WORKSHOP ON
POLYMETALLIC NODULES RESOURCE CLASSIFICATION
International Seabed Authority
Kingston, Jamaica
&
Ministry of Earth Sciences, Government of India
Goa India
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Session II
EMERGING INTERNATIONAL STANDARDS FOR MINERAL RESOURCE EVALUATION:
Information needs of financiers, investors and resource managers

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Key Messages:

• [Global Trends] There continues to be a global structural shift on what defines sustainable mining and the locations in which sustainable mining is taking place.

• [Key Challenges Going Forward] Financiers, investors and resource managers will use sustainable development frameworks based on integrated landscape management, with emphasis on environmental/social performance. Regulatory compliance does not earn a social license to operate.
Global Trend

A continued shift in where mining will take place
Global Trend: More Volatile Commodity Cycles

- Since 2000
  - Strong commodity cyclicality, increased volatility
  - Commodity super cycle led to doubling of metallic & tripling of energy prices
  - **Market Response**: strong increase in exploration and production
    - 14% increase of oil
    - 100% increase of iron

Source: McKinsey on Sustainability & Resource Productivity

- Even with improved production efficiency on resource extraction and use - global population growth & development is depleting existing resource inventories at an accelerating rate.

**Exploration expenditures and Major discoveries in the Western World: 1950-2009**
Global Trend: Limitations in Mine Financiability

- Limiting factors constraining investors
  - Access to capital (sustainability requirement)
  - Continued open access to mineral resource lands
  - Environmental / social factors
  - Geologic factors

- By 2030 → an estimated $11-17 trillion of new investment needed in mineral and oil and gas projects in lower-income countries

- 2012 average mine (bulk commodity) investment ~$3 billion, of which 60% is infrastructure. Proposed investments up to $12 billion

Source: McKinsey on Sustainability & Resource Productivity
Global Trend: A Shift to Resource Rich Nations

- The share of resource investment shifting to developing nations facing weak governance challenges
- Diverse stakeholder group across government, developers, investors and society
- Benefits sharing (poverty reduction and shared prosperity) will influence the development decision

(Source: Macroeconomic Policy Frameworks for Resource-Rich Developing Countries, IMF 2012)
Key Challenge to Investors, Financiers and Resource Managers -- Governance

A shift in what defines sustainable mining
The number of resource-driven countries has increased by almost 40% since 1995 and most newcomers have low average incomes, with weaker regulatory regimes and monitoring / reporting capacity.

**Governance** — **accountability** (the extent to which citizens can hold governments, political leadership and private companies responsible for their performance and conduct), **capability** (the ability of governments and public organizations to take decisions and get things done through effective policies and programs), and **inclusiveness** (ensuring that all stakeholders are consulted and taken into account in decision making processes – leading to legitimacy).
What Do Future Resource-Rich Nations Look Like (DSM)?

• Developing countries
  – Low GDP and HDI rating
    • Of the 7 world’s lowest GDPs, 6 are Pacific Island Countries: FSM, Kiribati, Marshall Islands, Palau, Tonga and Tuvalu.

• Narrow resource base
  – Fisheries, tourism, remittances

• Small populations
  – Limited skill base

• Vulnerability & Remoteness
  – Climate change
  – Natural disasters
  – Food and water security

• Dispersed over large geographical area

• Small land mass
  – Pockets of overpopulation
Challenges: Governance and Investment Risk are inseparably intertwined

<table>
<thead>
<tr>
<th>Investment Decision Criteria</th>
<th>Instrument Available to the Government</th>
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<tbody>
<tr>
<td><strong>Geological Potential / Resource Certainty</strong></td>
<td>Geological Survey providing basic geo-data and undertaking mineral resource assessment</td>
</tr>
<tr>
<td><strong>Profitability of Potential operations</strong> – competitive fiscal regime, realistic foreign exchange controls</td>
<td>Investment Laws</td>
</tr>
<tr>
<td><strong>Security of Tenure</strong> – clear, non-discretionary mining rights and title for permitting</td>
<td>Mining Cadastre</td>
</tr>
<tr>
<td><strong>Consistency of Mineral Policy</strong> – clarity of roles &amp; responsibility, stability of exploration / exploitation terms and conditions, mineral ownership (resource nationalism), social licence to operate</td>
<td>Mineral Policy, Tax Legislation, Community support</td>
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<tr>
<td><strong>Stability of Legislation</strong> – predictable environmental / social obligations, non-discretionary transparent regulatory environment</td>
<td>Clear, consistent mining, environmental / social, and tax regulations</td>
</tr>
<tr>
<td><strong>Availability of Infrastructure</strong></td>
<td>Public Private Partnerships</td>
</tr>
</tbody>
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Source: “Mining - Prospecting, Exploration and Feasibility including Ancillary Infrastructure.” World Bank. Michael Stanley
What the financial community needs:

