A Framework to Approach Shared Use of Mining Related Infrastructure: Rail and Port

Columbia Center
on Sustainable Investment

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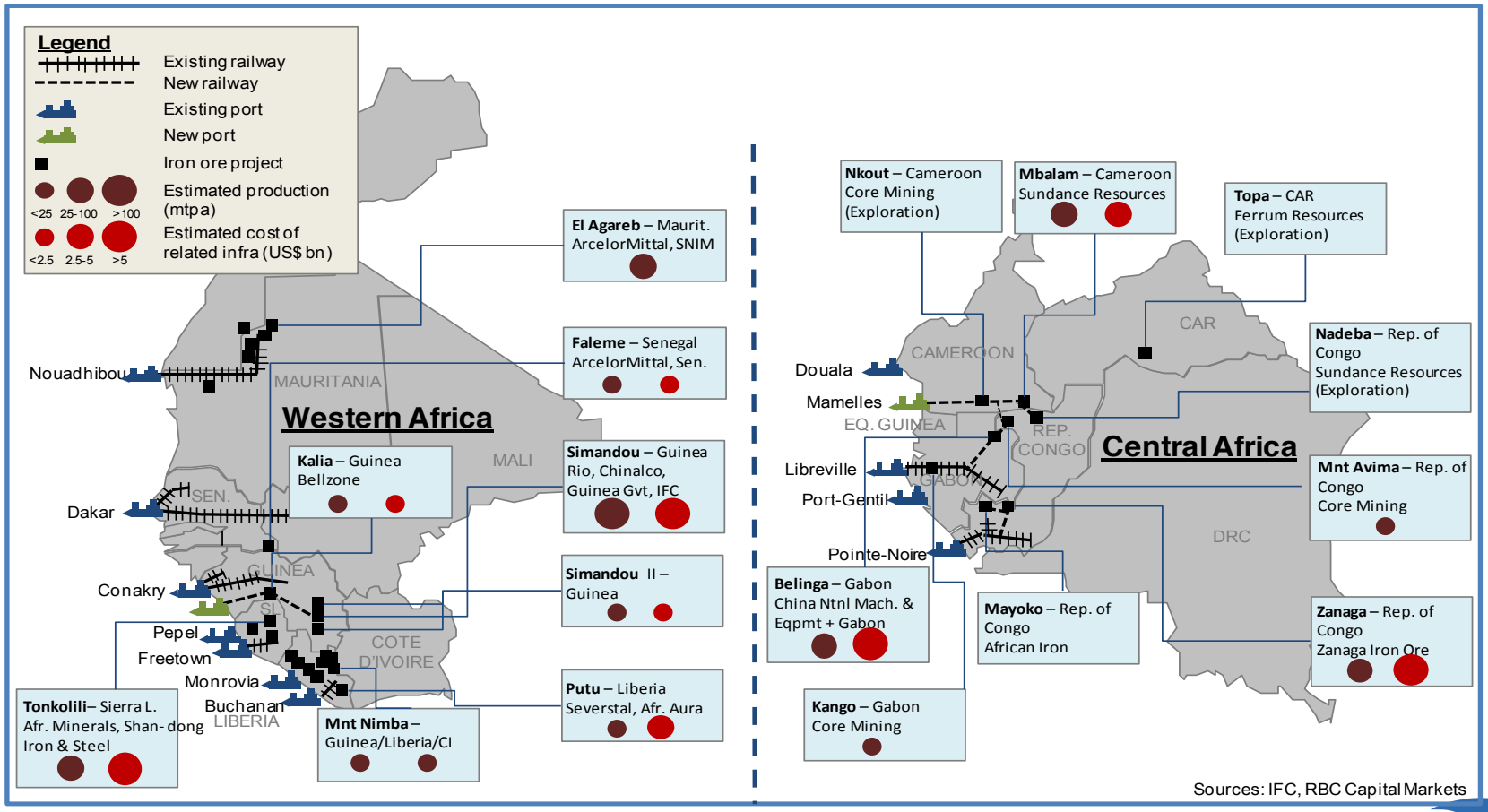
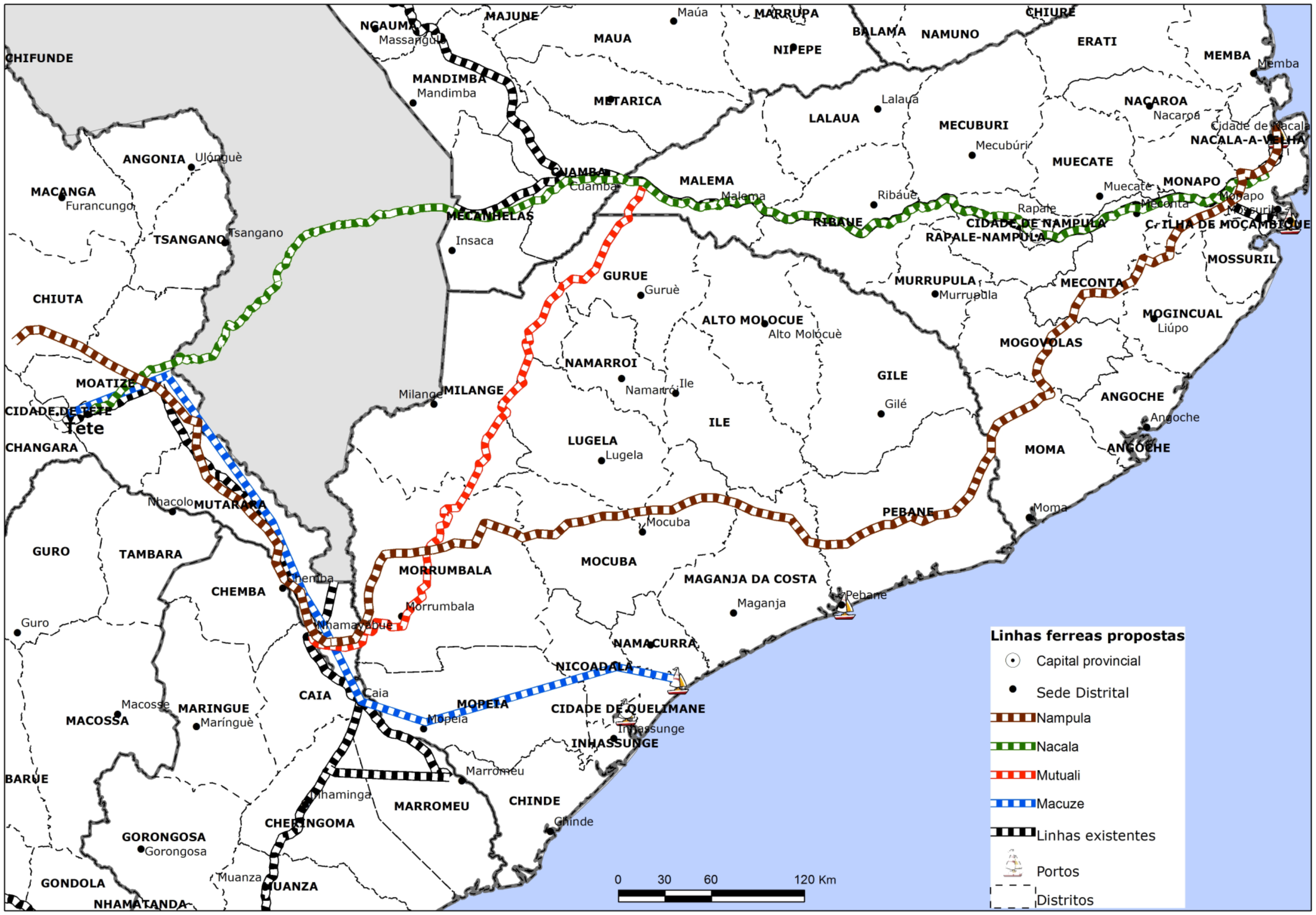
Rail & Port Proposals to Service Iron-Ore Projects in Western and Central Africa



Sources: IFC, RBC Capital Markets

Rail & Port Proposals to Service Coal Projects in Mozambique



Source: MTC

Framework

Step 1: Assessing the current situation - What is at stake?

