Participant Notes

Session 2.2 Choosing and designing the audit

Overview.

This session tries to guide participants (auditors from Supreme Audit Institutions as they choose and design audits of the impacts of mining on society, the economy, and the environment by using the four step approach.

Learning Objective

At the end of this session, participants will make sense of all impacts that may arise due to mining activities and how the four step approach can be applied in choosing and designing the audit on these impacts.

Basic Concepts.

Policies and programmes

Governments can formulate environmental policies .Policies tend to set directions, but are usually not prescriptive or enforceable. A policy might be a statement of intent or of a desired outcome. In some cases, policies can be supported by specific procedures (action plans) and (funded) programmes.

Environmental Impact Assessment

According to the UNEP, Environmental Impact Assessment (EIA) is a systematic process to identify, predict and evaluate the environmental effects of proposed actions in order to aid decision making regarding the significant environmental consequences of projects, developments and programmes.

Strategic Environmental Assessment

According to UNEP- refers to a formal, systematic process to analyze and address the environmental effects of policies, plans and programmes and other strategic initiatives. It includes social, health and other consequences of a proposed action and their relationship to sustainable development concepts and strategies.

Key Teaching Point 1.

- Introduction to 4 steps

Selecting and determining the scope of audits of mining, the focus should not only be on the traditional economic concerns, but also on new social, economic and environmental concerns. To be able to define the scope of a particular audit four steps were deduced by the guidelines which includes: (i) Identifying the environmental threats of mining in the country, (ii) identifying the government's responses to the threats in the country and relevant players,(iii)

Choosing audit topics and priorities and (iv) deciding on audit approaches ;scoping the audit.

Auditors must understand the situation in their country and the main threats associated to the mining life cycle. Although, environmental problems differ from one type of mineral to another, there are some common environmental impacts e.g. loss of habitant. Auditors should always consider the activities involved at every stage of the mining process. The prime drivers of the environmental problems could include the following:

- explorationdrilling and exploration excavations,
- project development –constructionof roads and buildings, erection of treatment plants, overburden stripping and placing,
- mine operation -heap-leaching of tailing dumps, bio-leaching of surface heaps or deposits and solution mining of buried deposits.
- Beneficiation-on site processing may include combination to reduce particle size, or floatation using selected chemicals ,and
- Mine closure –incompatible landscape features and contamination of soil or water.

Gold and diamond mining have slightly different environmental impacts. The environmental and social challenges that the gold/diamond industry faces include

- The use of cyanide in the production process, and
- Increasing environmental and social regulation.

In diamond mining, the environmental impacts depend on the mining method applied. The environmental impact of diamond mining is similar to those existing in open-pit mines. The problem stems from waste disposal, leaching, and ground water pollution.

The short and long-term effects on the environment, economy and society lies on the land and human settlement sectors, because mining displaces people, undermines their livelihoods, and causes significant changes in population dynamics. The other environmental problems affect the water sector – water is polluted and becomes scarce. Another sector highly affected by mining activities is the health sector – people living in and near mining complexes get affected by the pollutant.

Key Teaching Point -2.

Introduction Step 2: What are the government responses and who are the players

Governments have a variety of legal powers and tools that they can use to address environmental problems and activities. Legal powers include legislation (acts of parliament or congress), regulations, permits, license bylaws, and ordinances. Governments have different roles and responsibilities over the whole mining process, including environmental issues associated with mining.

- **Environmental regulations**

Environmental laws and regulations have the primary goal of ensuring the protection of communities' ecological and social values. They provide a stable framework within which investment and operational decisions can be made. A SAI or an auditor can use them as a source of criteria during their audit planning.

At best, environmental regulation comprises one element of a public policy for environmental management of the mining sector. It has therefore been argued that, in addition to environmental regulation, public policy promotes technical change and fosters economic efficiency and is most likely to contribute to sustained and competitive improvement in the long-term environmental management of non-renewable resources.

Matters covered by environmental regulations may include:

- Environmental impact assessment or other environmental planning,
- natureconservation, national parks, protection of flora and fauna, endangered species,
- cultural heritage, indigenous cultures, landscape protection, and scientific sites,
- water quality protection,
- clean air laws to limit air emissions and human exposure,
- control of soil contamination and land protection from weeds and pests, and
- other issues, such as noise, waste disposal, and chemicals control sometimes regulated by environmental laws.

Regulatory control and instruments

The instruments available to governments for influencing environmental practices in the mineral industry can be divided into the following categories:

- Environmental regulations (administrative regulations),
- Education and training, and
- Economic instruments

Environmental regulations

There are two types of environmental regulations; one is about **Command and control policies.** These policies are characterised by a reliance on predetermined environmental standards that have to be observed by mine

operators. The standards are often general in nature, applying to all industries and all parts of the country. The Government's role is to establish the standards and to enforce them through monitoring operations and levying penalties on operators that do not observe them. Command and control mechanisms tend to rely on administrative agencies and judicial systems for enforcement. The second type of environmental regulation is **the self-regulation,** where companies have the option of managing themselves. Self-regulation is also a way to ensure that agencies/companies are responsible and accountable for the environmental consequences of their choices and actions. Thus, in countries where a system of environmental regulations and standards does not yet exist, the mining companies must themselves ensure that all likely issues are competently addressed. The disadvantage of this approach is that industry compliance with environmental requirements might not be achieved.

Education and training

Legal provisions must be enforced if they are to be meaningful, and enforcement problems often result from shortages of adequately trained staff and equipment. Hence, the importance of education and training programmes (particularly and increasingly proactive programmes of research, information, education and training, incentives and awards for good performance) should be undertaken to supplement the regulatory approach. These programmes can be very effective in small operations, such as small-scale mining. The industrial licence and permit fees in many countries are established so as to recoup at least some of the costs of these programmes.

