



Artisanal mining: an economic stepping stone for women

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Artisanal mining is about reaping the riches of the earth to make a living. Artisanal mining is the informal, and more primitive type of small-scale mining. It is usually characterized by individuals or groups who very inefficiently exploit superficial mineral deposits, often illegally and with simple equipment. Artisanal mining is also about women who take employment which involves dangerous working conditions and seldom leads to economic security. Artisanal mining is, furthermore, about women venturing into new and challenging territories and subsequently changing their role. This article on women and artisanal mining is a vignette that underscores all the obstacles to women's fulfilment. These critical and cross-sectoral obstacles are, to cite a few, economic exclusion, discrimination in terms of access to land and natural resources, the increasing feminization of poverty and the lack of recognition of women's valuable work. Two-pronged action is recommended: to give women themselves hope and recognition for their isolated efforts, and that their endeavours are acknowledged breakthroughs; and to reshape the environment, which is oppressing these women, to create a new one. Copyright © 1996

Artisanal mining holds the key to a more independent livelihood for millions of men and women in developing countries around the world. Although artisanal mining is about reaping the riches of the earth to make a more productive living, it seldom leads to economic security. It is an activity that has been, and still remains, a dangerous occupation for millions of workers, almost half of whom are women. However, if carefully regulated, artisanal mining could help women to gain a foothold in new and challenging economic sectors and subsequently improve their role in societies where they are marginalized. Moreover, the improvement of women's role in artisanal mining is inextricably linked to the upgrading and formalization of artisanal mining into a legal and economically viable activity as well as to the creation of an alternative source of employment. The first element of this process includes the improvement in mining conditions and the protection of the environment in which the mining takes place.

What is artisanal mining?

Artisanal mining is usually defined as the practice by which individuals or groups extract, often illegally

and in a primitive and inefficient manner, alluvial and placer mineral deposits. Artisanal mining is an activity that has existed since the earliest days of human civilization, providing materials for ornaments, decoration, tools, and shelter and to carry out trade. It was the exclusive method of mineral recovery until the industrial revolution only a century and a half ago. Still today various countries throughout the world practice artisanal mining, affecting the day to day lives of millions of people.

Most metals and minerals are amenable to artisanal mining, from coal in China and Pakistan, to gold, tin, tungsten and chromite as well as non-metallic (ornamental stones) and industrial minerals (clay), in countries as varied as the Philippines, Bolivia, Indonesia, Thailand, India and Brazil. It is, however, the mining of precious minerals such as diamonds and gemstones, high unit market value materials, that is the dominant form of artisanal mining, as in Angola, Brazil, Zaire and Zambia.

Why address artisanal mining?

The importance of artisanal mining in developing countries around the world cannot be ignored, because in many developing countries it has become an economically important sector since the early 1970s. Increased poverty and subsequent lack of alternative employment, on the one hand,

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and the high price fetched by precious metals, gemstones and diamonds in the international market, on the other hand, have compelled many poor men and women to abandon other activities to swell the ranks of artisanal miners who eke out a living. Millions of mostly poor individuals engage in this activity in some form or another. Revenues from these miners in some developing countries, constitute a significant percentage of rural and national incomes. To some, this form of mining is 'dirty and dangerous, disturbing and destructive, and frequently on the wrong side of the law', an argument which, in part, cannot be denied. It can be argued, however, that with the proper initiatives from national governments, development agencies and NGOs, mining could develop into a safer, cleaner and, in particular, a more profitable activity for a large number of people, especially women.

Current estimates indicate that over six million people, almost half of whom are women, are engaged in artisanal mining. These workers make up more than 20% of the total global employment in all sectors of the mining industry (Noetstaller, 1995). Half of these miners are located in China, while Brazil, India, Indonesia and Zaire host close to 500 000 miners each. Thousands more can be found in countries such as Bolivia, Central African Republic, Ecuador, Papua New Guinea, the Philippines and in countries throughout West Africa.

In many of these countries, artisanal mining is a lucrative business, often accounting for revenues of hundreds of millions of dollars. It has been estimated that, in 1993, one-fifth of all gold retrieved in the world came from artisanal mines.¹ Close to 40% of all diamonds are recovered through artisanal mining operations, as are almost all gemstones such as rubies and sapphires.