Step 2: Undertaking a cost-benefit analysis of multi-user & multi-purpose access

Step 3: Identifying operational synergies and verifying the necessary preconditions for shared use

Step 4: Negotiating points

(Step 1) Mining and Infrastructure Project in Perspective

Strategic Importance of Mining Project

- Fiscal revenues
- Linkages to the economy
- First mover?

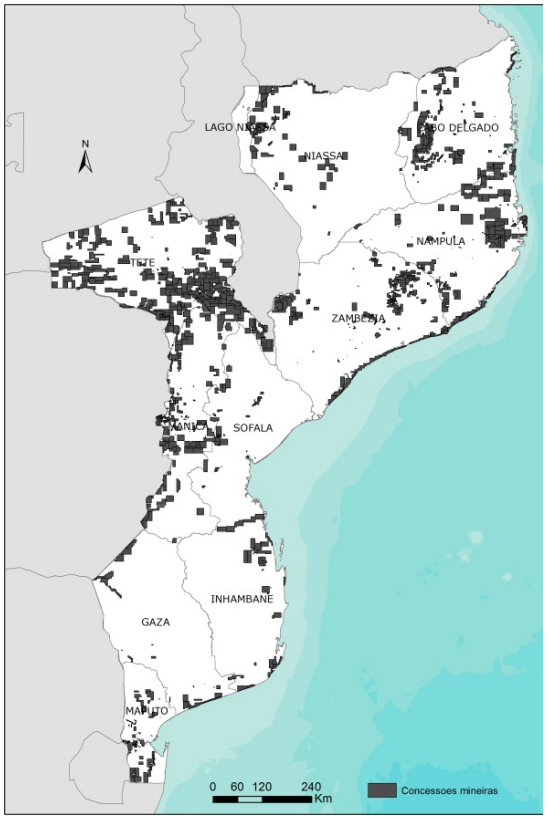
Strategic Importance of Associated Infrastructure

- In line with national/regional infrastructure plans?
- Potential demand for third party access to rail and port

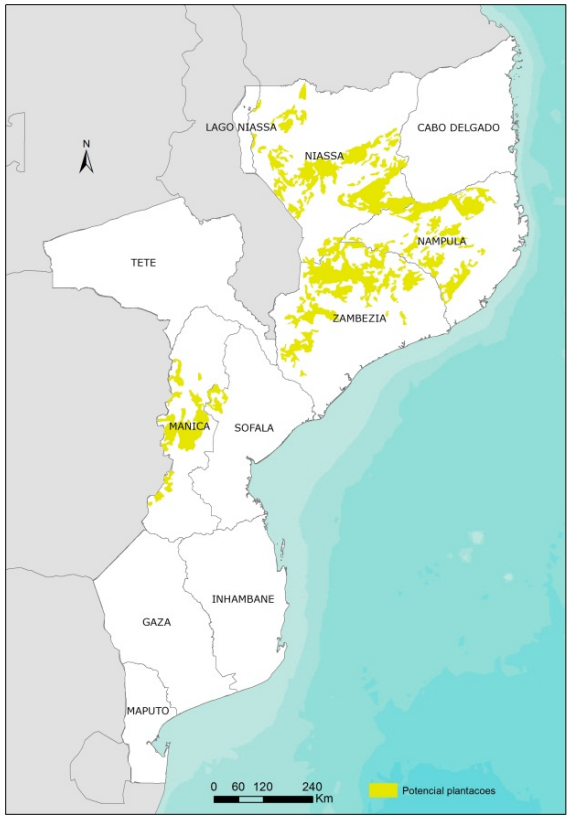
(Step 1) Determining Potential Demand for Third Party Access

- Historical rail and port throughput (if brownfield)
- Road haulage along corridor that is suitable for rail
- Project proposals
- GIS mapping

