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Land Restoration, Nine Miles (August 2016), © Whitten Research Centre

PROMOTING BEST PRACTICES IN ENVIRONMENTAL MANAGEMENT OF THE MINING & QUARRYING SECTOR IN JAMAICA
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JET is a non-profit, non-governmental membership organization operating in the island of Jamaica. Formed in 1991, we are a registered charity under Jamaican law and our main focus is environmental education and advocacy. Our vision is: Jamaicans are knowledgeable and concerned about the environment and this is reflected in their lifestyles and behaviour, environmental issues are given high priority and are an integral part of national development objectives, and natural areas are valued, protected and properly managed.

IAF is an independent US government agency created by Congress in 1969 to channel development assistance directly to the organized poor in Latin America and the Caribbean. The IAF has carried out its mandate by responding with grant support for the most creative ideas for self-help received from grassroots groups and non-governmental organizations. It also encourages partnerships among community organizations, business and local government directed at improving the quality of life for poor people and strengthening democratic practices.

JET and IAF also acknowledge the World Resources Institute (WRI) for its assistance with reviewing the STRIPE (Strengthening the Right to Information for People and the Environment) Assessment.

Every effort has been made to ensure the accuracy of this material which will be under frequent review. We invite input, corrections and suggestions for improvement.

September 2015

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<td>Access to Information Act</td>
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<tr>
<td>CAP</td>
<td>Clarendon Alumina Production</td>
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<tr>
<td>CCJ</td>
<td>Caribbean Court of Justice</td>
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<td>EAP</td>
<td>Environmental Assessment Practitioner</td>
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<td>ECHO</td>
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<td>Environmental Impact Assessment</td>
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<td>EITI</td>
<td>Extractive Industries Transparency Imitative</td>
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<td>EPL</td>
<td>Exclusive Prospecting Licence</td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GOJ</td>
<td>Government of Jamaica</td>
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<td>IAF</td>
<td>Inter-American Foundation</td>
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<td>ICMM</td>
<td>International Council on Mining and Metals</td>
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<td>IUCN</td>
<td>World Conservation Union</td>
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<td>JBI</td>
<td>Jamaica Bauxite Institute</td>
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<tr>
<td>JCF</td>
<td>Jamaica Constabulary Force</td>
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<td>JDF</td>
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<td>JET</td>
<td>Jamaica Environment Trust</td>
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<tr>
<td>MICC</td>
<td>Mining Industry Coordinating Council</td>
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<td>MSTEM</td>
<td>Ministry of Science, Technology, Energy and Mining</td>
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<td>NEPA</td>
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<tr>
<td>NGO</td>
<td>Non-governmental organization</td>
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<td>NRCA</td>
<td>Natural Resources Conservation Authority</td>
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<td>PM 10</td>
<td>Particulate Matter</td>
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<td>SEPL</td>
<td>Special Exclusive Prospecting Licence</td>
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<td>SML</td>
<td>Special Mining Lease</td>
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<td>STRIPE</td>
<td>Strengthening the Right to Information for People and the Environment</td>
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<td>Terms of Reference</td>
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<tr>
<td>TSP</td>
<td>Total Suspended Particulates</td>
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<tr>
<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<tr>
<td>WRA</td>
<td>Water Resources Authority</td>
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EXECUTIVE SUMMARY

Mining and quarrying has contributed significantly to the Jamaican economy over the last six decades, providing employment and revenue for the country. The sector has, however, also had harmful environmental and social impacts causing air and water pollution, displaced communities and loss of traditional livelihoods. Better environmental management can reduce risks of harm to the environment and public health, increase transparency and public participation and promote a more just society.

In 2011, Jamaica amended its Constitution to include a right to a healthy environment: “The right to enjoy a healthy and productive environment free from the threat of injury or damage from environmental abuse and degradation of the ecological heritage”, a constitutional guarantee to ensure the highest safeguard for environmental protection. While there are a range of sectoral laws to manage the mining and quarrying sector, the scope of provisions for mitigating impacts to the environment, ensuring appropriate rehabilitation of lands, promoting community engagement and public participation and ensuring comprehensive access to environmental information are limited.

This report examines gaps and challenges in the existing legal framework and local practices for managing mining and quarrying impacts in Jamaica. Recommendations for specific areas of legal reform to incorporate a range of best practices are suggested. These include international guidelines, standards and practices in other countries which highlight principles and approaches to environmental management. For example, the Fundamental Principles for the Mining Sector (Berlin Guidelines 1991 revised 2000), the United Nations Environmental Guidelines for Mining Operations, the 1992 Rio Declaration on Environment and Development (the Rio Declaration), standards set by voluntary initiatives such as The Extractive Industries Transparency Initiative (EITI) and guidelines from the International Council on Mining and Metals (ICMM).

Environmental safeguards

Best practices encourage the use of procedures such as Environmental Impact Assessments (EIAs) to screen proposals for new mines and quarries to identify and mitigate environmental impacts. Jamaica’s legal system does not mandate screening all proposed operations through the use of EIAs and there are no legal provisions on how EIAs should be conducted. While the sectoral laws give the relevant ministers of government the power to establish “No Go” areas where mining and quarrying is prohibited, this is a discretionary power which can be waived or varied. Further, laws establishing protected areas do not prohibit mining or quarrying in these areas.
Community engagement

Principle 10 of the Rio Declaration and other international standards promote public participation in the decision making process for matters affecting the environment.\(^1\) Meaningful public participation requires adequate and early notification procedures that ensure the public is effectively informed of a proposed project. Providing reasonable periods for commenting on projects and measures to ensure consideration of these comments by decision-makers can result in better decisions, increased transparency and the possibility of greater public acceptance of the project.

Community engagement in the mining and quarry sectors has been problematic in Jamaica. The legal framework for mining and quarrying requires very limited public notification of plans to establish new or renew existing operations. In the case of the mining sector, court orders can be used to obtain and enforce access to land owned by citizens. Compensation schemes are limited and dependent on resort to courts to resolve disputes. In particular, the laws relating to quarrying have no provisions outlining requirements or procedures for compensation.

Closure and Rehabilitation

The current procedure for rehabilitation and closure of mines in Jamaica does not use international best practices in environmental management. Rehabilitation of mined out areas is critical to ensure sustainable use of land for other purposes after mining or quarrying operations have been completed. The legal requirements for rehabilitation do not include comprehensive provisions to ensure adequate deposit of security commensurate with the costs of rehabilitation or appropriate and planned end uses that consider the complex mixture of environmental, social, economic and development needs of communities and other stakeholders.

Transparency and Access to Environmental Information

The STRIPE methodology was used to assess the state of access to environmental information in these industries. STRIPE, *Strengthening the Right to Information for People and the Environment* – was developed by the World Resources Institute (WRI) and uses over 100 indicators to evaluate implementation of a country’s Freedom of Information laws and proactive disclosure of information on air and water pollution, facility-based monitoring, permitting, and enforcement action.

Jamaica enacted the Access to Information (ATI) Act in 2002 which gives everyone the general right to obtain official documents from most government authorities. This right is supported by

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\(^1\) See also Chapter 8.4(f) and 8.18 of Agenda 21m the Programme of Action for Sustainable Development, the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (“The Aarhus Convention”), the European Union EIA Directive and the International Association for Impact Assessment standards.
the establishment of an Access to Information Appeals Tribunal which receives complaints from the public in cases where information has been refused. Jamaica’s ATI Tribunal has ruled in favour of disclosure of industry maps showing mined areas, for example. Challenges in accessing environmental information include limited proactive release and dissemination of information, limited access for poor or affected communities due to the location of information in centralised places or websites, costs to search for and obtain copies of information and the availability of information in understandable, non-technical formats. The STRIPE assessment findings show that there is comparatively greater proactive disclosure of environmental information for mining operations as compared to quarries and generally for both industries there is insufficient disclosure of information related to water pollution in comparison to releases into the air.

**RECOMMENDATIONS**

**Environmental safeguards**

The EIA Regulations to be introduced by the Government of Jamaica (GOJ) should include provisions that require applications for new mining and quarry projects to be screened to ensure that any risks are mitigated at an early stage. The Regulations should at minimum include:

- A list of the type of projects where an EIA would be a mandatory requirement, due to their potential impact on the environment and public health. Mining and quarrying would be included in this list.

- Requirement for EIA to be prepared by a person who does not have a personal, professional, or financial interest in the proposed project or ties to the project proponent.

- Requirement for a certification process for EIA consultants whereby only qualified consultants are authorized to conduct EIAs.

- Minimum requirements for the conduct of a public meeting. These include:
  - A neutral chairperson
  - Adequate time for questions and comments to be raised by the public
  - Provision of a non-technical summary of the EIA
  - Notifying the public of the meeting using varied methods appropriate for local communities and the general public and a specified reasonable notice period for receiving public comments on the EIA and project
  - Verbatim notes of the meeting which should be submitted to the National Environment
and Planning Agency (NEPA) or the Natural Resources Conservation Authority (NRCA) and made available to the public within a specified time frame.

- A specialized review body with responsibility for examining EIAs and ensuring that the reports meet content and quality requirements set out in the Terms of Reference.

**“No Go” areas**

The Government of Jamaica should introduce regulations that specifically prohibit mining and quarrying within protected areas. These “No Go” areas would include protected areas, national parks, marine parks, and environmental protection areas declared under the Natural Resources Conservation Authority Act, national monuments or heritage sites declared under the Jamaica National Heritage Trust Act, forest reserves declared under the Forest Act and special fishery conservation areas declared pursuant to the Fishing Industry Act.

**Community Engagement and Participation**

General practices that support community engagement and participation include the following:

- Conducting baseline and ongoing health studies
- Ensuring community participation in independent audits and verification of compliance with regulations and commitments
- Obtaining the prior and informed consent of Maroons for use and occupation of their land

The following specific practices relating to the EIA process are also recommended:

- Public notification of the EIA and proposed project early in the decision-making process. The public should be notified that an application has been received for a mine or quarry operation and invited to submit recommendations for the content or Terms of Reference for the EIA. The notification should state *inter alia*:
  - The proposed activity;
  - The nature of possible decisions or draft decisions;
  - The participation procedures which will be employed;
  - The public authority responsible for the decision;
  - The public comment process being used;
  - The opportunities to participate;
  - The time and venue for any public hearings;
- The public authority from which relevant information can be obtained and where such information has been deposited for public viewing;
- The public body to which comments or questions can be submitted;
- Environmental information that is available about the proposed activity;
- The fact that the activity is the subject of an EIA.

- During the preparation of the EIA, the local community where the proposed mine or quarry operations will take place should be specifically consulted and their comments and concerns recorded in the actual EIA document.

- One the EIA is completed, the public is notified and invited to submit comments on the EIA and the proposed project. Public consultation should include accessibility of the EIA and supporting documentation relating to the proposed project, a public hearing to discuss the EIA and proposed project, a reasonable minimum period for submission of public comments to the NRCA with the discretion to extend (but not limit) the time period. The public should also be notified of the decision taken and reasons for the decision.

- Notices should be published multiple times in a daily newspaper and of a size/form specified in Regulations. Notification should also be disseminated through other means appropriate to inform the public (e.g. radio, local notice boards, the NRCA/NEPA website and erected on the land for the proposed project).

- The EIA regulations should outline certain circumstances where the public would be allowed to appeal to and seek relief from an independent court or tribunal for alleged breaches of key procedural aspects of the EIA process including in the following circumstances:
  - Where a decision is taken that an EIA is not required
  - Where the public participation procedure has not been complied with
  - Where the permit conditions have not been complied with
  - Where a proponent commences a project without obtaining relevant approvals

**Land Acquisition, Compensation and Resettlement**

The Mining Act and related regulations should be amended to require that resettlement of people and communities from land required for mining purposes should be undertaken voluntarily. When
undertaken, resettlement should take into account the needs of the individual or community (e.g. access to essential services and adequate infrastructure such as roads, electricity and water supply).

To ensure transparency and accountability, legislation should also require that all payments and expenses related to resettlement and compensation should be publicly disclosed.

**Closure and Rehabilitation**

The Quarries Control Act and mining legislation should be amended to introduce mandatory requirements for depositing adequate bonds for rehabilitation in the event of non-performance, which would vary depending on the size and characteristics of the land and the costs to hire a third party to complete the rehabilitation.

Mining and quarrying companies should be required as a condition of their approval to develop closure plans in consultation with relevant local authorities and affected communities to ensure plans take into account a sustainable end use that meets the needs of the communities.

**Monitoring, Enforcement and Compliance**

The EIA Regulations should set out a variety of civil and criminal remedies available to authorities where a breach of the permit conditions is identified or where the activity begins without a permit. These should include:

- Injunctive relief to stop the offending activity
- Fines that are sufficiently high to serve as a deterrent
- Restorative orders to require the proponent to restore the land and natural resources to its original state prior to the activity

**Transparency and Access to Information**

Government agencies should proactively disclose information that can affect the environment and health of communities so that they are informed and can make decisions to protect their well-being. The findings of the STRIPE assessment suggest a need to reform legislation to include a mandatory requirement to release information on pollution from the mining and quarrying sector. The public should have more information about the pollution released from industries in their local communities than is currently provided for in legislation and practice. Legal requirements for
such disclosure should be introduced in the Access to Information Act, Water Resources Authority Act, the Mining Act and the Quarries Control Act.

Information that should be publicly available without the need to make a request for information includes:

- The level and types of pollutants discharged in air and water bodies used for domestic needs (ambient air and water quality)
- Current air and water quality data, in particular for areas located in proximity to mining and quarrying operations
- Regulatory and monitoring information such as enforcement action taken by regulators and actions related to compliance

To improve active transparency, EIA Regulations should provide a legal requirement for free and prompt public access to all information relevant to the EIA process while the EIA is being conducted and during the construction and operation of the proposed project. This information should be open to the public free of charge and include at minimum the EIA, the Terms of Reference for the EIA, the application form and supporting documents for the proposed project and reports submitted to the relevant authorities.

**Improve Understandability of Information**

In an effort to make environmental information more understandable and useful for local communities, the environmental regulatory agencies should present this information in graphic representations using maps, charts and symbols to identify risks and demonstrate breaches or compliance. The data should also be linked to information on corresponding enforcement action taken and the risks associated with these pollutants. See for examples the Environmental Protection Agency’s website on Enforcement and Compliance History Online (ECHO) which is an interactive database that provides graphic representations of compliance records for regulated facilities and allows the public to search the compliance records for companies including permit data, inspection dates and findings, violations, enforcement actions and penalties assessed.

