzania near Arusha, ‘Nyokas’ or ‘Snake Boys’ run errands for workers at artisanal mine sites, going back and forth between the surface and the pits to deliver tools and bring up empty water bottles. The pits, used to mine Tanzanite, can be up to 50m deep and tunnels can be 300m long, unventilated and extremely hot.

The Nyokas (Swahili for snake) are so-named because they crawl through underground tunnels like snakes. These boys breathe harmful graphitic dust in the tunnels and can work for up to 18 hours at a time on

only one meal of bread and boiled cassava, earning the equivalent of less than US\$1 per day.

This is just one example of the widespread social and environmental problems surrounding small scale subsistence or artisanal mines that populate the developing world, and Africa in particular. In areas where subsistence farming is not an option, children are forced to work in appalling conditions to earn money to supplement the family income and put food on the table.

The International Labour Office (ILO) regards the employment of children in mines and quarries as one

of the worst forms of child labour that should be eliminated. So why, if the conditions are so poor, are children allowed to carry on working? The answer is that for many, it is a choice between working in the mines and not having food to put on the table. It must be said that small scale, or artisanal, mining is often an ‘industry of last resort’ for villagers with no other source of income.

The ILO estimates that one million children are involved in artisanal mining, but it is notoriously difficult to regulate what goes on at such sites as many are illegal and located in remote parts of Africa, Asia and Latin America.

Sometimes, the children run away and hide when visitors come to inspect the sites, making it impossible to accurately judge their numbers.

Children's rights

It has been argued that children should have the right to an education, and that forcing them to work prevents them from attending school and gaining access to a better future. This creates tension in subsistence living between the right to an education and the need for a family to have as many members bringing in an income as possible. Sometimes children are sent to work in the mines to replace a male relative who can no longer work because he has been seriously injured, or even killed. In such cases, argues Kevin D'Souza from Wardell Armstrong LLP, the need to survive is paramount and safe working conditions and sufficient food to eat are more pressing issues than an academic education. These priorities are in line with the Millennium Development Goals, aimed at eliminating hunger and poverty in developing countries.

'Even before the right to an education comes the child's long term physical and mental health,' says D'Souza. 'These children are doing heavy manual work, which does have long term consequences on their physical and mental wellbeing.' In African gold mining children help with the transportation and processing side of mining operations and they often carry out some of the amalgamation of gold with mercury. D'Souza has witnessed children stirring bowls of mercury amalgamate with their hands in Tanzania (see left). 'Their long term health is under serious threat,' he says.

'We should try to reduce and eventually eliminate child labour,' says D'Souza, but he is realistic about the relative impacts of different tasks, such as working underground, considered one of the most detrimental forms of work, compared to less hazardous jobs such as hand-picking nodules of phosphate from the surface of mines in northern Nigeria. 'It contributes to family income, and when they are poor, you must be realistic about

their needs,' D'Souza emphasises. It is just not practical to ban all forms of child labour in mines when eliminating poverty is the main aim. 'We have to empower the families,' he stresses. For D'Souza, the best way to improve working conditions for child miners and their families is to give them a fair price for their produce, so that they can invest in safer technology, improve the productivity of adult workers and eliminate the need for children to work. In some mines gold recovery can be as low as 25%. Improving this to even 30-40% would empower the miners financially, and diminish the incentive to take children to work on the mines, according to D'Souza.

'We need to sort out the simple things. A basic crèche on a mine site would work – they have done it in a mine in Burkina Faso. If we could make artisanal mining more productive, there wouldn't be a need to take toddlers and infants to the site,' explains D'Souza.

Women on the workforce

The issue of childcare for the very young arises when women join their male relatives to work on a small scale mine. Although women are mainly involved in the ancillary tasks, such as grading, washing, crushing and sorting ore, they can represent up to 50% of the workforce in some areas, and often get involved in hauling heavy loads and digging.



Female workers at the Bondaye artisanal gold mining site, near Prestea, Wassa District, Ghana

Keeping it in the family

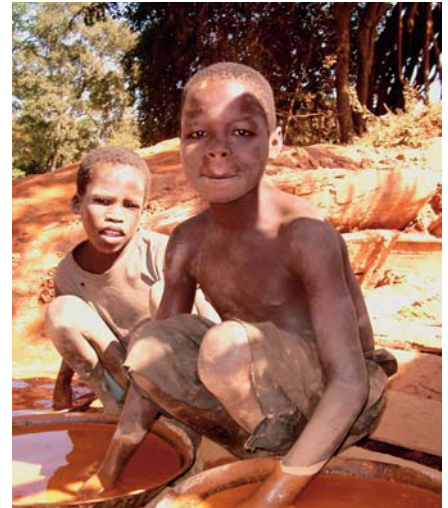
In some communities that rely on artisanal and small scale mining (ASM), the process involves the whole family. Men dig the ore from the mine then take it home in sacks to be sorted and crushed by the women and children. To get the highest yields the ore is finely ground – often inside the home – and fine particulate dust is generated that can be inhaled and damage the health of the children. In gold mining, mercury amalgamation may also be done in the home, and poisonous mercury vapour is released into the living area.

