

International Training Programme on “Audit of Extractive Industries”

Organized by

International Centre for Environment Audit and Sustainable Development
(iECD) and Working Group of Extractive Industries-INTOSAI

25th-29th April 2022

Day-3 Minutes of Virtual Meeting

Presented by: Ms. Cecilia Tri Wuryantiningsih, SAI Indonesia

- Training Schedule (full : Available on **Attachment 1**
- Location: : Zoom Meeting
<https://us02web.zoom.us/j/85290228946?pwd=OGVXaUQrYnBodnk2TWtUbXdKT05qUT09>
Meeting ID: 852 9022 8946
Passcode: 809826
- Date: : Wednesday 27th April 2022
- Time: : 09:15 AM – 12.30 AM (UTC) / 02:45 PM -06:00 PM (IST), 16.15 – 19.30 WIB
- Topic : : Monitoring of Materials and Inventory
09:30 AM - 10:45 AM (UTC) / 03:00 PM -04:15 PM (IST), 16.30 – 17.45 WIB
Health and Safety Issues in Handling Inventories in EI Sector
11: 00 AM - 12:15 PM (UTC) / 04:30 PM -05:45 PM (IST), 18.00 – 19.15 WIB
- Presenter: : Ms. Cecilia Tri Wuryantiningsih, SAI Indonesia
Co-Host : Ms. Theresia Weni Astuti, SAI Indonesia
- Attendees : 63 participants attended the zoom room.
There are 50 listed participants (Algeria 3; Botswana 4; Ecuador 9; Egypt 2; India 2; Morocco 3; Uganda 17; and Zambia 10) the detail is available on the **Attachment 2**.

Agenda items

1. Opening
2. Presenting Course Material 1
3. Discussion
4. Presenting Course Material 2
5. Discussion
6. Closing

1. Opening

- Greetings from Mr. Pushkar Kumar (Director Training and Research IECD)
- Introduction of expert (presenter)
Including: name, institution, country, educational background, working/audit experience, preferences/aims
- Explanation about agenda item and training mechanism

2. Presenting Course Material (Topic 1)

Monitoring of Materials and Inventory

09:30 AM - 10:45 AM (UTC) / 03:00 PM -04:15 PM (IST), 16.30 – 17.45 WIB

The slide presentation is available on the **Attachment 3**

3. Discussion for Topic 1

Mr. Sumeet Kumar (a participant) asked for clear explanation about inventory handling which is presented in Flowsheet of Underground Gold Ore Mining & Gold Ore Processing.

The presenter explained that the picture described the use of leaching method to process the gold ore which is used cyanide. The by-product of leaching process called tailing.

Tailing, contained with cyanide, is pass through into the thickeners in series to reuse the cyanide which is re-processed for leaching process. The thickened pulp is processed in the cyanide detoxification units, resulting in a safe material for backfilling process in the mine and used as aggregate to produce building materials at Green Fine Aggregate (GFA) Plant which managed by the Gold Mining Business Unit. Other portion of the cyanide is pumped to the tailing dam. Overflow from the tailing dam caused by rainfall passes through a waste neutralization unit before being released into the river.

The bullion which is produced by the Gold Mining Business Unit is transported to Precious Metals Processing and Refinery Unit to be further processed into pure gold and silver.

4. Presenting Course Material (Topic 2)

Health and Safety Issues in Handling Inventories in EI Sector

11: 00 AM - 12:15 PM (UTC) / 04:30 PM -05:45 PM (IST), 18.00 – 19.15 WIB

The slide presentation is available on the **Attachment 4**

5. Discussion for Topic 2

a. Increase in number of serious accident

Ms. Futhi Sangweni (a participant) asked about factors have led to “serious accident” having escalating number of deaths (whether it is lack of regulation).

The presenter explained that actually, our country has set many strict regulations related to Occupational Health and Safety. However, there are still companies (especially non SOE’s companies) and also persons which do not comply to those regulations.

Mr. Reda Sebay Asa (a participant) said that it clear that HSE is weak. To a world problem: no implementation for law, regulations and policies also poor funds.

Ms. Futhi Sangweni summarized the discussion that clearly regulation without implementation is a common challenge In the Extractive Industry globally.

b. Audit SAI Indonesia in Extractive Industry Sector

Mr. Harold Serugooti (a participant) asked whether SAI Indonesia has done any audits on the Non SOE in this sector.

The presenter explained that SAI Indonesia has done audit on SOE's in IE, Special Taskforce for Upstream Oil and Gas Business Activities and Contractor Partnership Contract. So, SAI Indonesia can audit non SOE sector as long as there is a contractual relationship between the companies and government entities or there are some circumstances according to the law or regulation, for example in terms of royalty or other non-tax revenues. So, the object is limited to the related matter.

c. Compensation/Restitution

Mr. Harold Serugooti asked whether there are defined terms of compensation, restitutions in your regulations in cases of Health, Safety accidents and environmental degradations/pollutions.

The presenter explained that today mining companies have obligation to allocate company's budget to Corporate Social Responsibility (CSR) program. This program is aimed to reduce the negative impact from EI operation, increase the quality of environment and empower people that affected by company operations.

There are also some penalties and sanctions for companies which not comply the law and regulation to provide the OHS protocol in operation and also in closure mining matter. In addition, there are also contribution that companies have to pay when they are not going to do post mining activities (reclamation etc). And in terms of the preventive action, companies must to provide insurance for their employees and workers.

6. Closing

- Mr. Pushkar Kumar closed the training and reminded the next day agenda.
- Greetings goodbye from all participants.

The documentation of zoom training available on the **Attachment 5**.

This minute of meeting written by

Ms. Cecilia Tri Wuryantiningsih



SAI Indonesia

Ms. Theresia Weni Astuti



SAI Indonesia



International Training Programme on “Audit of Extractive Industries”



Date	Session	Time (Coordinated Universal Time)	Topic	Expert/s
Day 1 25.04.2022 (Monday)	Inauguration 09:15 AM – 09:30 AM (UTC)/02:45 PM to 03:00 PM (IST)			
	Session-I	09:30 AM - 10:45 AM (UTC) / 03:00 PM -04:15 PM (IST)	Introduction to Key Components of Monitoring and Evaluation in Extractive Industries	Mr. Sujit k Singh, Sr. Environment and Sustainability Specialist, SMEC, India
	<i>Break (10:45 AM to 11:00 AM) (UTC)/04:15 PM to 04:30 PM(IST)</i>			
	Session-II	11: 00 AM - 12:15 PM (UTC) / 04:30 PM -05:45 PM (IST)	Monitoring and evaluation policies/regulations at each stage in the value chain	Mr. Rajesh Kumar, DGM/Accounts, SMEC, India
Day 2 26.04.2022 (Tuesday)	Session-I	09:30 AM - 10:45 AM (UTC) / 03:00 PM -04:15 PM (IST)	Review of the role of the regulators in EI and Available legislation in the EI	Mr. Frank Byaruhanga, SAI Uganda
	<i>Break (10:45 AM to 11:00 AM) (UTC)/ 04:15 PM to 04:30 PM(IST)</i>			
	Session-II	11: 00 AM - 12:15 PM (UTC) / 04:30 PM -05:45 PM (IST)	Monitoring and evaluation mechanisms & Tracking Methodologies in EI Sector	Mr. V.K. Pandey, Chief Manager, CMPDI, Jharkhand, India
Day 3 27.04.2022 (Wednesday)	Session-I	09:30 AM - 10:45 AM (UTC) / 03:00 PM -04:15 PM (IST)	Monitoring of materials and inventory	Ms. Cecilia Tri Wuryantiningsih, SAI Indonesia
	<i>Break (10:45 AM to 11:00 AM) (UTC) 04:15 PM to 04:30 PM(IST)</i>			
	Session-II	11: 00 AM - 12:15 PM (UTC) / 04:30 PM -05:45 PM (IST)	Health and safety issues in handling inventories in EI Sector	Ms. Cecilia Tri Wuryantiningsih, SAI Indonesia
Day 4 28.04.2022 (Thursday)	Session-I	09:30 AM - 10:45 AM (UTC) / 03:00 PM -04:15 PM (IST)	Down Stream Petroleum and solid minerals audits: Monitoring of Supply outlets, Central Processing facility (CPF) and at Refinery	Mr. Guilherme Pereira Souto, SAI Brazil
	<i>Break (10:45 AM to 11:00 AM) (UTC) 04:15 PM to 04:30 PM(IST)</i>			
	Session-II	11: 00 AM - 11:40 PM (UTC) / 04:30 PM – 05:10 PM (IST)	Down Stream Petroleum and solid minerals audits: Monitoring up to selling points	Mr. Madhusoodanan K Nair, SAI India
		11:40 AM-12:20 PM (UTC) / 05:10 PM -05:50 PM (IST)	Down Stream solid minerals audits: Monitoring of solid minerals up to selling points	Ms. Grace Chanda, SAI Zambia
		12:20 PM – 01:00 PM (UTC) / 05:50 PM – 06:30 PM (IST)	Down Stream Petroleum audits: Monitoring to the sales point for offshore and onshore	Mr. Glenn Fischer, SAI USA
Day 5 29.04.2022 (Friday)	Session-I	09:30 AM - 10:45 AM (UTC) / 03:00 PM -04:15 PM (IST)	Audit considerations under Monitoring and Evaluation in EI and risk assessment	Mr. Amanyalla Allan Kabisyaki, Petroleum Authority of Uganda
	<i>Break (10:45 AM to 11:00 AM) (UTC) 04:15 PM to 04:30 PM(IST)</i>			
	Session-II	11: 00 AM - 12:15 PM (UTC) / 04:30 PM -05:45 PM (IST)	Audit procedures to mitigate the identified risks in monitoring and evaluation in EIs	Mr. Amanyalla Allan Kabisyaki, Petroleum Authority of Uganda
Valediction 12:15 PM (UTC)/05:45 PM (IST) onwards				



List of Participants

International Centre for Environment Audit and Sustainable Development (iCED)
ITP on “Audit of Extractive Industries”
from 25th April to 29th April 2022

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from 25th April to 29th April 2022

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38.	Harold Serugooti	Uganda		
39.	Harold M Odongo	Uganda		



List of Participants

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ITP on “Audit of Extractive Industries”
from 25th April to 29th April 2022

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MONITORING MATERIALS AND INVENTORY

Cecilia Tri Wuryantiningsih



Presentation

Outline

1

BACKGROUND

2

CASE AND CHALLENGE

3

RELATED PARTIES

4

WHAT GOVERNMENT DID

5

WHAT ENTERPRISE DID

6

WHAT SAI DID

7

DISCUSSION



1. BACKGROUND

- ❑ Extractive industries can generate sustainable development

- ❑ Fiscal Regime Extractive Industries
 - Contractual
 - Concession

- ❑ Natural Resource Accounting
 - Historical perspective of Resource Accounting
 - The UN officially adopts System for Integrated Economic and Environmental Accounting (SEEA)



MINERALS AND INVENTORY

Mineral reserves and resources are the most significant source of value for mining entities

Resource and reserve definitions are normally established by professional bodies of engineers and geologists

Deposits of minerals are often located deep beneath the earth's surface and are often irregular in shape, making them difficult to measure

Estimating them is therefore a matter of considerable technical difficulty and uncertainty

Inventories of mine product include:

- run-of-mine ore;
- work in progress (crushed ore, ore in-circuit)
- finished goods (concentrate, metal)

Usually measured at cost, where cost does not exceed net realisable value

Measurement challenges

The cost of inventory consists of:

- all costs of purchase;
- costs of conversion; and
- other costs incurred in bringing the inventories to their present location and condition.