Mining Concessions



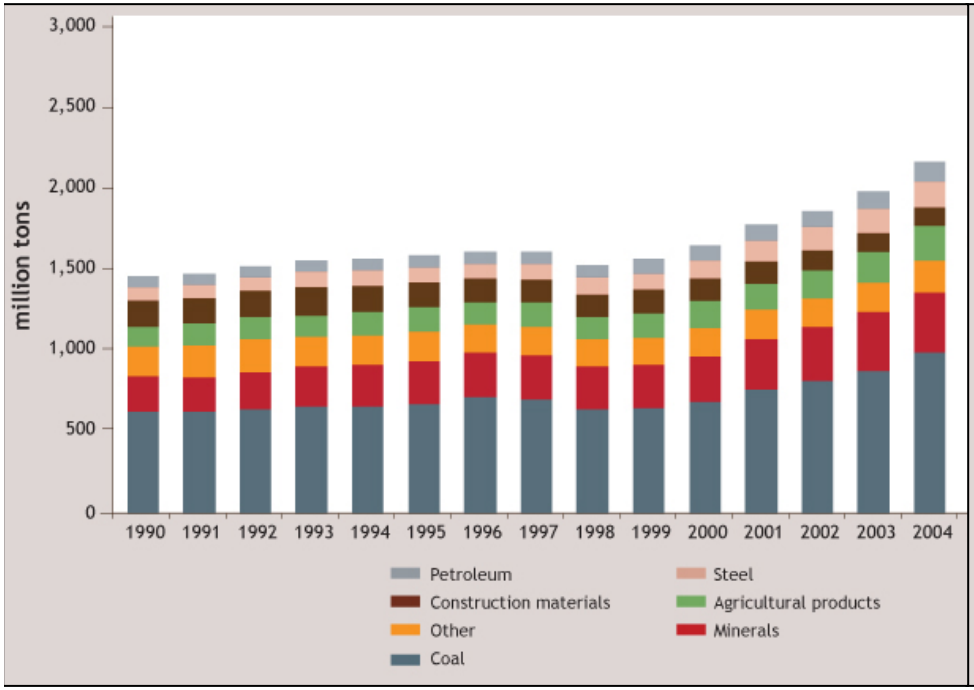
Forestry Potential



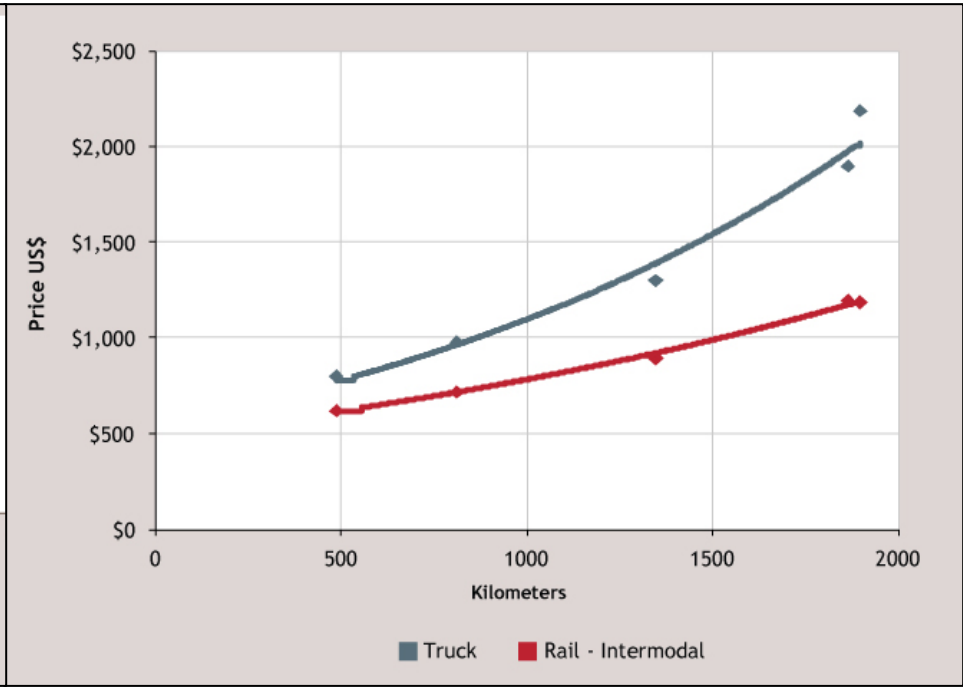
Source: MTC

(Step 1) What should be on rail?