To combat this hazardous activity, schemes have been set up to provide workers with low cost or free retorts to condense the mercury vapour for reuse but have met with mixed results. Workers often feel they need to see the process and, like smoking, are sanguine about the health risks from mercury. In Ecuador, for example, a less efficient but visible system of vapour extraction has proven acceptable and was widely used, leading to lower health risks and less environmental damage. It is important, therefore, to take account of local traditions and concerns and to ensure quick, tangible benefits when offering assistance.

Help eliminate the worst forms of child labour

This year the 4th World Day Against Child Labour on 12 June 2005 will focus on small scale mining. The International Labour Office (ILO) launched the World Day in June 2002 as a means of raising the visibility of the problem and highlighting the global movement to eliminate child labour, particularly in its worst forms. This year, local and national organisations and many children's groups are expected to join with ILO constituents around the world to observe the day, to emphasise the need for the immediate removal of child workers from small scale mines and quarries.

The experience of the ILO International Programme on the Elimination of Child Labour (IPEC), which has conducted pilot projects in Mongolia, Tanzania, Niger and the Andean countries of South America, demonstrates that it is feasible to eliminate child labour in dangerous conditions by helping the mining and quarrying communities acquire legal rights, organise cooperatives or other productive units, improve the health and safety and productivity of adult workers, and secure essential services such as schools, clean water and sanitation systems in these often remote regions. For further information, contact Susan Gunn, ILO, tel: +41 22799 6107.



Children mixing concentrated gold ore with mercury at the Mugusu artisanal mine, Geita District, Tanzania (above)



Young 'cresseurs' screening copper/cobalt oxide ore at the Luputo artisanal mine near Kipushi, Katanga, Democratic Republic of Congo

Normally, says Norman Jennings from the ILO, men and boys bring the ore to the surface, and then women break the rocks down and sieve ore, often working as a family group (see 'Keeping it in the family'). Occasionally, women work for the men, as in Ghana, where for every 10 buckets of ore that they treat, they can treat one on their own behalf and so share in the benefits of the larger operation.

Some women collectively own mines, and have the men work for them. Jennings knows of two occasions where this was the case, and of one woman who owned a hairdresser's shop as well as a small scale gold mine and 'was a formidable boss' according to Jennings. This is not always the case, however, and in some parts of Africa where Islam is the prevailing religion, far fewer married women over the age of 13 can be found on mine sites. Also, superstitions can keep women out of the mines, such as the belief that if a menstruating woman enters the mine, then the gems will sink back underground.

Another area that women contribute is in the provision of secondary services. Young girls and women will often be found at the periphery of a mine site selling tools, bottled water, fruit, and inevitably themselves to the workers in the pits. Although this is an important social issue, as prostitution has implications such as the spread of HIV and the break up of families, the wider issue for artisanal mining is the appalling conditions in which the women miners

themselves are forced to work. Crushing ore manually requires a great deal of strength, and carrying ore is backbreaking work. Girls of 12 or 13 carry pans on their heads weighing up to 25kg, which causes problems with the growth of their bones and can cause long term health problems.

Legal status

A large part of the problem that artisanal miners face is that their activities are carried out outside of the law – up to 75% of artisanal miners are illegal in Uganda, Cameroon and Nigeria, for example – and so they are at the mercy of unscrupulous dealers, who act as middle men between the miners and the western buyers and can control prices. Without regulation the weakest and most vulnerable people – the children and women – are forced to work in appalling conditions for a pittance to help their families, or face starvation.

Of paramount importance to artisanal miners working in developing countries is support from the law, so that they can have access to the money required to improve their working and living conditions. 'We are trying to work in a joined-up way, so that artisanal mining is not a subsistence activity of last resort that is bad for workers, their families and the environment. We want to put them in a formal setting with a legal status that will make obtaining funding easier, and therefore enable responsible, profitable and sustainable artisanal mining,' says Jennings.

Further information

Kevin D'Souza is the Principal Consulting Mining Engineer and African Regional Manager for Wardell Armstrong LLP. Tel: +44 (0)1782 612 626 Fax: +44(0)1782 662882, e-mail: kdsouza@wardell-armstrong.com.

Norman Jennings works for the International Labour Office in Geneva where he is the Mining Specialist and Acting Director of the Sectoral Activities Department. Tel: +41 22 799 7529, e-mail: jennings@ilo.org, website: www.ilo.org/sector.