2. CASE AND CHALLENGE

1989 Repeto (WRI)' wasting Assets was A milestone in NRA, especially in Indonesia

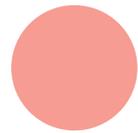
Inconsistency of policy implementation: licensing issues and overlapping land



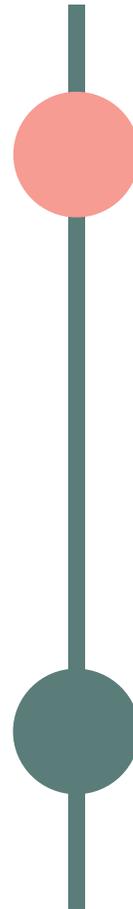
Churchill case, 2006



Masela Block, 2010/2016



Overlaps license



- Transforming natural wealth into assets that can support sustainable development
- The absence of government accounting standards
- Ensure stability and credibility of policy implementation
- Allocating fund and implementing financial balance between the central and regional governments

3. RELATED PARTIES

Ministry of Energy and Mineral Resources

Ministry of Finance

Ministry of Environment and Forestry

Coordinating Ministry for Maritime Affairs and Investment

Coordinating Ministry for Economic Affairs

Oil and Gas Downstream Regulatory Agency

Special Taskforce for Upstream Oil and Gas Business Activities

Extractive Sector Enterprises

BPS - Statistics Indonesia

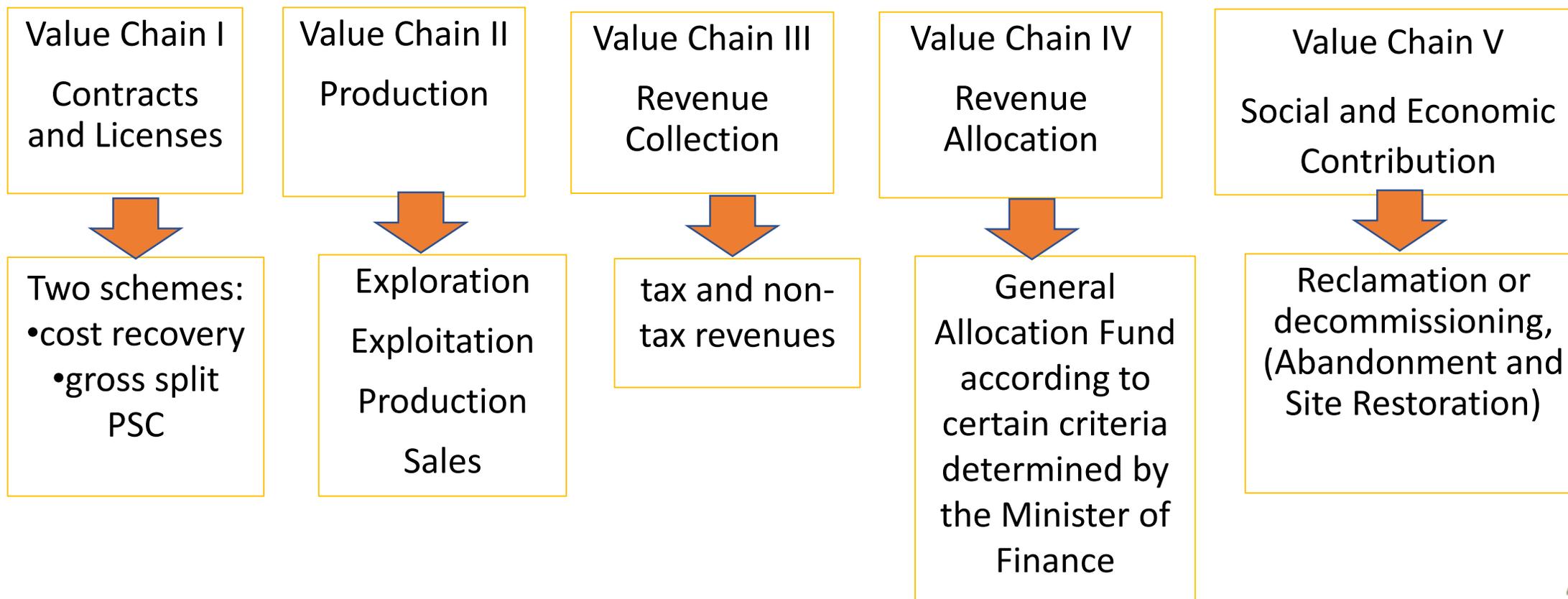
Auditors and other (Internal and eksternal auditor, Corruption Eradication Commission)

Provincial Government

Local Government



EXTRACTIVE INDUSTRIES REGULATIONS BASED ON VALUE CHAIN



4. WHAT GOVERNMENT DID

ISSUE NEW REGULATIONS

- Provides flexibility in the fiscal system by giving contractors the freedom to choose between gross split and cost recovery PSCs: Reg of Minister of EMR 12/2020
- Changes in mining business license: Law 3/2020
- Government Regulation 46/2017: environmental economic instruments, Includes mineral and energy asset accounts

PROVIDES SEVERAL APPLICATIONS AND REPORTS TO SUPPORT TRANSPARENCY

SISNERLING
(Integrated System of Environmental-Economic Accounts of Indonesia)

MOMI
(Minerba One Map Indonesia)

MODI
(Minerba One Data Indonesia)
➤ Dashboard MODI

SIMBARA
(Inter-Ministry/Agency Mineral and Coal Information System)

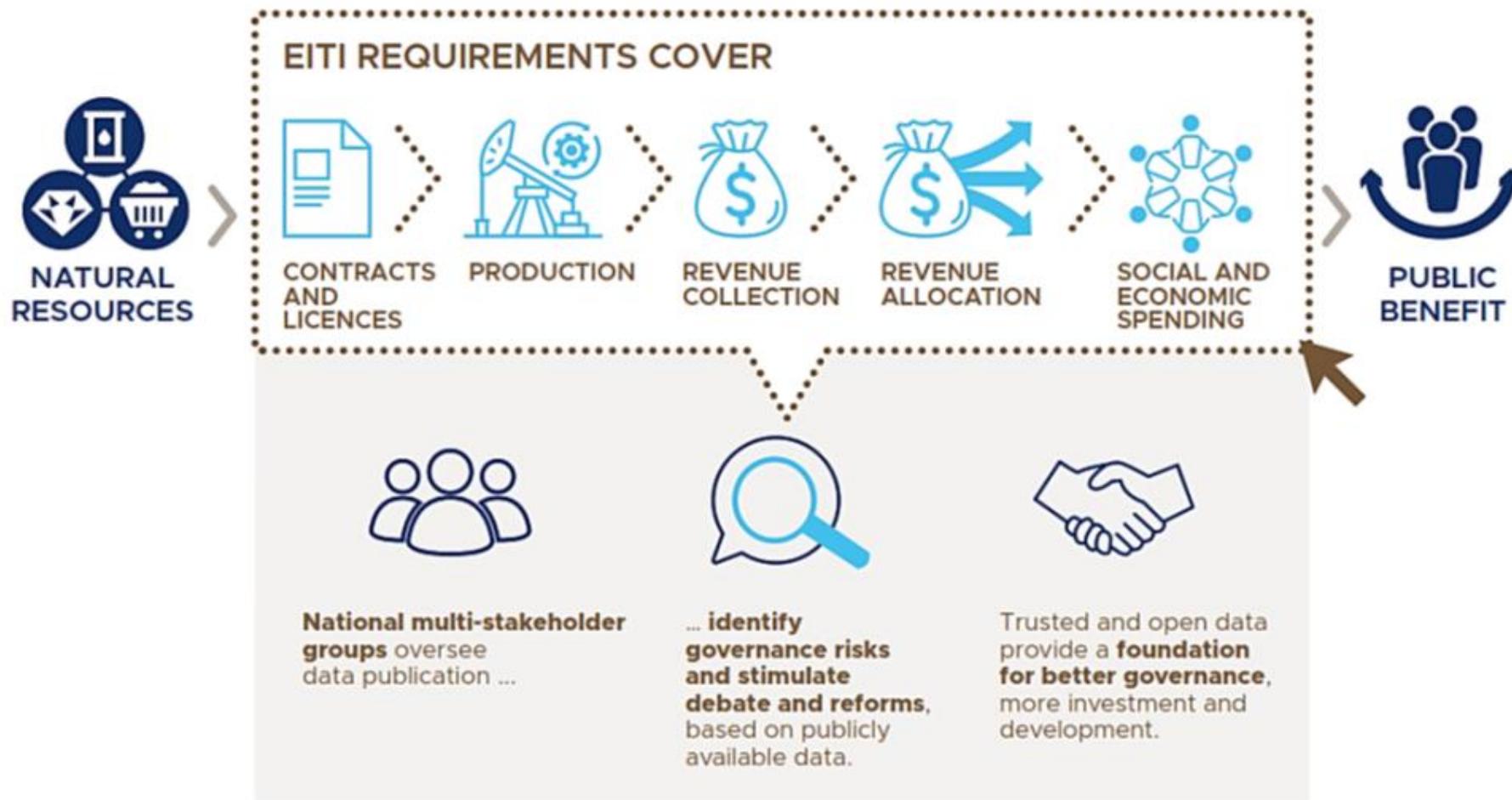
EITI Extractive Industries Transparency Initiative report





- MODI showcases “summary data” of mineral and coal mining activities
- The data is updated regularly
- Companies and regional governments can access and update data independently





The EITI (Extractive Industries Transparency Initiative) Internasional Standard Covers

5. WHAT ENTERPRISE DID

Review on one of extractive sector SOE: nickel and bauxite inventory

STOCK MANAGEMENT

- SOP: Mining operation, Stock opname, Export arrangement (ore), Finishing product, Purification Process.
- WI: excavator boulder and bucket load calibration, Mining rites logging, Mine progress measurement, Stock measurement, Mining recovery calculation, Preparation and monitoring of Nickel Ore for nickel ore export, Preparation and delivery of Nickel Ore for Feni mill feed.

