Strategic Environmental Assessment (SEA) in Mining for a Just Transformation

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INTERGOVERNMENTAL FORUM on Mining, Minerals, Metals and Sustainable Development

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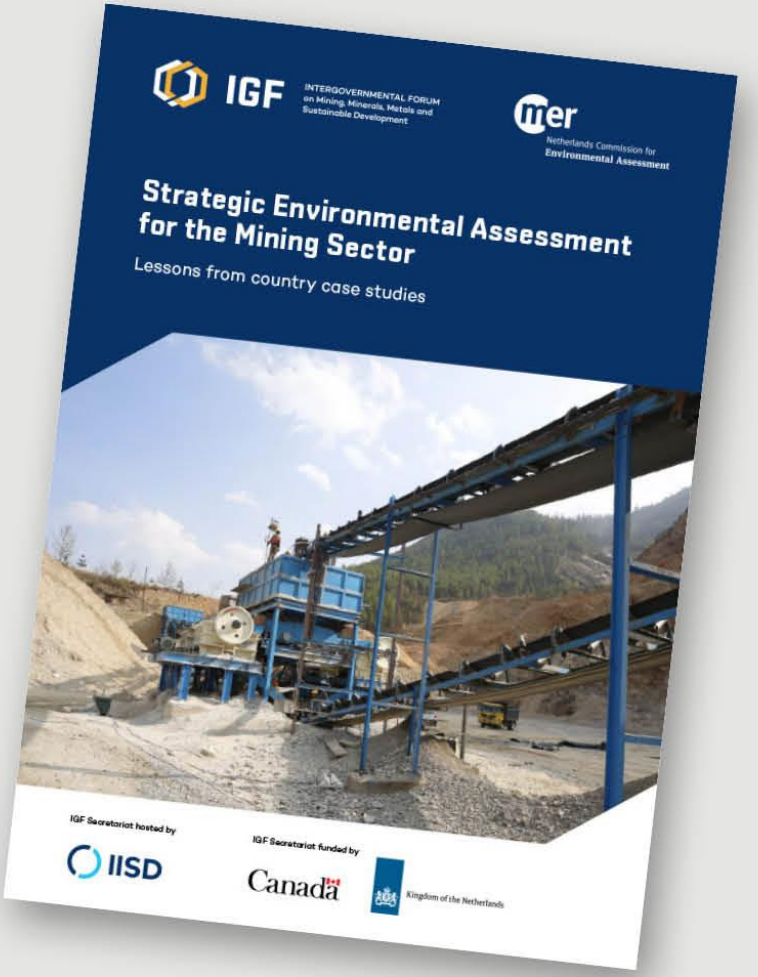
Netherlands Commission for Environmental Assessment

REPORT LAUNCH

STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE MINING SECTOR

Lessons from country case studies



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Agenda

1. Mentimeter Survey
2. SEA for Mining: Joyce Kortlandt
3. SEA Case Study Presentations: Highlighting successes, challenges, and lessons learned
   - Mongolia: David Annandale
   - Ghana: Yaw Amoyaw-Osei
   - Namibia: Israel Hasheela
4. Q&A: Questions can be posted on Mentimeter
5. Panel Discussion: Wrap Up

Strategic Environmental Assessment for Mining

Lessons from country case studies

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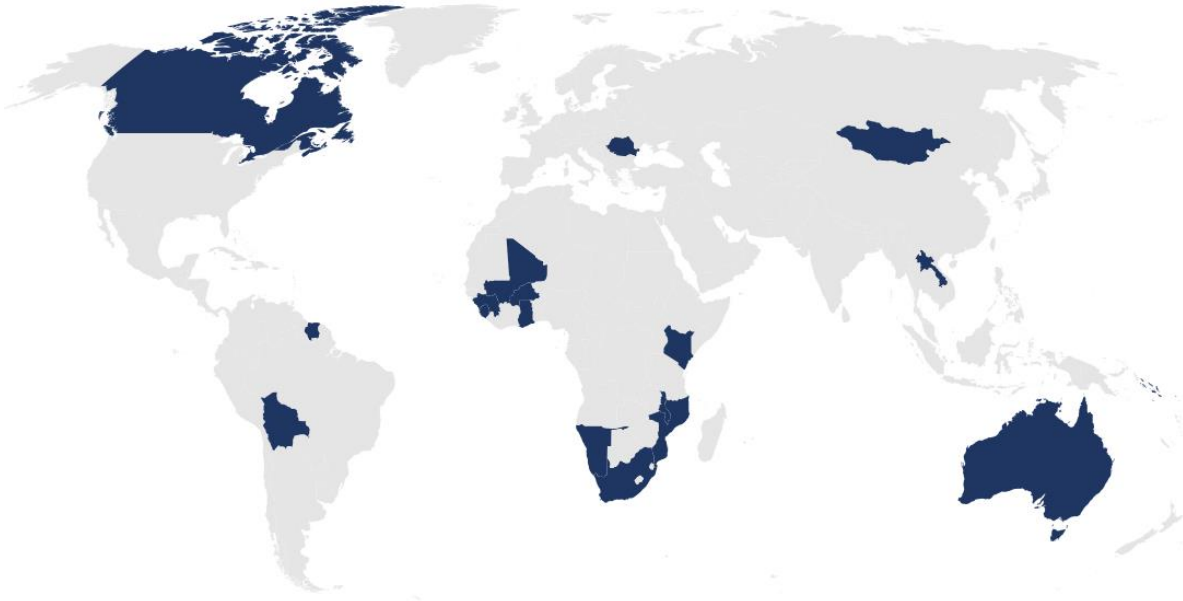
Countries with SEA Legislation



