

Reclamation of Nature After Mining: Ecological Problems

Introduction

The extraction of minerals from the Earth's crust has significant environmental impacts that require careful management to minimize ecological damage. Once a mine is closed or exhausted, it leaves behind large areas with disturbed landscapes, altered ecosystems, and contaminated soil and water resources. The process of restoring these degraded lands back to their original state or converting them into productive land uses is known as reclamation.

Ecological Issues

Land Degradation: Open-pit mines create vast open spaces where vegetation is removed, leading to erosion and loss of topsoil. This makes it difficult for native plants to regrow naturally.

Water Pollution: Heavy metals such as lead, zinc, copper, cadmium, etc., leaching out from waste rock piles can contaminate groundwater sources. Acid mine drainage also poses serious threats to aquatic life in nearby rivers and lakes.

Air Quality: Dust particles generated during excavation activities may spread over long distances affecting human health through respiratory diseases like asthma and lung cancer.

Biodiversity Loss: Habitat destruction due to deforestation results in reduced biodiversity levels which further exacerbates ecosystem imbalance.

Climate Change: Greenhouse gas emissions associated with energy-intensive processes used in mining contribute towards global warming.

Solutions

To address these challenges effectively, various strategies have been adopted by governments worldwide including legislation enforcement, technological advancements, community engagement programs aimed at improving awareness among local communities regarding sustainable practices.

Tasks

1 Questions

1. What are some common methods employed for reducing dust pollution caused by mining operations?
2. How does acid mine drainage affect aquatic organisms living near abandoned minesites?
3. Explain how greenhouse gases emitted during mining contribute to climate change.
4. Describe two ways in which biodiversity loss occurs because of mining activities.
5. Why is it important to restore mined-out sites back to their former condition before exploitation began?
6. Discuss three measures taken globally to mitigate negative effects arising from mineral extraction industries.

2 True or False Statements

1. Mines do not cause any harm to wildlife habitats.
2. Groundwater contamination happens only when toxic chemicals leak directly into underground reservoirs.
3. Erosion leads to soil degradation making it impossible for new plant growth.
4. Airborne particulates released during mining operations pose no threat to public health.
5. Restoration efforts involve planting trees but exclude other forms of flora.
6. All countries follow similar regulations concerning post-mining site rehabilitation.

3 Fill in the Blanks

1. ___ refers to the restoration of damaged environments resulting from industrial activity.
2. Soil erosion increases the risk of ___.
3. Water bodies close to inactive mines suffer from high concentrations of heavy ___.
4. Loss of forests contributes significantly to declining levels of ___.
5. Emissions produced while extracting ores add up to increased amounts of harmful ___.
6. Local residents must be educated about proper waste disposal techniques to prevent additional damage done by improperly disposed wastes.

4 Find English Equivalents

1. Экологическая проблема
2. Загрязнение воды
3. Воздушное качество
4. Утрата биоразнообразия
5. Изменение климата
6. Законодательство