LEAKAGE PREVENTION

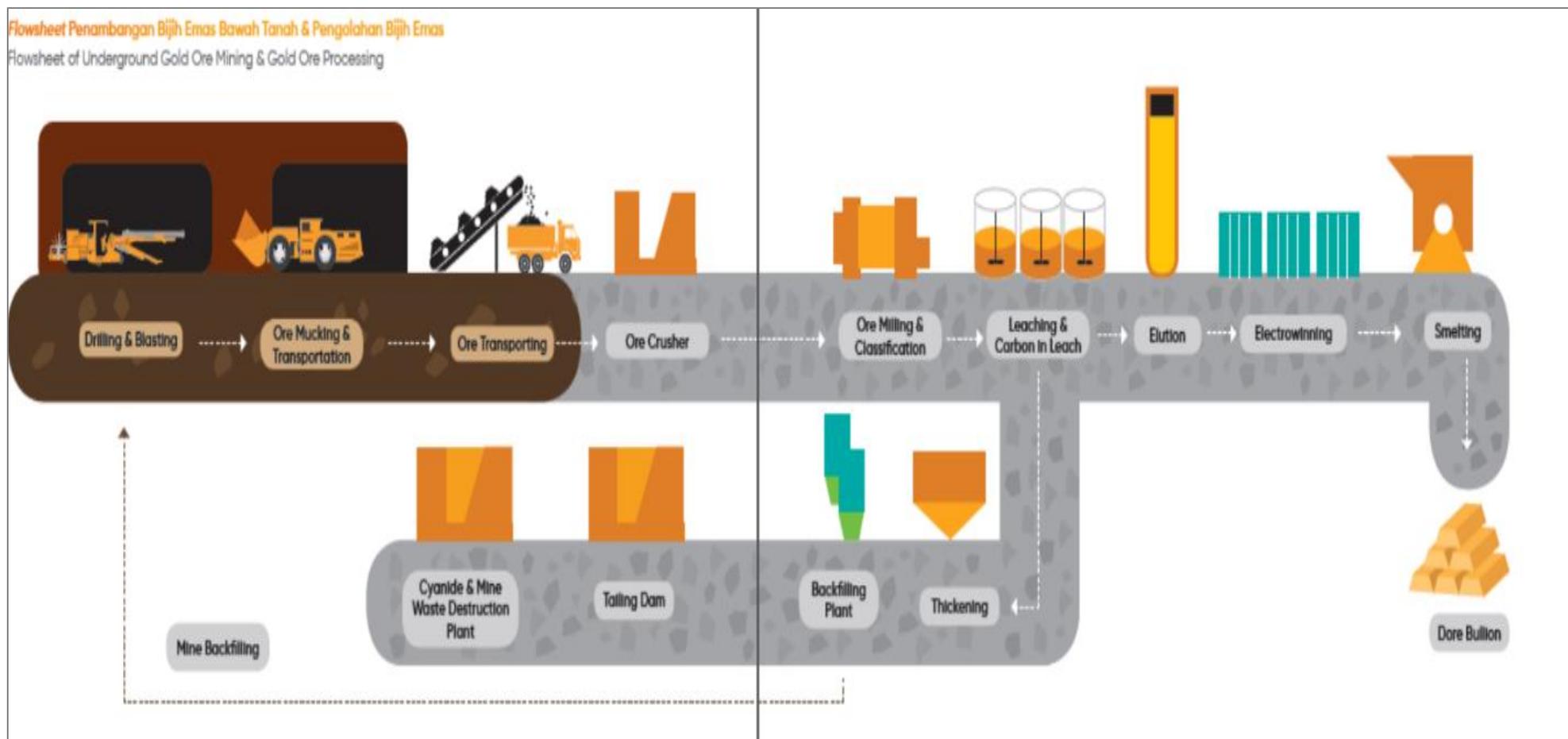
- Calibration of excavator boulder and bouquet loads, Mining rites logging, Mine progress measurement, Stock measurement, Mining recovery calculation, SOP Mining Operation, Ore Stock opname

INTERNAL CONTROL DESIGN

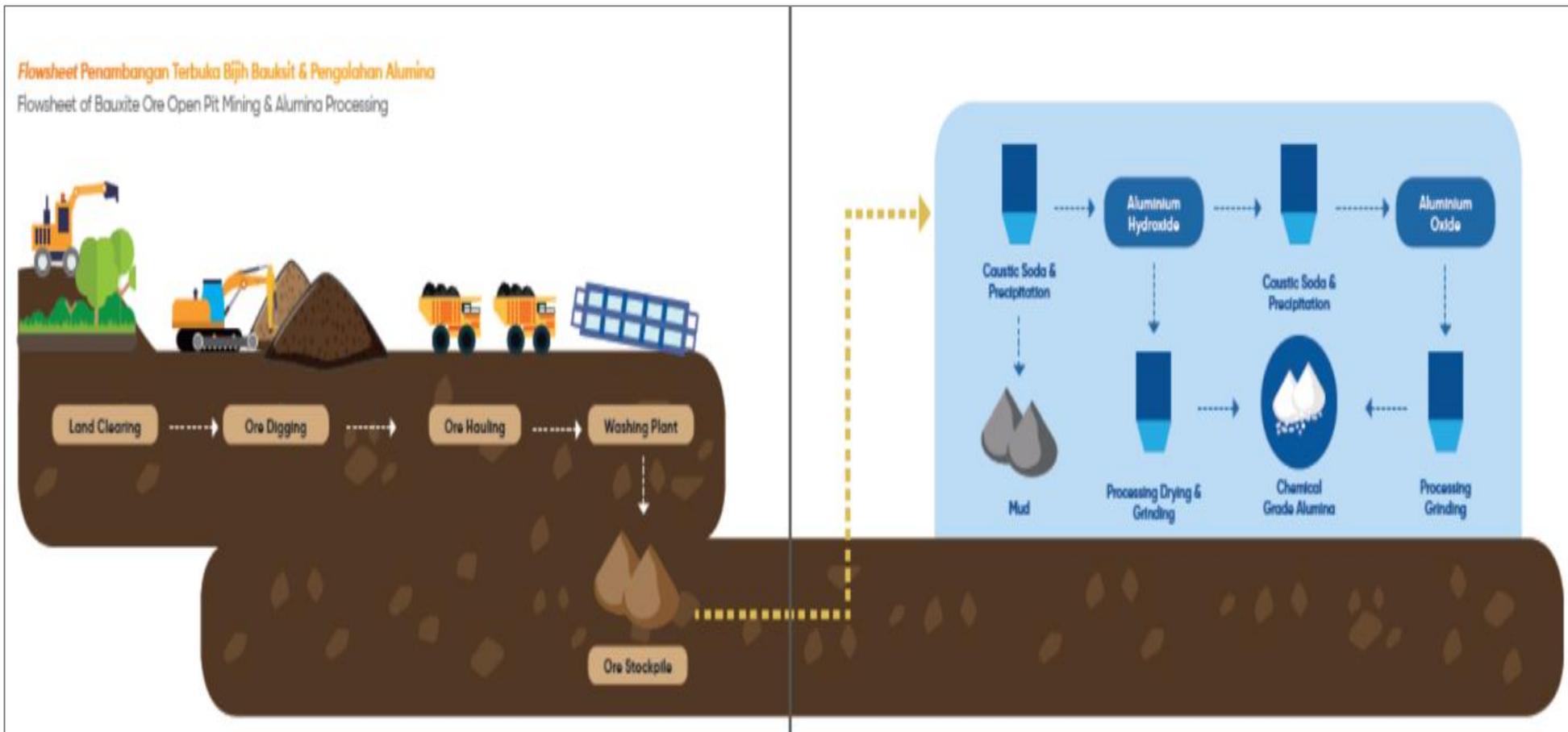
- Arrangement of mineral piles/Quarry pile arrangement, Preparation and monitoring of Nickel Ore for nickel ore export, Factory stock yard stock maintenance