Countries with SEA for mining initiatives

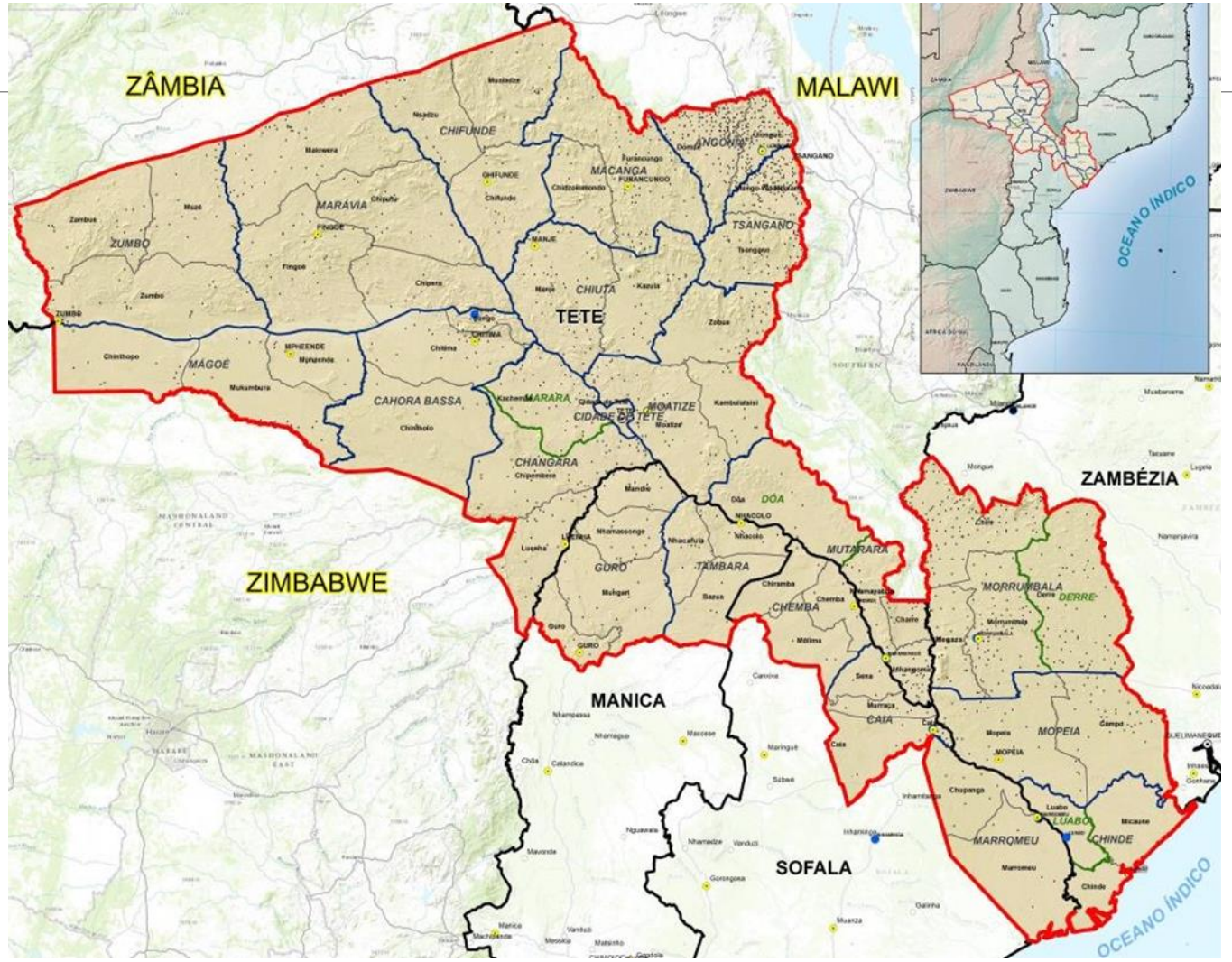
Relevance of SEA for Mining

Relevance of SEA for Mining

- **Governments of mining countries**: balance multiple interests, transparent decision-making, clarity of tasks.
- **Mining companies**: prevent resistance, more sustainable projects, cost-effective ESIAs.
- **Society**: contribution to regional and national development, minimising negative consequences.

Example: SEA for National Sector Planning
Mine Closure Programme, Romania

Example: SEA for regional development planning Zambezi valley, Mozambique



Recommendations

1. Increase awareness and build capacity about SEA for mining
2. Ensure close collaboration between government institutions during the development of the SEA
3. Involve stakeholders from the beginning of the SEA process
4. Develop SEAs for PPPs about the mining of critical minerals

Let’s continue the conversation!

Post questions and comments in the IAIA24 app.

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SEA in Mining for a Just Transformation

Strategic Assessment of Mining Policy in Mongolia

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Background

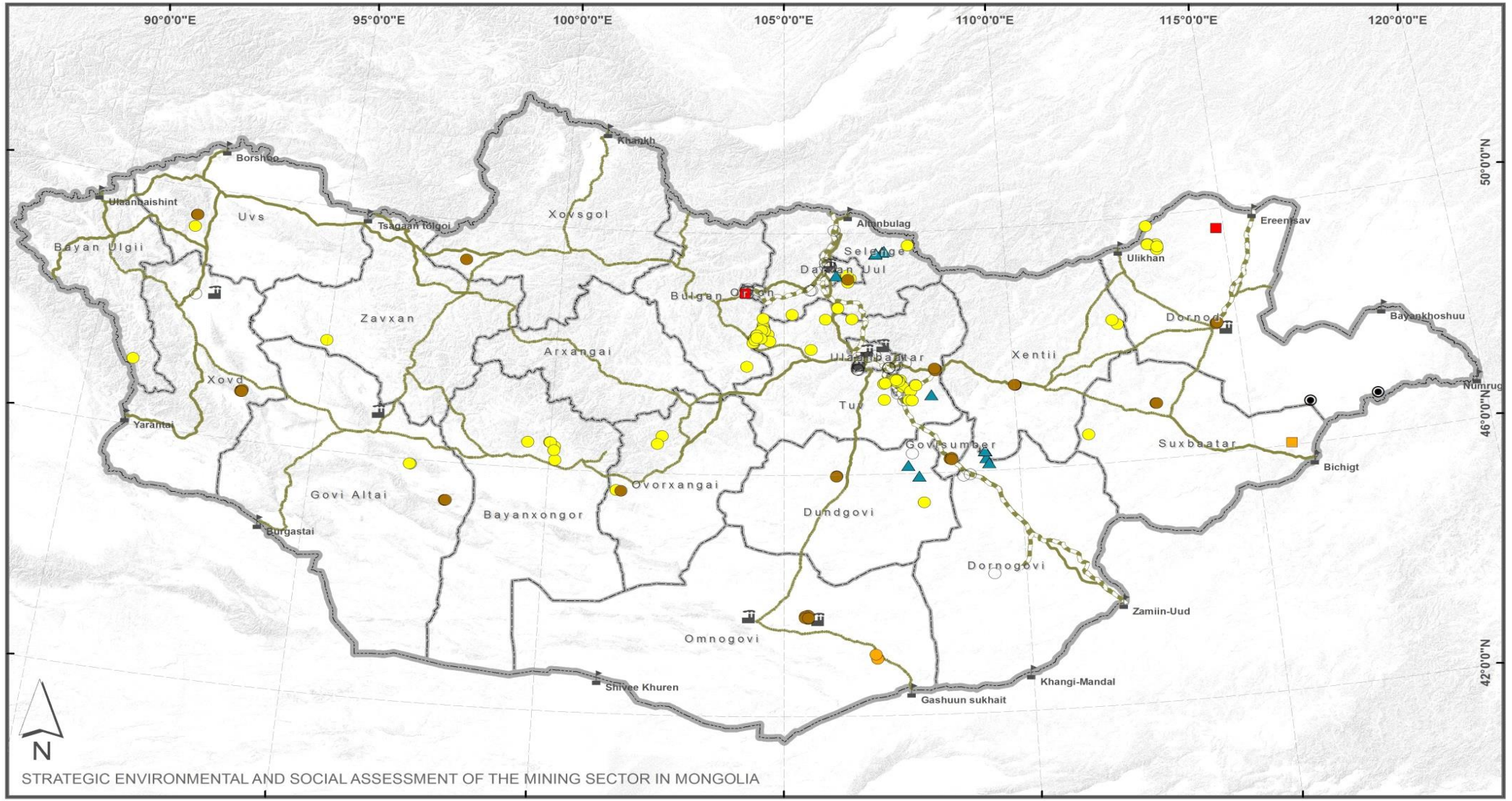
In 2014 the Government and World Bank saw a need to develop a shared vision of how mining growth may affect the development of Mongolia and the lives of Mongolians.

