



# Audit of Extractive Industries Training

## Presentation on the Down Stream Minerals Audit Monitoring of Solid Minerals Up to Selling Point Case Study - SAI Zambia

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# Presentation Outline

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Monitoring Audits**

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## Learning Outcome

At the end of the training participants will understand the role key stakeholders play in the monitoring and evaluation of the solid mineral value chain which will result in stakeholders working together, each playing their own role to achieve commonly held goals and meaningful outcomes.

# Down Stream Minerals Monitoring

## • Introuction

- A mineral is defined as an element or chemical compound that is normally crystalline and that has been formed as a result of a geological process (*O'Donoghue 1990, Nickel, Ez.H 1995*).
- Solid minerals are therefore naturally occurring substances that are solid and inorganic represented by a chemical formula.
- They can be found in large quantities in fertile countries.
- Solid minerals are important as most of the things used are made of minerals e,g cars,machines, plates, electronic devices etc.





# Down Stream Solid Minerals Monitoring

## Down Stream Solid Minerals Monitoring

- Minerals can be classified into the following groups:
  - ✓ **Metallic minerals** – iron ore, copper, gold and Zinc
  - ✓ **Industrial minerals** – Rocks (limestone, sand clays etc)
  - ✓ **Constructions minerals** - gravel sand and Rock aggregates
  - ✓ **Gemstones** - Emeralds and topaz
  - ✓ **Mineral fuels** (coal and hydrocarbons)

(Omotehinse A. & Ako B.D (2017))



Gold



Ore



Zinc



Bitumen



Copper



Gemstones

# Down Stream Minerals Monitoring

## Down Stream Minerals Monitoring

- Mining of the minerals is extraction of minerals from the earth. This is classified in the three categories:
  - ✓ **Large scale** - big corporations with sophisticated machinery
  - ✓ **Medium** - medium/small companies
  - ✓ **Artisanal** - families, individuals, cooperatives



Source: CAAF Guide to Auditing Mining Reserves (July 2017), Afrosai-e Extractive Industries Guidelines (2019)



# Down Stream Minerals Monitoring

## Down Stream Solid Minerals Monitoring Cont .

- Globally, Africa holds around 30% of the worlds mineral reserves
- It is a major source of revenue
- Plays an important role in terms of economic, social and environmeantal aspect
- Africa supplies 83% of the world's platinum, 73% of the world's cobalt, and over half of the world's manganese, chromium and diamonds.
- 55% of the world's diamonds are supplied by African producers and nearly a quarter of all gold.
- It is a principal commodity exporter to China, Japan United States and Western Europe.

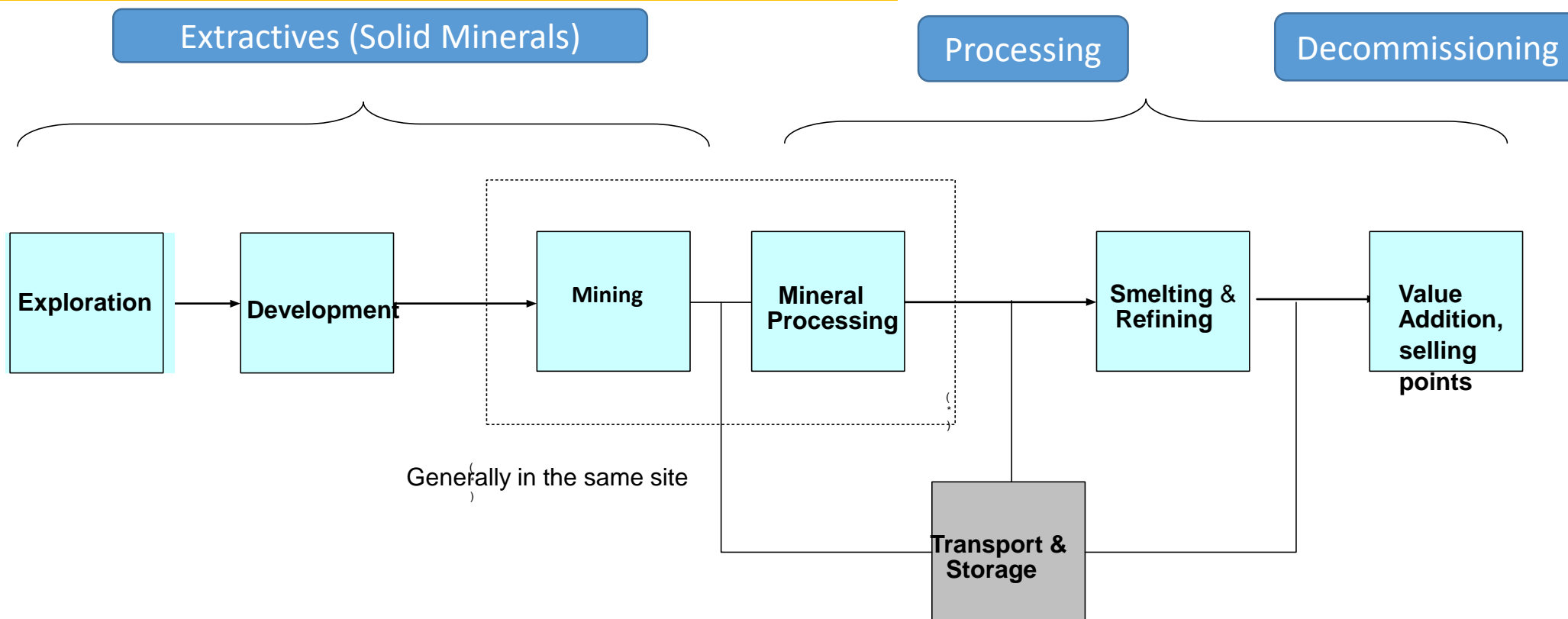
Source: CAAF Guide to Auditing Mining Reserves (July 2017), Afrosai-e Extractive Industries Guidelines (2019)