Information should also be accessible in a wide range of places and formats during all stages of collection and analysis including on the internet, television, radio, newspaper, paper records and mobile phones. It must be also be reliable, current and up-to-date and comprehensive.
Support Community Capacity to obtain Information to Improve Local Environments

Capacity building, awareness and training programmes for civil society should be established, in particular for affected communities to improve their ability to obtain information using the Access to Information Act, assist them to interpret data on pollution control and to understand the contents and process for EIAs.

The fees for conducting searches of the mining public register and air pollutant discharge registry are prohibitive and should either be lowered to make information more accessible or eliminated.
INTRODUCTION

With an estimated contribution to Jamaica’s Gross Domestic Product (GDP) ranging from 3.8% in 2008 to 2.3% in 2013, the mining and quarrying sector represents an important component of the Jamaican economy. Mining and quarrying has been ongoing for centuries in Jamaica beginning in the 18th century colonial period and expanding in the 1950s after North American aluminium companies established bauxite mining and refining operations across the island. Today, Jamaica is one of the top producers of alumina worldwide with its share of the total global alumina production ranging from 7.3% in 2001 to a low of 3.9% in 2009 following the economic downturn and resulting production cutbacks and plant closures. The economic crisis of 2008 resulted in serious drawbacks to the sector with a decline in employment by 50.2% in 2009. In 2014, it was estimated that Jamaica produced 9,676,697 metric tons of bauxite compared to a high of 15,070,877 metric tons in 1974.

The quarrying sector’s contribution to employment is significant with approximately 285 licensed and active quarries employing more than 1,500 people directly as at 2011. The bauxite industry has four active companies and employs an estimated 2,049 people as at 2014.

What is Mining and Quarrying?

**Mining** is the excavation, removal, transportation and processing of minerals (e.g. bauxite, aluminium) and precious stones and metals (e.g. gold) from the Earth. **Quarrying** is the excavation and removal from the Earth’s surface of minerals and materials not covered by the Mining Act that are used in the construction industry (e.g. rock, stone, gravel, clay, gypsum, sand, limestone).

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8 The mining companies currently in operation are 1) West Indies Alumina Company (WINDALCO) – wholly owned by United Company Rusal, 2) Jamaica Alumina Company (JAMALCO) – partnership between the Jamaican owned Clarendon Alumina Production Limited (CAP) and US based company ALCOA, 3) Alumina Partners of Jamaica (ALPART) – wholly owned by United Company Rusal and 4) Noranda Jamaica Bauxite Partners.

Negative social and environmental impacts associated with mining and quarrying have been extensively documented. Environmental impacts include the removal of forests, loss of vegetation and fertile land, loss of biodiversity, impacts to public health from air, water and soil pollution. Social impacts include the displacement of individuals and communities relocated to allow access to mineral bearing lands and the loss of traditional livelihoods such as farming.

Community members frequently complain about dust nuisance, respiratory illnesses and suspected water and soil contamination from “red mud” (a caustic sludge of by-products from bauxite processing) held in large lakes or ponds. A 2007 study by Dr. Patrece Charles-Freeman investigating the effects of air pollutants on the health of those living in proximity to JAMALCO’s alumina refinery plant in Clarendon, Jamaica, concluded that adults and children living within six miles of the plant suffered from higher levels of respiratory illnesses than those living further away.10

Further, rehabilitation of mined-out areas is tardy and compensation for communities has been inadequate on several occasions.11 Communities lack access to affordable legal and technical assistance when engaging with mining and quarrying companies. Few residents in these communities have been able to afford legal action against mining companies that refuse to compensate them for the impacts of pollution or the loss of land and crops.12

The Government of Jamaica (GOJ) has proposed key strategies and actions to reform the minerals industry in the Draft Minerals Policy and Vision 2030 Mining and Quarrying Sector Plan – Jamaica’s road map to achieve develop country status by the year 2030. These include measures to ensure good environmental stewardship and to ensure the health and safety of communities and workers.13

This Guide was developed to assess the state of Jamaica’s laws and practices in the mining and quarrying sector by examining the regulatory framework for permitting, monitoring and mitigating the environmental impacts of mining and quarrying, as well as community and individual rights to obtain information, to participate in decisions and to obtain justice (access rights). The STRIPE methodology was used to assess the state of access to environmental information in these industries. STRIPE, *Strengthening the Right to Information for People and the Environment* – was developed by the World Resources Institute (WRI) and implemented in Indonesia and Thailand. The research method uses 100 indicators to evaluate implementation of a country’s Freedom of Information laws and proactive disclosure of information on air and water pollution, facility-based monitoring, permitting, and enforcement of environmental information.

Best practice environmental management in mining and quarrying demands a continuous, integrated process through all phases of a project, from initial exploration to construction, operation and closure. It requires careful planning and commitment from all levels and groups within a mining company and the industry regulators. Where relevant and appropriate, local practices are highlighted and compared to international standards, guidelines and best practices from other countries. These principles of best practice include:

- Ecologically sustainable development
- Intra and inter-generational equity
- Accountability and compliance with international human rights and environmental standards and principles
- Adherence to the Precautionary Principle
- Well informed and trained staff
- Effective communication and openness
- Flexibility
- Continuous evaluation and improvement
- Openness and transparency

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14 Best Practice Environmental Management in Mining, Overview of Best Practice Environmental Management in Mining available at: www.apho.org.uk/resource/view.aspx?RID=93778
ENVIRONMENTAL, SOCIAL AND HEALTH IMPACTS

As part of its ecological heritage, Jamaica’s primary and secondary forests cover approximately 336,000 hectares, roughly 30% of the entire island. The rate of deforestation per annum is approximately 0.1% or 350 hectares of forest lost per year (FAO Global Forest Resources Assessment, 2010). Historically many factors have contributed to the degradation of Jamaica’s forest cover including the conversion of forest cover for mining and quarrying purposes. It is estimated that between 1952 and 2006, 7,473 hectares of land representing 0.8% of Jamaica’s total land area had been mined. Jamaica’s 2011 Draft Minerals Policy reported that as at the end of 2010, 71.6% of the total area mined since 1952 had been certified as being “satisfactorily restored”. Affected areas include sections in the parishes of Manchester, St. Catherine, St. Elizabeth, Clarendon and St. Ann.

WATER QUALITY

Mining and quarrying can have serious impacts on rivers, streams and aquifers (underground water). These impacts include:

- Sedimentation from dust and fine material in surface waters, drainage channels and collection areas for water tanks and cisterns
- Degradation of water quality, affecting drinking water supplies for communities
- Blocking of rivers and natural drainage by leftover waste piles (tailings), causing flooding
- Compromising of river ecosystems due to bank erosion, harm to wildlife or turbidity

For over 30 years, the residual waste from refining bauxite into alumina known as ‘red mud’ was disposed in unsealed mined out pits. According to the Water Resources Authority, approximately

200 million cubic metres of groundwater have been contaminated as a result. Additionally, there have been occasional spills at the alumina processing plants into waterways (rivers, gullies, streams and sinkholes). This contaminated water can show high levels of sodium (>5000 mg/l) and pH (>10.5) concentrations associated with the caustic soda found in 'red mud'. High pH levels can lead to fish kills in rivers and is unsafe for drinking.16

**Impacts on water resources in the Bull Bay community in St. Andrew**

Bull Bay, a community of over 3,000 people, is located near a cement company’s quarries on Jamaica’s south coast, in the parish of St. Andrew. Residents of the community have frequently complained about high levels of dust and impacts to the rivers. In 2002, during a period of heavy rainfall, sedimentation and tailings entered the Bull Park River and blocked the drainage in the Bull Bay community. This resulted in excessive water and sediments overrunning the banks of the river and flooding the community.

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AIR QUALITY

Airborne emissions can occur during all stages of mining and quarrying. Bauxite companies conduct extensive monitoring of the ambient air quality around their facilities and operations accounting for 44 of the total 62 air monitoring stations in Jamaica (91%).\(^{17}\) Air quality data released for the year 2012, shows that of the total emissions from regulated facilities, the bauxite and alumina sector is responsible for 56% of Particulate Matter, 45% of Sulphur Oxide and 33% of Carbon Dioxide emitted into the air.\(^{18}\)

Impacts of bauxite alumina processing on air quality in Hayes, Clarendon

The Hayes and New Town communities have a combined population of over 12,000 people and are located near the JAMALCO alumina refinery. NEPA, which monitors and regulates the discharge of air pollutants from major facilities reported in 2012 that sections of these communities were being exposed to high levels of Particulate Matter (PM 10) and Total Suspended Particulates (TSP). Measurements taken in 2012 in a schoolyard in Vere Plains, Clarendon show that this community is heavily impacted by Particulate Matter (PM10) from the JAMALCO facility with annual average concentrations exceeding the Jamaica Ambient Air Quality Standards and putting the community at a 'high level of exposure risk to long term impacts'.


The main impacts to air quality include:

- Windborne dust pollution, causing or exacerbating respiratory illnesses especially in children and the elderly
- Rusting of tin roofs
- Reduction of agricultural productivity, due to dust settling on leaves of plants and reducing transpiration
- Changes to soil chemistry
- Emission of greenhouse gases from alumina and cement refineries which contributes to climate change.

**BIOLOGICAL DIVERSITY**

Biological diversity or biodiversity is defined as the variety of life forms found on earth, including all the natural functions that support life. Jamaica is rich in biodiversity with an impressive list of endemic terrestrial species found nowhere else in the world: approximately 921 plants (27.9% of a total of 3,304 plant species including 579 types of ferns), 505 land snails, 9 crabs, 45 fireflies, 22 amphibians and 5 mammals, 133 species of butterflies, 67 species of land birds and 39 species of shore and seabirds.\(^\text{19}\) Mining is considered one of the main threats to both the diversity and distribution of wildlife in Jamaica.\(^\text{20}\)

The main impacts of mining and quarrying on biodiversity are:

- Reduction or degradation in quality of forests, vegetation and other habitat for resident or migrating wildlife
- Alteration of microclimates, affecting the life cycle and reproduction of many organisms
- Interruption of migration, foraging and reproduction of animals by roads, noise and stress
- Draining of streams, ponds or marshes resulting in death of aquatic organisms, and all other organisms that feed on them
- Destruction of drainage channels, which are used by many types of wildlife for water, shelter, nesting or food


- Fragmentation of habitat making wildlife more vulnerable to predation at the edges

In its Fourth Report to the Convention on Biological Diversity, the Government of Jamaica noted that, while a major contributor to deforestation, mining was one of the main sources of foreign exchange for Jamaica and presents the dilemma of ‘how to finance the budget, and pay the debt without further detrimental effects to the environment’.21

### Mining in Cockpit Country, Jamaica

Cockpit Country, located in west central Jamaica, is the largest wet limestone forest in the island with approximately 22,327 hectares of forest reserves. Cockpit Country supplies 40% of the island’s fresh water resources. The area is home to many of Jamaica’s endemic and endangered species, including the globally endangered Giant Swallowtail Butterfly, the endangered Jamaican Blackbird, and >90% of the Black-billed Parrot population. Two maroon communities, Accompany and Flagstaff, are located within the area contributing to its cultural significance. The Government of Jamaica has issued several prospecting licences over sections of Cockpit Country to various mining companies.


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SOCIAL AND HEALTH IMPACTS

The social impacts of large scale mining and quarrying projects are complex. Mineral development can create both wealth and poverty. Mining projects may create jobs, roads, schools, and increase the demands of goods and services in rural areas, but the benefits and costs are often unevenly shared among community members. If communities feel they are being unfairly treated or inadequately compensated, mining projects can lead to social tension and violent conflict. Power differentials can leave a sense of helplessness when communities confront large private sector companies or the state.

The main negative social and health impacts are:

- Human displacement and resettlement, including loss of social support structures, Loss of land, loss of sustainable livelihoods such as small-scale farming
- Loss of livelihoods and loss of access to clean water which can lead to impoverishment
- Forced resettlement of indigenous communities is particularly traumatic, as they have strong cultural and spiritual ties to their lands
- Incoming migration by those in search of economic opportunities, bringing pressures on land and water, sanitation and solid waste services and sometimes importing social ills, such as crime and prostitution
- Reduction of soil fertility, degraded water, forests and biodiversity affecting the local economy, in particular agriculture, and where there may be few options for alternative livelihoods.
- Removal of forests, vegetation and topsoil leading to soil erosion and increased vulnerability to natural disasters.
- Hazardous substances in air, water and soil can harm public health, causing or increasing illness and mortality
- Loss of cultural and social cohesion and loss of sacred places—e.g., as a result of displacement and the destruction of sacred sites. Cultural and aesthetic resources (sacred landscapes, historical monuments, natural landmarks, artefacts) can be harmed by soil erosion, air pollution, vandalism from migrants or direct damage by heavy equipment
- Reduction in the quality of life and enjoyment of property as a result of noise from the use
of heavy equipment and machinery and excessive dust

- Increased poverty—e.g. through a degraded environment on which, in many cases, community subsistence depends.\textsuperscript{22}

- Increased internal economic inequality—e.g., between men and women, between those with jobs at the mine and those without, between those who receive royalty or compensation payments and other benefits and resource rents and those who do not

- Local economic activity is focused heavily on mining, leaving the community vulnerable to a “boom and bust” economy when the mine closes down.\textsuperscript{23}

- Loss of development choices and options, loss of power over community decision making, loss of control over the future of the community and its assets, with further economic and social dislocation at mine closure.\textsuperscript{24}

\textsuperscript{22} World Bank (2003: 20); MMSD (2002: 202).
\textsuperscript{23} Akabzaa (2000); Kuyek and Coumans (2003).
Governmental regulations should aim to develop and implement laws, policies, and practices that prevent and reduce the negative environmental, social and health impacts of the mining and quarrying industry. These practices should be reflected throughout all stages of the industry, including prospecting, extraction, removal, transportation, storage, disposal, processing, closure, and rehabilitation. The Government of Jamaica (GOJ) proposes to incorporate international best practice principles into the regulation of the minerals industry and outlines key strategies and actions to achieve this in the *Mining and Quarrying Sector Plan for Vision 2030* and the *Draft National Minerals Policy (2011)*. Both policy statements support the inclusion of the *Fundamental Principles for the Mining Sector (Berlin Guidelines 1991 revised 2000)*, an outcome of the 1991 Round Table Conference on Mining and the Environment organized by the United Nations and the German Foundation for International Development with the aim of providing environmental guidance to the mineral sector. In 2002, the United Nations Environment Programme (UNEP) produced the *Berlin II Guidelines for Mining and Sustainable Development (the Berlin II Guidelines 2002)*.