✓ Social License to Operate
✓ Certainty/ Security of Title/ Tenement
✓ Certainty of Development Approvals
✓ Confidence in Social/ Environmental context
✓ Confidence in tax/ Royalty Regime
✓ Acceptable level of Sovereign risk

“Now a miner, before he begins to mine the veins, must consider seven things, namely: the situation, the conditions, the water, the roads, the climate, the right of ownership, and the neighbors”

-- Georgius Agricola in De Re Metallica 1556
Outcomes

- Improved spatial planning
- Shared Access Infrastructure
- Inclusive & integrated growth
- Regional Economic Diversification
- Improved Livelihoods & Local Benefits
- Improved Human Development Indices (HDI’s)

Challenges: Sector Governance / Investment Risk
Sustainability Frameworks are Integrators

Sector sustainability is based on integrated spatial planning (integrated landscape management) through Sustainable Development Frameworks
DSM is a very Complex Sustainable Development Space

Deep Sea Mineral Endowment

Award of contracts and licenses

Regulation and monitoring of operations

Collection of taxes and royalties

Revenue management and distribution

Environmentally and socially sustainable projects

Regional Sustainable Development

Governance and accountability

Political economy analysis

Ocean economy and ocean stewardship

Full range of products:

- Analytics
- Advocacy
- Capacity development
- Technical assistance
- Financial support

- Legal, Regulatory and Fiscal Frameworks;
- Contract Negotiation;
- EI Technical Advisory Contract monitoring (WBI)

- Capacity Building for Sector Ministries and Regulatory Agencies;
- Regional capacity building in ocean economy and DSM mining
- Investment in geological data & mapping; Improving NCs Efficiency

- Improving Tax collection
- Governance and public financial mgnt (PREM)
- EITI (EI GP, PREM)

- Macro impact of DSM mining, PEA (PREM), Financial Management (FM)

- Integrated Management of the Marine Ecosystem (IMME)
- Community Development Frameworks
- Convener role with private sector & Government stimulating private sector investment (PREM & IFC);
- Economic linkages and infrastructure technical skills in energy and water;
- Growth poles and supply chain linkages (FPD)
- Skill development, private sector health initiatives (HD)

Coordination within the WBG

Extractive Industry

GGP, EI, E&NR, F&M,

WB-IFC-IMF collaboration, CSO’s, Development Partners

Coordination with other partners
Challenge: Major Deficiencies Regulatory & Safeguard Compliance Monitoring
Safeguard Requirements

• **Information uncertainty with a multitude of challenges;**
  – Clarity of roles & responsibilities, transparent non-discretionary authority
  – Uncertainties regarding long-term sustainability
  – Effectiveness of policies, laws and regulation frameworks
  – Adequacy of institutional capacity to administer, monitor and enforce regulations
  – Verifiable mineral resource assessment information
  – Transparency in capturing, accounting and equitably distributing revenues
  – Fragility & conflict: Resources cross political & geographic boundaries
  – Technology-related complexities from exploration to possible future exploitation

• **Numerous historic failures to manage natural resources, especially in small, poverty stricken, remote islands**

• **There are many policies to which investors are required to comply:**
Regulatory Challenges

Developing Countries are characterized by:

- Challenges to implement transparent, non-discretionary licensing processes, policy and law
- Challenges to ensure good governance
- Challenges to revenue management
- Institutional capacity weaknesses
- In-country skill-base
- Infrastructure for metallurgical processing
Key Challenge Going Forward

Financiers, Investors and Resource Managers require resource assessment information that supports sustainable development

[[holistic landscape management using environmental / social sustainability performance measures]]
India, with its’:

- depth of global science & engineering expertise
- state of the art management systems
- guiding policies (risk-based Sustainable Development Framework), regulatory agencies, and robust civil society

is significantly challenged to provide resource information that will ensure good governance / sustainable mining on mineral resource lands it has been administering for 50+ years (Shaw Commission, 2013)

The World Bank and ECE UNFC is assisting the Indian Bureau of Mines and State of Odisha in a pilot application to improve sustainability of mining in the Keonjhar District.
To Address Deficiencies:

- Translating to UNFC 2009
- Undertaking Integrated Spatial Planning using an advanced risk-based Sustainable Development Framework
- Reforming regulatory agencies, monitoring & reporting capacities

India is not currently meeting the information standard on what investors, financiers and resource managers need for sustainable mining (Shaw Commission 2013)
India Sustainable Mining Pilot – State of Odisha
Key Messages:

• **[Global Trends]** Governance and Investment Risk are interwinned

• **[Global Trends]** Financiers, investors and resource managers will go beyond regulatory compliance into sustainability development frameworks based on integrated landscape management, with emphasis on environmental / social performance

• **[Challenge Going Forward]** Develop a resource classification system aligned with a sustainability development framework
  
  ➢ resource classification aligned to a sustainability framework where investors, financiers and resource managers can clearly define the associated socio-economic impacts?

  ➢ Inform the conversation around the social license to operate
Thank You
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