# Down stream solid minerals monitoring

## Solid Minerals audits - Monitoring up to selling points



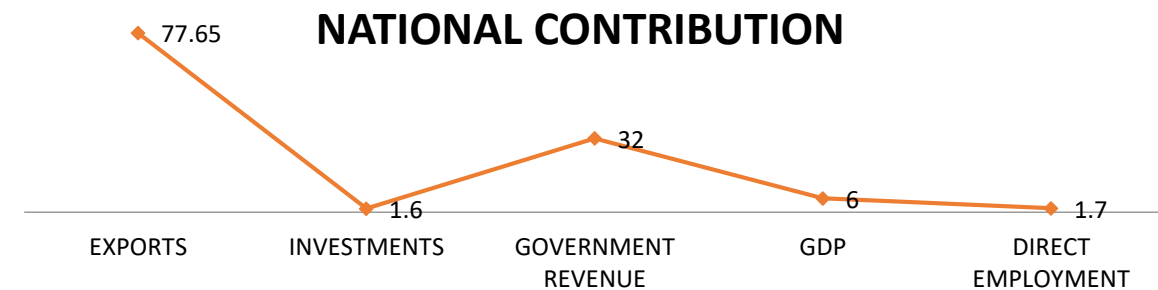
Source: UNCTAD(2012)

# Down Stream Solid Minerals Monitoring

## Down Stream Minerals Monitoring – Case Study Zambia

- Extractive Industries have been in existence for almost a century and remains a dominant industry.
- Zambia's major economic activity is mining.
- Mining contributes about 77.6% to 80 % of export earnings.
- Major minerals are Copper and Cobalt.
- 7<sup>th</sup> Largest Copper producer in the world
- Major revenue generator.
- Major employer.

