

Article for Earth Day

The Environmental Protection Agency (EPA) celebrates with the world this year's Earth Day and theme "Restore Our Earth" let us stand against deforestation and land degradation.

Mining in Guyana, despite its positive impact towards the country's Gross Domestic Product (GDP), may contribute to deforestation, and land degradation throughout the construction and operational phases. Habitat destruction and fragmentation caused by land clearing activities result in the loss or death of biodiversity and while several species (both flora and fauna) are affected by this impact, it is especially detrimental to one of the world's most beneficial insect; the bee (*Hymenoptera: Apoidea*).

The community dynamics and structure of bees depend heavily on pollinator friendly habitats such as trees, shrubs and other foliage found within the tropical rainforest environment. The destruction or degradation of these safe nesting spaces result in the loss of diverse food sources needed for them to maintain a healthy diet as well and the potential interruption of plant-pollinator relationships (Smith and Mayfield, 2018).

According to national geographic kids, *"over the past 15 years, colonies of bees have been disappearing, and the reason remains unknown. Referred to as 'colony collapse disorder', billions of honey bees across the world are leaving their hives, never to return. In some regions, up to 90% of bees have disappeared!"*

The loss of this very important species is alarming but also has implications on a country's ability to restore the environment and eco-system services after mining is completed. The reduction of the main pollinators in the natural environment, may result in a decrease in the rate of natural regeneration and flowering of trees, the transpiration and evaporation of water, the natural fertility of the soil due to the limited tree cover, carbon sequestration, loss in soil stability, the growth of trees, the production of food, and further loss of biodiversity.

Therefore, with our focus on the mining industries and the chain reactions involved in these processes, let us "Restore Our Earth" and maintain its integrity by promoting some appropriate actions that can be taken by the mining industry to reduce the potential impact on biodiversity:

1. Collaborate and data share with key governmental organisations such as the Environmental Protection Agency (EPA), Guyana Geology and Mines Commission (GGMC), Guyana Forestry Commission (GFC) and non-governmental organisations.

2. Consider, before establishment, appropriate reclamation strategies and Forest Landscape Restoration (FLR) methodologies to adopt after the closure of mining operations.
3. Practise progressive reclamation during the lifespan of the Mine.
4. Support localised activities engaged in eco-system restoration.
5. Engage in continuous awareness training and capacity building development of workers in best management practices for restoration.

By Saudia Sadloo - Trotman

References

Smith, Tobias and Mayfield, Margaret (2018). "The effect of habitat fragmentation on the bee visitor assemblages of three Australian tropical rainforest tree species" *Ecology and Evolution*, 8(16):8204-8216 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6144977/>

<https://www.natgeokids.com/za/discover/animals/insects/honey-bees/> retrieved April 16, 2021