These guidelines encourage regulators to promote environmental stewardship with minimal harmful environmental impacts, contribute to the sustainable development of mining communities and ensure the health and safety of workers. Issues addressed include regulatory frameworks, environmental management, voluntary undertakings, community consultation, and development during all stages of a mining operation: exploration, operation, decommissioning, and closure and rehabilitation.

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26 The reference to incorporation of the Berlin Guidelines was removed from the 2014 draft of the Minerals Policy.
**Fundamental Principles for the Mining Sector**
*(Berlin Guidelines 1991, revised 2000)*

1. Recognise environmental protection as a high priority particularly during the licensing process, through the development and implementation of environmental management systems. Such systems ought to include early and comprehensive environmental impact assessments, pollution control, preventative and mitigation measures, monitoring and auditing activities and emergency response procedures.

2. Recognise the importance of socio-economic impact assessments and social planning in mining operations. Social-economic impacts should be taken into account at the earliest stages of project development. Gender issues should also be considered at a policy and project level.

3. Establish environmental accountability in industry and government at the highest management and policy-making levels.

4. Encourage employees at all levels to recognise their responsibility for environmental management and ensure that adequate resources, staff and requisite training are available to implement environmental plans.

5. Ensure the participation of and dialogue with the affected community and other directly interested parties on the environmental and social aspects of all phases of mining activities and include the full participation of women and other marginalised groups.

6. Adopt best practices to minimise environmental degradation, particularly in the absence of specific environmental regulations or inadequate monitoring and enforcement by state agencies.

7. Adopt environmentally sound technologies in all phases of mining activities and increase emphasis on the transfer of appropriate technologies that mitigate environmental impacts including those from small-scale mining operations.

8. Seek to provide additional funds and innovative financial arrangements to improve environmental performance of existing mining operations.

9. Adopt risk analysis and risk management in the development of regulation and in the design, operation, and decommissioning of mining activities, including the handling and disposal of hazardous mining and other wastes.

10. Reinforce the infrastructure, information systems service, training and skills in environmental management in relation to mining activities.

11. Recognise the linkages between ecology, socio-cultural conditions and human health and safety, the local community and the natural environment.

12. Evaluate and adopt, wherever appropriate, economic and administrative instruments such as tax incentive policies to encourage the reduction of pollutant emissions and the introduction of innovative technology.

13. Explore the feasibility of reciprocal agreements to reduce trans-boundary pollution across different countries or states.

14. Encourage long term mining investment by having clear environmental standards with stable and predictable environmental criteria and procedures.
OVERVIEW OF JAMAICA’S LEGAL AND REGULATORY FRAMEWORK FOR MINING AND QUARRYING

Jamaica’s Mining and Quarrying Sector is regulated by several laws. Main laws relating to environmental management of the sector are:

- The Minerals (Vesting) Act, 1947
- The Mining Act, 1947
- The Mining Regulations 1947 (amended 2004)
- The Natural Resources Conservation Authority Act, 1991
- The Natural Resources Conservation Authority (Air Quality) Regulations 2006
- The Natural Resources Conservation Authority (Permits and Licenses) Regulations, 2015
- The Natural Resources (Prescribed Areas)(Prohibition of Categories of Enterprise, Construction and Development) Order, 2004
- The Natural Resources Conservation Authority (Air Quality) Regulations 2006
- The Natural Resources Conservation Authority (Air Quality) Regulations, 2015
- The Natural Resources (National Parks) Regulations, 1993
- The Quarries Control Act, 1984
- The Quarries Control (Amendment) Act 2015
- The Quarries (General) Regulations 1958
- The Forest Act, 1996
- The Forest Regulations, 2001
- The Water Resources Act, 1995
- The Water Resources Regulations, 1995

The institutional and regulatory framework governing mining in Jamaica is complex. Overall responsibility for mining and quarrying lies with the Ministry of Science, Technology, Energy and Mining (MSTEM) while there are a number of other ministries, regulatory agencies, committees, state-owned companies and specially appointed public servants with specific jurisdiction to regulate the operations and impacts or these industries. These other entities are the Ministry of Water, Land, Environment and Climate Change, the Ministry of Local Government and Community Development, the Ministry of Health, the Commissioner of Mines (The Mines and Geology Division), the Jamaica Bauxite Institute (JBI), the Forestry Department headed by the Conservator of Forests, the Natural Resources Conservation Authority (NRCA), the National Environment and Planning Agency (NEPA), the Water Resources Authority (WRA), the Quarries Advisory Committee and local parish councils.
The rights of mining and quarry owners and operators to use the land and natural resources and their obligations to implement measures to protect the environment and health are outlined in the **Mining Act of 1947** and the **Quarries Control Act of 1984** respectively and their associated regulations.

In addition to the right to remove material and minerals, mining companies also have rights to use the natural resources of land covered by the mining permission deemed ‘necessary’ or ‘in connection with’ mining operations. Prior to mining, companies issued with prospecting licences to search for minerals have the right to erect machinery, temporary camps and structures, graze animals, sink shafts and wells, abstract water, dig holes and trenches and erect machinery and construct roads on unoccupied land. During the mining phase, companies with the exclusive right to mine lands covered by a mining lease have additional rights to cut and use trees (subject to directions of the Conservator of Forests) and construct artificial islands or structures in the Exclusive Economic Zone (EEZ).

**Licensing and Registration of Mining and Quarry Operations**

A comprehensive licensing and registration system for mines and quarries allows regulators to screen applications at an early stage in the decision-making process to identify impacts prior to approval and to monitor impacts and ensure compliance during all stages of mining and quarrying. A list of the number and status of licensed quarries and mining operations is available online at the website for the Mines and Geology Division (www.mgd.gov.jm).

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28. Section 35 of the Mining Act  
29. Section 19 (1) and 22 of the Mining Act  
30. Section 35 of the Mining Act
Permission to mine and quarry in Jamaica is granted by the Minister with responsibility for mining and quarrying. A prospecting licence, issued to search for minerals, is typically granted for one year and can be renewed for further one-year periods. A Special Exclusive Prospecting Licence (SEPL) with different terms and conditions can also be issued.

Mining leases are required for the excavation and removal of minerals. The typical duration of the lease is 25 years. The lease can be renewed for an additional 25 years provided the mining company conducts operations in a ‘normal business manner’. The Minister can also issue a Special Mining Lease (SML) with different durations, rights, obligations and conditions than those provided in the Mining Act where he is satisfied that by reason of the difficulties and costs associated with mining the land or for any other cause deemed ‘necessary’.

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31 Section 5(1) of the Quarries Control Act
32 Section 21 (5) of the Mining Act
33 Section 30 and 31 of the Mining Act
34 Section 34 (1) of the Mining Act
35 Section 34(2) of the Mining Act
36 Section 45 (2) of the Mining Act
37 Section 45(1) of Mining Act
An additional safeguard is the requirement for applications for mining and quarrying to be screened and approval obtained from the Natural Resources Conservation Authority (NRCA), Jamaica’s main environmental regulator established by statute under the Natural Resources Conservation Authority Act of 1991. The technical and administrative function of the NRCA are carried out by the National Environment and Planning Agency (NEPA), an executive agency established in 2001.

When considering an application for a permit to mine or quarry, the NRCA is required to have regard to all material considerations including the effect which the activity could have on the environment, and cannot grant a permit if satisfied that there is or may be harm to public health or to any natural resources.

If approved, the NRCA can issue an environmental permit for mining and quarrying with terms and conditions to mitigate harmful environmental and public health impacts. The NRCA Act binds the Crown and as such enforcement action can be taken against state-owned mining companies that breach the Act.

Prospecting, mining and quarrying without approval from these authorities or contrary to the conditions of approval is an offence.

38 Section 9 of the NRCA Act. See also the Natural Resources (Prescribed Areas) (Prohibition of Categories of Enterprise, Construction and Development) Order, 1996 and accompanying schedule.
39 section 9(5) of the NRCA Act
40 Section 39 of NRCA Act
41 Section 15, 32 of the Mining Act, section 5(3) of the Quarries Control Act and section 9(7) of the NRCA Act
SCREENING APPLICATIONS FOR ENVIRONMENTAL IMPACTS

The NRCA may require an Environmental Impact Assessment (EIA) to be conducted as part of the application to mine or quarry. An EIA is a scientific study or report which examines both beneficial and adverse environmental consequences of a proposed development. An EIA is usually requested where the development is of a scale or type that is likely to have any adverse effect on the environment.  

- The purpose of the environmental assessment process is to:
  - support the goals of environmental protection and sustainable development
  - integrate environmental protection and economic decisions at the earliest stages of planning
  - predict environmental, social, economic, and cultural consequences of a proposed activity
  - assess and propose plans to mitigate any adverse impacts resulting from the proposed activity
  - provide for the involvement of the public and government agencies in the review of the proposed activities

An applicant for a development is required to complete a project information form, to guide NEPA in its decision whether an EIA is needed. NEPA can make a decision that an EIA is needed based on proximity to important natural resources, the scale and type of the development and/or the risks of harm to the environment and public health. According to NEPA's Development and Investment Manual (created in 2007), an EIA should be prepared for every coastal development. If an EIA is required, NEPA will draft Terms of Reference for the developer, who will then contract with an EIA consultant to carry out the EIA.

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42 Section 10 of the NRCA Act
43 by various entities including the Jamaica Chamber of Commerce, USAID, Canadian International Development Agency and members of the Government and Private Sector.
The results of the EIA study are taken into account by the NRCA in the decision whether the proposed development should be allowed, and under what conditions. The NRCA can refuse to issue an environmental permit and/or order changes to the plans to reduce environmental damage.

There are several problematic issues concerning the EIA process in Jamaica. One of the basic fundamental principles in the Berlin Guidelines is that regulators should encourage long term mining investment by having clear environmental standards with stable and predictable environmental criteria and procedures.

Currently Jamaica does not have laws to determine the conduct of EIAs and the current EIA regime is regulated by NEPA’s Guidelines for Conducting Environmental Impact Assessments 2007 and NEPA’s Guidelines for Public Presentations 2007. Although these Guidelines are fairly comprehensive, the lack of formal binding procedures for the EIA process has resulted in the application of the guidelines on an ad-hoc basis leading to an unpredictable process and one which has been deemed flawed by the Supreme Court of Jamaica in two separate Judicial Review cases.  

An additional weaknesses in Jamaica’s EIA regime is that there are no requirements for qualifications for EIA consultants. EIAs prepared by unqualified persons may contain errors or omit significant information which could at best, result in significant delays in the EIA process where these errors are identified during the review process or, at worst, result in unsound decisions. There is no legal requirement for EIA preparers to adhere to Terms of Reference (TORs) and there is nothing which requires consultants to be independent of the developer so as to avoid conflicts of interest. The Government of Jamaica (GOJ) is currently developing EIA regulations which could address some of these gaps in the current legal regime.

**BEST PRACTICES**

Jamaica’s Draft Minerals Policy recommends that social, environmental and economic considerations should be infused in the decision-making process within the industry. Following through with this strategy, the Mining and Quarrying Sector Plan for Vision 2030 proposes that EIAs should be mandatory for all mining projects. The following are best practices that can be incorporated into

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46 Vision 2030, Mining and Quarrying Sector Plan, p. 54
Jamaica’s regulatory framework for decision-making and EIA process.

**Mandatory requirement for EIAs for large scale mining and quarrying**

UNEP’s “Goals and Principles of Environmental Impact Assessment” are frequently cited and provide a good roadmap for the basic concepts that should be reflected in any EIA system. Principle 2 provides that “the criteria and procedures for determining whether an activity is likely to significantly affect the environment and is therefore subject to an EIA, should be defined clearly by legislation, regulation or other means, so that subject activities can be quickly and surely identified, and EIA can be applied as the activity is being planned.” Several European countries, including Malta, have made EIAs mandatory for large scale open cast mining and quarrying (>25 hectares) as a requirement of the European Union EIA Directive (85/337/EEC).

**Certification of EIA consultants**

Many countries have implemented registration systems and established minimum education and/or work experience criteria for EIA consultants. In some instances, consultants must demonstrate proficiency in particular disciplines and may not be hired to conduct work in subject areas outside of their registered discipline(s). EIA consultants must also be held accountable for complying with applicable laws and regulations governing EIA. Where data or other information in an EIA has been fraudulently procured or misrepresented, consultants must be appropriately punished or at least de-barred from the list of certified EIA consultants.

Tanzania’s **Environmental (Registration of Environmental Experts) Regulations 2005** for the certification and registration of environmental experts/consultants is instructive. This regulation has a code of conduct and is not merely a non-binding guideline. No person or firm can conduct an EIA or carry out any activity in relation to an environmental impact study or environmental audit unless they have been registered and certified by the committee established to oversee the registration and certification process. Contractors found guilty of professional misconduct by breaching the Code of Practice and Professional Ethics or who fail to include any item in the EIA or environmental audit as required by the Regulations are liable to disciplinary action which includes being de-barred from the registered list of EIA consultants.


In India, there is a national registration scheme for EIA consultants and where an EIA is found to include fraudulent information such person can be barred from the registered list of EIA consultants. Recently India’s Ministry of Environment and Forest debarred an EIA consultant for three years for using the same for ambient air quality data in EIA reports for five different mines located in different areas. Malaysia also has a registration scheme for EIA consultants. The system and requirements for EIA contractors is described in the EIA Consultant Registration Scheme Guidance Document (2007) published by the Department of the Environment.

**Criteria for EIA consultant to be independent of project/proponent**

An EIA must represent an objective assessment of the impacts of a proposed project on the environment and there should be an avoidance of any conflicts of interest or bias on the part of the consultant who prepares the report. The issue of conflict of interest in the preparation of EIAs is addressed in a number of other countries in their EIA legislation. In Guyana, the EIA must be carried out by an “independent and suitably qualified person.”

South Africa has extensive conflict of interest provisions in its EIA regulations. The developer must appoint an “environmental assessment practitioner” (EAP) to handle preparation of the EIA. Among other things, the EAP is required under the regulations to: “(a) be independent; (b) have expertise in conducting environmental impact assessments, including knowledge of the Act, these Regulations and any guidelines that have relevance to the proposed activity; (c) perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant[.]” If the government authority or any interested and affected party believes that the EAP is not acting impartially or is violating the EIA regulations, the application process is temporarily suspended until the matter is investigated and resolved.