INTERNAL AUDIT

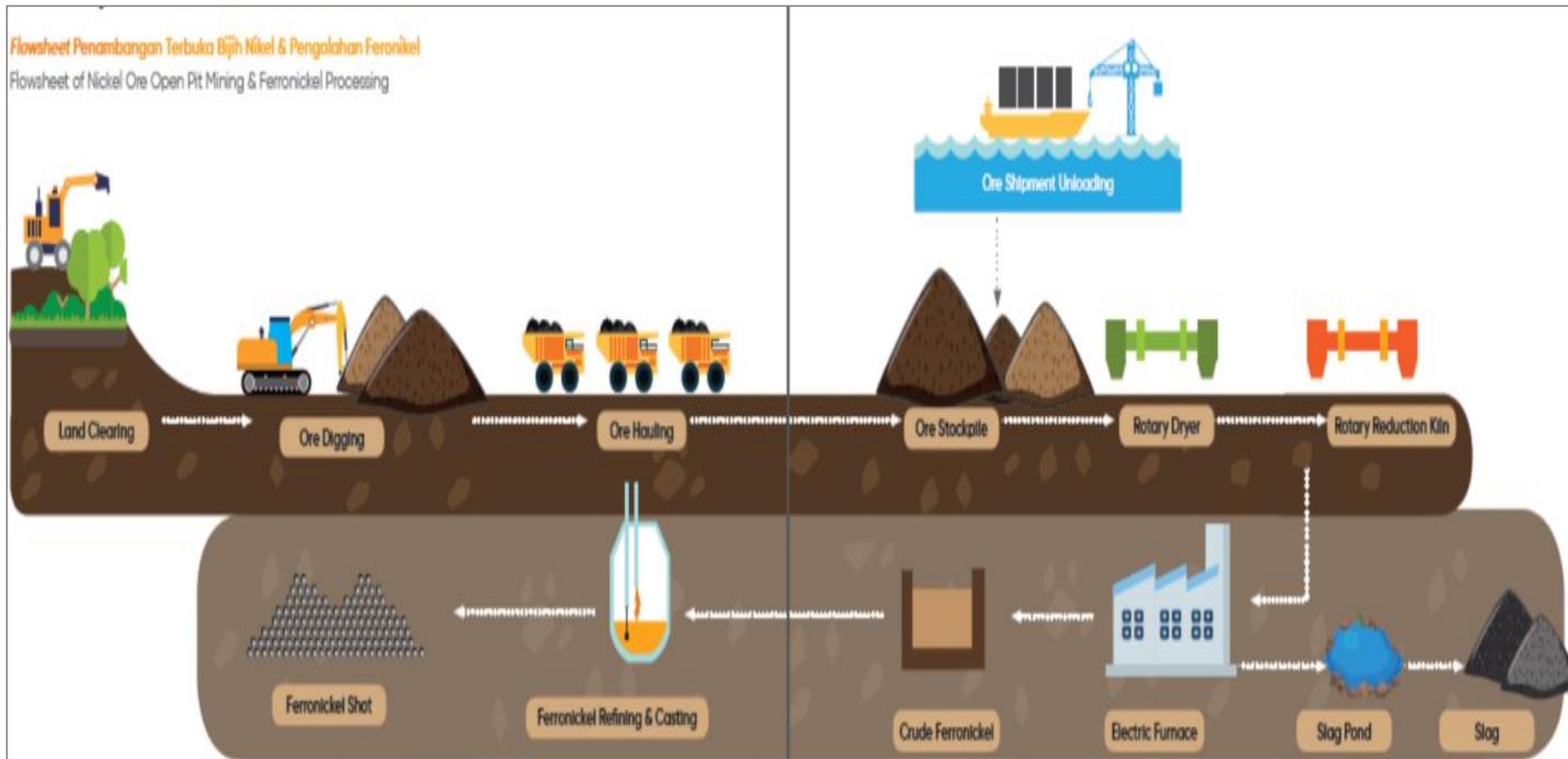
Examples Mineral Sector SOEs' Activity



Flowsheet of Underground Gold Ore Mining & Gold Ore Processing



Flowsheet of Bauxite Ore Open Pit Mining & Alumina Processing



Flowsheet of Nickel Ore Open Pit Mining & Ferronickel Processing

Examples of Inventory Reported by SOE

SOE 1 Product inventories

- Gold and silver
- Alumina
- Nickel Ore
- Feronickel
- Bauxite Ore
- Other precious metals
- Coal
- Raw materials
- Spare parts and supplies
- Work-in-process



SOE 2

Tin

- Work in Process
- Finished Goods (Tin Metal)
- Raw Material (Tin Ore)
- Finished Goods (Tin Solder)

Tin Chemical

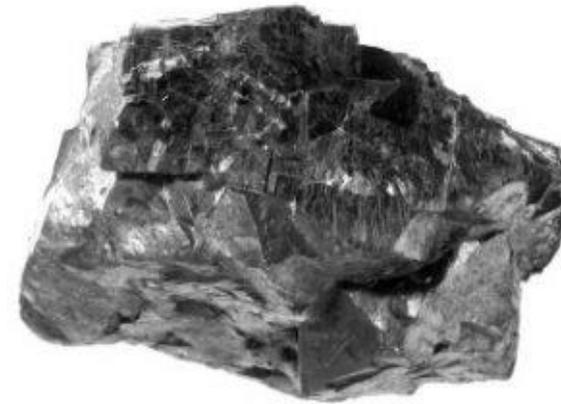
Coal

Nickel

Goods in Transit

Warehouse Inventories

Provision for impairment of inventories



Cost of carrying out inventories

- all costs of purchase/production;
- costs of conversion; and
- other costs incurred in bringing the inventories to their present location and condition

Costs of conversion include costs that directly relate to production and an allocation of fixed and variable production overheads.

Examples of typical contractual terms of trade include

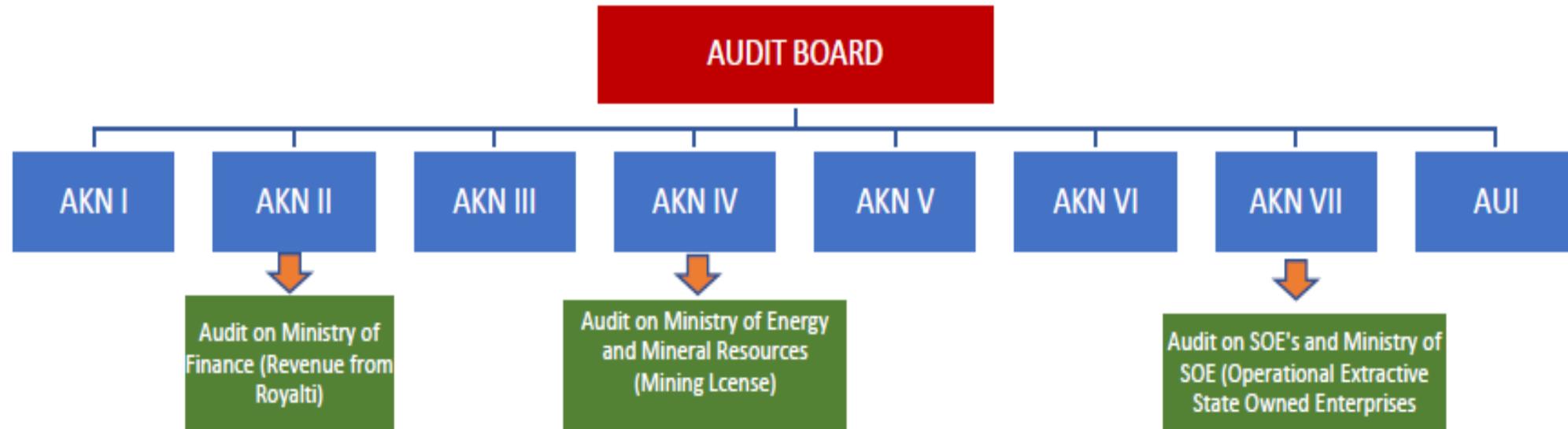
- Free On Board (“FOB”) contracts stipulate that the purchaser assumes the risk of loss, and therefore the insurance risk, upon delivery of the product to an independent carrier
- Cost Insurance Freight (“CIF”) arrangements the producer retains risk of loss until the product has been delivered to a specific location and title passes



The following table highlights some of the key costs incurred in the production of inventory:

Description of costs	Include in inventory	Do not include in inventory
Production materials and services (such as explosives, fuel, power, consumables, catalysts and production drilling costs)	■	
Direct labour costs, including related payroll additives (such as pensions)	■	
Mining contractors	■	
Normal amounts of materials wastage	■	
Costs of transporting materials to different locations	■	
Supervisor salaries and related payroll additives	■	
Other indirect labour at the mine site and related processing facilities, including related payroll additives	■	
Indirect materials	■	
Maintenance costs associated with running the mine and related processing facilities	■	
Depreciation of mine property acquisition costs and capitalised development costs (including any amounts transferred from exploration and evaluation expenditure)	■	
Depreciation of mining and production equipment and related facilities	■	
Directly attributable waste removal costs (except to the extent that they are capitalised to deferred stripping)	■	
Amounts transferred from deferred stripping as the stripping asset is depreciated	■	
Storage and handling costs for raw materials, components, other supplies and work in progress that are not a necessary stage of the production process		■
Product research to develop new uses for copper		■
Around mine exploration (except to the extent that exploration costs are capitalised)		■
Royalties (if based on sales not production)		■
Abnormal amounts of wasted materials or labour or other abnormal inefficiencies (such as strike action)		■
Selling costs		■
Distribution costs		■
Storage costs of finished product, including insurance		■
General management and administration costs		■

6. WHAT SAI DID



AUDIT BRANCH AT SAI INDONESIA (BPK)

AKN II

INTOSAI MANDATE:

INTOSAI-P 12 concerning the Values and Benefits – making a difference to the lives of citizens

- audit institutions have a role to strengthen accountability, transparency, and integrity of the Government and public sector entities.
- is relevant to the SDGs set by the UN with one of the goals being to develop effective, accountable, and transparent institutions at every level.

THE REVIEW ON THE IMPLEMENTATION OF FISCAL TRANSPARENCY

- carried out in conjunction with the examination of the Central Government Financial Reports
- includes four main pillars: (1) Fiscal Reporting, (2) Fiscal Forecasting and Budgeting, (3) Fiscal Risk Analysis and Management, and (4) Resource Revenue Management
- to improve the quality of the results, will conduct a review of the Central Government Performance Report (LKjPP) and the Natural Resources Balance prepared by the Government (2022)

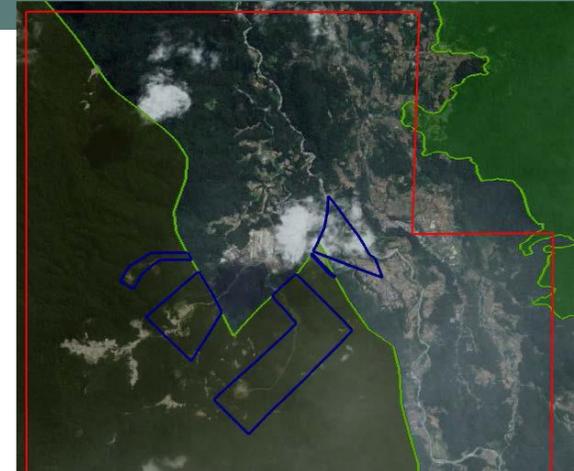


RESULT

Resource Rights Legal Framework	<i>Basic</i>
Resource Rights Allocation	<i>Good</i>
Disclosure of Ownership of Source Rights	<i>Basic</i>
Fiscal Regime for Natural Resources	<i>Advanced</i>
Resource Revenue Administration	<i>Basic</i>
Estimated Resource Revenue	<i>Basic</i>
Budget Integration Source Revenue	<i>Basic</i>
Natural Resources Fund	<i>N/A</i>
Source Revenue Reporting and Audit	<i>Basic</i>
Reporting by Resource Company	<i>Not Met</i>
SOE Resources	<i>Good</i>
Operational, Social and Environmental Reporting	<i>Basic</i>

AKN IV

Audit with a Specific Purpose on the Management of Non-Tax State Revenue of Natural Resources and Minerals and Coal Licensing



- Ministry of Energy and Mineral Resources, Ministry of Environment and Forestry, Related Agencies in DKI Jakarta Province, South Kalimantan, And North Sulawesi
- Utilization of Geographic Information System
- Key findings:
 - There are companies not complied with the provisions on the use of forest areas
 - Disturbed area in forest not yet supported by Borrow-to-use Forest Area Permit
 - Electronic System for Non-Tax State Revenue Hasn't Functioned Sufficiently
 - Not have permits in the mining business area
 - Underpayment of Royalties and Fines



AKN VII

Audit with a Specific Purpose (Compliance)

- **Extractive (Mineral and Coal) Sector SOEs :**
coal, nickel, bauxite, tin, gold, silver
Audit on revenue, expenditure, and investment
- **Extractive (Oil and Gas) Sector SOEs :**
Audit on revenue, expenditure, and investment
Fuel Subsidy
- **Oil and Gas Contractors (KKKS)**
Audit on project implementation and supply chain
Audit on cost recovery