**Zambian context:** Source: *Ministry of Finance Economic Report*



# Down Stream Minerals Monitoring

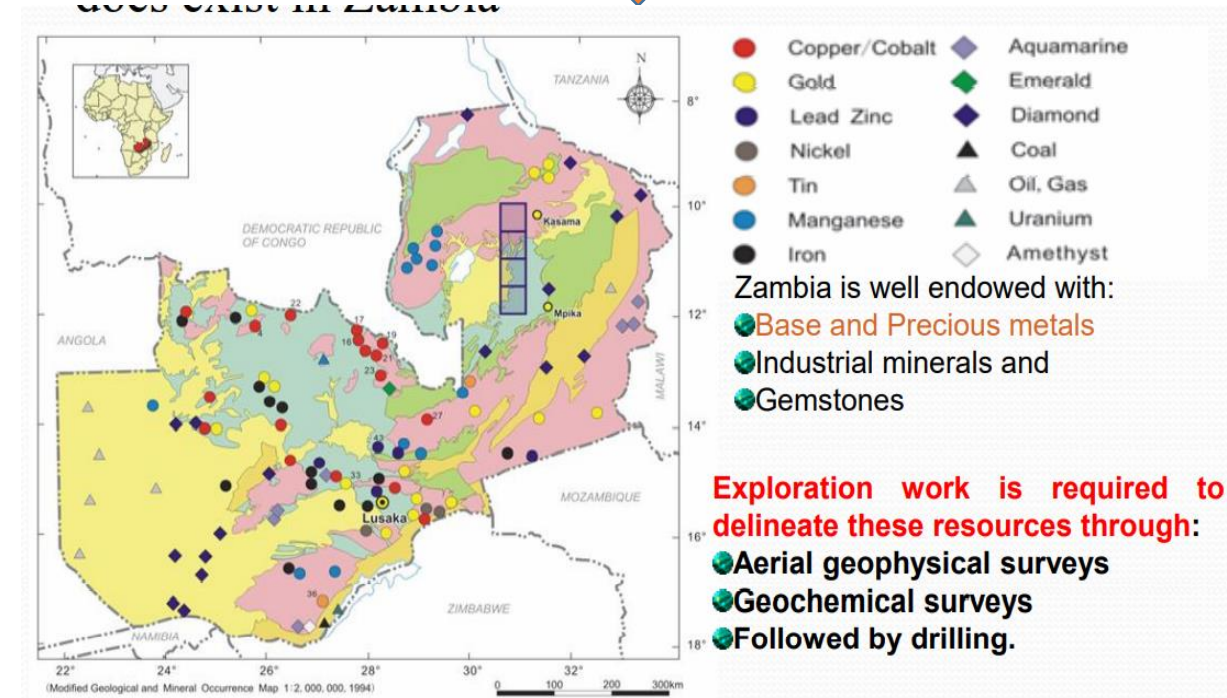
## Down Stream Minerals Monitoring – Case Study Zambia