Institutional issues

It is becoming more common for environmental ministries to focus on the development of environmental protection criteria and standards, the approval of planning procedures, and the review of Environmental Impact Assessments (EIAs), while mining ministries undertake the implementation work of administering plant permits, regulating discharges, and supervising rehabilitation bonds.

Appropriate practices should be identified and required outcomes and objectives should be clearly defined. These practices and objectives then need to be promoted at the different levels of Government to ensure consistency of approach and effective policy coordination between Government agencies.

Environmental policy instruments.

The national budget is one of the tools the government can use to implement policy. How effectively the environment is mainstreamed into various budgetary provisions, implicitly or explicitly, is ultimately the measure of how effectively or otherwise the government can effect environmental conservation in mining areas.

Environmental assessments of mining activities

Another policy instrument that helps to balance the imperatives of economic development and environmental conservation is the Environmental Assessment (EA). EAs are observed at two levels; the Strategic Environmental Impact Assessment (SEA) and the Environmental Impact Assessment (EIA).

- **Main players that have an impact on the environmental problems, their roles and responsibilities.**

The auditor needs to identify the major players involved in any environmental related activity. There can be many players, with both converging and diverging interests. Nevertheless, the auditor should define each player's role, activities and scope of influence.

Players will include departments and agencies at central government and local government levels. Government controls over environmental aspects of minerals and mining activities vary from country to country. In many countries, the government has the authority to issue licenses and regulations, demarcate or identify the mining area, and retain responsibility for mining.

A government is responsible for environmental management and protection through regulation, major environmental policies at the national level, managing mining resources, and ensuring that environmental laws are enforced by both public and private entities. A government also prepares environmental standards, defines environmental policies, issues licenses to limit the volume or concentration of pollutants discharged into the environment, monitors potential environmental damage, and applies fines when laws are violated.

Non-government organizations, such as civil institutions, members of social movements, professional associations, local communities, non-governmental organizations, business sectors, academic institutions, and scientific institutes, may have a role to play. In some countries, it is also important to highlight the key role played by indigenous communities. Many countries have established knowledge resource centers, databases, and networks to preserve and disseminate traditional ecological knowledge.

International financial institutions and their environmental requirement

The international financial institutions that pay more attention to environmental issues are one of the major new trends spurring the development of international environmental standards for mining. Increasingly, multilateral development banks, multilateral and bilateral development assistance agencies, and other public and private finance and insurance institutions are conditioning their loans, aid, underwriting and other

involvement on the target project's (and host country's) environmental acceptability, particularly with regard to mining projects.

This "green conditionality" comes in two forms

- the use of EIAs to screen projects in advance of approval and, to a lesser extent so far,
- actual operating conditions and requirements imposed on projects to promote sustainable development.

International financial institutions have been criticized for supporting environmentally destructive and unsustainable projects and have been embarrassed by several recent disasters at mines they have financed in developing countries. In addition, the institutions' new sustainable development requirements are also influencing progressive changes in the national law requirements of resource-based economies.

Key Teaching Point-3

Step 3: Choose audit topics and priorities

- **Detailed information**

Including possible audit criteria, players, and researchable questions on the four categories of environmental threats i.e. general environmental impact, potential water pollutants, possible air contaminants, and other pollution impacts.

The auditor will need to carry out a risk analysis in order to determine whether its action will be appropriate and useful. When assessing threats to the environment caused by mining, the auditor should consider the quantum of the actual and potential impact on the environment, society, and the economy.

When ascertaining the damage to the environment, the auditor should question how reversible that damage is. Irreversible damage is especially risky. Furthermore, the auditor should consider how intensive the damage is, because it is a priority to address and prevent acute threats. Generally, auditors rely on their government's assessments. Nevertheless, if needs arise, they may ask assistance from experts in the field.

It is also important for the auditor to examine the government's response regarding the identified environmental threats and its capacity

to meet targets. The auditor should also consider the government's behaviour in terms of abiding by the principles.

- **Can an audit make a difference?**
  A SAI will also have to assess where it will be most effective in improving the way the government protects and conserves the environment in mining areas. The auditor may consider the following questions:

  - What are the interests of the users of the audit report, particularly the primary users (e.g. parliament)?
  - What is the relative significance of the topic to overall government activities?
  - What is the impact of the audit likely to be? Is the audit likely to make a significant difference?
  - Has mining been audited before?

Key Teaching Point-4
Step 4: Decide on audit approaches (Scoping the audit).

- Select an audit approach and choose audit objectives.

Step 4 is the last step. For this last step, the auditor needs to select an audit approach and choose audit objectives, audit criteria, lines of enquiry and methodology for the audit.

The standards applied to the conduct of audits looking at environmental issues for mining and minerals activities should be no different than any other audit. An environmental audit of mining will require the usual four phases of any audit - planning, field work, reporting and follow up.

An example of a line of enquiry with the associated researchable question-

Performance measurement and results:
Audits of environmental conservation for processing minerals and mining can assess the performance of government programme's actions to deal with threats to, and ensure the conservation of the environment. SAIs may wish to evaluate the traditional three "E"s – effectiveness, efficiency, and economy – of the programmes. They may also wish to assess the processes used to define and measure success and the results of these processes. Such assessments can be achieved by answering the following questions:

- Have the relevant agencies defined expected resultsfor their programmes?

- Have they developed indicators and measures for the results and are the indicators and measures being monitored and tracked?
- Is the data used to measure performance reliable?
- Are the policies and programmes on environmental conservation for processing minerals and mining achieving their objectives and intended results?
- Why are policies and programmes not achieving their objectives and intended results, and how can the causes be countered?
- What audit criteria have been used?
- What methodology for the audit has been used?