In Malta, the Director of Environmental Protection is not permitted to approve any EIA prepared by a consultant who has not signed a declaration stating that he or she does not have a personal or financial interest in the proposed project. International organisations such as the Word Bank also

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50 See the decision posted here: http://moef.nic.in/downloads/public-information/debarring-ec-raj.pdf.
52 (Section 11(4) of the Environmental Protection Act).
54 Section 29 of the Environmental Impact Assessment Regulations, 2007 (Malta)
have policies for projects that they fund which require that EIAs be prepared by experts that are not affiliated with the project.\textsuperscript{55}

**Review of EIA**

Several countries employ review committees during the EIA process, including Belize and Pakistan. The composition of these review bodies is specified in the regulations and includes representatives from relevant entities such as a representative from a non-government organization and technical/sectoral experts. If such a committee is established, it is subject to strict conflict of interest requirements.

In Belize, there is a National Environmental Appraisal Committee whose function is to “(a) review all environmental impact assessments; (b) advise the Department [Department of Environment] of the adequacy or otherwise of environmental impact assessment; (c) advise the Department of circumstances where a public hearing is desirable or necessary; (d) make recommendations to the Department on ways to improve the efficiency and effectiveness of the environmental impact assessment process.” The Committee is comprised of seven members.\textsuperscript{56}


MITIGATION MEASURES

The fundamental principles of the Berlin Guidelines encourage industry players to implement environmental management systems with pollution control and mitigation measures, to adopt best practices to minimize environmental degradation and to adopt environmentally sound technologies that mitigate environmental impacts in all phases of mining activities.

The Mining Act and regulations require mining companies to implement specific measures during prospecting and mining to prevent environmental harm. These include the requirement to keep all excavations secure so as to prevent persons or stock from inadvertently entering them during mining and a requirement to rehabilitate the land on completion. Comparatively less mitigation measures are included in the Quarries Control Act and its regulations. Typically, environmental permits as well as mining leases, quarry licences and prospecting licenses will include conditions requiring mining companies to mitigate adverse impacts on the environment.

Many of these conditions are incorporated from the EIA recommended mitigation measures. General conditions include measures to:

- Control fugitive emissions and limit the discharge of air pollutants
- Prevent soil erosion

57 Section 36(2) of the Mining Act
58 Regulation 53A of the Mining Regulations
• Control sedimentation and prevent blockage of natural drainage
• Limit noise levels
• Prevent water contamination of underground and surface water sources

In 2006 Jamaica went further to introduce air quality regulations that provide for a comprehensive air pollutant monitoring regime. All major or significant facilities involved in mining and quarrying, in particular, alumina refineries and cement production factories are required to obtain an air pollutant discharge licence under section 4 of the **National Resources Conservation Authority (Air Quality) Regulations**. The licence may require periodic or continuous stack monitoring, performance or compliance testing, ambient and meteorological monitoring or other measures. An air pollutant discharge licence generally lasts for five years and may be renewable in five year intervals. A licence is not transferrable from one facility to another.

The Natural Resources Conservation (Air Quality) Regulations also obligates owners and operators of plants to submit reports on their performance to allow the government to monitor their operations.\(^{59}\) This includes reporting on any event that results in an excess emission or ambient measurements exceeding standards within 24 hours of the occurrence of the event. Licensees must also submit an emissions report for each calendar year within six months after the year end, unless otherwise directed by the NRCA/NEPA. The report should also include an estimate of the emissions for the current calendar year.\(^{60}\) Operators who cause or allow the generation of any odour that unreasonably interferes with the lawful use or enjoyment of property are required to use best practices and procedures to reduce these odours to a minimum.\(^{61}\) They must also publish in at least one daily newspaper in circulation throughout the island, a notice giving the date on which such generation is scheduled to occur, at least fourteen days before that date.

Facilities must also obtain licences to discharge sewage, trade effluents or noxious or polluting substances on the ground or in any water.\(^{62}\)

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59 Sections 10-11 of the Natural Resources Conservation Authority (Air Quality) Regulations 2006
60 Section 11 of the Natural Resources Conservation Authority (Air Quality) Regulations 2006
61 Section 19 of the Natural Resources Conservation Authority (Air Quality) Regulations 2006
62 Section 13 of the Natural Resources Conservation Authority Act
Best Practices to Promote Transparency Public Participation in the Management of the Mining Quarrying Industry.

**BEST PRACTICES**

**Permitting conditions and mitigation measures**

Where a permit is granted for a project that required an EIA, the mitigation measures outlined in that EIA should be incorporated into the permit conditions. The project proponent should be required to provide financial assurances, including bonds, and give an undertaking prior to any land clearing to ensure compliance with these conditions.

Pakistan’s EIA regulations state that every approval of an EIA must be subject to the condition that “the project shall be designed and constructed, and mitigatory and other measures adopted, strictly in accordance with the [EIA], unless any variation thereto have been specified in the approval by the [Agency.]” (Section 13(1)) The project developer has to expressly acknowledge all conditions prior to construction by filing an undertaking and before the project proponent can begin operation of the project (after construction), it must obtain written confirmation from the government that the design, construction, mitigation and other measures have been fulfilled up until that point.\(^{63}\)

**Pollution Control – Water**

According to a 2008 study on Water and Mining Conflicts in Peru\(^{64}\), impacts on water quality and quantity are among the most contentious aspects of mining projects. Activists and mining companies often disagree on which drainage basins will be affected by the mine, and on the capacity of the company to effectively control its environmental impacts. A well designed and executed monitoring plan for water quantity and quality is critical to protecting this resource and to foster dialogue, consensus, trust and transparency between companies and the community.

Any monitoring plan must have the capacity to adapt to changes in mine operations as the mine grows, closes old operations and explores new areas. A formal, independent, external verification program conducted in a transparent, publicly available and inclusive manner is also imperative. Bebbington and Williams\(^{65}\) suggest that initiating a comprehensive monitoring program throughout the different stages of a mine’s life span has several advantages, namely:

- Baseline information prior to operation can provide data on natural conditions;

\(^{63}\) Section 13(2) of the Environmental Impact Assessment Regulations (Pakistan)  
\(^{64}\) Bebbington, Anthony and Williams, Mark: Mountain Research and Development Vol 28 No ¾ Aug-Nov 2008:190-195  
\(^{65}\) Water and Mining Conflicts in Peru, Mountain Research and Development Vol 28 No ¾ Aug-Nov 2008:190-195
Best Practices to Promote Transparency Public Participation in the Management of the Mining Quarrying Industry.

- Comparison of current conditions with baseline information allows for an assessment of the impact of mining activities on current water quantity and quality conditions;

- Groundwater quality and quantity can be observed in monitoring wells before changes in stream water quantity and quality become apparent, thereby acting as a warning system so that remedial action can take place before surface water or aquifers are impacted.

Information on water quantity and quality be communicated regularly to the public through a comprehensive communication plan. This plan should include a combination of data collected as part of the monitoring plan as well as available historical data. Such disclosure can also allow companies to develop innovative solutions with communities before problems become costly and difficult to remediate.⁶⁶

Pollution, as defined by the relevant water quality standards, should not go beyond the boundary of the mine site. Many mines in developed countries tend to be located in remote areas, thus making the nearest neighbour miles away. However, in most of the developing world, mines are close to communities thereby causing significant health impacts and disruption of daily life to persons living within those communities. If allowed to spread unchecked, groundwater pollution could contaminate an aquifer a significant distance away from the mine. Policy makers are often unable to accurately predict future demands for this resource, particularly given the uncertainties of global climate change. Permitting groundwater contamination precludes the option for valuable future uses.

**Pollution Control - Air**

In an effort to address the problems posed by silica dust in underground mining, many countries have instituted regulations, mining methods, safety equipment and testing procedures. However, problems associated with this type of pollution are usually due to the lack of, or inadequate enforcement of, these regulations.

Dust can also pose human health problems in surface mining operations. Companies can periodically water roads to suppress dust caused by dry and hot weather conditions. Notwithstanding this, excessive dust is known to create a nuisance for communities located near mines, especially in areas

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where roads are unpaved. Roads located through mining or quarry sites in Jamaica are often not paved.

Though companies often employ sophisticated modelling techniques to predict air emissions, detailed monitoring data is generally lacking.\(^67\) Companies ought to monitor and publicly report on airborne hazardous emissions (particularly mercury, lead, and greenhouse gases).

**“NO GO” ZONES (AREAS CLOSED TO MINING AND QUARRYING)**

“No Go” areas allow for the setting of priorities for environmental protection and identify areas where mining and quarrying cannot take place. Protecting natural areas from the impacts of mining and quarrying has local and global value in maintaining biodiversity, important cultural sites, fertile soil and access to clean water. Quarry zones and areas identified as having bauxite deposits have been identified and are used by the local parish councils and regulators when authorizing developments.\(^68\)

Although the relevant authorities have the power to establish “No Go” zones in law, the Mines and Geology Division has confirmed that little has been done to determine these areas and there are no immediate plans to establish such zones in Jamaica. While the Mining Act generally prohibits mining in specified areas, this can and has been allowed with permission from the Commissioner of Mines. These areas include areas situated within towns or villages, land within 100 m of buildings,

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\(^68\) Section 5(2) of the Quarries Control Act
burial grounds, state owned reservoirs or dams, railways.\textsuperscript{69} The Minister responsible for mining can also declare any area closed to prospecting or mining.\textsuperscript{70}

The Minister can refuse to issue a quarry licence where the operations would be against the interest of the public. In making this decision, the Minister can take into account a range of environmental factors including:

- The preservation of the character of the environment including plants and animals
- The availability of the natural environment for the enjoyment of the public
- The traffic density on the roads
- Any possible effect on the water table or surface drainage pattern
- The nature and location of other land uses that could be affected
- The character, location and size of nearby communities
- Danger of pollution to the neighbourhood
- Any other factor against the public interest\textsuperscript{71}

The NRCA can establish national parks areas to be maintained for the benefit of the public.\textsuperscript{72} The national park regulations do not prohibit mining and quarrying in these protected areas provided that written permission is obtained from the NRCA and the activity is done in accordance with the provisions of a licence or permit granted under any other legislation.\textsuperscript{73}

The Government of Jamaica in its Draft National Minerals Policy signalled its intention to impose “No Go” zones for mineral exploitation. The policy proposes that mineral exploitation in areas protected under legislation and equivalent to the World Conservation Union’s (IUCN) categories I and II, as outlined in the 1997 Policy for the National System of Protected Areas, will not be undertaken, unless mandated by Cabinet.\textsuperscript{74} The IUCN, a network of government agencies and

\textsuperscript{69} Section 8 of the Mining Act
\textsuperscript{70} Section 9 of the Mining Act
\textsuperscript{71} Section 9(1) of the Quarries Control Act
\textsuperscript{72} Section 5(1) (a) of the NRCA Act
\textsuperscript{73} Regulation 15 of the Natural Resources (National Parks) Regulations
\textsuperscript{74} The Draft National Minerals Policy (2014), p. 20
NGOs in over 80 countries, provides guidelines for protected areas and maintains a list of protected areas classified under six management categories (1- IV). While Jamaica has over 350 protected areas, the Jamaica National System of Protected Areas Policy provides examples of only a few that fall within these IUCN categories. It is notable that forest reserves such as the Cockpit Country Forest Reserve would not be considered as “No Go” areas in the Draft National Minerals Policy.

<table>
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<tr>
<th>CATEGORY</th>
<th>DESCRIPTION</th>
<th>PROTECTED AREAS</th>
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| 1a Strict Nature Reserve               | Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring | • Discovery Bay  
• Bowden Shell Bed  
• Mason River Scientific Reserve |
| 1b Wilderness Area                     | Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition | • Blue and John Crow Mountain National Park  
• Montego Bay Marine Park |
| II National Park                       | Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities | • Arawak sites  
• Portions of Port Royal  
• Point Morant Light House  
• Spanish Town  
• Bogwalk Gorge |
| III National Monument of Feature       | Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value | • Dry limestone forest in Hellshire Hills-iguana habitat |
| IV Habitat Species Management Area     | Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category | • Undeveloped sections along scenic coastal highways |
| V Protected Landscape/ seascape        | A protected area where the interaction of people and nature over time has produced an area of distinct character with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values | • Forest Reserves  
• Protected watersheds  
• Major fishing cays  
• Black River Morass |
| VI Protected area with sustainable use of natural resources | Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area | • Forest Reserves  
• Protected watersheds  
• Major fishing cays  
• Black River Morass |

Source: The National System of Protected Areas Policy

75 Protected Areas System Master Plan, p. 7
76 The National System of Protected Areas Policy, pp 9-10
BEST PRACTICES

“No Go” zones - Heritage Sites and other Protected Areas

The international community has recognised the importance of protecting heritage sites and other protected areas from the impacts of mining. In 2003, the International Council on Mining and Metals (ICMM), comprised of companies in the minerals industry, committed to recognise UNESCO World Heritage Sites, which are areas nominated by government as areas of natural and cultural significance, as “No Go” zones. There are also calls for including other types of protected areas which fall under all six of the IUCN (World Conservation Union) protected area categories.\(^77\).

In 2014, the Mining Industry Coordinating Council (MICC) of the Philippines approved the adoption of a “No Go” Zones map for mining to facilitate processing of exploration permits by assisting regulators to readily identify specific areas closed to mining such as protected areas, tourism development areas and prime agricultural land.

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4
COMMUNITY ENGAGEMENT AND PARTICIPATION

“Environmental issues are best handled with the participation of all concerned citizens, at the relevant level”
- Rio Declaration on Environment and Development

In 1992, 178 governments including Jamaica, adopted the Rio Declaration on Environment and Development and committed to making environmental decisions more transparent and empowering people to participate in decision-making. Public participation provides avenues for citizens to express opinions, challenge decisions, and shape policies that could affect their livelihoods, health and environment.

Certain populations or “communities of interest” require special consideration by mining companies, governments, and investors. These include indigenous peoples, artisanal miners, mine workers, and people within communities who are marginalized on the basis of ethnicity, race, gender, caste, class, sexual orientation or religion. Indigenous peoples\(^78\) are increasingly affected, as mining is expanding in developing countries and in ever more remote regions of the world.\(^79\) These vulnerable groups may require particular attention when considering the impact mining may have on a community.

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\(^78\) Indigenous peoples are those who self-identify as indigenous in the Americas, Africa, and Asia and the Pacific.