Geological Map of Zambia



Regional location of Zambia and transport network in Central and Southern Africa

Geological Map of Zambia. Source: Geological Survey Dept. Zambia

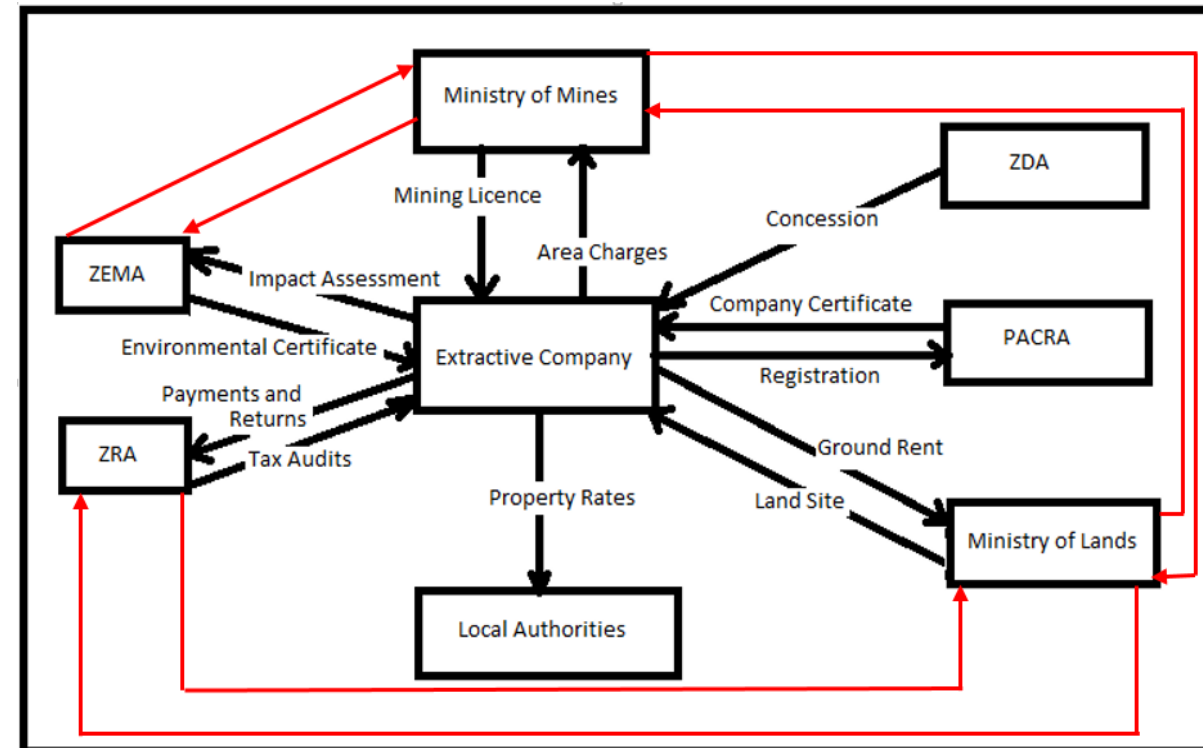


# Down Stream Minerals Monitoring

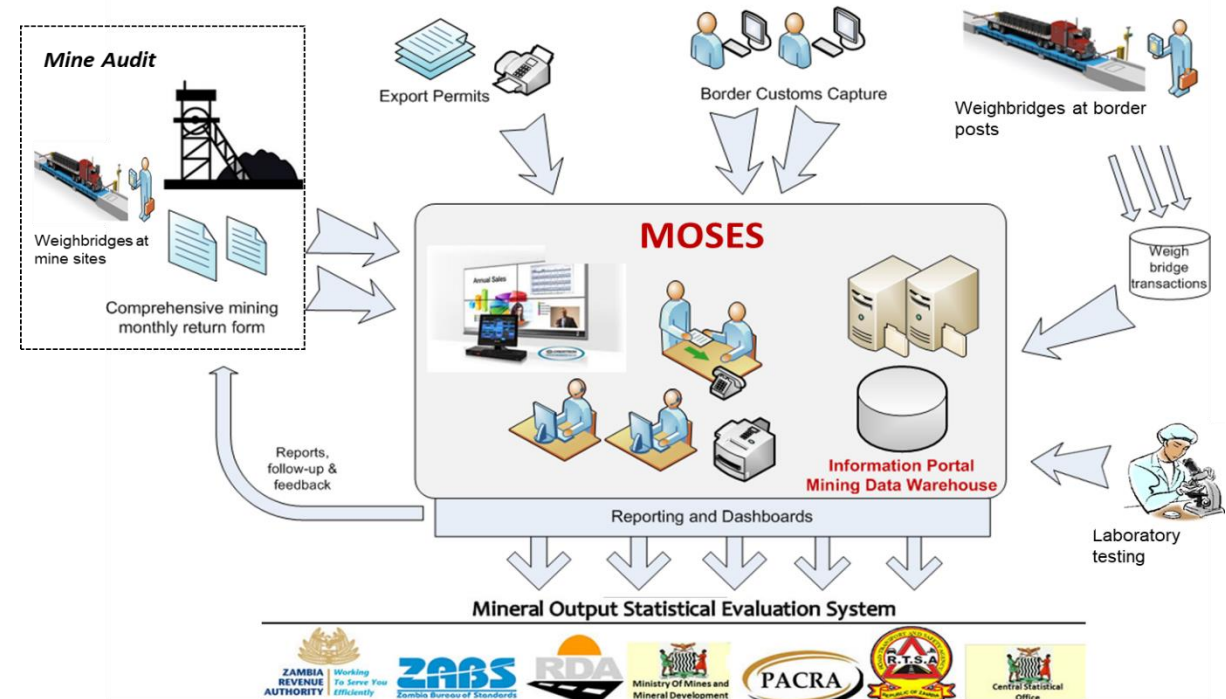
## Down Stream Minerals Monitoring – Case Study Zambia

The Auditor General currently undertakes statutory regularity audits of the following:

### Key Stakeholders



### Mineral Output Statistical Evaluation System (MOSES)



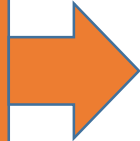


# Down stream Solid Minerals Monitoring

## Down Stream Minerals - Case study Zambia

### Status

Runoff of mere soil or rock debris – although non-toxic – also devastates the surrounding vegetation.



Copper sulphate stained sediment and rock - drainage trench below the Slag Dump, Nkana Mine, Kitwe



Air pollution



Alteration of physical landscape, accumulation of enormous amounts of physical waste, air and water pollution



# Down stream Minerals Monitoring

## Down Stream Solid Minerals Monitoring- Case Study Zambia

- SAI Zambia became a member of EI Working Group in 2013 and benefited from the knowledge sharing workshops.
- Further the SAI has been collaborating with other SAI's within the INTOSAI community.
- The SAI has so far carried out joint audits with SAI ISAI 4000 in the Extractive industries value chain and development of the Extractive industry Strategy.
- Benchmarked the EI Strategy with SAI Uganda.
- ✓ Compliance audit on Awarding and Monitoring of Mining Rights
- ✓ Compliance audit on Ministry of Mines and Monitoring System of the Revenue Collection Operations
- ✓ Financial Audit on the Environmental Liabilities Protection Fund
- ✓ The SAI is also involved in the ZEITI data reconciliations and Certification.

