

Introduction to Extractive Industries and Role of SAIs in Extractive Industries

Arabinda Das
Former Principal Director
of Audit, SAI India.

Session Objectives

The objective of the session is to familiarize the participants about-

- 1) the basic aspects of Extractive Industries (EI),
 - 2) its impact on nation's economy and environment,
and
 - 3) the importance of Extractive Industries to SAIs.
-

Session's Coverage and Documents

- Extractive Industries and their features
- Importance of Extractive Industries to a country
- Role of SAI's in auditing the Extractive Industries
- Extractive Industries and its impact on Environment
- Responsibilities of SAIs
- Audit Focus Areas

Session's Coverage and Documents

- Auditing Mining- Guidance for Supreme Audit Institutions, INTOSAI, 2010
- INTOSAI-WGEI, Training Framework for Audit of Extractive Industries, 2019
- AFROSAI-E, Guideline: Audit Considerations for Extractive Industries, November 2015 and 2019.

Extractive Industries and their features

- Extractive Industries denote any process engaged in the extraction of non-renewable resources.
- It consists of any operations that removes oil, gas, mineral, metal and other aggregates from the earth and/or sea.
- Permission to exploit limited natural resources gives an opportunity to generate super-profit;
- Most countries adhere to the principles that limited natural resources belong to the government and hence lion's share of super-profit;

Extractive Industries and their features

- Extraction of minerals involves high cost, advanced technology and high risks.
- Endowment of natural resources can have significant impact on a nation;
- Requiring a lot of regulations and highly skilled Bureaucracy to manage those regulations;

Extractive Industries and their features

- The value of those resources is inherent- they belong to the people of the country;
- The extraction of natural resources is a very risky activity on environment;
- Government plays a regulatory and monitoring role to mitigate environmental risks;

Importance of Extractive Industries to a country

- The mining and minerals sector is central to modern life in any Country;
- Mining contributes to the development of the economy:
 - taxes from large-scale mining companies;
 - creating direct and indirect employment ;
- Improving human capital through the provision of education and health services;

Importance of Extractive Industries to a country

- Increasing foreign exchange reserves (reducing foreign exchange deficit);
- Improving infrastructure like roads and water supply;
- Creating other economic activities to support the mines instead of importing all supplies from abroad.

Challenges before natural resource rich countries

- Natural resources rich countries should ask themselves:
 - Are we comfortable that Government receives all the revenues that they should from natural resources?
 - Is there reliable information showing natural resource reserve of our country?
 - Does Government adequately fulfills its role in managing and monitoring its resources?

The role of SAIs in auditing the Extractive Industries

- SAIs to facilitate the transparency of government operations;
- SAIs to ensure that an informed public guides the actions of governments in the mining sector;
- SAIs to promote sound financial management and public accountability;
- SAIs can legitimately and credibly evaluate the effectiveness and efficiency of government policy;

The role of SAIs in auditing the Extractive Industries

- SAIs to report on any unsustainable mining practices;
- Outcomes of an audit on mining will result in improved institutional and stakeholder capacity in the mining sector,
- Recommendations in environmental audit reports to ensure that mining companies take an environmentally and socially responsible approach.

Contd.

Extractive Industries- the responsibilities of SAIs

- SAIs responsibilities require:
 - An understanding of concepts relating to Extractive Industries;
 - Country specific environment
 - International good practices

Extractive Industries value chain- as defined by World Bank

- ✓ Award of Contract and Licenses
- ✓ Regulation and Monitoring of Operations
- ✓ Collection of Taxes and Royalties
- ✓ Revenue management and allocations
- ✓ Implementation of sustainable development policies and projects

Types of Mines

- Four types of mining:
 - **Dredging:** High volume mining technique for low-value products near a plentiful source of water.
 - **Surface Mining:** It is used when deposits of commercially useful rock or minerals are found near the surface.
- ‘Open-Cast’ in soft rock mining like ‘Coal’, ‘Limestone’

Types of Mines

- ‘Open-Pit’ in hard rock mining like ‘Copper’ and ‘Diamonds’.
- **Underground Mining:** Mining Technique used in hard minerals like Gold, Copper, Zinc, nickel and Lead.
- Sometimes used for softer mineral like coal.
- Access to minerals is through shafts or inclined roadways.
- Depth, extent, quality and geology of the deposit decides the choice.
- **In-Situ Mining:** Solution and Thermal.

View of a open cast mine showing Top soil, overburden



Contd.

View of a open cast mine showing Top soil, overburden



Contd.

AUDIT FOCUS AREAS

Legal Framework

- Three main types of Legislative requirements:
 - Constitution
 - Legislation
 - Regulations or Instructions

Seismic Surveys and Data Management

- Understanding the process
 - Existence of Database
 - Ownership of Survey Data
 - Environmental Considerations

Award of Contracts and Licenses

- Three main types of Contracts:
 - Production sharing contracts
 - Concession Agreements
 - Technical Service Contracts

Monitoring of Operations

- Metering Equipments
- Health, Security and Environment

Collection of Taxes and Royalties

- Sources of Revenues:

- Taxes

- Royalties

- Specific Risks:

- Theft of Minerals

- Transfer Pricing

Revenue Management and Allocations

- Sustainable Use of Revenues:
 - Avoid Dutch Disease
 - Establishment of Savings Fund

Implementation of Sustainable Policies

- Environmental Concerns:
 - Local Community Involvement.

Backfilling of opencast mines



Reclaimed overburden dump



Afforestation over Overburden dump



Contd.

Thank you