\(^79\) It is predicted that about 50 percent of gold mined between 1995 and 2015 will come from indigenous lands and territories (Earthworks and Oxfam America 2004: 22). See particularly the proceedings and final statement, declaration, and resolutions of the Third International Women and Mining conference held in Visakhapatnam, India, October 2004 (www.mmpindia.org/womenmining.htm), MMSD (2002: 205); World Bank (2003: 44).
NOTICE AND CONSULTATION

Public participation in the environmental decision-making process is recognized internationally as desirable.\(^\text{80}\) Adequate and early notification procedures are important aspects of public participation. If the public is not informed early of a proposed project, then public participation is not meaningful as they are not able to advocate for their rights. The benefits of requiring public participation in the decision-making process include better informed decisions, increased transparency and the possibility of greater public acceptance of the project.

Companies operating in Jamaica are required by law to notify the public about applications for permission to mine or quarry. The form of notification varies, depending on whether the proposed activity is for prospecting, mining and quarrying. Unusually, notification requirements for prospecting are greater than the requirements to commence full scale mining.

Prior to prospecting, notice of an application for an exclusive prospecting licence (EPL) must be given to anyone having an interest in land published once in the Gazette (the official publication or newspaper for legal notices and laws) and twice in a daily newspaper.\(^\text{81}\) There is no requirement for public notification of applications for renewal of the EPL. This is significant as and new landowners may not be aware of pre-existing licences.

There are less onerous requirements for public notification about the start of mining. While notice of an application for a mining lease must be given to anyone having an interest in land, companies are only required to notify the public by publishing a notice one in a daily newspaper. Generally, no mining lease can be granted until a minimum of three weeks has elapsed after publication in the Gazette, but this does not apply where the applicant is the owner of all the land.\(^\text{82}\)

Quarrying cannot begin until a prospective operator has posted a notice of his application for a quarry licence in a prominent place at the proposed site of the quarry for a minimum of 21 days from the date of the application.\(^\text{83}\)

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\(^{81}\) Regulation 11 of the Mining Regulations; regulation 25(1) of the Mining Regulations

\(^{82}\) Regulation 25(2) of the Mining Regulations

\(^{83}\) Section 8(2) Quarries Control Act
In Jamaica, after an EIA has been submitted for review, the NRCA is required by law to consult only relevant government agencies exercising functions in connection with the environment under section 9(5)(a) of the Natural Resources Conservation Authority Act. There is no statutory duty to consult the public nor does the statute grant the public a right to participate in EIA decisions.

According to NEPA’s Guidelines for Conducting Environmental Impact Assessments (2007), if an EIA is requested, the consultant who prepares the EIA should consult civil society, which includes citizens, community-based and non-governmental organizations (NGOs) within the sphere of influence of the project. The NRCA may thereafter decide whether a public meeting should be held to discuss the findings of the EIA. Although fairly detailed, the guidelines are discretionary. It is difficult to achieve effective and meaningful public participation if the public is not afforded sufficient time to review and comment on the EIA and it is certainly impossible if the NRCA chooses not to undertake the procedure at all.

NEPA also has the discretion to notify the public or any person likely to be affected of any planned shutdown of pollution control equipment and the possible effects of the shutdown on the environment and public health.  

**BEST PRACTICES**

Mining companies tend to focus their energies toward meeting regulatory requirements and in addressing the risk concerns of lenders, investors and insurance companies. A company will often adjust its plans in response to concerns expressed by these parties. Unfortunately, mining executives do not always recognize potentially affected community members as full participants in decisions regarding whether, when, and under what conditions mine development will proceed. Jamaica’s Draft Minerals Policy recommends encouraging minerals-related companies to be good corporate citizens and to be more responsive to the concerns of host communities.

The Berlin Guidelines requires that industry players should ensure the participation of and

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84 Section 10(10) of the Natural Resources Conservation Authority (Air Quality) Regulations

85 The Canadian Council for International Cooperation reports that in Latin America, “...local communities are rarely if ever consulted when plans are made, whether for exploration and development activities (as in Costa Rica, Ecuador, and Peru), actual implementation (as in Nicaragua and Peru), or changes and closures (as in Bolivia). Even when a company provides funds for community projects (as in Nicaragua), there is little consultation to determine their best use.” CCIC (1999).

dialogue with affected communities and other directly interested parties on the environmental and social aspects of all phases of mining activities, including the full participation of women and other marginalised groups. Before applying for mining permits, companies should facilitate independent social, human rights, and gender impact assessments; provide baseline and ongoing health studies; and, should a mine proceed, ensure community participation in independent audits and verification of compliance with regulations and commitments. Most importantly, companies should not proceed if baseline studies suggest that their activities may violate human rights standards or core labour standards, even if human rights are not upheld by national laws or practice.

At minimum, consultation should take place at an early stage in the decision-making process. In some jurisdictions, mining companies have recognised the need to consult with local communities prior to commencing operations with the goal of achieving community consent for their project. Most mining companies, however, still treat this conversation as a one-way street, in which they inform the community about future operations and explain how the community will be protected from any negative impacts. The expectation is that the community, or at least some portion of it, will provide consent. Most companies do not enter consultations in a way that recognizes or respects the possibility that a community may withhold consent for the project or agree to provide consent only if certain changes are implemented.\(^87\)

Notifications should be published multiple times in a daily newspaper and of a specified size/form. Notification should also be disseminated through other means appropriate to inform the public (e.g. radio, local notice boards, the website of environmental regulators and erected on the land for the proposed project), and adequate time should be given for the public to comment or otherwise present their views concerning the proposed project.

Regionally, Caribbean countries including Trinidad and Tobago, Belize and Guyana, have adopted laws incorporating public participation at various stages of the EIA process. Common requirements in these laws require early public consultation.

In countries such as Trinidad and Malta, project proponents are required to consult the public in the preparation of the Terms of Reference (ToR) for EIAs. The public may be notified of the

fact that an application for a proposed project has been received and whether an EIA is deemed to be required or not. The public is also invited to submit comment on the ToR. The methods of notification may vary. Malta’s EIA regulations require the authority to place an advertisement (at the expense of the project proponent) in a local newspaper that provides the public with 21 days to notify the authority of issues that they would like to see included in the ToR.\(^88\)

In Malta, public consultation is also required during preparation of the EIA. The local community is specifically consulted during the preparation of the EIA and their comments and concerns are recorded in the actual EIA document. Once completed, the public is notified of the EIA and consulted to provide their comments concerning the proposed project.

Trinidad and Tobago’s Environmental Management Act grants anyone who submits written comments on an EIA to bring an appeal to the Environmental Commission where there has been failure to comply with the public participation procedure set out in the Act.\(^89\)

**Rights of Indigenous and Tribal Peoples**

Indigenous and Tribal Peoples such as the Maroons of Jamaica, are protected by international human rights law which secures their right to land they have traditionally used and occupied and is considered necessary for their physical and cultural survival. Jamaica, as a party to the American Convention on Human Rights, has a positive obligation to adopt special measure to guarantee these rights.\(^90\)

The **Case of the Moiwana Community v. Suriname (Inter-American Court of Human Rights, Judgment of June 15, 2005)** and the **Case of the Saramaka People v. Suriname** establish that non-indigenous tribal communities are entitled to the same land rights as Indigenous Peoples, where such communities exhibit “distinct social, cultural, and economic characteristics including a special relationship” with their ancestral or communal territories, which “they have traditionally used and occupied, derived from their longstanding use and occupation of the land and resources necessary for their physical and cultural survival.”

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\(^88\) Section 10 of Environmental Impact Assessment Regulations, 2007 (L.N. 114 of 2007) (Malta); Rule 5 of The Certificate of Environmental Clearance Rules, 2001 (Trinidad and Tobago)

\(^89\) Section 30 of Environmental Management Act (Trinidad)

\(^90\) Article 1(1), 2 and 21 of the American Convention on Human Rights and paras. 91 and 96 of the Inter-American Court of Human Rights, Case of the Saramaka People v. Suriname, Judgment of November 28, 2007).
The recent decision of the Court of Appeal of Belize endorsed by the Caribbean Court of Justice (CCJ) in *Aurelio Cal (in his own behalf and on behalf of the Maya Village of Santa Cruz) et al v. The Attorney General of Belize and the Minister of Natural Resources and Environment (Judgment delivered Oct. 18, 2007)*\(^9\) establishes that like other Commonwealth countries such as Australia and Canada, Commonwealth Caribbean countries have the obligation to protect Indigenous and Tribal peoples’ right to property under the constitution and international human rights law. The High Court and Court of Appeal of Belize had ruled that the Maya people have a “communitarian property right”\(^9\) protected by the Constitution of Belize which the Government of Belize had breached by granting concessions to third parties to use their land and its resources without Mayan consent.

The following are considered as best practices based on international guidelines:

- Prior informed consent: companies should negotiate with affected indigenous peoples and community men and women before exploration. Such negotiations should continue throughout the life of the mine, with the understanding that indigenous peoples or local communities may withhold consent at each stage of mine development.\(^9\)

- Companies should conduct consultations that are culturally appropriate, using mechanisms and institutions that are recognized by the affected indigenous peoples and community women and men in the area in which they wish to operate.

- Indigenous peoples and community women and men should be provided with sufficient resources to evaluate a project in order to decide whether, and how, they would like it to proceed.

- Companies should not try to extract a community decision in support of mining (or encourage governments to do so for them) as this may divide communities and create dissent.

**RESPONDING TO COMMENTS AND REASONS FOR DECISIONS**

The requirement to issue a written decision that communicates the reasons for decisions taken on an application for a major project is recognized as an important step that maintains accountability.

\(^{91}\) CCJ sitting in Belize City on April, 23, 2015

\(^{92}\) Para. 99 and 102

\(^{93}\) While the legal basis for FPIC applies only to indigenous peoples, non-indigenous communities are increasingly demanding participation and consultation in decisions that affect them and some communities have held referenda to determine whether a project has “social acceptability.”
in the environmental decision-making process.\textsuperscript{94} Jamaica’s laws do not require regulators to inform the public of reasons for any decision relating to an application for a mining or quarrying operation. In practice, NEPA will publish the decisions of the NRCA on its website but generally no reasons are given for these decisions.

**BEST PRACTICES**

Principle 8 of UNEP’s *Principles of Environmental Impact Assessment* states that “a decision as to whether a proposed activity should be authorized or undertaken should not be taken until an appropriate period has elapsed to consider comments…” An excellent regulatory example of this principle is found in section 23 of Malta’s Environmental Impact Assessment regulations, which contain specific criteria for responding to comments. The Malta regulations require the EIA consultant to:

(a) respond to the comments made during the consultation stage by one or more of the following means;
(b) develop and evaluate alternatives not previously given serious consideration;
(c) supplement, improve, or modify [the] assessment;
(d) modify alternatives, including the proposed action;
(e) make factual corrections; or
(f) explain why the comments do not warrant further response by them citing the sources, authorities, or reasons which support the consultants’ position.

The requirement to give reasons is included in principle 9 of UNEP’s Goals and Principles of Environmental Impact Assessment which states that “the decision on any proposed activity subject to an EIA, should be in writing to state the reasons, therefore, and include provisions if any, to prevent, reduce or mitigate damage to the environment. This decision should be made available to interested persons and groups”.

A similar requirement is included in Article 9 of the European Union EIA Directive which states: “When a decision to grant or refuse development consent has been taken, the competent authority or authorities shall inform the public thereof in accordance with the appropriate procedures and shall make available to the public the following information:

\textsuperscript{94} Guideline 11, UNEP Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice
• the content of the decision and any conditions attached thereto,
• having examined the concerns and opinions expressed by the public concerned, the main reasons and considerations on which the decision is based, including information about the public participation process,
• a description, where necessary, of the main measures to avoid, reduce and, if possible, offset the major adverse effects.”

In the Environmental Management Act of Trinidad, the environmental regulator – the Environmental Management Authority (EMA), is required to keep a record of the decisions made available at public locations for at least 45 days after notice of the decision is published in the Gazette. The notification must also address comments received by the public.95 In Guyana’s Environmental Protection Act, the regulator must also publish its decision albeit the statute is silent on the location and time period for notification.96

RIGHTS OF APPEAL AND REDRESS

Individuals and communities adversely affected by the grant of mining or quarrying approval or failures to comply with the conditions of approval desire opportunities for legal redress. Jamaica signalled its commitment to guaranteeing all citizens a right to a healthy environment when it amended its constitution in 2011 to include this right. The Charter of Rights provides that all citizens have:

“The right to enjoy a healthy and productive environment free from the threat of injury or damage from environmental abuse and degradation of the ecological heritage”.97

Notwithstanding, opportunities for legal redress are limited in Jamaica. The general public does not have the right to challenge actions or omissions of private companies or public authorities for failure to comply with environmental requirements. Only directly affected persons showing sufficient interest have the right to obtain legal redress. Where the action or omission is on the part of a public authority, affected persons can make an application to the Supreme Court of Jamaica for judicial review or file a constitutional claim. Affected persons can take legal action against private

96 Section 12, Environmental Protection Act of Guyana
97 The Charter of Fundamental Rights and Freedoms (Constitutional Amendment) Act, 2011, section 13(3)(I)
companies only where the violation can be considered a nuisance, the company acted negligently or there was a breach of the constitutional right to a healthy environment. The procedures for these legal actions are lengthy and costly as the services of an attorney are generally needed.