# Down stream Solid minerals Monitoring

## Down Stream Solid minerals - SAI Zambia – Case study

### Criteria

- Derived from the authorities

### Subject Matter

- The Ministry has the statutory responsibility to monitor and conduct inspections of mining and mineral processing
- The audit focused on the monitoring system of the Ministry of Mines and Minerals Development on the mines operations and the impact on revenue collections.
- In examining the monitoring system of the Ministry, the audit paid attention on the supervisory role of the directors and authorized officers regarding exploration licenses and mining right holders as well as the process of awarding mining rights

### Objectives of the audit

- The general objective of the audit was to ascertain whether the Ministry of Mines Minerals Development carried out its responsibilities of monitoring the operations and performance of exploration licenses and mining right holders in accordance with relevant provisions.



## Down Stream Solid Minerals Monitoring – Case study Zambia





# Down stream minerals

## Down Stream Solid Minerals Monitoring

Financial audit of Environmental Liabilities Protection Fund verifications.



Environmental liabilities verification under ground to ascertain compliance to legal provisions such as health and Safety



verifications of some of the large scale mines with the Auditor General



Verification of the monitoring systems to ascertain the compliance levels of Ministry of Mines Monitoring System.



# Down stream minerals

## Down Stream Solid Minerals - Sai Zambia – Case study

### Findings among others:

#### Committee composition level

- Not all relevant stakeholders were represented on the Mining Licensing Committee such as Environmental, Lands, Ministry of Finance and Mines Safety

#### *Submission of relevant documents*

- Some sampled files for the awarded Mining rights - not all the necessary documents were filed and necessary fees paid in accordance with the criteria.

#### Non submission of quarterly reports

- Out of 709 companies only 86 submitted the quarterly returns representing 12% compliance
- Export of minerals by mining right holders with Exploration licences
- Companies holding exploration licences exported minerals without mining rights licences.

#### Non compliant mining right holders and lack of punitive action

- Export of minerals by mining right holders without Minerals export permits
- Companies who exported minerals but were not on the data of Mineral export permits issued.
- Abandonment of Mining Operations without Authority
- Variances in solid mineral quantities and quality declared on export permits.

#### Failure to carryout monitoring activities

- Only 7% in 2018 and 12% in 2019 inspections were carried out.
- Mining Companies not inspected and not contributing to the Fund
- Mining companies operating without bank guarantees.



# Down stream minerals

## Down Stream Solid minerals – SAI Zambia – Case study



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# Down Stream Minerals Monitoring

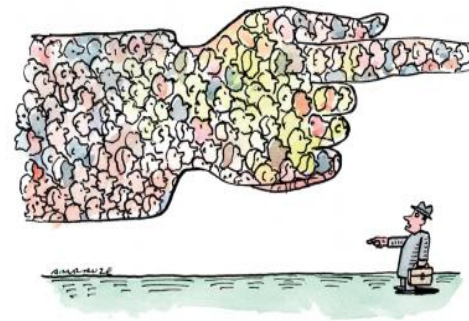
## Down Stream Solid minerals - Sai Zambia – Case study

### Result of the audit

- Non compliant mining licences were cancelled
- Legal Framework is in the process of being revised
- The Ministry of Mines has recruited and stationed officers at all exit borders
- The Ministry has procured more x-ray (XRF) machines which will be based in all exit points to track the minerals from productions to exit points
- The Ministry has enhanced the monitoring and tracking of minerals to exit points (MOSES)
- An increase in the budgetary allocation for the Ministry's monitoring activities.

### Challenges

- Illicit financial flows/Under collection of revenue/under development
- Lack of effective regulatory frameworks
- Transfer pricing resulting in declaration of losses
- Lack of experts in interpreting the contracts/agreements
- Illegal mining
- Disclosure of beneficial ownership (Africa is origin but not beneficiary of its resources)
- Human rights violations in the context of artisanal and small scale mining



### Way forward

- Continuous capacity building of EI Audit staff.
- Increase collaboration with other SAls within the INTOSAI community
- Increase in the number of audits to enhance the existing controls along the value chain.



# Down Stream Minerals Monitoring

Down Stream Solid Minerals Monitoring- Case Study  
Zambia

Questions ???



# GET IN TOUCH

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