Photo Blog: Artisanal Gold Mining in South Africa

Janet Munakamwe details the process of artisanal gold mining by migrant workers in South Africa. This photo blog is a companion piece to the article, Between a rock and a hard place: Informal artisanal gold mining in Johannesburg by Zaheera Jinnah.

The tool shown above is one of the major artisanal tools used by zama-zama(literally translated as ‘we are trying’ or meaning ordinary people trying to make a living in a harsh climate) popularly known as ‘hamura’ (hammer). They use it underground to extract the gold-rich rock. On the surface, it is used at the very first stage of processing to break the rock before pounding it into ‘ash-like’ powder. In a negative sense, it is one of the most dangerous tools zama-zamas use in violent conflicts which are part and parcel of the workers’ daily lives.

Women working with babies on their back on the surface of the illegal shafts are employed by zama-zama who go underground to extract the gold-rich rocks. They grind (kukuya) the crushed rock into ‘ash-like’ fine sand. The majority end up suffering from chest pains and tuberculosis because of exposure to sand with no protective clothing to cover their mouth and sand. Their daily earnings range from R70 –R100. Sometimes they prefer to be paid in ‘sand tribute’ popularly known as ‘vhovho’ which they further process and usually get at least R500 up to R1 000 if the original rock is rich enough. Because of health and safety risks attached to their work, many prefer to work hard for a short period of time and use their earnings as ‘capital’ to start small businesses like ‘chesa nyama’ and pap, the main eating places for zama-zama.

A woman gathering ‘vhovho’ (sand rich in gold particles) as part of her payment for pounding the gold-rich rock. Every particle or grain on the grinding rock is collected as it is believed to contain traces of gold. Women workers claim that they earn at least R500 up to R1 000 per bucket of this kind of sand. Nothing is wasted!

A man-made drainage system where water is used to separate gold from sand. What remains on the carpet are gold particles encroached in impurities. Gold is said to be denser than water and sand particles and would not be washed away by the water as it goes down

the drain. However, mercury is denser than gold hence it is used in the final stages to gather together loose gold particles ready for smelting.

One of the zama-zama undertakes the purification process involving a mixture of water, gold and mercury in order to separate gold from impurities. Mercury will only pick up gold particles which are very small but denser than impurities and water. 'Amalgam' gold, the first 'purified' form of gold before it goes for further refining in formal refineries is the end product of this process. At this stage, the gold is ready for sale in accordance with the prevailing price for that particular day which fluctuated between R350 –R380 (at the time of study) depending on demand and supply.

The powdery sand is drained on a man-made drainage system and the residual left on the 'carpet material' is gold mixed with impurities. Gold is said to be very heavy and cannot be easily washed away by water during the drainage process. The impure gold is placed in a bucket full of water and mixed with mercury to form 'amalgam gold' –a lump of gold. Mercury can only pick up gold leaving out all impurities. Further purification at this stage involves burning the 'amalgam' in a man-made furnace to separate gold from mercury. After this stage, the gold is ready for sale although it will be subjected to further purification in the formal refineries. Gold is sold at prevailing market rate in line with the Johannesburg Stock Exchange for that particular day. At the time of research, the prevailing market price fluctuated between R350 up to R380 per gram.

All *Photography by Alexia Webster and Janet Munakamwe: 13/09/2014*

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The views expressed in this post are those of the authors and in no way reflect those of the Africa at LSE blog or the London School of Economics and Political Science.

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