The intent of the SESA was to:

- Help meet the needs of long-term country development by integrating environmental and social considerations into mining sector reform.
- Contribute to a shared understanding of the mining sector's role in the sustainable and inclusive development of Mongolia.
- Inform the ongoing reform and strengthening of the mining sector regulatory framework.
- Support the government's efforts of enhancing the contribution of the mining sector to the Mongolian society and economy.

SESA Approach based on GDP Growth Scenarios

Growth scenario	What does each scenario mean for production of specific commodity?	Number of mines required to produce commodity tonnage	Environmental and social issues/impacts
Repeat for low, base, high →	X tonnes of commodity (coal, gold, copper etc.) →	Y mines (no. of large mines) →	Prediction of impacts at reasonably specific locations
		Z mines (no. of smaller mines) →	Prediction of impacts at reasonably specific locations



STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT OF THE MINING SECTOR IN MONGOLIA

GROWTH SCENARIO

LOW CASE: YEAR 2025

0 100 200 km

Scale 1:6,000,000 when printed at A3
UTM (Zone 48N)

SUSTAINABILITY EAST ASIA LLC

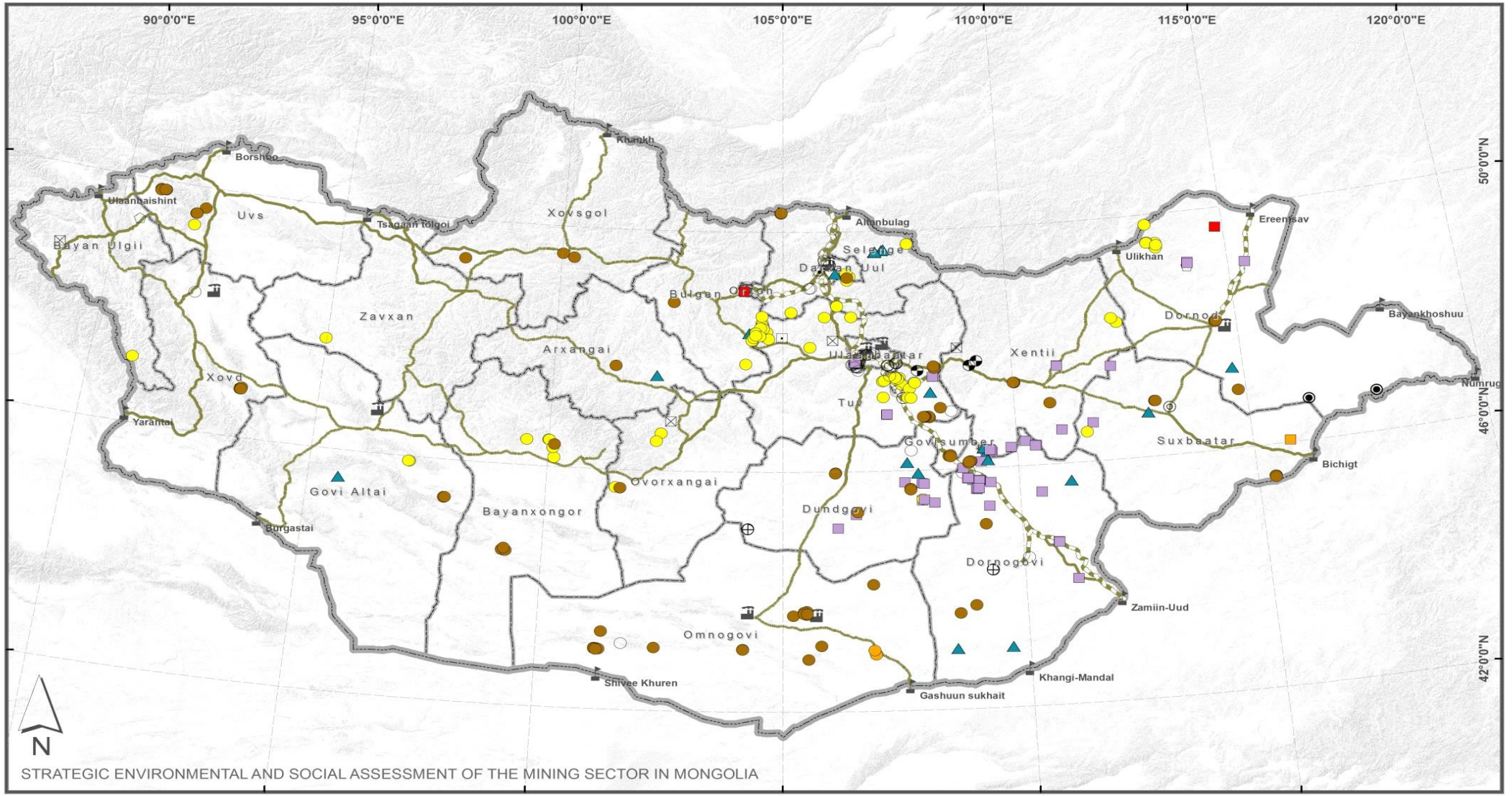
DATA SOURCE

Mines in operation - MRAM (Metadata - 2014)
Mongolia, aimag boundary - MNET (Metadata - 1942/1:500,000)
Railway, Road - MNET (Metadata - none)
Border Point - Sustainability East Asia LLC
(Metadata - Google Earth)
Power Plant - Ministry of Energy (Metadata - 2014)

LEGEND

Mines in operation (number of mines based on number of mining licence, 165)

- Crude Oil (2)
- Gold, copper (2)
- Copper, molybdenum (2)
- Molybdenum (1)
- Iron (12)
- Gold (76)
- Aggregate (32)
- Coal (38)
- Border Point
- Power Plant
- Main Road
- Railway
- Aimag Boundary
- Mongolia Boundary



GROWTH SCENARIO

BASE CASE: YEAR 2014

0 100 200 km

Scale 1:6,000,000 when printed at A3
UTM (Zone 48N)