Problem need attention

- Government has not received an additional share of the state for the excess cost recovery charges
- Weaknesses in inventory management or finished goods/warehouse goods (excess stock, unsold goods, inappropriate stock taking, inventory purchases not paying attention to stock availability, safety stock and insurance parts have not been determined)
Lead to inefficiency on operating expenses (such as storage, maintenance)
- Miscalculated transportation distance (FOB) increases selling costs
- Losses during the refining process



WHAT NEXT

- Conducting comprehensive audit related
- Things that are Continually Done/developed
 - Regulatory Improvements
 - Increase synergy and collaboration
 - Facilitate access to digitizing data/services
 - ✓ SIMBARA (Mineral and Coal Information System Inter Ministries/Institutions),
 - ✓ SOT (Integrated Online System) Oil and Gas,
 - ✓ SIT (Integrated Information System) Oil and Gas



THANK YOU



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<https://www.intosaicommunity.net/wgei/>



LET'S HAVE A BREAK





HEALTH AND SAFETY ISSUES IN HANDLING INVENTORIES IN EI SECTOR

Cecilia Tri Wuryantiningsih



Presentation

Outline

1

BACKGROUND

2

RELATED PARTIES

3

CASE AND CHALLENGE

4

WHAT GOVERNMENT DID

5

WHAT ENTERPRISE DID

6

WHAT SAI DID



1. BACKGROUND

- ❑ Mining is an activity that has a high risk in relation to Occupational Safety and Health
- ❑ Increase in activities of the mining industry have resulted in the emergence of various problems



2. RELATED PARTIES

Ministry of Energy
and Mineral
Resources

Ministry of
Labor

Ministry of
Environment
and Forestry

Auditors and other
(Internal and eksternal auditor,
Corruption Eradication
Commission)

Extractive Sector
Enterprises

Local
Government

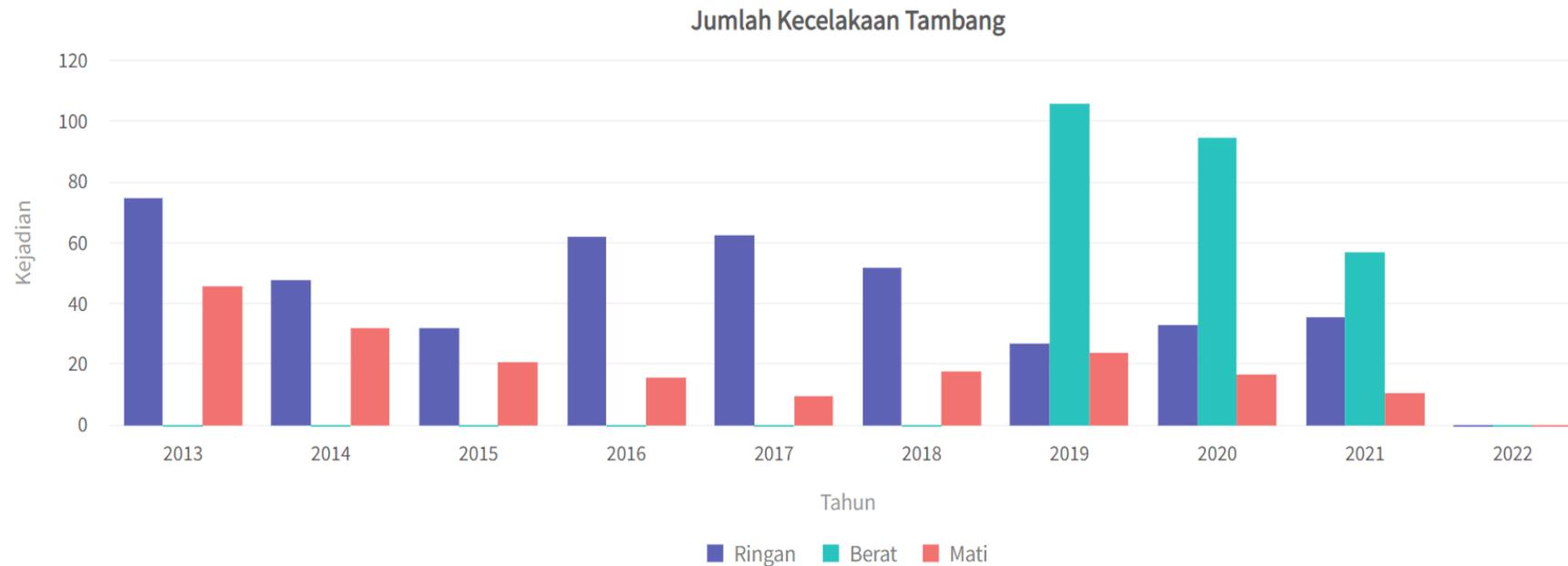
Special Taskforce
for Upstream Oil
and Gas Business
Activities

3. CASES & CHALLENGE

CASES

Level of Severity of Mining Accident

Tingkat Kekerapan dan Keparahan Kecelakaan Tambang



- Minor
- Serious
- Dead

Catatan



CHALLENGE (1)

HIPOTETICALY

A well-managed extractive sector proceed revenues & royalties

- Improve health outcomes
- Reduce inequities via redistribution to equitably improve living conditions, including through investments in health care systems

(Ridde et al., 2015).

REALITY

Resource revenue flows can have the opposite effect:

- Wealth is concentrated and financial gains are subject to corruption and illicit financial flows that avoid taxation and reduce governments' fiscal capacity
- Exacerbating inequalities

CHALLENGE (2)



Poverty and Equality exacerbation

Weakened health/public health, education, social services, inequitable access to health care

Workplace hazard

Physical, chemical, biological

Environmental degradation

Air pollution, water depletion, water & land contamination. Climate change effect

Livehood loss & dispossession

Depleted fisheries, loss of live stock, deforestation, soil erosion

Violence

Targeting activities, forced displacement (linked to dispossession), conflict over control of resources.

Schematic of Political Economy of Global Extraction and Health (Birn at All 2017)

CHALLENGE (3)

Human Health Consequences

Direct

- Toxic exposures and poisoning
- Cancers
- Cardiovascular diseases
- Respiratory infections and chronic diseases
- Water borne diseases and infection
- Food borne illness
- Trauma/injury
- Deaths (including assassination of activists)

Indirect

- Cultural and aesthetic loss
- Sustained impoverishment
- Water insecurity
- Loss of food sovereignty
- Undernutrition
- Stress and mental health effect, conflict/war
- Vector borne diseases, biodiversity/ medicine loss.



4. WHAT GOVERNMENT DID

ISSUING REGULATIONS

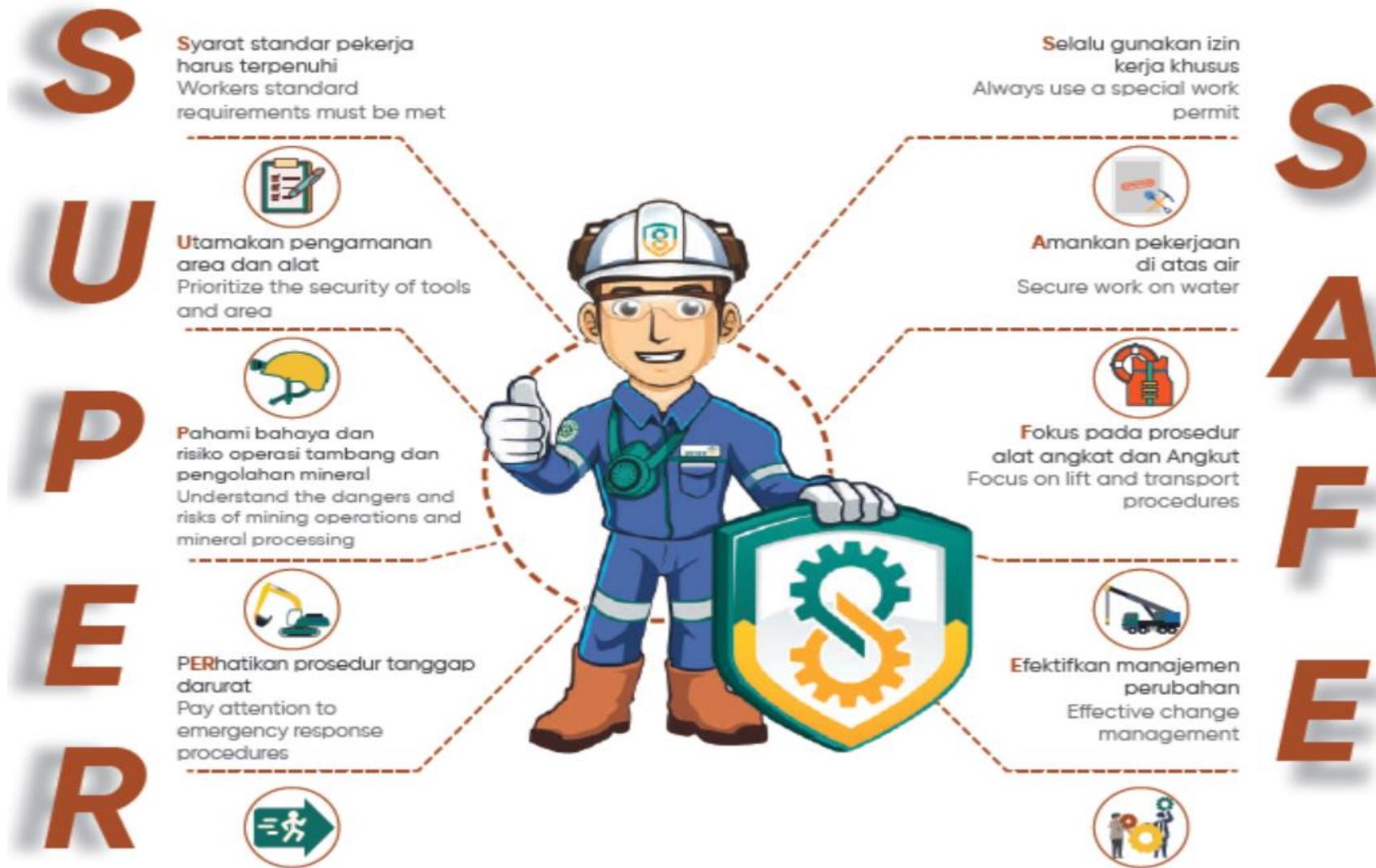
1. Government Regulation No. 41/1999 on Air Pollution Control
2. Law Number 32 of 2009 concerning Environmental Protection and Management
3. Manpower Act No. 13 of 2003 article 87, Occupational Safety and Health
4. Regulation of the Minister of Manpower Number 26 of 2014 concerning **Implementation of Assessment of the Implementation of Occupational Safety and Health Management Systems**
5. Regulation of the Minister of Energy and Mineral Resources Number 38 of 2014 concerning the Implementation of the Coal Mining and Mineral Safety Management System
6. Regulation of the Minister of Energy and Mineral Resources Number 43 of 2016 concerning Application of Standards for Enforcement of Special Competency Standards for Operational Supervisors in the Mining Sector
7. Regulation of the Minister of Energy and Mineral Resources Number 26 of 2018 concerning Implementation of Good Mining Rules and Supervision of Coal Mineral Mining