For many individuals, particularly those with a 'strike it rich' mentality, this form of activity is an escape from much less profitable means of livelihood, such as subsistence farming. Despite the usually low level of skill required for a miner, average incomes in this sector can be relatively high in comparison to minimum wage levels and incomes paid in other economic sectors (Bocoum and Samba, 1985). In fact, an optimistic vision put forth by John Hollaway, a mining consultant from Zimbabwe with vast experience in artisanal mining throughout Africa, portrays these mines as 'islands of prosperity in a sea of poverty' (Hollaway, 1995). Experience, however, indicates that precious metal/gem stone artisanal mining has not contributed to a lasting economic uplift in the region where undertaken (Labonne, 1993).

Problems associated with artisanal mining: the need for regulation

Artisanal mining is regarded as less environmentally sustainable than formal mining because it does not generate enough economic profit to compensate for the depletion of the mineral resources and the degradation of the environment. However, another school of thought believes that its unsustainability is somewhat tempered because it is, none the less, an economic bonus: artisanal mining generates money from extracting a resource which would otherwise remain in the earth, a resource which is economically unattractive to industrial-scale mining companies.

Both schools are partially right because, as we know, artisanal mining is not carried out in an economic vacuum. It must compete for land with other productive sectors such as subsistence farming and formal mining, often negatively affecting their economic output.

Some of the diverse problems commonly associated with artisanal mining are the inability of artisanal mining to generate long-term economic development; the dangers that come with its practice for miners; and its negative effects on the ecosystem.

Governments lose great amounts of revenue when, for example, minerals are sold on the black market free from government taxation. An example of black market sales comes from the Philippines, where the officially reported production of small-scale gold mines in 1989 was 8228 kg, when in actuality total production was closer to 26 000 kg. In other words, some 18 000 kg of untaxable gold were sold on the black market (*Mining Journal*, 1995). Another recent estimate indicates that governments in sub-Saharan Africa taxed only 20% of the total gold and gemstone recovery, amounting to US\$1 000 billion in value (Noetstaller, 1995).

Much of the blame for the thriving black markets around the world can be attributed to the inability of governments to regulate artisanal mining, as well as the governments' unfair pricing and marketing arrangements, high tax rates and overvalued currency exchange rates, making the black market an attractive alternative for the miners and the middlemen. Although most individuals who evade government taxation, or do not sell their goods to official government buying agencies or authorized buyers, earn more money in the short term, a strong black market actually hurts them in the long term because foreign investors do not want to venture into a market that is not controlled by the particular country's government. In sum, black markets result in a loss of foreign investment that could promote more stable economic development.

With a clear goal of 'formalizing' the artisanal mining sector, governments should subsidize their small-scale mining industries as did Ghana. Over the last six years Ghana's government invested a modest

¹In the 1980s, 70% of Brazil's gold mining operation took place in artisanal mines *garimpos*. Currently it is less than 50%, but is still valued as a US\$1 000 million a year operation.

US\$1.4 million to build regional buying stations that paid world prices to miners selling their modest treasures as well as setting up district licensing centres. So far, Ghana's government has managed to collect US\$140 million of revenues that would otherwise have been lost (Suttill, 1995).

High grading, an inefficient extraction method resulting from the lack of proper mining techniques and financing, also keeps artisanal mining from reaching its full potential. Since miners can often only extract minerals found near the surface, and those which are in large concentrations, they ignore a significant portion of the mine's reserves at depth and leave the less accessible ore in the ground. This consequently provokes costly recommencement operations to recover the remaining reserves before the mine is completely abandoned. Without proper tools and techniques, which can only be acquired with government or non-government financing, ill-prepared artisanal miners will continue to render mines subeconomic, a waste of millions of dollars per year in mining revenue.

Also of grave concern are the abysmal health and safety conditions of the mines. Many artisanal underground operations are poorly supervised by the government, if at all. For this reason many mines operate with inadequate roof support as well as improper lighting and ventilation, the most frequent causes of accidental deaths and injuries. Miners are also often exposed to toxic materials such as mercury vapours, which are emitted during the amalgamation process used in gold recovery. In Tanzania the fatality rate per year in gold mining is 5%, mostly attributed to the lack of safety measures in small-scale mines (Noetstaller, 1995).

Since many of the mining sites are temporary and without proper funding, they often lack proper sanitation as well as health facilities. Hazardous drinking water, for example, a result of poor mining techniques which create large areas of stagnant water, particularly in tropical regions, is responsible for a high rate of infections such as bilharzia, creating havoc in many artisanal mining camps. Pools of stagnant water are also a hot breeding area for malarial mosquitos. Another alarming health trend in many campsites is the current upsurge in HIV/AIDS cases, believed to be exacerbated by the transient nature of artisanal mining. This dangerous health trend will continue until appropriate precautionary measures are taken (Bocoum and Samba, 1995).