**BEST PRACTICES**

Guyana's *Environmental Protection Act* provides that any person that might be affected by a project for which no EIA is required can file an appeal with a specialized Environmental Assessment Board within 60 days of the date of the Agency’s decision, and the Board must issue a decision within a reasonable time.\(^98\) The procedure for the hearing of the appeal, including timelines and publication of the decision of the Board is set out in the Act. Any person who is not satisfied with a decision of the Board may appeal against that decision to the Environmental Appeals Tribunal which is a superior court of record.\(^99\)

Another example of legislation that allows the public to appeal to an independent tribunal is Trinidad’s *Environmental Management Act*.\(^100\) This section provides that any private party can institute a civil action before the Environmental Commission of Trinidad and Tobago - an independent, specialized environmental court – against any other person for failing to obtain a permit or for breach of any conditions or mitigation measures in a permit. The action can be filed only if the environmental regulatory authority fails to take enforcement action after receiving written notice of the violation.\(^101\) The right to bring an action is not limited to those who can show that they are directly affected and includes “any individual or group of individuals expressing a general interest in the environment or a specific concern with respect to the claimed violation.”\(^102\)

**LAND ACQUISITION, COMPENSATION AND RESETTLEMENT**

**Land acquisition**

All minerals in or under Jamaica’s land and waters are vested in and subject to the control of the

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98. Section 11(3) of Guyana’s Environmental Protection Act
99. Section 28 of the Environmental Protection Act (Guyana)
100. Section 69 (1) of the Environmental Management Act (Trinidad and Tobago)
101. Section 62(f) and (g) of the Environmental Management Act (Trinidad and Tobago)
102. Section 69(2) of the Environmental Management Act (Trinidad and Tobago)
103 The government is authorised to grant permission to mine lands whether or not they are actually owned by the mining company and companies are only required to pay royalties to the government.  
104 Prior to its amendment in the 1990s the Minerals Vesting Act provided that mining companies were required to pay at least 5% royalties to landowners and the law prescribed the procedure for holding an enquiry into determining rightful landowners.  
105 Mining companies are now only required to give 14 days’ notice to the owner or the occupier of lands covered by a prospecting licence or mining lease before commencing operations.  
106 Comparatively, recent amendments to the Quarries Control Act in 2015 introduced greater obligations on quarry operators including a requirement to obtain written approval from adjoining landowners within 15 metres of proposed quarry site.  
107 Even where land is not covered by a mining lease or prospecting licence, a mining company can apply to the Resident Magistrate's Court for an order granting him a right of passageway over the land if the owner or occupier of the land refuses permission or consents on terms which the company may consider 'unreasonable'.  
108 This right of passageway expires with the termination of the licence or lease.  
109 When issuing a Special Mining Licence, the Minister has a wide discretion to extend a mining company’s rights over leased lands including rights to construct roads where they are 'in connection with' or 'necessary' for mining operations.  
110 This power authorised by the Mining Act, makes it difficult for landowners to challenge the activities carried out by mining companies over their land. In practice, mining companies have relocated communities on lands earmarked for developing mines.  

In the Jamaican case, Kaiser Bauxite Company v Alice Wishart (1972) 12 JLR 986, a landowner owned some 23 acres of land which fell within the boundaries of a SML granted to the mining company, Kaiser Bauxite Company. The mining company entered and bulldozed the land, and
excavated a passageway for the purpose of building a railway line in connection with the mining operations. The landowner filed an action for trespass and/or nuisance against the mining company. The Court of Appeal held that the evidence was clear that the railway line was necessary in connection with the lessee's mining operations and the Mining Act gave the company the right to enter the land for the purpose of constructing the railway line.

**Compensation and Resettlement**

The Jamaican Mining Act contemplates that aspects of mining operations will invariably interfere with third party rights and provides for the payment of compensation to private landowners for the disturbance of these rights. The Act places a duty on mining companies to pay ‘fair and reasonable’ compensation to owners/occupiers of land for any damage done to the surface of the land or to any live or dead stock, crops, trees, buildings or works as a result of the operations, once mining is completed.\(^{111}\) Owners/occupiers of land and the Commissioner of Mines can demand that mining companies deposit security with the Commissioner for this purpose.\(^{112}\) If the mining company fails to pay the agreed sum then the owner/occupier can bring proceedings in the Resident Magistrate's Court for an order for payment without limit of amount. The mining company has 14 days from the date of the decision to pay the sum awarded by the Court.\(^{113}\)

A mining company requires authorisation from the Resident Magistrates Court to travel over land not covered by a mining lease and is required to compensate the landowner or occupier for any damage done by their surveyor, servants or workmen.\(^{114}\)

It is evident from exemptions that the purpose of the mining laws was primarily to encourage the preservation and expansion of an industry that played an essential role in the country’s foreign exchange earnings and provided significant employment opportunities. Legislation was passed which exempts some mining companies classified as ‘associate producers’ (Alcoa Minerals of Jamaica Inc, Kaiser Bauxite Company and Reynolds Jamaica Mines Ltd.) from the requirement to deposit security for the payment of compensation and they can start mining before the amount of compensation has been determined or paid.\(^{115}\)

\(^{111}\) Section 12 of the Mining Act  
^{112} Section 11 of the Mining Act  
^{113} Section 12 of the Mining Act  
^{114} Section 59 of the Mining Act  
^{115} Section 8 and 9 of Bauxite and Alumina Industries (Special Provisions) Act
Unlike the laws relating to mining, there are no provisions in quarry legislation requiring for procedures for compensation for harm to the environment or people. Affected parties have no alternative but to resort to filing civil claims in the Resident Magistrates Court or Supreme Court to recover compensation in the event of damage.

**BEST PRACTICES**

Though international financial institutions\(^\text{116}\), mining companies and governments recognize that resettlement poses serious risks to communities, populations continue to be displaced by mining projects without a prior and informed consent agreement. Miranda, Chambers and Coumins\(^\text{117}\) propose, however, that \textit{“No displacement should take place until all risks and outcomes have been independently assessed for men and women…compensation has been provided, alternate land has been allocated…”} Companies ought to ensure that the livelihoods of resettled individuals improve when compared to their prior conditions. For persons who depend on land for subsistence agriculture or other types of livelihoods, compensation ought to include replacement of land of equal or better value than land that is lost.\(^\text{118}\)

Miranda et al. assert that compensation and benefits should be based on an independent assessment of cultural livelihoods, spiritual connections to the land, and assets, “including the value of informal activities and resources that are not captured through property rights.” Resettlement should be voluntary and take into account the needs of the individual or community being resettled including access to essential services and adequate infrastructure (e.g. roads, electricity, water supply). Absence of legal title should not constitute a barrier to compensation through resettlement and women should have equal access to legal title to land upon which they may be resettled. Lastly, in an effort to promote transparency and ensure accountability, that all payments and expenses related to resettlement and compensation ought to be publicly disclosed.\(^\text{119}\)

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\(^{116}\) IFC (2002); World Bank (2004); ADB (1998); Equator principles (www.equator-principles.com); Inter-American Development Bank, Operational Policy on Involuntary Resettlement (www.iadb.org); Japan Bank for International Incorporation (JBIC 2002); OECD (1997)


\(^{118}\) Framework for Responsible Mining: A Guide to Evolving Standards, Marta Miranda, David Chambers, and Catherine Coumans October 19, 2005, p.88; An example is provided by the BHP Billiton Tintaya agreement. The Agreement states that BHP Billiton will acquire new lands for each of the five affected communities based on the amount of land expropriated by the government and subsequently bought by the company, plus 25-50 percent in additional lands, depending on land quality, as determined by the communities (“Peru communities, Copper Mine Reach Historic Agreement,” December 21, 2004). (See www.oxfamamerica.org/newsandpublications/news_updates/archive2004/Tintayaagreement.)

5

CLOSURE AND REHABILITATION OF MINES AND QUARRIES

Mine closure, where a mining company ceases operation, presents a complex mixture of environmental, social, economic and development issues. Governments should ensure that industry has adequately recognized and prepared for closure during the life of the mining enterprise and not just at the end, and that the closure plan is carried out to the satisfaction of nearby communities, other stakeholders, regulators and affected government agencies. Governments have direct responsibility for defining and ensuring comprehensive mine closure plans within the context of sustainable development and social and economic equity. Rehabilitation of mined out areas after closure of mines is critical to prevent complete sterilization of land and ensure continued land use. This is particularly the case with bauxite mining which typically involves removing large tracts of vegetation top soil from open pits, leaving large depressions. Quarries leave scars on hillsides and may cause land slippage.

Prospecting

Under the Mining Act, the holder of a prospecting licence is granted extensive rights over the land during the period of the licence and he is not required to ‘rehabilitate’ the land once prospecting operations are concluded. The duty to restore the land once prospecting is complete is limited to filling the excavations in so as to prevent persons or stock from inadvertently falling into them. In the event that the prospector fails to do so, the Commissioner may do so and deduct the cost thereof from the deposit made by the license holder.\(^{120}\)

Mining

Due to the extraction of bauxite and removal of vegetation, the soil on mined out land is less fertile

\(^{120}\) Section 19(1) of the Mining Act
and less capable of retaining water. Where annual crops were formerly grown, now only cash crops and pastures for grazing are feasible.

Post-mining uses of land contemplated in the Mining Act and regulations are for agricultural or pastoral purposes and not to protect biodiversity. Mining companies are required to restore mined out land within three years of mining operations being concluded “to the level of agricultural or pastoral productivity or of utilization for afforestation purposes or such other uses as may be approved by the Commissioner or the Town and Country Planning Authority, as the case may require.”121

SECURITY FOR REHABILITATION

Licensed mining and quarry operators are required to deposit security for rehabilitation in the amount or form and subject to whatever conditions the Commissioner deems fit.122 The Minister responsible for mining can exempt mining and quarry companies from this requirement.123 Such was the case with Alcoa Minerals of Jamaica Inc, Kaiser Bauxite Company and Reynolds Jamaica Mines Ltd which are exempted from this requirement by virtue of the Bauxite and Alumina Industries (Special Provisions) Act.

If the mining company or quarry operator fails to carry out rehabilitation in accordance with the stated regulations or of the terms and conditions of approval then the Minister can authorize any person to enter the mining premises for the purpose of effecting the rehabilitation work and recover the costs of this work from the amount deposited or recovered as a civil debt from the company.124

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121 r. 53 of the Mining Regulations, 1947
122 Rule 53A(1) of the Regulations
123 Rule 53A(2) of the Regulations and section 12 of the Quarries Control (Amendment) Act
124 Regulation 53A(3) of the Mining Regulations; Section 12 of the Quarries Control (Amendment) Act
PROCEDURE FOR REHABILITATION

The laws relating to quarry operations in Jamaica do not include detailed provisions outlining the procedure for rehabilitation. In contrast, the Mining Act specifies certain measures that the holder of the mining lease must take in order to effect restoration:

- Before commencing mining operations in any deposit, the holder must firstly remove the topsoil to a depth of not less than 15 centimetres and keep it stacked and preserved.
- Within two years after mining operations have been concluded in the pit, the holder must ‘utilize, remove, clear or dispose of all soil, debris and rubble so as to effect a smooth grading and prevent the creation of unsightly mounds and dumps in the area’, replace the topsoil which was removed, construct drainage to prevent accumulation of water on the mined land and provide reasonable access to the area.125

The Mining Regulations provide that the Commissioner can waive these requirement to restore mined land for a range of reasons which include if satisfied that compliance would either not be ‘practicable as part of the operation of mining’, not be ‘consistent with good mining practice’, be ‘unreasonable or likely to raise costs out of proportion to the value of the ore body, or to normal working costs or to the agricultural value of the land or to the final results likely to be achieved’ or render uneconomical an otherwise economical mining operation.126

There is no requirement to consult communities in the development or implementation of the rehabilitation plan for mines or quarries. Mining companies are only required to consult the Minister responsible for mining and the Commissioner of Mines. On completing the rehabilitation procedure, companies are entitled to apply for and receive a Certificate of Compliance that certifies the land has been restored to the satisfaction of the government.127 The Commissioner can extend the period for restoration of an open pit if satisfied that the extension is ‘reasonably warranted’.

The Minister responsible for mining can require a recognized bauxite or alumina producer to implement specific conditions for rehabilitation to secure the fertility and productivity of available land for agricultural and pastoral purposes.128

125 Regulation 53 of the Mining Regulations
126 Regulation 53(2) of the Mining Regulations
127 Rule 54 of the Mining Regulations
128 Section 2(2) of the Act
BEST PRACTICES

Jamaica’s Draft National Minerals Policy recognizes that the long-term sustainability of the mining industry will require rehabilitation of mining sites and recommends the development of a Sustainable Mining Strategy. The Strategy should ensure that mined lands are rapidly rehabilitated, certified and brought into non-mining economic activities. It is important that the strategy, policy, legislative, constitutional and treaty requirements do not conflict with each other. Examples of good practices in mine rehabilitation, reclamation and closure in Canada, South Africa and Australia are provided in this section.

Security for rehabilitation

The security deposited for rehabilitation should be sufficient to cover the cost of the regulator contracting a third party to conduct the rehabilitation including the regulator’s administrative costs. It is likely that these costs will be greater than the costs that would be incurred by the mining or quarrying company to perform this work due to additional costs of having to study the mine or quarry and to mobilize equipment. Some countries have devised formulas to calculate the cost of rehabilitating mined out areas based on the size and topography of the area being disturbed. In Western Australia, performance bonds are calculated using rates from a low of A$3,000 per hectare for rehabilitation of mines on level ground with low mobilization costs to a high of A$30,000 per hectare for areas with major work. Other rates are applied in the case of tailings facilities (a minimum rate of A$12,000 per hectare) and waste rock piles (a rate of A$10,000 per hectare). These costs should be calculated in the planning and design stages and paid over prior to commencement of mining or quarrying.

Schedule for Rehabilitation

Mining and quarrying companies should be required to prepare rehabilitation and closure plans as a condition precedent to obtaining approval. The plan should include a schedule of when rehabilitation and closure will occur as well as incorporate “progressive restoration” whereby mined

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out areas are reclaimed during the period of active mining. In British Columbia, one of the major complaints is that mining laws do not ensure that an adequate progressive restoration program is carried out at all mines. In a recent publication entitled “Fair Mining practices: A New Mining Code for British Columbia”, the suggested Best Practice is to enact clear legal requirements for reclamation at all stages of a mine’s life cycle and set a clearly defined schedule for when reclamation will be completed.\footnote{Fair Mining Practices: A New Mining Code for British Columbia, Fair Mining Collaborative; Peng, Lehrer & Ammerlaan, Fair Mining Collaborative 2015.}

### Abandoned gold mine in Pennants, Clarendon causes environmental risk

In 2011, cyanide was discovered leaking from a rotting container on the site of a gold mining operation at Main Ridge, Clarendon which had been inactive for eight years without any closure procedure. The cyanide resulted in the death of a cow and risk to a community’s water supply. An insufficient bond for rehabilitation was in place. NEPA filed a claim against the gold mining company, to recover the costs of mitigation measures to contain and eliminate the risk caused by the chemicals on the site. National Environment and Planning Agency, The Annual Ambient Air Quality Report 2012, P. 16

### Reclamation Standards

British Columbia has outlined reclamation standards in its Health, Safety and Reclamation Code for Mines in BC (HSR Code). These cover re-vegetation, landforms, watercourses and water quality,
disposal of chemicals and re-agents, monitoring and post closure land use.

**Reclamation Monitoring and Reporting**

Monitoring of mines should continue after closure, as environmental damage can emerge long afterwards. The Fair Mining Collaborative Publication suggests the following methods:

- Environmental audits of closed mines.
- Posting reports online, as is practiced in Alberta, to ensure access and increase transparency.
- Regular environmental monitoring reports from companies

**Post Closure and Community Development**

Typically, mining activities last anywhere between 15 and 30 years, and it is quite common for local communities to experience negative effects including adjusting to relocation to new or reclaimed areas or to losing mine-related revenues. As a result, legislation ought to insist that mine closure planning includes post-closure land use that enables communities to withstand the changes to their economies. Consultation both prior to and after mining activities is therefore essential.