SUSTAINABILITY EAST ASIA LLC

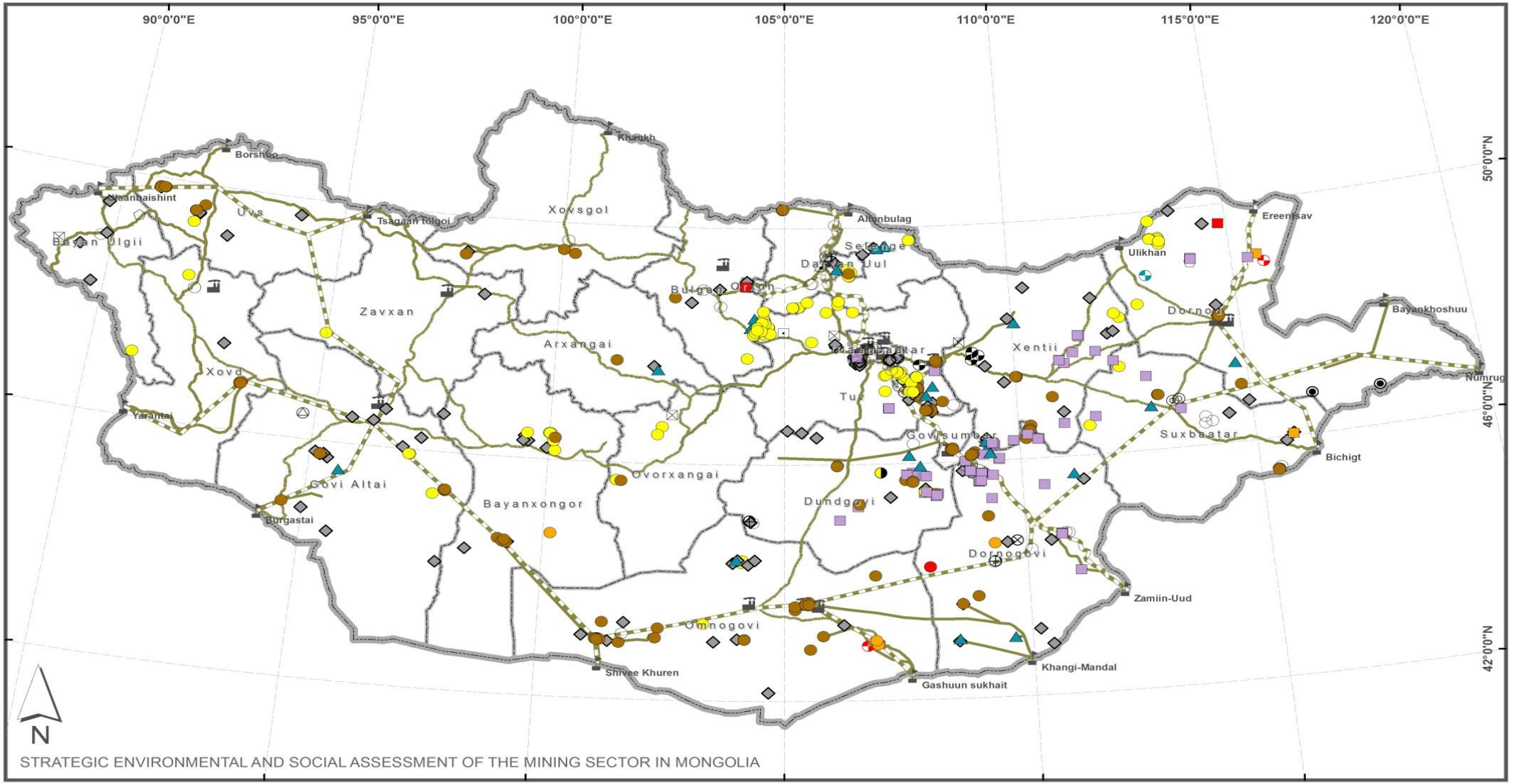
DATA SOURCE

Existing mines in operation - MRAM (Metadata - 2014)
Mongolia, aimag boundary - MNET (Metadata - 1942/1:500,000)
Railway, Road - MNET (Metadata - none)
Border Point - Sustainability East Asia LLC
(Metadata - Google Earth)
Power Plant - Ministry of Energy (Metadata - 2014)

LEGEND

Existing mines in operation (number of mines based on number of mining licence, 330)

- Copper, molybdenum (2)
- Gold, copper (2)
- Molybdenum (1)
- Gold (76)
- Iron (20)
- Flourspar (56)
- Gypsum (2)
- Lead (2)
- Marble (1)
- Sulphur (1)
- Tin (3)
- Tungsten (4)
- Zinc (1)
- Aggregate (64)
- Crude Oil (2)
- Coal (93)
- Border Point
- Power Plant
- Main Road
- Railway
- Aimag Boundary
- Mongolia Boundary



GROWTH SCENARIO

HIGH CASE: YEAR 2025

0 100 200 km

Scale 1:6,000,000 when printed at A3

UTM (Zone 48N)

SUSTAINABILITY EAST ASIA LLC

DATA SOURCE

Mines in operation - MRAM (Metadata - 2014)
Mongolia, aimag boundary - MNET (Metadata - 1942/1:500,000)
Railway, Road - MNET, MRT (Metadata - none)
Border Point - Sustainability East Asia LLC (Metadata - Google Earth)
Power Plant - Ministry of Energy (Metadata - 2014)

LEGEND

Mines in operation (number of mines based on number of mining licence, 589)

- Crude Oil (2)
- Coal (136)
- Copper, molybdenum (2)
- Gold, copper (4)
- Molybdenum (2)
- Copper (1)
- Polymetal (2)
- Iron, polymetal (1)
- Gold, silver (1)
- Gold (114)
- Iron (26)
- Flourspar (75)
- Tungsten (4)
- Zinc (2)
- Aggregate (107)
- Gypsum (2)
- Lead (3)
- Aliminum (1)
- Zeolite (1)
- Marble (1)
- Sulphur (1)
- Tin (4)
- Minerals Type Unknown (97)

- Border Point
- Power Plant
- Main Road
- Railway
- Aimag Boundary
- Mongolia Boundary

From Issues/Impacts to Actions, Gaps and Policy Options

Issues	Possible Actions	Main Gaps	Policy Options
Mining/pasture conflict	Relocate herders	No law on involuntary land acquisition	Develop law on involuntary land acquisition
	Pasture management plan	Limited capacity to improve pasture use	Provide budget to organize pasture use improvement activities

Let’s continue the conversation!

Post questions and comments in the IAIA24 app.

