

**ARTISANAL MINING AND POVERTY**

**BY**

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## **I. Introduction**

Artisanal mining is an important source of alternative livelihood in countries endowed with precious minerals. It is estimated that about 6.2 million people worldwide<sup>1</sup> are employed in artisanal mining. One million are employed in Africa, 4.2 million in Asia, and another 1 million employed in Latin America. In Ghana it estimated that about 30,000 people are directly employed in artisanal mining mainly in diamonds and gold mining. Artisanal mining may be seasonal or permanent. It may emerge as people are pushed out of their communities as a result of economic or environmental shock or are pulled into mining areas because of a newly found alluvial mineral.

## **II. Typology of Artisanal Mining**

The type of mining structure determines the extent of its impact on the poor and how to design programs to enhance the livelihoods of people living in the geographical area concerned. Artisanal mining may be classified into four main types: seasonal mining, permanent artisanal mining, shock-push mining, and "Gold Rush" mining.

### Seasonal Artisanal Mining

Seasonal artisanal mining involves the movement of people into mining areas during off agricultural seasons. These migrant miners go to mining areas to find alternative sources of income during idle periods to supplement their annual incomes. The resulting incomes generated can be a source for investment in agriculture during the regular seasons or at times they can be a source of capital for other non-agricultural investments such as trading and other businesses.

### Permanent Artisanal Mining

This involves people who live in large scale commercial mining towns or who have settled there after realizing that the annual incomes from artisanal mining far exceed that acquired by alternating farming and mining within the year as is done by the seasonal miners. They may then decide to stay in the area and spend the entire year mining for these precious metals. In other cases permanent mining may be the only available and lucrative livelihood in the area and that people have no other choice but to be permanent miners. These are instances where miners have to live with the consequences of mining, which may include harsh working conditions with minimal income and endangering their lives through the use of primitive and highly toxic methods of mineral extraction.

### Shock-Push Mining

Shocks such as droughts in one geographical region can force people out in search of greener pastures and artisanal mining tend to be a major source of such a haven. The choice of mining over other sources of livelihood is the result of a perception of minimal investment cost associated with artisanal mining and the anticipated high payoffs. This

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<sup>1</sup> World Bank (1992), ILO (1990) and other sources (1990s)

perception influences the types of technologies used by these itinerant miners resulting in the use of primitive methods which exposes themselves and their families to risky health situations and endangering the environment.

### "Gold-rush" Mining

This type of mining occurs when new easy-to-mine alluvial mining sites are found. The rush is usually the result of a perception that the expected income in mining in these areas far exceeds the current actual income of the people who are lured into it. This, at times, false promise pulls potential prospectors away from their traditional income generating occupations into mining. These miners also seem to have a short-term perspective and the need to maximize their incomes to validate their perception lead them to use mining methods that cause serious injuries to themselves and damages the environment tremendously.

### III. Artisanal Mining and Poverty

Artisanal mining can be a major source of income for increasing the wealth of rural populations and providing opportunities for alternative livelihoods. These incomes can be major sources for other investments in agriculture and non-agricultural pursuits that can support the rural mining community and increase the national product. It is estimated that for every \$1 generated from artisanal mining about \$3 are generated in other non-mining jobs. However, the perceived wage or income differential between mining and non-mining areas may result in movement of people into the mining sector resulting in depressing artisanal mining incomes and plunging a large proportion of artisanal miners into poverty. Thus while mining can be a major source of poverty reduction it may also be a source of increasing the incidence of poverty in mining areas.

The negative effect of artisanal mining becomes even worse when one looks at the social dimensions of poverty especially in terms of health, access to potable drinking water, and environmental degradation.

Because of the use of primitive and low cost technologies by artisanal miners and in their attempt to maximize incomes, they expose themselves and others in the region to a large proportion of neurotoxins. For instance, it is estimated that for every gram of gold produced by artisanal miners, 2-5 grams of mercury are released into the environment. This mercury released metabolizes with organic matter transforming the mercury into methyl mercury, one of the most toxic organic compounds. While the miners and bystanders directly inhale this toxin as they heat the gold-mercury amalgam over open fires, a large amount is released into the immediate environment. The economic benefits from artisanal mining can thus be overshadowed by its negative effect on the health of the poor by exposing them to major health risks.