New concepts of “cradle to the grave” mineral development has resulted in much greater involvement of an increasing number of stakeholders in the closure and post-closure process (Clark and Clark, 1999), including the development of Social Impact Assessments in mine planning and the incorporation of a Social Mining Plan as a part of the overall minerals extraction project (Clark, J., 1994). This is a relatively new concept in the majority of countries and throughout the industry.

Requirements such as assessing reclamation progress before releasing a mining company from permit obligations could promote economic activity and protect the public purse from unforeseen circumstances. In South Africa, a mine closure certificate is not issued until various government agencies are satisfied that health, safety and potential pollution issues have been addressed.

The Fair Mining Collaborative in Canada suggests research and development and local manufacturing as alternatives for promoting long-term sustainable development after mining activities have been completed. As it relates to research and development, this is an area that mining companies have traditionally invested very little in. The suggested remedy for this is a clear technology policy
that includes, for example, tax relief on the training of engineers in environmental policy and government grants for collaborative university-industry research projects. Legal provisions such as mandating that operating mines contribute to a research and development fund may also help to overcome this historical lack of investment.¹³³

### Progressive restoration in St. Ann

Noranda Bauxite Mining Limited conducted progressive restoration while mining areas of St. Ann (Stepney, Nine Miles, Brown's Town, York Castle) under a Special Mining Lease first issued in October 2004 to its predecessor Kaiser Bauxite Company. Mined out areas were reclaimed within three years of commencing and sections of reclaimed land are being converted into water catchment areas for greenhouse farming and leased to the farmers in the communities to plant lemongrass.


The potential long-term benefits that could be gained from the creation of local manufacturing jobs is seriously harmed by current resource policies in favour of exporting unprocessed natural resources. The Canadian jurisdictions of Ontario and New Brunswick have legal provisions that require all extracted ores and minerals “be treated and refined in Canada”.

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MONITORING, ENFORCEMENT AND COMPLIANCE

The Berlin Guidelines encourage industry players to establish environmental accountability in industry and government at the highest management and policy-making levels. Effective monitoring and compliance of mining and quarry operations requires comprehensive provision in laws for full investigative powers (search and seize) and adequate penalties (fines and imprisonment). Strengthening environmental enforcement and monitoring activities, reviewing legislation and ensuring appropriate sanctions are actions proposed in the Draft National Minerals Policy for to achieving a sustainable and responsible minerals sector fostering environmental stewardship and ensuring the health and safety of communities and workers.

SEARCH AND SEIZURE

Regulators with powers of investigation to enter premises, search and seize material are better able to monitor operations to ensure that mitigation measures outlined in the permit conditions are being implemented. In Jamaica, the Commissioner of Mines can authorise any person to enter any quarry or mining site or premises where information relating to the operation or quarried material is being stored.  

134 There are greater enforcement provisions for ensuring compliance with the quarries legislation than the mining law. While members of the Jamaica Constabulary Force have the authority to search, seize and detain without a warrant, any conveyance or machinery that has been used to operate an illegal quarry, a warrant is required to seize, detain or forfeit minerals found in illegal mining operations.  

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134 Section 20(1) of the Quarries Control Act; Section 62 of the Mining Act
135 Section 20A(1) of the Quarries Control Act; section 96 of the Mining Act
ARREST

Both mining and quarrying laws include provisions for the arrest of persons found in breach of these laws. These provisions also allow members of the Jamaica Constabulary Force to arrest persons that have committed an offence under either Act or where there is reasonable suspicion that illegal activities have been committed. 136

SANCTIONS

The Minister responsible for mining has the power to revoke a mining lease or quarry licence if any of the company’s agents or employees violate any of the provisions or requirements under the Mining Act and Quarry Act or conditions of the lease or licence. 137

Amendments to the Quarries Control Act in 2015 and to the Mining Regulations in 2004 introduced higher fines for breach of these laws. For instance, where a pit is not restored within the three-year period, the mining company must pay USUS$2,500.00 or the equivalent in Jamaican currency, for each hectare of land disturbed for mining and for each year during which the pit remains unrestored. A mining company that fails to obtain a Certificate of Compliance to certify restoration within three years after completion of mining is required to pay US$25,000.00 or the equivalent in Jamaican currency for each hectare of mined land. 138

The fine for operating an illegal quarry was increased to a maximum of JA$1 million and expanded illicit activities to include the purchase, transportation, stockpiling and disposal of quarry material obtained from an illegal quarry. 139 In addition to any fine or imprisonment, the court can order that quarry material be forfeited to the government or order that the fine be used to rehabilitate the illegally operated quarry. 140

136 Section 97 of the Mining Act; section 33 of the Quarries Control Act
137 Section 11 of the Quarries Control Act; Section 42 of the Mining Act
138 Regulation 55 of the Mining Regulations
139 Section 3 of the Quarries Control (Amendment) Act 2015
140 Section 5(4) and 5(5) of the Quarries Control Act
BEST PRACTICES

The regulators should have full legislative authority to take appropriate action to ensure compliance. For example, section 20 of the Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations, 2000 states that the government has authority to cancel the approval if any conditions are not being fulfilled.

Monitoring provisions are included in the EIA laws for several countries. See for example s. 37 of Trinidad's Environmental Management Act which expressly requires monitoring of developments to ensure that activities are consistent with representations made during the permitting process and with information provided in the EIA.

Environmental authorities in South Africa have broad authority to enforce permit conditions and take action where development activities threaten the environment. According to South Africa's EIA regulations, an agency is permitted to suspend an environmental authorization (permit) in circumstances where a project developer fails to comply with permit conditions, if the environmental authorization was obtained through fraudulent means or through misrepresentation/non-disclosure of material information, if the authority believes that suspension is necessary to protect the environment, or if unforeseen circumstances lead to potential detrimental effects on the environment or to human rights.  

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Disclosure of environmental information such as the quality of surrounding air and water and discharges into the environment promotes pollution prevention, abatement, and good corporate behaviour. When people have this information they are able to understand and analyse the decisions made by the Government, hold regulators and companies accountable for environmental harm and make better decisions to protect their health and property.

ACCESS TO INFORMATION

The Government of Jamaica made significant progress in improving transparency and accountability in decision-making by introducing the Access to Information (ATI) Act in 2002. The ATI Act provides that every person has the general right to request and obtain official documents held by governmental institutions.\textsuperscript{142} This right includes the right to inspect, copy or listen to a wide range of information and to take legal action if access is denied or not provided within specific time frames outlined in the Act. The type of information that can be obtained includes maps, plans, graphs or drawings, photographs, documents, discs, tapes or sound tracks or other devices, or any film.\textsuperscript{143} There is no fee for making a request or to search for information and the cost to obtain copies of a document is a minimum of $JA10.00 per page with higher fees for copying other types of information (e.g. photographs, films, CDs and DVDs).\textsuperscript{144}

The duty to provide access to information binds a number of public authorities, government ministries, executive agencies and departments, statutory bodies, parish councils and companies where the government owns more than 50% of the shares. This is significant as mining companies,

\begin{itemize}
\item \textsuperscript{142} Section 9 of the Access to Information Act
\item \textsuperscript{143} Section 3 of the Access to Information Act
\item \textsuperscript{144} Access to Information (Cost of Reproduction of Official Documents) Regulations
\end{itemize}
such as Noranda Bauxite Company, in which the government’s share is 51%, would be required to disclose information to the public on request. The Minister of Information can also pass an Order that this Act applies to any body or organisation that provides public services essential to the welfare of the Jamaican society.\textsuperscript{145} The ATI Act does not apply to all public authorities. A member of the public cannot obtain information from the Governor General (where he is exercising his constitutional powers), judges, the Jamaica Constabulary Force (JCF) or the Jamaica Defence Force (JDF) in relation to their intelligence gathering activities.

Public authorities are exempted from the requirement to disclose documents if they contain:

- Information that would prejudice security, defence, or international relations
- Information from a foreign government communicated in confidence
- Cabinet submission or a Cabinet Decision or record of any deliberation of the Cabinet (except for factual information)
- Information that would endanger or could reasonably expected to endanger lives, prejudice investigations, or reveal methods or sources
- Information that is subject to legal privilege or would be a breach of confidence, contempt of court or infringe the privileges of Parliament
- Opinions, advice or recommendations or a record of consultations or deliberations for Cabinet if the release is not in the public interest
- Information that could harm the national economy
- Information that would reveal trade secrets or other confidential commercial information
- Information that could be expected to result in damage, destruction, or interference with historical sites, national monuments or endangered species if the release is not in the public interest
- Information relating to the personal affairs of any person alive or dead\textsuperscript{146}

These exemptions are not absolute: documents created twenty years ago or more are no longer

\textsuperscript{145} Section 5 of the Access to Information Act
\textsuperscript{146} Part III of the Access to Information Act
considered exempt\textsuperscript{147} and documents containing exempt information can be provided with the exempt information redacted.\textsuperscript{148}

The time frame for public authorities to decide whether to provide information requested under the ATI Act could be lengthy, ranging anywhere from 30 to 90 days if the information is refused. The public authority must inform the applicant that it has received the request for information within 30 days, state whether the information will be granted, refused, transferred or deferred, give their reasons and outline the rights of appeal. The public authority can also extend the time period from 30 to 60 days, if there is reasonable cause for an extension. A transfer to another government agency or institution must be done within 14 days of receipt of the request. No more than three transfers are allowed, unless the applicant agrees.\textsuperscript{149}

If information is refused or not provided within the time frames set out in the Act, the applicant has the right to request an internal review or to appeal to the Access to Information Appeals Tribunal. Requests for internal review must be made within 30 days of the decision being communicated to the applicant, and an appeal must be filed within 60 days. The burden of proving that the decision was justified is on the public authority.\textsuperscript{150} To date, three appeals have been filed in an attempt to obtain information related to the mining industry including copies of maps showing mined out areas and copies of prospecting licences and mining leases.

The Act makes it an offence for anyone to alter, deface, block, erase, destroy or conceal any document with the intention of preventing its disclosure. The maximum fine is $500,000.00 or imprisonment for up to six months or both fine and imprisonment.

In 2011, a Joint Select Committee of Parliament reviewed the Act and proposed to introduce significant amendments including shortening the time period for acknowledging receipt of a request to five business days, providing the right to appeal the transfer of requests, empowering the Access to Information Unit to have monitoring and investigative functions and applying an overriding public interest test to determine whether exempt documents, in particular Cabinet documents, documents relating to security, defence, law enforcement, the economy, business affairs and international relations,\textsuperscript{151} should be released.

\textsuperscript{147} Section 5(2) of the Access to Information Act
\textsuperscript{148} Section 11 of the Access to Information Act
\textsuperscript{149} Section 7 of the Access to Information Act
\textsuperscript{150} Section 31-32 of the Access to Information Act
\textsuperscript{151} Report of the Joint Select Committee of Parliament to Consider and Report on the Operation of the Access to Information Act, 2002 Relative to
PROACTIVE DISCLOSURE OF INFORMATION

The proactive release of environmental information such as water and air quality monitoring data and enforcement and compliance records, without having to make a request, can promote compliance and corporate social responsibility, and increase awareness of environmental risks to local communities. The Access to Information Act does not require public authorities to proactively disclose information without a request being made for information and provides that where any other legislation provides for the disclosure of information, then the information should be accessed under that law. Mining and quarrying legislation and environmental legislation, typically provided for the establishment of public registers which contain limited information such as permits and licences.

In this section the Strengthening the Right to Information for People and the Environment (STRIPE) methodology developed by the World Resources Institute (WRI) was used to assess the comprehensiveness of information provided proactively on water and air pollution from the mining and quarrying sector. 151 indicators describing types of environmental information related to permitting, facility-based monitoring, EIAs, water and air quality standards and enforcement were used to evaluate the kind of information that is legally required to be released to the public and that is made proactively available in practice in the mining and quarrying sector. Specific kinds of air and water pollution information examined included levels of pollutants, studies on potential health impacts to communities and data on water and air quality measurements pre and post mining and quarrying.

The public right to obtain copies of maps showing mined out areas is enforced

In 2007, the Jamaica Environment Trust, an environmental NGO successfully filed an appeal challenging the refusal of the Mines and Geology Division to grant access to copies of maps showing mined out areas in St. Ann. The Tribunal disagreed with the Division that the maps contained trade secrets and information of a commercial value and was exempt from disclosure. The Division was ordered to release the information to the NGO.

- Jamaica Environment Trust v Mines and Geology Division Appeal No AT/MGD/2007/2

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The indicators focused on two companies whose operations can be considered representative of the mining and quarrying sector: JAMALCO’s mining operations in Hayes, Clarendon and Caribbean Cement Company’s quarry operations in Bull Bay, St. Andrew. These are also two of the largest and oldest mining and quarrying companies in Jamaica which still remain in full operation today.

**Caribbean Cement Company in Bull Bay, St. Andrew**

Caribbean Cement Company, established in 1952, began operating several quarries in Bull Bay, St. Andrew. Gypsum, shale and pozzolan are some of the minerals extracted from these quarries which are later processed at Caribbean Cement’s factory in Rockfort, Kingston and used to make materials for the construction industry (e.g. cement). The quarry sites are interspersed throughout the Bull Bay community which is comprised of over 3000 people.

**JAMALCO in Hayes, Clarendon**

JAMALCO began mining bauxite in Jamaica in 1959 and is a joint venture between Noble Group and Clarendon Alumina Production (CAP). The JAMALCO alumina refinery plant was established in Hayes Clarendon in 1972. The facility processes bauxite into alumina which is then exported. The facility which is surrounded by Hayes and New Town communities with a combined population of 12,000 people, also contains on its premises large bauxite waste disposal ponds (commonly referred to red mud lakes). Over the years, the plant has undergone changes to modernize and expand its operations. JAMALCO’s mining operation in Clarendon is regulated by the terms and conditions of an environmental permit and an air quality licence which limits the discharge of pollutants into the environment.

The STRIPE assessment identified significant barriers that prevent local communities from obtaining information on this sector. Totlyn Bryan, a resident of Hayes community has expressed disappointment with the regulatory bodies’ failure to disclose official documents. She believes the agency (NEPA) should be mandated to list and disclose said listing of all relevant documents relating to the project thus negating the need to know these documents by name. This would allow for easier access by stakeholders to the information necessary to assess the environmental impact on the community. She was only granted access to documents that she was able to list by name.
Costs

The public has free access to view information held in public registries during reasonable hours but there are varying fees to conduct searches of the registry and to obtain copies of documents. While there is no cost for searching the NRCA’s environmental permit register, there is a fee of JA$500 to search the mining register and JA$5000 per hour to search the Air Pollutant Discharge Register.\textsuperscript{152} The fee to obtain a copies or extracts from the Air Pollutant Discharge Register is JS50 per page, five times the cost of copies obtained using the Access to Information Act.