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Improving Mining Sector Governance Through SEA: Gaps identified for updating the SEA (after 15 years of implementation)

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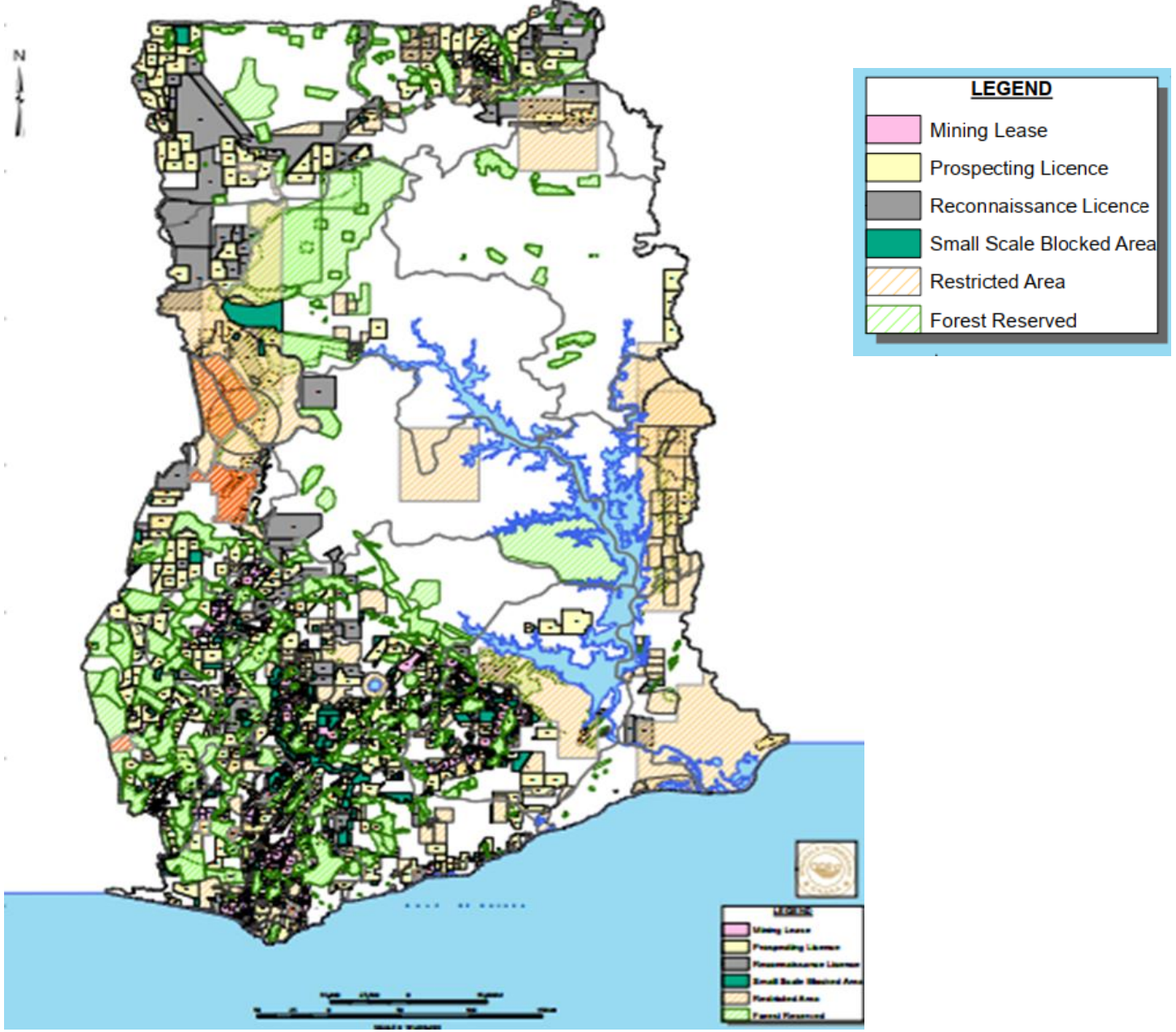
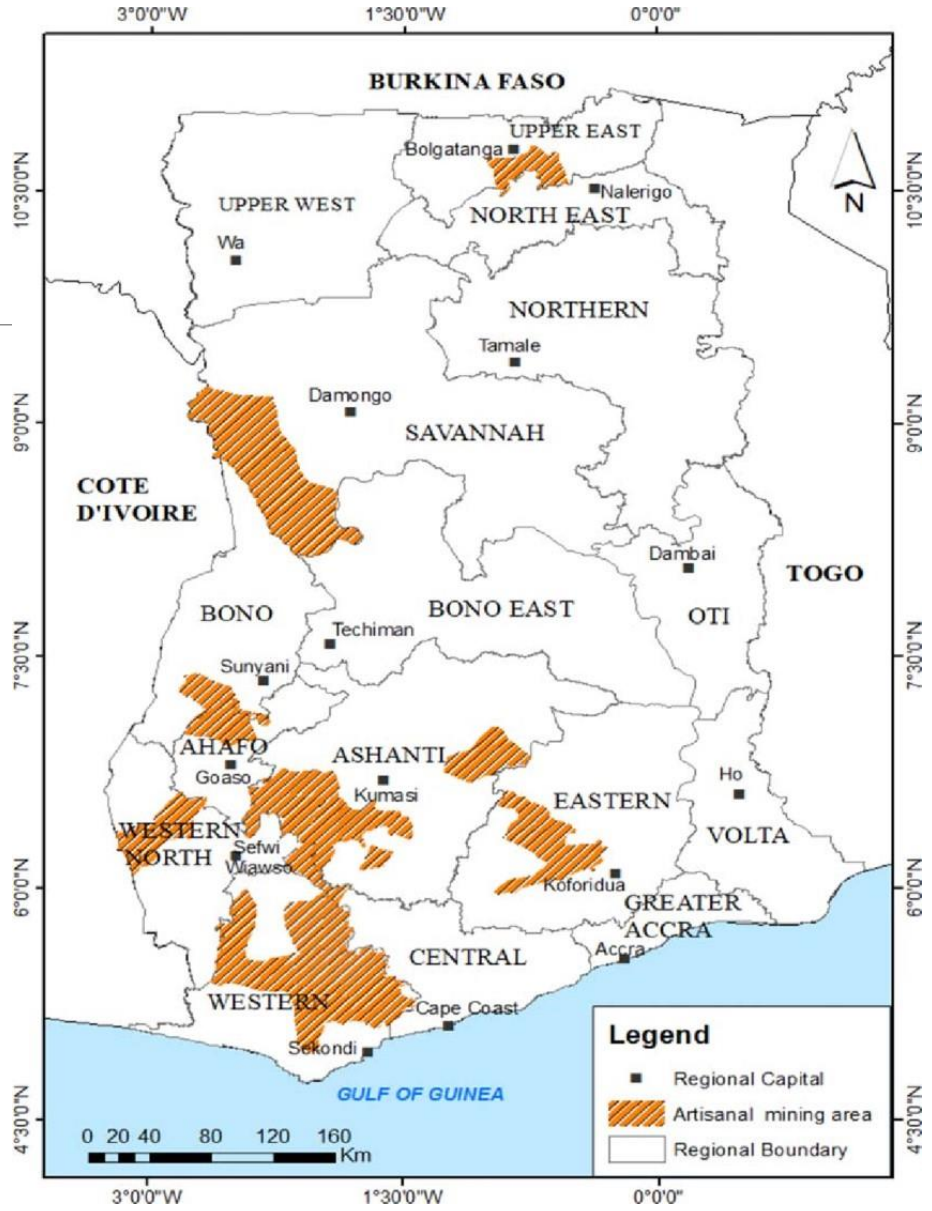