Also, when not regulated, artisanal mining can damage the environment in various ways such as generating acid mine drainage, deforestation, destruction of river banks which provide good agricultural land, soil erosion, river silting and the pollution of river systems with mercury from gold mines. In addition, miners sometimes leave behind waste piles and unsecured pits, creating dangers to people and livestock. Without regulation, this form of mining will continue to cause irreparable damage to

the ecosystem. The establishment of environmental standards and the development of post-mining restoration processes could at least help to lessen the negative effects of small-scale mining on the environment.

Women's role in artisanal mining

Women's participation in artisanal mining is an interesting and provocative case study. In the majority of developing countries, and in some economies in transition, artisanal gold/gemstone mining is still mainly an illegal activity, often undertaken side by side with legal or formal artisanal or large-scale mining. It is regarded as an equal playing field for everyone, men and women alike. The areas of precious metals and gemstone mining are viewed by both as a way of making quick money to increase the traditional earnings which result from subsistence activities such as farming and trading.

Although mining has traditionally been regarded as a male activity, artisanal mining is none the less providing women with new employment opportunities yielding higher income, as long as these women are prepared to 'play the game' like their male counterparts. In embracing this activity, a large number of women could fulfil their social and economic expectations better than by carrying out traditional land-resources related activities which had brought little economic autonomy because of the many economic, cultural and legal obstacles.

There is concern about the inability of women to benefit from artisanal mining as much as men. Women have not fully taken advantage of the so-called 'islands of prosperity', like many of their male counterparts, because of their traditional societies. Thus, the future development of artisanal mining must also be concerned about involving women as equal partners (Ofei-Aboagye, 1995).

Close to half of the 6 million artisanal miners are women, but their access to the relative riches of artisanal mining is far from commensurate. Women work in almost all aspects of the operation, especially panning, carrying, washing and sorting of the ore; historically they have done so for generations. Salt mining was a mainstay for women in many African and Asian countries during the pre-colonial period, while the gold rush type of mining, which is typically poverty and opportunity driven, now attracts many women, particularly in Africa and South-east Asia (Labonne, 1993).

In societies throughout the world women have been relegated to a secondary role in many economic sectors. Artisanal mining is no exception. For the great majority of women involved in artisanal mining as labourers there is no light at the end of the pit. Women are often allowed to work only in downstream, labour intensive and low paying tasks. Although these women often work in the same miserable conditions as men, they do not receive equal compensation nor do they

attain the same decision making positions as their male counterparts (Ofei-Aboagye, 1995).

Women are, however, capable of performing any given task, from digging to mineral purchasing. In fact, women have a certain advantage over men for more delicate tasks such as 'panning', which requires agility and care. In Africa particularly this crucial step in the extraction process is a women's specialty. Beyond that there are some places, such as Ghana and Zimbabwe, in which women have stepped up to the challenge of equal responsibility with men and now own their own mining titles. However, limited as these cases may be, they could serve as an example to the empowerment of women in this industry throughout the world.

Women, because of their family responsibilities, are further penalized and are often unable to take full advantage of the employment possibility artisanal mining offers them. Many women cannot spend long hours mining while at the same time rearing a family or taking care of the older generation. This hampers their mobility, rendering artisanal mining, usually a transient activity, extremely difficult.

Furthermore, women are simply reluctant to venture into the mining of precious metals and gemstones despite the fact that it may be more profitable than their usual involvement in small-scale mining. This fear of risk taking stems partly from the fact that women have much to lose and require a certain amount of economic security to support their families. The unpredictable duration of artisanal mining operations in a particular site, dependent on whether or not the mine continues to make a profit, certainly does not provide such economic security. Women, often trapped by their family responsibilities are, most understandably, wary of changes that might jeopardize their livelihoods.

Like other problems associated with artisanal mining, proper regulation by the government and NGO involvement could greatly improve women's ability to gain access to the benefits already available to their male counterparts. In some countries, most notably Ghana and Zimbabwe, governments have actually formulated gender blind legislation in order to ensure, on paper at least, that both men and women have access to mining titles. Although this has certainly not guaranteed equal rights for women, it is, however, a step in the right direction.

Benefits of artisanal mining

If government development agencies and non-governmental institutions take the necessary initiatives to develop artisanal mining into a more efficient, safe, less destructive and equally accessible activity, their societies will enjoy greater prosperity at both national and local levels.