5. WHAT ENTERPRISE DID

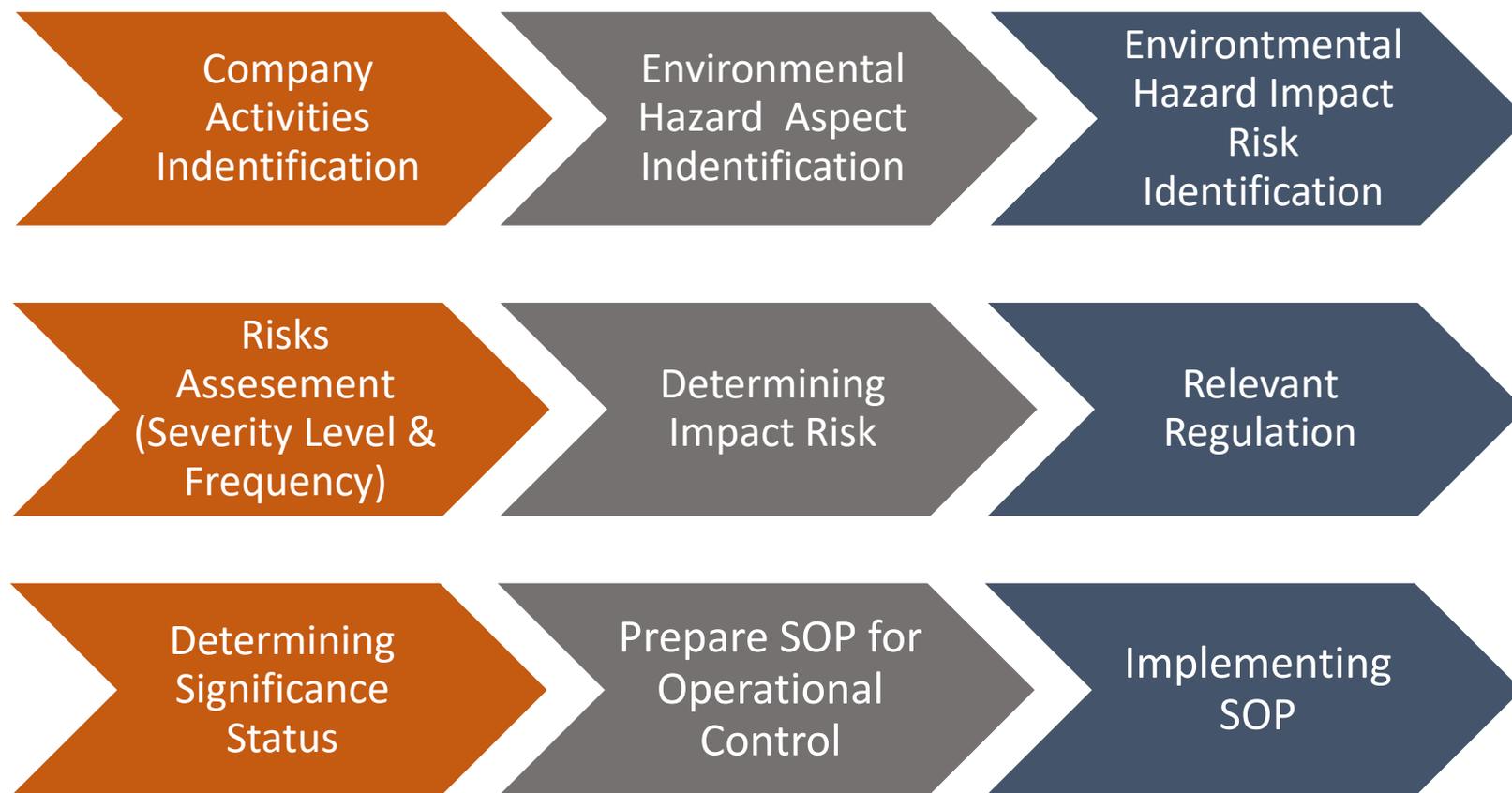
Review on one of extractive sector SOE: nickel and bauxite inventory

Mining Safety Management System



5. WHAT ENTERPRISE DID (Cont)

Review on one of extractive sector SOE: nickel and bauxite inventory



Activities, Environmental Hazard & Impact Risks

Company Activities Identification

1. Mining Pile Management
2. Sump and Trench Development dan Maintenance
3. Preparation and Monitoring of Ore for Export
4. Preparation and Monitoring of Ore for Factory
5. Excavation and Loading of Ore
6. Ore transport
7. Water truck operation
8. Manual Cleaning

Environmental Hazard Aspect

- Dust Exposure
- Machine Noise
- Hit by Heavy Equipment/Vehicle
- Overridden/buried material during spillage
- Fuel Emission
- Oil/fuel spill
- Hit by fallen tree
- Computer Radiation
- Wrong Body Position
- Energy Consumption
- Got Electric Shock
- Hit/hit a boulder throw
- Tool collision
- Hit the swing excavator
- Clashing heavy equipment with manual grizzly
- Falling from a height

Environmental Hazard Impact Risk

- Respiratory Disorder
- Visual disturbances
- Hearing loss
- Body injury
- Health problems
- Land Pollution
- Tired Eyes
- Back and neck pain
- Energy Reduction
- Tool Malfunction

Risks Assesement
(Severity Level & Frequency) Level 1 - 4

Determine the level
of impact risk

Determine the status of significant
(important or not important)

CONTROL RISK IDENTIFICATION

No.	Activity	Environmental Hazard	Impact Risk	Condition	Risk Assessment		Effect Level Risk	Significance	Control
					Severity	Probability			
1	Mining Pile Management	Dust Exposure	Respiratory Disorder	N	4	2	8/M	P	Masks
			Visual disturbances	N	3	2	8/M	P	Safety Goggles
		Machine Noise	Hearing loss	N	4	2	8/M	P	Ear Plug
		Hit by Heavy Equipment/Vehicle	Body injury	AN	4	1	4/L	TP	Supervision of Heavy Equipment Operations and Horn Signals between heavy equipment
		Overridden/buried material during spillage	Body injury	AN	4	1	4/L	TP	Restriction of the work area outside the reach of the tool, safety talk
2	Sump and Trench Development dan Maintenance	Machine Noise	Hearing loss	N	4	2	8/M	P	Ear Plug
		Dust Exposure	Respiratory Disorder	N	3	2	6/L	TP	Masks
			Visual disturbances	N	3	2	6/L	TP	Safety Goggles
		Fuel Emission	Health problems	N	4	2	8/M	P	Perform regular maintenance
		Oil/fuel spill	Land Pollution	N	4	2	8/M	P	Retrieval of spilled soil before contaminating the surrounding land
	Hit by fallen tree	Body injury	AN	4	1	4/L	TP	Restriction of the work area outside the reach of the tool, safety talk	
3	Preparation and Monitoring of Ore for Export	Computer Radiation	Tired Eyes	N	2	3	6/L	TP	Screen filter installation
		Wrong Body Position	Back and neck pain	N	2	2	4/L	TP	Relaxation
		Energy Consumption	Energy Reduction	N	2	2	4/L	TP	
		Machine Noise	Hearing loss	N	4	2	8/M	P	Ear Plug
4	Preparation and Monitoring of Ore for Factory	Computer Radiation	Tired Eyes	N	2	3	6/L	TP	Screen filter installation
		Wrong Body Position	Back and neck pain	N	2	2	4/L	TP	Relaxation
		Energy Consumption	Energy Reduction	N	2	2	4/L	TP	
		Got Electric Shock	Body injury	N	2	1	2/L	TP	Arrange cables neatly
		Machine Noise	Hearing loss	N	4	2	8/M	P	Ear Plug

CONTROL RISK IDENTIFICATION (cont. 1)

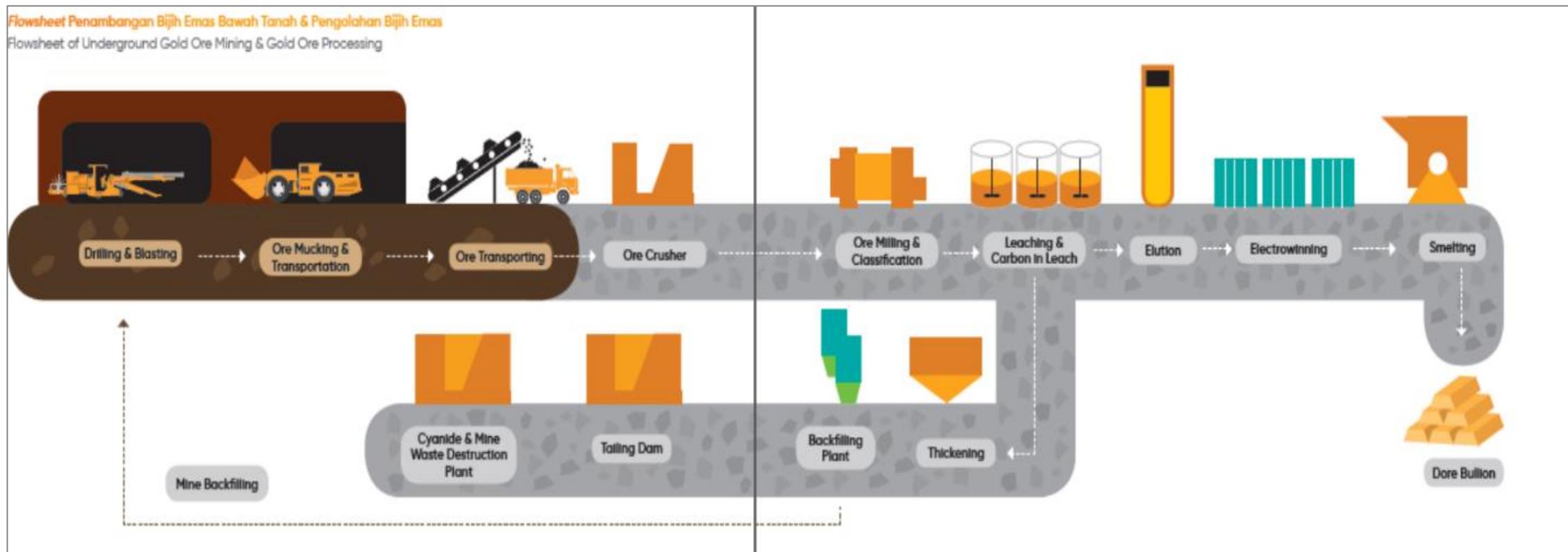
No.	Activity	Environmental Hazard	Environmental Hazard Impact Risk	Condition	Risk Assessment		Effect Level Risk	Significance	Control
					Severity	Probability			
5	Excavation and Loading of Ore	Dust Exposure	Respiratory Disorder	N	3	2	6/L	TP	Masks
		Visual disturbances		N	3	2	6/L	TP	Safety Goggles
		Machine Noise	Hearing loss	N	4	2	8/M	P	Ear Plug
		Fuel Emission	Health problems	N	3	2	6/L	TP	Perform regular maintenance
		Oil/fuel spill	Land Pollution	N	4	2	8/M	P	Retrieval of spilled soil before contaminating the surrounding land
		Hit a bolder throw	Body injury	AN	4	1	4/L	TP	Restriction of the work area outside the reach of the tool, safety talk
		Tool collision	Tool Malfunction	AN	4	1	4/L	TP	Supervision of Heavy Equipment Operations and Horn Signals between heavy equipment
		Hit the swing excavator	Body injury	AN	4	1	4/L	TP	Safety Shoes Restriction of the work area outside the reach of the tool, safety talk
6	Ore transport	Machine Noise	Hearing loss	N	4	2	8/M	P	Ear Plug
		Tool collision	Tool Malfunction	AN	4	1	4/L	TP	Safety Goggles
			Body injury	AN	4	1	4/L	TP	Perform regular maintenance
		Hit a bolder throw	Body injury	AN	4	1	4/L	TP	Safety Helmet
		Dust Exposure	Respiratory Disorder	N	3	2	6/L	TP	Masks
			Visual disturbances	N	3	3	6/L	TP	Safety Goggles
		Fuel Emission	Health problems	N	3	2	6/L	TP	Perform regular maintenance
		Oil/fuel spill	Land Pollution	N	4	2	8/M	P	Retrieval of spilled soil before contaminating the surrounding land