Mining Concession and Activity Map

Background

- Mining in Ghana dates back to the 15th century.
- Ghana accounted for 36% of total world gold output between 1493 and 1600.
- Ghana overtook South Africa as the largest gold producer in Africa & 10th largest worldwide by end of 2022 (Ghana Chamber of Mines, 2023).



Source: Richard Takyi et al. 2020

SEA and Mining Sector Policy

Mining Sector Policy with the aim to promote:

1) Sustainable planning with other sectors in mind.
   - Ensure inter-agency collaboration for sustainability in resource allocation.
2) Accountability of the Sector Agency (MC)
   - To own liabilities arising from sector decisions i.e. licensing decisions informed by IA outcomes.
3) Public confidence in mining sector decisions.
4) Cumulative IA where multiple contiguous concession areas are concerned.

SEA Ownership and Industrial Minerals

Ownership of the SEA

- Ministries of Lands and Environment (responsible for MC & EPA) should have assumed ownership, driven the process & superintended over implementation.

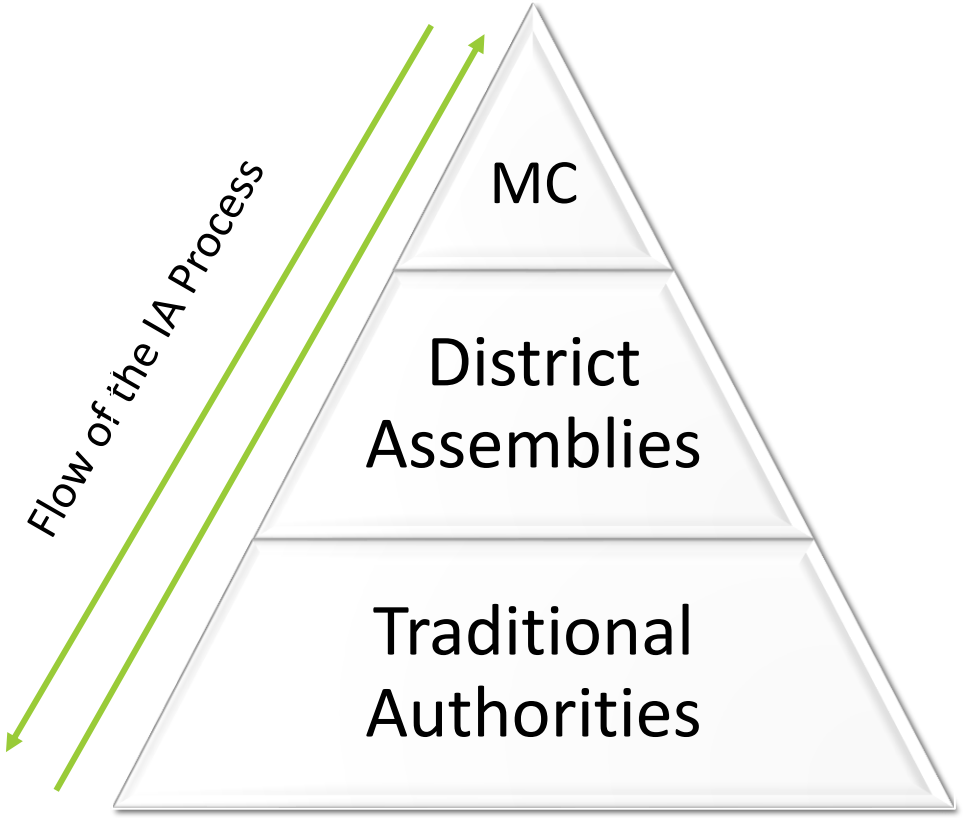
The SEA and Industrial Minerals

- Less emphasis on industrial minerals (particularly sand mining and its devastation)

Sand winning along beaches in Central Region - Ghana

Source: Ghana Business News

SEA Underscoring Effective Collaboration & Engagement



SEA promoting a bottom-up process in mining decisions

- The search for prospective mining concession areas must actively involve District Assemblies, traditional authorities and local communities with MC's backing in a collaborative manner.

SEA requiring prospecting E&S screening to delineate sensitive areas in advance

- A level of E&S screening leading to Env. Permit (for prospecting) prior to the grant of the prospecting license.

SEA Provision for Capacity Building - MC & EPA

Counter-productive discharge of institutional mandates

- MC does not recognize the benefits of IA outcomes for Mining Sector licensing decisions.
- IA process reduced to/understood as a mere permit.
- MC sidetracks IA process by issuing mining license first, before asking proponents to obtain the Env. Permit.
- EPA gives cause for MC to view IA process as a bottleneck delaying the mineral licensing process.
- MC & EPA approach their mandates in isolation & arrive at respective licensing & permitting decisions independently.

Let’s continue the conversation!

Post questions and comments in the IAIA24 app.

Thank you!!

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STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE CENTRAL NAMIB URANIUM RUSH, NAMIBIA