The chart below shows the amount of information relating the JAMALCO and Caribbean Cement Company operations that is available proactively and is free of charge. The research suggests that more information relating to mining is available free of charge compared with that available for the quarrying operations.

\textsuperscript{152} Section 69 of the Mining Act; Second Schedule of Mining Regulations; section 21 of The Natural Resources Conservation (Permits and Licenses) Regulations 1996; regulation 48 of the Natural Resources Conservation Authority (Air Quality) Regulations 2006.
Location of information

The Commissioner of Mines and the NRCA are required to maintain public registers with all air quality licences, prospecting licences, mining leases, quarry licences and environmental permits. Despite the fact that almost all mining and quarrying operations are located outside the parishes of Kingston and St. Andrew, the majority of environmental information is held in these registries in St. Andrew. Rural communities directly affected, many of whom have limited access to internet, have to bear additional travelling costs to obtain environmental information.

The following graph shows that for the mining company investigated, air and water pollution information is posted mainly online or on public registries rather than in local places. 77% of the information on water pollution from mining is available online while 53% of information on air pollution is available in public registries. In comparison, 29% and 20% of information relating to water pollution and air pollution from quarrying is available in local places.

Format of information

Another challenge is the format of information that is proactively disclosed. Non-technical language and summaries are rarely used in the presentation of information on environmental impacts of the industry on the air and water quality, environmental monitoring data and in the description
and explanation of pollution control technology and methods. Whether information is provided in hard copies or electronic copies can also greatly influence the ease with which information is disseminated to multiple groups or individuals that are affected. The chart below shows that more 50% of information on water and air pollution related to the mining and quarrying sector is disclosed only in a digital or electronic format.

An important finding of the STRIPE assessment is that less information on water pollution is proactively disclosed than information on air pollution. Authorities are not required by law to proactively release or disseminate water quality data for areas that are or could be affected by mining or quarrying. While the location of wells is provided online on the website for the Water Resources Authority, information on the quality of the water for these wells is limited and infrequently updated. In comparison, the public has access to the NRCA’s air pollutant discharge registry which includes all records relating to air pollutant discharge licences and the public can access all information not considered confidential under the Access to Information Act. The chart below shows the overall comparison of the percentage of information that is made proactively available that is related to water pollution and air pollution from the mining and quarrying sector.
Analysis done at the company level, shows that 55% and 65% of information on water pollution from related to JAMALCO and Caribbean Cement Company respectively is not actively disclosed.
Best Practices to Promote TransparencyPublic Participation in the Management of the Mining Quarrying Industry.

The frequency with which information that is publicly available is updated is also a challenge. The chart below indicates that 36% of information on water pollution is not updated frequently. While 80% of all information on air quality related to the mining and quarrying sector is updated frequently, specific air quality data from these facilities that is published online on NEPA’s website is only provided up to the year 2012 making it of limited use for the public.153

![Timeliness of information](http://www.nepa.gov.jm/air-quality/Emissions_Inventoy_Speadsheet_2012.htm)

In general, the amount of information disclosed on accidental releases, spills and risks is problematic. Jamaica has introduced a Pollutant Release Transfer Register which is an online inventory of the sources and levels of harmful releases of substances into air and water found on NEPA’s website. The data, which is sourced from licences issued to facilities to discharge various hazardous pollutants, is not up to date and is not presented in a user-friendly format that allows the average user to understand its relevance. The data is not linked to information on corresponding enforcement action taken by government agencies for any observed breaches in the level of permitted discharge, nor does it indicate potential risks to public health and the environment from these discharges. The following chart indicates that 64% of this type of information is not proactively disclosed to the public.

BEST PRACTICES

Extractive Industries Transparency Initiative (EITI) is a voluntary initiative which promotes disclosure of payments made by mining companies to governments. Where governments choose to join this initiative, they are required to publish annual revenues from mining companies engaged in extractive industries (oil, gas, petroleum) while those companies are also required to disclose payments made to governments. An independent auditor reconciles any discrepancies between the figures cited and a report is published. This goal of the initiative is to aid countries with reform, corruption and accountability and to improve tax collection and enhance the public’s trust in the sector. Countries that have joined the initiative to date include Norway, Ghana, Sierra Leone, Nigeria, Liberia and Trinidad and Tobago. Implementation of the EITI can take many forms including introducing or amending laws to include specific clauses for disclosure of revenue. The Government of Jamaica indicated in its Draft Minerals Policy that Jamaica should, by 2020, have joined EITI.154

Proactive disclosure of information

Some countries require that government agencies responsible for generating and keeping environmental information should proactively disclose or disseminate this information to

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the public. This is not limited to permits, licences and EIAs. Rule 8 of Trinidad's Certificate of Environmental Clearance Rules requires the government to establish a National Register for the EIA process which is open to the public and should include information relating to the status of an application, all EIAs including any addenda and information relevant to the permit application, a non-technical summary of the proposed project and likely impacts, the permit inclusive of the permit conditions, refusal to issue a permit and any reasons.
CONCLUSION AND RECOMMENDATIONS

ENVIRONMENTAL MANAGEMENT

Environmental legislation to manage the impacts of the mining and quarrying sector is lacking. There are no legal provisions that make it mandatory to screen new projects to ensure adequate environmental management. The EIA Regulations to be introduced by the Government of Jamaica (GOJ) should include provisions that require applications for new mining and quarry projects to be screened to ensure that any risks are mitigated at an early stage. The Regulations should at minimum include:

- A list of the type of projects where an EIA would be a mandatory requirement, due to their potential impact on the environment and public health. Mining and quarrying would be included in this list.
- Requirement for EIA to be prepared by a person who does not have a personal, professional, or financial interest in the proposed project or ties to the project proponent.
- Requirement for a certification process for EIA consultants whereby only qualified consultants are authorized to conduct EIAs.
- Minimum requirements for the conduct of a public meeting:
  - A neutral chairperson
  - Adequate time for questions and comments to be raised by the public
  - Provision of a non-technical summary of the EIA
  - Specified methods for notifying the public and local communities and a specified period for receiving public comments
  - Verbatim notes of the meeting should be submitted to NEPA/NRCA and made available to the public within a specified time frame.
• A specialized review body with responsibility for examining EIAs and ensuring that the reports meet content and quality requirements set out in the Terms of Reference.

“NO GO” AREAS

International guidelines recognise that mining should not be allowed in certain areas, in particular, heritage sites and there are mounting calls in the international community to extend this to all categories of declared protected areas. The Government of Jamaica should introduce regulations that specifically prohibit mining and quarrying within protected areas gazetted under the Natural Resources Conservation Authority Act, national monuments or heritage sites under the Jamaica National Heritage Trust Act, forest reserves declared under the Forest Act and Special Conservation Fishery Areas declared pursuant to the Fishing Industry Act.

COMMUNITY ENGAGEMENT AND PARTICIPATION

There are a lack of laws that require community engagement and participation in the decision whether to allow mining and quarrying to proceed and in the monitoring of these industries. It is essential that communities that are directly affected by pollution from companies, are adequately consulted during all stages of the decision-making process including the conceptualization of the activities, screening, approval, monitoring and closure. The companies should be required to implement the following general practices:

• Facilitate baseline and ongoing health studies

• Ensure community participation in independent audits and verification of compliance with regulations and commitments

• Obtain the prior and informed consent of maroons for use and occupation of their land

Specific practices relating to the EIA process that should be adopted are described below.

The public should be notified of the EIA and proposed project early in the decision-making process, for example before the terms of reference for EIA are set, and in an adequate, effective and timely manner. The public should be notified that an application has been received for a mine or quarry operation and invited to submit recommendations for input into the Terms of Reference for the EIA. The notification should state inter alia:
• the proposed activity,
• the nature of possible decisions or draft decisions,
• the participation procedures which will be employed,
• the public authority responsible for the decision,
• the public comment process being used,
• the opportunities to participate,
• the time and venue for any public hearings,
• the public authority from which relevant information can be obtained and where such information has been deposited for public viewing,
• the public body to which comments or questions can be submitted,
• what environmental information is available about the proposed activity,
• the fact that the activity is the subject of an EIA.

The local community where the proposed mine or quarry operations will take place should be specifically consulted during the preparation of the EIA and their comments and concerns are recorded in the actual EIA document.

One the EIA is completed, the public is notified and invited to submit comments on the EIA and the proposed project. Notices should be published multiple times in a daily newspaper and of a specified size/form set out in the Regulations. Notification should also be disseminated through other means appropriate to inform the public (e.g. radio, local notice boards, the NRCA/NEPA website and erected on the land for the proposed project), and adequate time should be given for the public to comment or otherwise present their views on EIAs for proposed projects.

Public consultation should include accessibility of the EIA and supporting documentation relating to the proposed project, a public hearing to discuss the EIA and proposed project, a reasonable minimum period for submission of public comments to the NRCA with the discretion to extend (but not limit) the time period. The public should also be notified of the decision taken and reasons for the decision.
The EIA regulations should outline certain circumstances where the public would be allowed to appeal to and seek relief from an independent court or tribunal for alleged breaches of key procedural aspects of the EIA process including in the following circumstances:

- Where a decision is taken that an EIA is not required
- Where the public participation procedure has not been complied with
- Where the permit conditions have not been complied with
- Where a proponent commences a project without obtaining relevant approvals.

**LAND ACQUISITION, COMPENSATION AND RESETTLEMENT**

Legislation in Jamaica allows for mining companies to obtain approval to mine and access areas even where these areas are occupied or owned by others. This practice has led to a failure to consider the needs and concerns of individuals and incorporate appropriate safeguards to ensure adequate compensation and suitable resettlement. In comparison, recent amendments to the Quarries Control Act, requires quarrying companies to obtain approval from landowners.

The Mining Act and related regulations should be amended to require that resettlement of people and communities from land required for mining purposes should be undertaken voluntarily. When undertaken, resettlement should take into account the needs of the individual or community (e.g. access to essential services and adequate infrastructure such as roads, electricity and water supply).

To ensure transparency and accountability, legislation should also require that all payments and expenses related to resettlement and compensation should be publicly disclosed.

**CLOSURE AND REHABILITATION**

There are no requirements for the closure of mines and quarries to consider require rehabilitation that meets the needs of local communities or which ensures that the sums needed for rehabilitation in the event of non-compliance are sufficient.

The government should amend the Quarries Control Act and mining legislation to introduce mandatory requirements for depositing adequate bonds for rehabilitation in the event of non-performance which would vary depending on the size and characteristics of the land and the costs to hire a third party to complete the rehabilitation.
Mining and quarrying companies should be required to develop closure plans in consultation with relevant local authorities and affected communities to ensure plans take into account a sustainable end use that meets the needs of the communities. This requirement should be a pre-requisite for approval.

**MONITORING, ENFORCEMENT AND COMPLIANCE**

Legislation relating to monitoring and enforcement in the mining and quarrying sector includes a range of administrative and criminal sanctions such as powers to revoke or suspend permits and significant fines for non-compliance. Civil actions are not generally specified in these laws but these types of actions can ensure that the adverse impacts of lack of compliance, such as damage to the environment, can be prevented, mitigated, or eliminated.

The EIA Regulations should set out a variety of civil and criminal remedies which the NRCA/NEPA can pursue where a breach of a permit is identified or where a proponent begins an activity without a permit. These should include:

- Injunctive relief to stop the offending activity
- Fines that are sufficiently high to serve as a deterrent
- Restorative orders to require the proponent to restore the land and natural resources to its original state prior to construction

**TRANSPARENCY AND ACCESS TO INFORMATION**

**Release more Information on company pollution**

Government agencies should proactively disclose information that can affect the environment and health of communities so that they are informed and can make decisions to protect their well-being. The findings of the STRIPE assessment suggest a need to reform legislation to include a mandatory requirement to release information on pollution from the mining and quarrying sector. The public should have more information about the pollution released from industries in their local communities than is currently provided for in legislation and practice. Legal requirements for such disclosure should be introduced in the Access to Information Act, Water Resources Authority Act, the Mining Act and the Quarries Control Act.
Information that should be publicly available without the need to make a request for information includes:

- The level and types of pollutants discharged in air and water bodies used for domestic needs (ambient air and water quality)

- Current air and water quality data, in particular for areas located in proximity to mining and quarrying operations

- Regulatory and monitoring information such as enforcement action taken by regulators and actions related to compliance

To improve proactive transparency, EIA Regulations should provide a legal requirement for free and prompt public access to all information relevant to the EIA process while the EIA is being conducted and during the construction and operation of the proposed project. This information should be open to the public free of charge and include at minimum the EIA, the Terms of Reference for the EIA, the application form and supporting documents for the proposed project and reports submitted to the Authority and relating to the proposed project.

**Improve Understandability of Information**

In an effort to make environmental information more understandable and useful for local communities, the environmental regulatory agencies should present this information in graphic representations using maps, charts and symbols to identify risks and demonstrate breaches or compliance. The data should also be linked to information on corresponding enforcement action taken and the risks associated with these pollutants. See for examples the Environmental Protection Agency’s website on Enforcement and Compliance History Online (ECHO) which is an interactive database that provides graphic representations of compliance records for regulated facilities and allows the public to search the compliance records for companies including permit data, inspection dates and findings, violations, enforcement actions and penalties assessed.\(^{155}\)

Information should also be accessible in a wide range of places and formats during all stages of collection and analysis including on the internet, television, radio, newspaper, paper records and mobile phones. It must be also be reliable, current and up-to-date and comprehensive.

\(^{155}\) Enforcement and Compliance History Online (ECHO), available at [http://echo.epa.gov/](http://echo.epa.gov/)
Support Community Capacity to obtain Information to Improve Local Environments

Capacity building, awareness and training programmes should be established for civil society and in particular communities affected by mining and quarrying to improve their ability to obtain information using the Access to Information Act, assist them to interpret data on pollution control (permit conditions, monitoring reports) and to understand the contents and process for EIAs which will encourage greater transparency in the sector.

The fees for conducting searches of the mining public register and air pollutant discharge registry are prohibitive and should either be lowered to make information more accessible.
Best Practices to Promote Transparency Public Participation in the Management of the Mining Quarrying Industry.