CONTROL RISK IDENTIFICATION (cont. 2)

No.	Activity	Inverontmental Hazard	Environmental Hazard Impact Risk	Condition	Risk Assessment		Effect Level Risk	Signifi- cance	Control
					Severity	Proba- bility			
7	Water truck operation	Machine Noise	Hearing loss	N	4	2	8/M	P	Ear Plug
		Tool collision	Tool Malfunction	AN	4	1	4/L	TP	Supervision of Heavy Equipment Operations and Horn Signals between heavy equipment
		Dust Exposure	Body injury	AN	4	1	4/L	TP	Safety Shoes
			Respiratory Disorder	N	3	2	6/L	TP	Maskers
		Visual disturbances	N	3	2	6/L	TP	Safety Goggles	
		Fuel Emission	Health problems	N	3	2	6/L	TP	Perform regular maintenance
Oil/fuel spill	Land Pollution	N	3	2	8/M	P	Retrieval of spilled soil before contaminating the surrounding land		
8	Manual Cleaning	Machine Noise	Hearing loss	N	4	2	8/M	P	Ear Plug
		Clashing heavy equipment with manual grizzly	Tool Malfunction	AN	4	1	4/L	TP	Supervision of Heavy Equipment Operations
		Hit a bolder throw	Body injury	AN	4	1	4/L	TP	Restriction of the work area outside the reach of the tool, safety helemt
			Tool Malfunction	AN	4	1	4/L	TP	Restriction of the work area outside the reach of the tool
		Falling from a height	Body injury	AN	4	2	8/M	P	Safety Belt, Body Hardness
		Dust Exposure	Respiratory Disorder	N	3	2	6/L	TP	Maskers
			Visual disturbances	N	3	2	6/L	TP	Safety Goggles
		Fuel Emission	Health problems	N	3	2	6/L	TP	Perform regular maintenance
Oil/fuel spill	Land Pollution	N	4	4	8/M	P	Retrieval of spilled soil before contaminating the surrounding land		

EXAMPLE OF IMPLEMENTATION OF OSH

Flowsheet of Underground Gold Ore Mining & Gold Ore Processing



**EXAMPLE OF
IMPLEMENTA
TION OF OSH
Rescue Tim &
Blasting
Preparation**

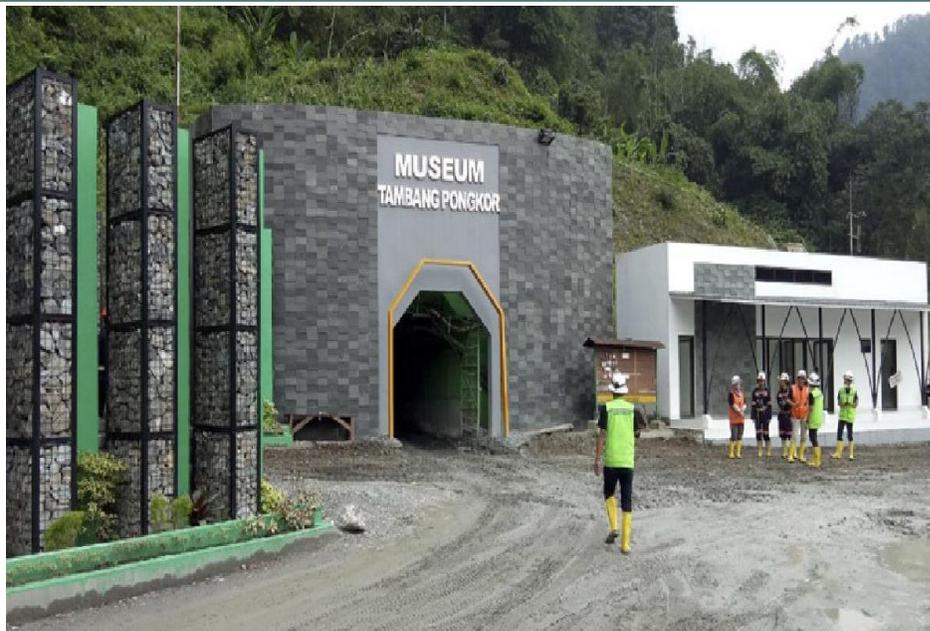
Rescue Team



Blasting Preparation



**Gold Mine
Museum
Pongkor, West
Java**



**Coal Mine
Museum
Sawah Lunto,
West Sumatra**



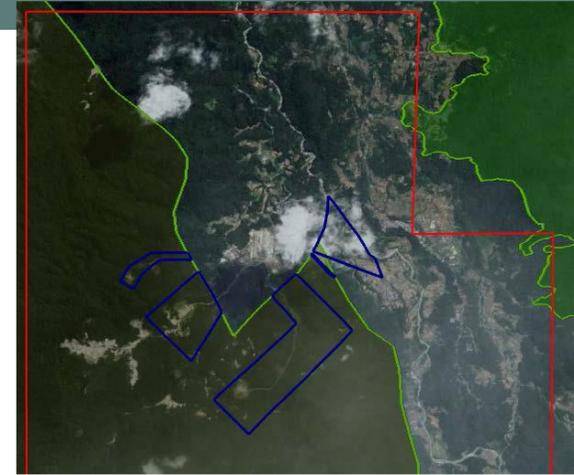
MINE CLOSURE PLAN

Mangrove planting in Southeast Sulawesi Nickel Mining Business Unit.



AKN IV

Audit with a Specific Purpose on the Management of Non-Tax State Revenue of Natural Resources and Minerals and Coal Licensing



- Ministry of Energy and Mineral Resources, Ministry of Environment and Forestry, Related Agencies in DKI Jakarta Province, South Kalimantan, And North Sulawesi
- Utilization of Geographic Information System
- Key findings:
 - Areas disturbed in forest areas by the community in the form of mining activities that do not have permits in the mining business area
 - Disturbed area in forest not yet supported by Borrow-to-use Forest Area Permit



AKN VII

Audit with a Specific Purpose (Compliance)

- **Extractive (Mineral and Coal) Sector SOEs :**
coal, nickel, bauxite, tin, gold, silver
Audit on revenue, expenditure, and investment
- **Extractive (Oil and Gas) Sector SOEs :**
Audit on revenue, expenditure, and investment
Fuel Subsidy
- **Oil and Gas Contractors (KKKS)**
Audit on project implementation and supply chain
Audit on cost recovery



Problem need attention

- Weaknesses in implementation OHS procedure
- Waste: Fly ash and bottom ash was not managed properly
- Even at that time the goods included in the toxic and hazardous waste were sold and the income was not reported



Bottom Ash

Fly Ash

THANK YOU



GET IN TOUCH



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GET IN TOUCH



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[@IntosaiWgei](https://twitter.com/IntosaiWgei)

<https://www.intosaicommunity.net/wgei/>



Zoom Meeting

Cecilia 2 Cecilia 2 Cecilia_1 Dr. Ibrahim Ashour, SA... Mauricio Palma (Zamo...)

Recording...



Pushkar Kumar_Director (T&R)_ICED_India

27°C 7:16 PM 4/27/2022

Type here to search

Chat

Harold serugooti to Everyone 07:04 PM

HS Are there defined terms of compensation, restitutions in your regulations in cases of Health, Safety accidents and environmental degradations/pollutions?!

Dr. Ibrahim Asho... to Everyone 07:14 PM

DA thanks so much Dr. Cecilia.

Ahmad Al-Abdu... to Everyone 07:15 PM

AA Thanks a lot

Futhi Sangweni to Everyone 07:15 PM

FS Thank you for your generosity!!

Ishmael Mooket... to Everyone 07:16 PM

Who can see your messages? Recording On

To: Everyone

Type message here...

Zoom Meeting

Cecilia 2 ICED Jaipur Mauricio Palma... (Mauricio Palma (Zamo...))

Recording...



Getty Stock Cecilia_1

26°C 7:14 PM 4/27/2022

Type here to search

Chat

Soodawiah to Everyone 04:34 PM

SZ Good afternoon

Sumeet Kumar to Everyone 05:06 PM

SK Could you kindly consider zooming in the slide please?

Yes, Thanks

reda sebay asa e... to Everyone 05:06 PM

RS y

Kabwe Mulenga ... to Everyone 05:06 PM

KM better

Harold Troya to Everyone 05:06 PM

HT ok

Who can see your messages? Recording On

To: Everyone

Type message here...