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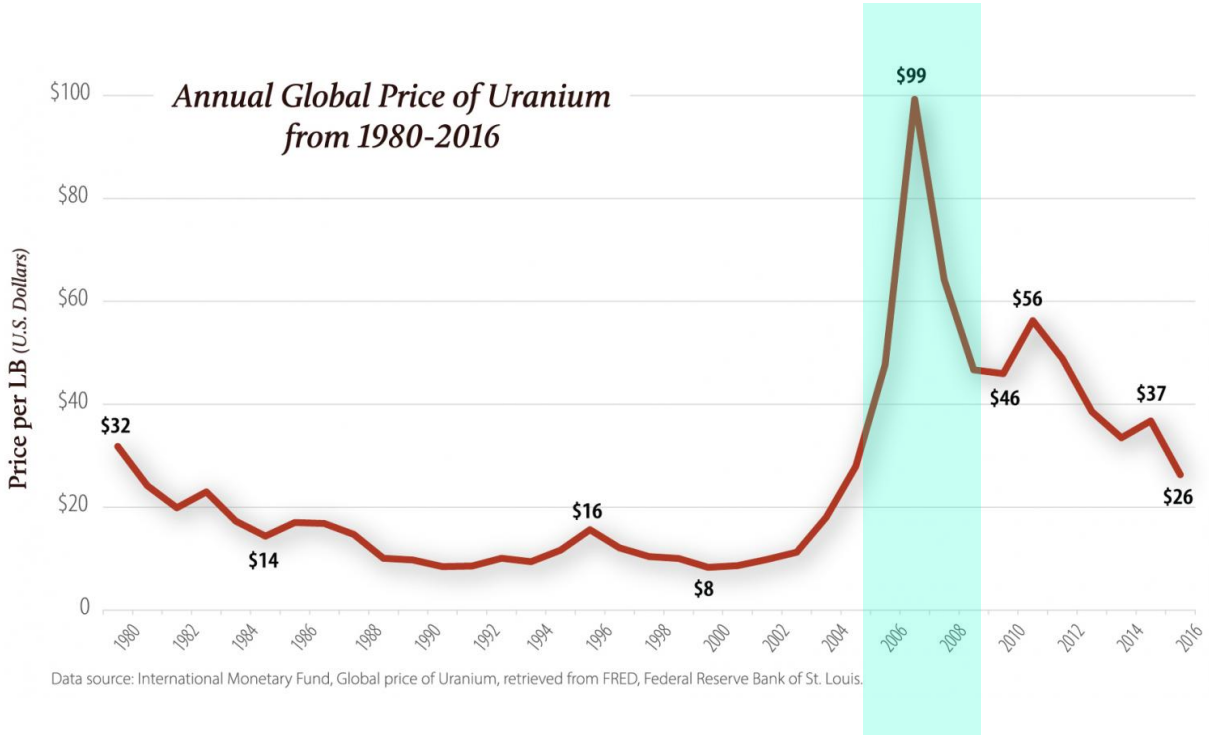
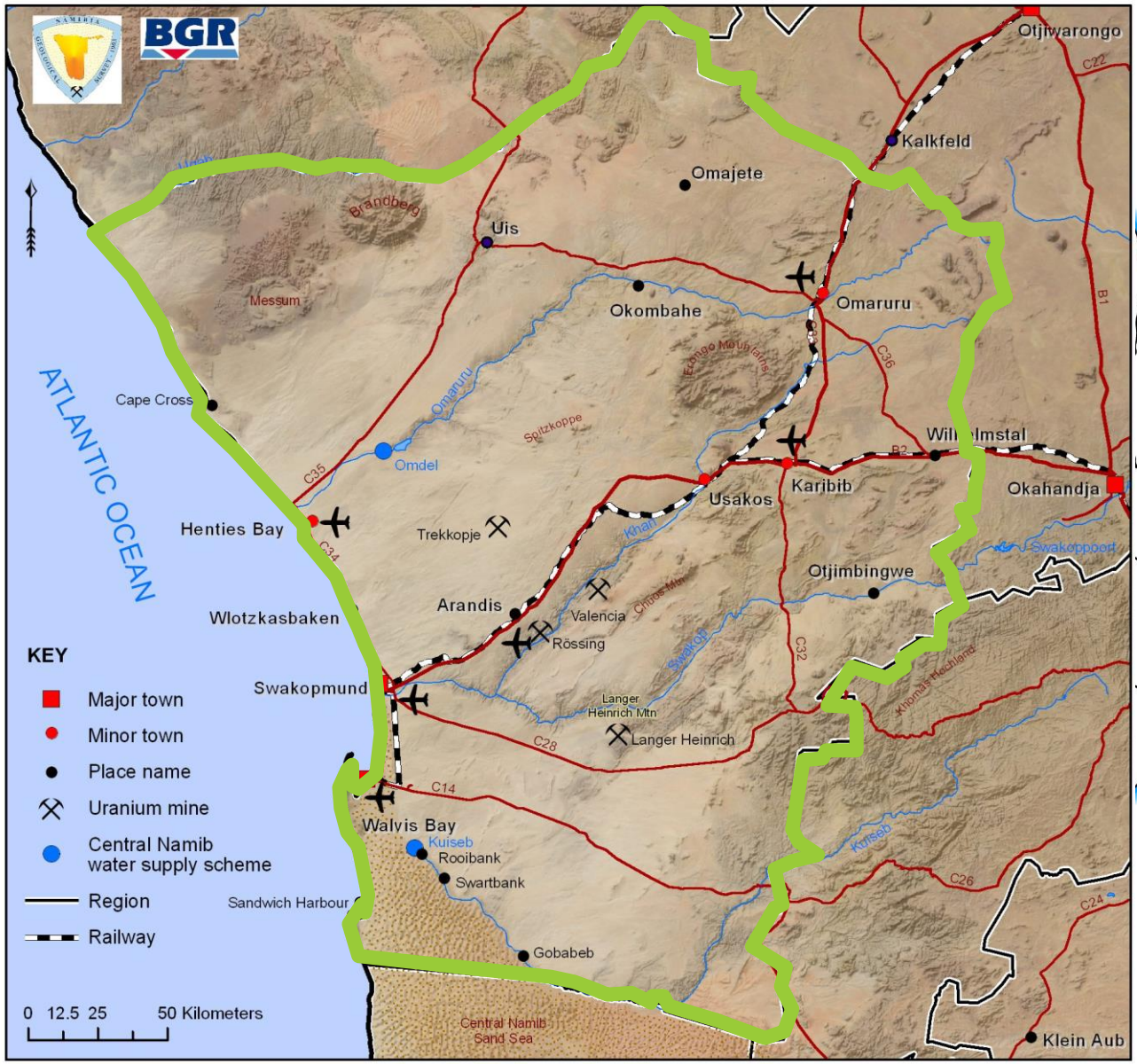
Background

- Renewed interest in uranium resources globally (mid 2000s) resulted in a scramble for U exploration rights in Namibia.
- Third largest U-producing country after Kazakhstan and Canada (8% of the world U resources).
- Moratorium placed on Uranium EPLs (2007) to consider how best to manage this rush.
- SEA conducted to provide a strategic direction to uranium mining.
- Licences at the time; 36 exploration and four mining.

