

**Ministry of Natural Resources  
Tony Shield Memorial Essay  
Competition**

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**Topic:**

**What is green mining concept and how can it be implemented or further implemented in Guyana?**

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According to an article on AZO mining's blog website, "Green mining" is described as the implementation of technologies and mining processes that are aimed at reducing any possible environmental impacts that can occur following the extraction and processing of metals and minerals within a mine.

Basically, it states that green mining is using the best up to date technologies and using mining practices and processes in a way not to harm the environment.

In Guyana, the Ministry of Natural Resources had taken in consideration the practice of "Green Mining" and later began to inform miners and stakeholders about the implementation of the project.

Therefore, since it was conformed that Guyana had taken into consideration the practice of "Green Mining", there are many ways in which it can further be implemented into the mining process in Guyana.

Our country is a mineral-rich state with gold production as its leading economic sector. In 2015, gold accounted for the greatest share of total exports at 42.8 percent of overall exports.

Despite Guyana's modern regulatory and legal framework for mining, enforcement capacity is weak and is further complicated when the bimodal structure of the sector is taken into consideration. Within the current framework, Guyana needs a clearly defined mining policy that clearly considers both large scale and artisanal, small, and medium-scale (ASM) miners, and improve public sector institutional capacity to properly support the sector.

Guyana can make a start in considering the following initiatives to help in following the “Green Mining” concept.

- Adopt a more productive and environmentally friendly technologies & use of technology to aid regulation – With the impending ban on the use of mercury, it is mandatory that mercury-free technology be promoted since studies conducted by staff of the GGMC revealed that mercury-free technologies, are financially attainable.

Earlier in January 18 2017, the project of leading the civil gold mining society towards mercury free practices.

The Vice President of Conservation International Guyana, Dr David Singh, explained that the project aims to fill the growing need to build an integrated approach through which the gold mining sector can participate more effectively in the green economy.

The project which is called “A supply chain approach to eliminating mercury in Guyana’ s Artisanal and Small Scale Gold Miners (ASGM) sector: El Dorado Gold Jewellery- Made in Guyana” is being funded by the Global Environment Facility’ s (GEF) under the Global Opportunities for Long-term Development in ASGM

Last year in 2018, Mining Week 2018 got underway with a symposium which sought to explore how to achieve greater recovery through green mining.

The seminar was hosted by the Ministry of Natural Resources at the Arthur Chung Conference Centre (ACCC) today and featured a panel consisting of Guyana Geology and Mines Commission (GGMC), Conservation International Guyana, the World Wildlife Fund (WWF) and the Guyana Gold and Diamond Miners Association (GGDMA).

Panellist and Mineral Processing Engineer at GGMC, Quinton Johnson, noted that the regulatory body has been exploring various recovery techniques to present to the miners. They shared past, current and future projects which are geared towards greater recovery in the mining of gold and making the practice more responsible.

The idea of using the mercury free method in gold mining, was suggested and the representatives stated that this would allow for the extraction of gold from a chlorine solution produced from a mixture of pool acid and bleach.

Conservation International and WWF also shared their upcoming projects and CI's Eldorado Gold Project proposed that they would work with small-scale miners in Regions Eight and Nine to explore mercury-free mining by 2025 along the supply chain from prospectors to producers.

It was noted during the seminar that miners were interested in working with the regulatory agency and other partners towards more green mining but needed technical and financial support.

Some other ways Guyana could also further implement the “Green Mining” concept are as follows:

- Close all illegal and unregulated mines

This promotes environmental careless mining and it also provides a basis for illegal activities. In Guyana, a mining license is required before the starting of the processes of mining begins and illegal miners often do not have license.

- Proper disposal of chemical wastage

During the mining process, many toxic chemicals are disposed and released into water ways. This causes pollution and it harms the organisms present in the water. Although there are pipe line leading to the proper disposable site, leakages are often common and it occurs.

- Promote Progressive reclamation and re-vegetation – The Mining Regulations of 2005 require the submission of a Mine Reclamation Plan and Closure Plan. However, it is not compulsory for small-scale miners to reclaim or re-vegetate the mine site after ceasing operations.

In Guyana, as miners clear their land to begin their process of mining, re-vegetation sometimes does not take place. With this procedure we will be able to take part in re-forestation and our forests will be preserved and also the animals within their specific habitats.

- Restructure and strengthen the government agency(ies) that regulates and promotes mining. In its current form the lead regulatory agency struggles with its mandate, given the number of miners who operate in the sector of mines officers. This problem may be addressed in several ways:

- Rather than granting miners' claims that are far apart, they could be focused in specific locations.

- Alternatively, claims could be granted to small groups (clusters) rather than individuals.

- Increasing awareness and providing training to miners on environmentally friendly practices.

- Prospecting mining areas before granting concessions.

- Establishing revolving loan funds, clustering and equipment sharing, and promoting the formation of holding mining cooperatives.

- Better legislation and regulations

Standard legislation concerning the efficiency of mining is a long way off from being the most productive and most strict government mandates that exists today. Of course there are necessary regulations and laws to be followed in the mining industry by all miners, need for improvement is always there in this industry. There is a need of a kind of federal regulation that will not only protect environmental and public health, but that will improve the lifespan of the mining industry.

- Efficient monitoring of the processes and operations of mining to ensure all regulations are followed. It is both beneficial towards the environment and the miners because it helps to prevent health hazards and accidents in the mines.

Therefore, since it proves that Guyana has already taken into consideration the “ Green Mining” concept, it can further be implemented using the above suggestions because it would be beneficial towards the environment and the country.