Zoom Meeting [Recording]

	Cecilia 2 Cecilia 2			
María García C... María García COSEDE	M. ZAGH Souhila M. ZAGH Souhila	iCED Jaipur iCED Jaipur	Sherif Reda - A... Sherif Reda - ASA EGYPT	keamogetse Ba... keamogetse Baatweng
Mr. Melouka Ali... Mr. Melouka Ali ALGERIA	Mr Khennouche... Mr Khennouche Said Alg...	SAI EGYPT SAI EGYPT	abanda abanda	Pinky Fakudze Pinky Fakudze
Futhi Sangweni Futhi Sangweni	Kgomotsego M... Kgomotsego Mokone		Bhushan Bhirud Bhushan Bhirud	Charles.Chiwele Charles.Chiwele
DIEGO LEON DIEGO LEON	Bonsile Bonsile	Hernán Echever... Hernán Echeverría	Ahmed Al-Oth... Ahmed Al-Othmany	

Join Audio Start Video Security Participants 62 Chat Share Screen Record Reactions Apps Whiteboards Leave

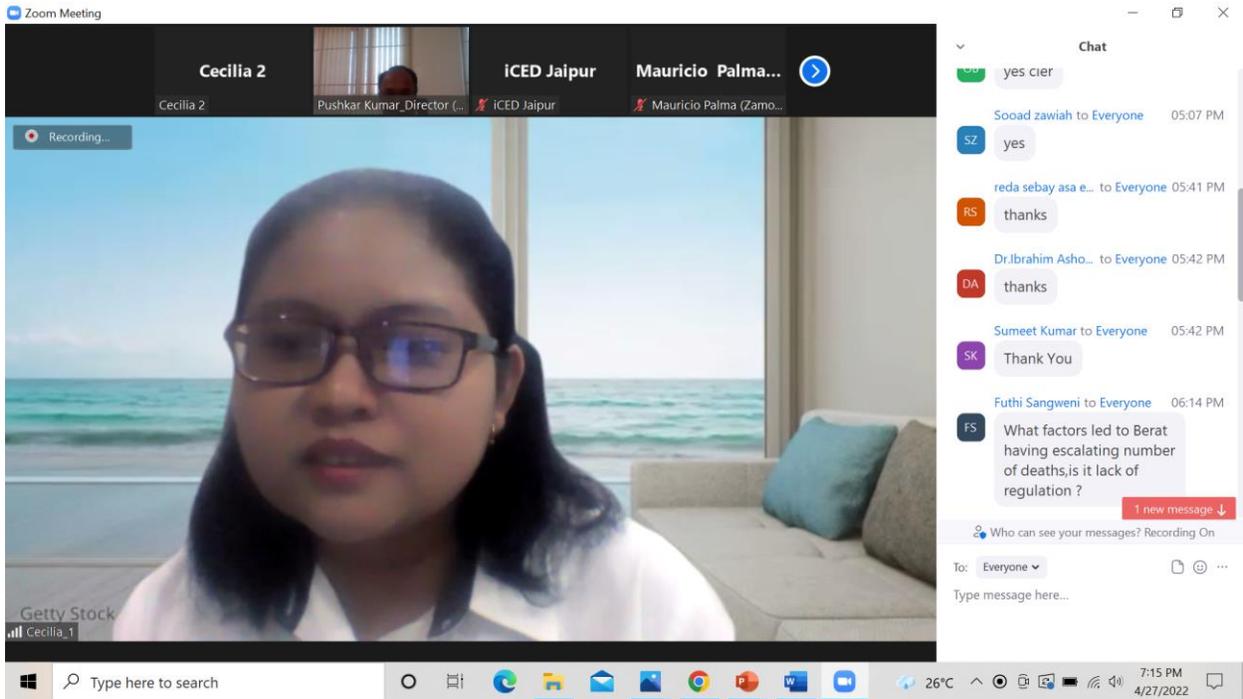
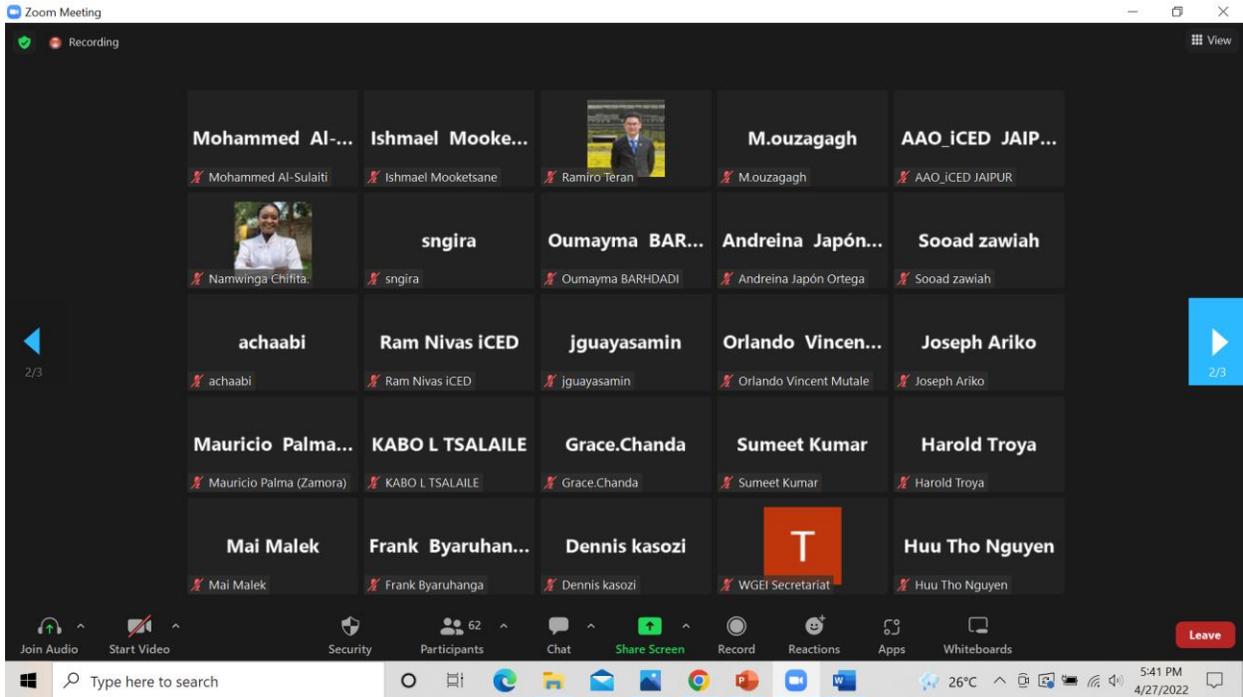
Type here to search 26°C 5:41 PM 4/27/2022

Zoom Meeting [Recording]

Orlando Vincen... Orlando Vincent Mutale	Joseph Ariko Joseph Ariko	Mauricio Palma... Mauricio Palma (Zamora)	KABO L TSALAILE KABO L TSALAILE	Grace.Chanda Grace.Chanda
Sumeet Kumar Sumeet Kumar	Harold Troya Harold Troya	Mai Malek Mai Malek	Frank Byaruhan... Frank Byaruhanga	Dennis kasozi Dennis kasozi
	Huu Tho Nguyen Huu Tho Nguyen	Ojok Isaac Geof... Ojok Isaac Geoffrey	Ahmad Al-Abd... Ahmad Al-Abdulla -SAB ...	George.Fisulo George.Fisulo
	tckgosiemang tckgosiemang		Nothando Nothando	DG, ICED DG, ICED
Motlalepula Ba... Motlalepula Baaitse	RN RN	Sally Mwale Sally Mwale		faith chama faith chama

Join Audio Start Video Security Participants 63 Chat Share Screen Record Reactions Apps Whiteboards Leave

Type here to search 26°C 5:41 PM 4/27/2022



The image displays two screenshots from a Zoom meeting. The top screenshot shows a video call with Cecilia 2 as the main participant, with a background of a beach and ocean. The chat window on the right shows messages from Harold serugooti and Dr. Ibrahim Ashour. The bottom screenshot shows Dr. Ibrahim Ashour, SAI Egypt, wearing a headset and a suit, as the main participant. The chat window on the right shows messages from Sumeet Kumar, Futhi Sangweni, and reda sebay asa e... The system tray at the bottom of both screenshots shows the date as 4/27/2022 and the time as 7:14 PM and 7:16 PM respectively.

Zoom Meeting
Recording...
Cecilia 2
Pushkar Kumar_Direct...
iCED Jaipur
Mauricio Palma (Zamo...)

Chat
also poor funds
Harold serugooti to Everyone 06:59 PM
dear Cecilia, has your SAI done any audits on the Non SOE in this sector?
thank you Cecilia
Harold serugooti to Everyone 07:04 PM
Are there defined terms of compensation, restitutions in your regulations in cases of Health, Saftey accidents and environmental degradations/pollutions?
Dr.Ibrahim Asho... to Everyone 07:14 PM
thanks so much Dr. Cecilia.
Who can see your messages? Recording On
To: Everyone
Type message here...

Zoom Meeting
Recording...
Cecilia 2
Cecilia_1
Pushkar Kumar_Director (...)
Mauricio Palma (Zamo...)

Chat
thanks
Sumeet Kumar to Everyone 05:42 PM
Thank You
Futhi Sangweni to Everyone 06:14 PM
What factors led to Berat having escalating number of deaths, is it lack of regulation ?
reda sebay asa e... to Everyone 06:15 PM
it clear HSE IS weak
Futhi Sangweni to Everyone 06:19 PM
Thank you Cecillia , clearly regulation without implementation is a common challenge in the Extractive Industr
3 new messages
Who can see your messages? Recording On
To: Everyone
Type message here...

26°C 7:14 PM 4/27/2022
27°C 7:16 PM 4/27/2022

Zoom Meeting

Cecilia 2 Cecilia 1 Dr. Ibrahim Ashour_SAI... Pushkar Kumar_Direct...

Recording...

Maria Garcia CO...

Maria Garcia COSEDE

Chat

- Kabwe Mulenga Chiyende to Everyone: thanks
- Namwinda Chifita to Everyone: thank you
- reda sebay asa egypt to Everyone: thank you
- Oumayma BARHDADI to Everyone: thank you 3
- DIEGO LEON to Everyone: thanks
- Sumeet Kumar to Everyone: Thank you everyone

Who can see your messages? Recording On

To: Everyone

Type message here...

Windows taskbar: 27°C, 7:17 PM, 4/27/2022

Zoom Meeting

Cecilia 2 Cecilia 1 Dr. Ibrahim Ashour_SAI... Mauricio Palma (Zamo...

Recording...

Pushkar Kumar_Director (T&R)_ICED_India

Chat

- Futhi Sangweni to Everyone: Thank you for your generosity!!
- Ishmael Mooketsane to Everyone: Thank You
- M.ouzagagh to Everyone: thanks
- Frank Byaruhanga to Everyone: Thank you
- Kabwe Mulenga Chiyende to Everyone: thanks
- Namwinda Chifita to Everyone: thank you

Who can see your messages? Recording On

To: Everyone

Type message here...

Windows taskbar: 27°C, 7:16 PM, 4/27/2022