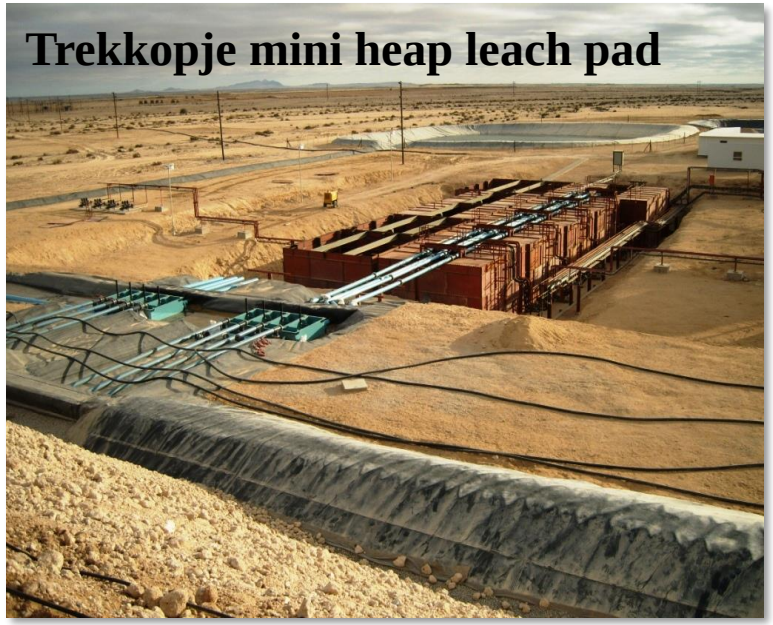



BGR
Otjiwarongo
Kalkfeld
Omajete
Uis
Brandberg
Messum
Okombahe
Omaruru
Cape Cross
ATLANTIC OCEAN
Omaruru
Omdel
Spitzkoppe
Usakos
Karibib
Okahandja
Henties Bay
Trekkopje
Khan
Otjimbingwe
Arandis
Valencia
Chuos Mts
Rössing
Wlotzkasbaken
Swakop
Swakopmund
Langer Heinrich Mtn
Langer Heinrich
Khomas Hochland
C14
Walvis Bay
Kuiseb
Rooibank
Swartbank
Sandwich Harbour
Gobabeb
Central Namib Sand Sea
Klein Aub
KEY
Major town
Minor town
Place name
Uranium mine
Central Namib water supply scheme
Region
Railway
0 12.5 25 50 Kilometers


Swakopmund

Methodology

The SEA has identified the key cumulative impacts of the “Uranium Rush” and assessed its benefits and potential harmful effects.



Uranium Rush Mining Scenarios

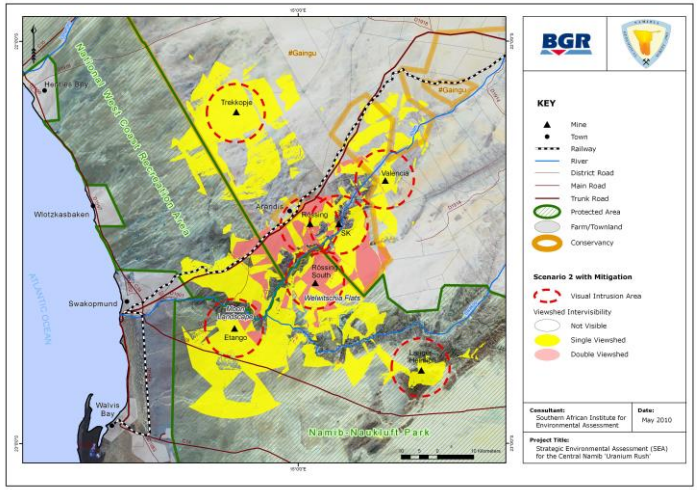
Scenario 1	Scenario 2	Scenario 3
Two additional mines by 2010-12, and no further before 2020; Trekkopje and Valencia.	One or two more additional by 2013; Rössing, Langer Heinrich, Trekkopje, Valencia, Husab, Etango project.	Two or more additional before 2020; Rössing, Langer Heinrich, Trekkopje, Valencia, Husab, Etango, Omahola, Marenica, and Reptile EPLs.

Assessment of cumulative impacts of mining

- Noise pollution
- Dust emissions
- Radon emissions
- Groundwater pollution
- Visual impact
- Loss of biodiversity
- Light

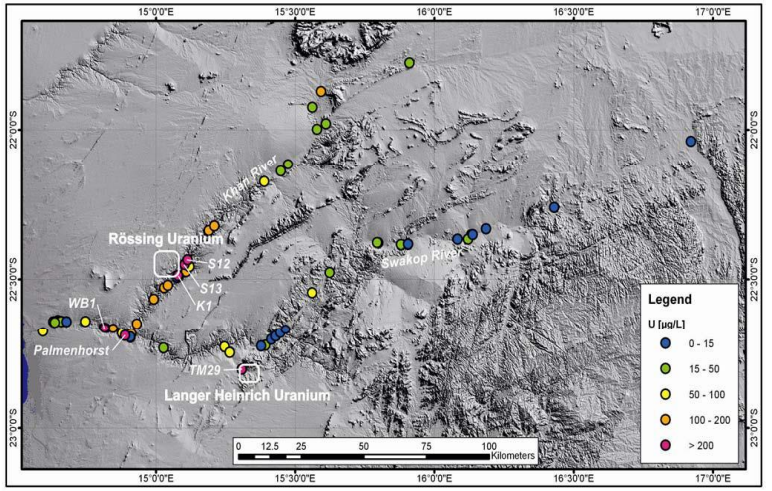
Central Namib is a Tourism Hotspot

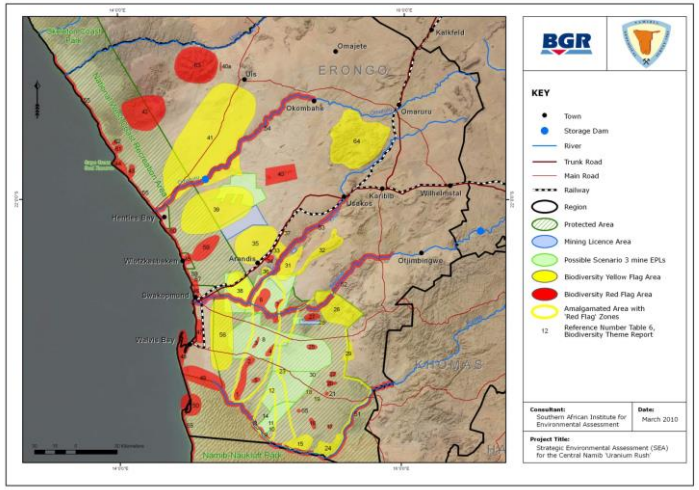
Groundwater quality Assessment



Predicted Visual Influence of Scenario 2

Uranium distribution in groundwater





Areas of High Biodiversity value

Did the SEA process improve management of the uranium mining sector?

- Provided a guiding tool or framework (SEMP) within which individual projects had to be planned and implemented.
- Enabled coordination of development, i.e. infrastructure corridors (roads, powerlines and waterlines) to ensure minimal impact to the environment.
- Increased trust between the industry and communities they operate in.
- Availed industry performance information to the public and stakeholders (annual reports).
- Ensured responsive environmental management plans for individual mining and exploration projects.

Let’s continue the conversation!

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Thank you!!

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