In addition to individual exposures to these health hazards, artisanal miners pay little or no attention to the environment. Often rivers are polluted and the toxins bioaccumulate in fish and wildlife making the toxins more concentrated and potent as they make their way

up the food chain. Other environmental problems include acid mine drainage, deforestation, soil erosion, and river silting. It is also estimated that the rate of occurrence of fatal accidents in small mining is six times higher than it is in larger operations (UN, 1996). Prostitution among migratory workers is also increasing the prevalence of HIV infections in mining areas.

#### IV. The Vicious Poverty Cycle

Artisanal miners tend to be caught up in a vicious poverty cycle. First, as explained above artisanal miners' incomes are lowered due to large numbers of miners chasing limited resources. This lowering of incomes encourages the use of inadequate and primitive mining technology. The inappropriate technology leads to environmental degradation, which negatively affects the health of miners and eventually their productivity. The low productivity means low incomes and the poverty trap begins again.

The cycle of poverty is exacerbated by failure of governments to recognize and mainstream artisanal mining activities. First, most artisanal miners have no ownership rights to the land that they mine. This implies that they do not have stakes in the land that they mine and therefore have no incentive for managing the resources in a sustainable manner. Because of the illegal nature of the trade, artisanal mining is characterized by increased social instability. Furthermore, because of the illegality associated with artisanal mining, banks and other credit agencies are unwilling to extend credit to miners and therefore they cannot invest in better technologies. Because of breakdown in law and order in most of these mining areas those who have some savings tend to spend a lot of their savings on alcohol, prostitution, and gambling at the expense of productive investment.

For any Poverty reduction strategy to have a chance of success will require that the poverty cycle is broken.

#### V. Strategies for Breaking the Poverty Cycle

Reducing poverty in artisanal mining will require direct interventions that would break the vicious cycle in which they find themselves. It will also require governmental action to formalize the activity to reduce the insecurity associated with their operations. First, efforts should be made to reduce the number of artisanal miners in a given area to raise the level of income among those that will be left behind. This will require the provision of attractive alternative livelihood opportunities. Alternative, livelihoods can be developed in areas such as micro enterprises auxiliary to the mining activity including vending and small stores catering to the miners as well as in agriculture. Second, the activities of the miners should be legalized. This will enable miners to acquire proper legal titles to the land they mine. This process will make artisanal miners more responsive to the environmental degradation and the associated health hazards of their activities. The legalized mines and their claims can also be used as collaterals to banks to access credit. This will further enable them to invest in better technologies and methods. Better technologies will reduce the health hazards but will also help in increasing their

scale of operations and increase their incomes. This may be facilitated by information collection on appropriate technology and methods of production and dissemination to miners. Attempts should also be made to overcome illegal trading of the precious metal by ensuring that governments pay fair prices based on the international prices of the products. Other interventions may be put in place depending on the type of artisanal mining and in relation to the local conditions. Generically, the interventions may include the promotion of friendly mining and processing technologies; providing information on communicable diseases including HIV AIDS, sanitation and occupational health and safety; restricting or regulating child labor; and supporting initiatives for collective and cooperative actions.

## **VI. Conclusion**

Artisanal mining may be a major source of alternative livelihood in an economy like ours where a large proportion of the rural dwellers are in subsistence agriculture. It therefore helps reduce pressure on rural agriculture and to increase incomes in the rural areas. However, depending on the type of artisanal mining and the expected wage or income differential between the mining areas and the non-mining areas the sector can be oversubscribed depressing the average level of income of the miners. In some cases a large proportion of the miners may end up with incomes below the poverty line. In addition the low level of income results in the use of primitive technologies with negative consequences on the environment. Soils are eroded. Waters are contaminated with toxic chemicals. Wildlife and fishes are contaminated and are no longer wholesome. The often-illegal nature of artisanal mining brings along a breakdown in law and order. The low level of education and lack of alternative sources of livelihood and institutions for savings miners get involved in illicit gambling with its associated prostitution resulting in high incidence of HIV infections. The artisanal mining process can entangle in a complex web of poverty cycle that requires direct governmental intervention to release the poor out this vicious trap.

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