Artisanal mining creates a 'multiplier effect', employing millions of people and generating additional income in rural communities. Mining complements

widespread subsistence agricultural activities, providing an alternative lifestyle and work opportunity for millions of men, women and children. Moreover, the additional income generation can provide peasants with the ability to engage in diversified economic activities, including the production of locally made tools and other inputs used in the mining process. The stimulation of local economies will, in turn, help to reduce the worrisome rural-urban migration taking place in many developing nations.

There are solutions which could sustain the small gains made so far by the women who have selected mining to broaden their horizons. They have chosen a lucrative and innovative activity which could serve as a stepping stone to their economic and social progress. Women, who make up the poorest of the poor throughout the world, can benefit tremendously from this activity. The support of women through technical training, education and financial support by government, development agencies and non-government organizations will help women take advantage of employment opportunities to generate higher incomes.

As expressed by Ms Esther Ofei-Aboagye (1995), the participation of women in the management of this sector has the potential 'to contribute to meeting their strategic needs by creating employment as it can improve their status and expand their range of options'. These options include the ability to earn extra cash in order to mobilize capital for other longer-term activities as well as offering an alternative to farming and, most of all, the ability to lead more independent lives than those dictated by traditional societies. In short, greater participation in artisanal mining could improve women's socio-economic status in developing countries throughout the world.

Recommended initiatives:

Any action aimed at improving the situation of women and artisanal mining must be a mix of top-down and bottom up approaches.² It should be people centred and should promote the development of a solid and equal partnership between men and women. Such action must focus on the two following areas.

²Artisanal mining clearly relates to several of the following 12 areas of concern which stand as barriers to the empowerment of women established during the Fourth World Conference on Women, Equality, Development and Peace, Beijing, 4-15 of September 1995: (1) the persistent and increasing burden of poverty on women; (2) inequalities and inadequacies in and unequal access to education and training; (3) inequalities and inadequacies in and unequal access to health care and related services; (4) violence against women; (5) the effects of armed or other kinds of conflict on women, including those living under foreign occupation; (6) inequality in economic structures and policies, in all forms of productive activities and in access to resources; (7) inequality between men and women in the sharing of power and

Acknowledging the women themselves

Women must be given hope and recognition for their isolated efforts, acknowledging that their endeavours are breakthroughs. This should include:

- gathering data on female participation in mining and a comparison of their roles. This data collection should be undertaken on a participatory basis and should involve operators in the sector, district mining staff, local government officials and others involved in artisanal mining. This will increase awareness of the problem at all levels of the sector. Gender oriented policy analysis and statistics compilation are mechanisms needed to promote the advancement of women;
- publicizing information about the sector and the opportunities it can provide to women in particular;
- image building through awareness campaigns. NGOs can play an important role in this, particularly at the grassroots level;
- publicizing women's initiatives and achievements as small entrepreneurs in general and miners in particular;
- helping to train women in technical areas through workgroups which would provide opportunities for women to meet, share experiences and learn from one another;
- establishment of support associations;
- creating special skills development programmes, in collaboration with gender and management training experts and with resource persons chosen from among successful women artisanal miners, who would provide women with management and personal effectiveness training;
- encouraging women to take risks by showing them success stories about women in the field;
- as a means of fulfilling the previous point, establishing successful demonstration mines with women operators;
- training in managerial as well as technical skills to raise the self-confidence of women.

Reshaping the environment which is oppressing these women to create a new one

To this effect the signatories of the Beijing Declaration (September 1995) are determined to:

- ensure women's equal access to economic resources, including land, credit, science and

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decision making at all levels; (8) insufficient mechanisms at all levels to promote the advancement of women; (9) lack of respect for and inadequate promotion and protection of the human rights of women; (10) stereotyping of women and inequality in women's access to and participation in all communication systems, especially in the media; (11) gender inequalities in the management of natural resources and in the safeguarding of the environment; and (12) persistent discrimination against and violation of the rights of the girl child.

technology, vocational training, information, communication, and markets, as a means to further the advancement and empowerment of women and girls, including the enhancement of their capacities to enjoy the benefits of equal access to these resources, *inter alia*, by means of international cooperation;

- remove legal obstacles; making sure that governments pass legislation that does not prevent women from participating at all levels and also making sure that the governments implement the legislation;
- remove sociocultural taboos through education and awareness campaigns;
- provide women with the proper tools of the trade;
- establish childcare facilities to ease the burden of women's family responsibilities;
- provide access to credit facilities, possibly by creating credit programmes based on already existing micro-credit programmes in other sectors;
- encourage mine safety by helping to close old pits and creating 'safe shelters' for children.

With initiatives such as those enumerated above, mining, both large and small may become a stepping stone towards economic fulfilment, contributing to a better future for women and men in many developing countries.

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