Goods: Tons by Commodity in China

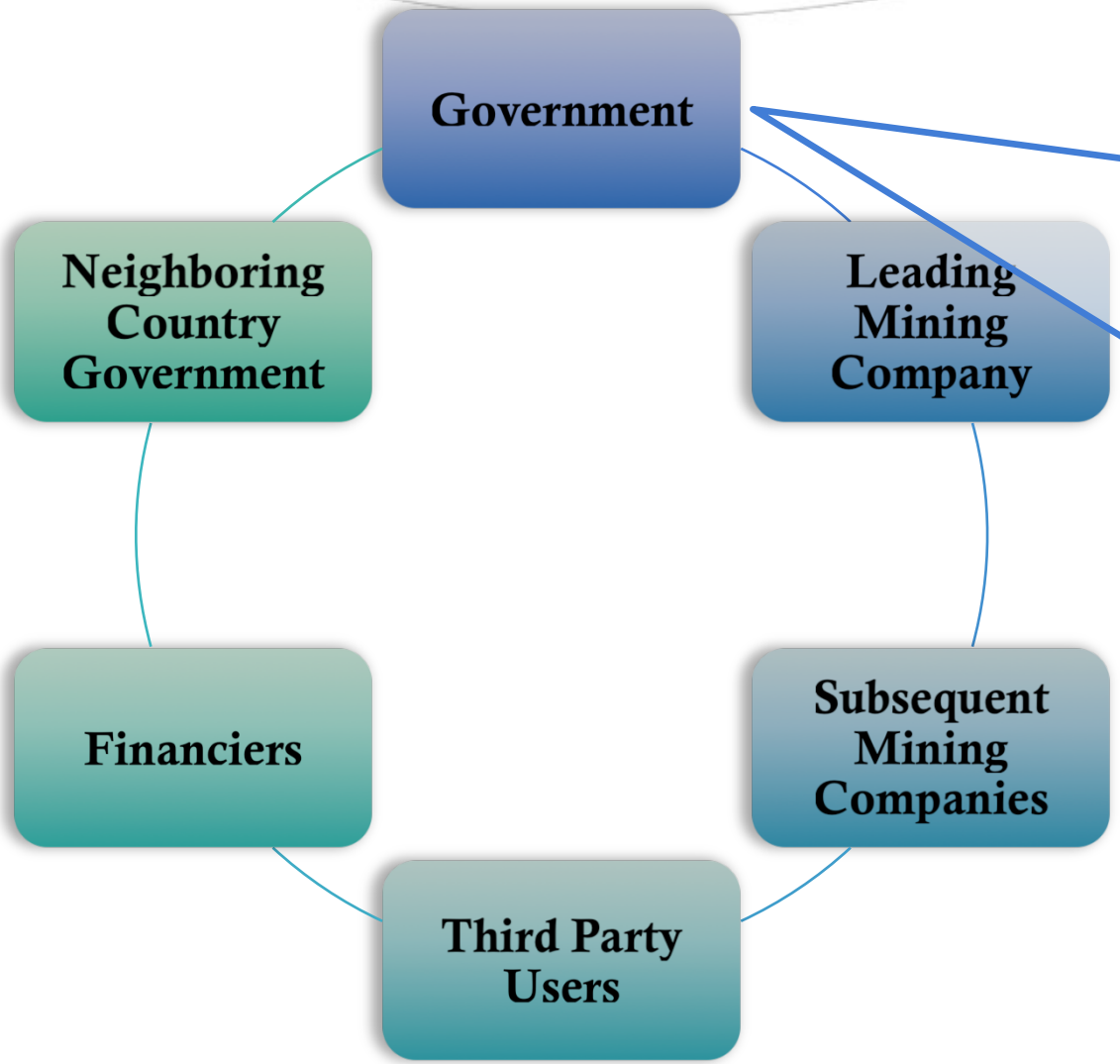


Distance: Truck vs. Rail Prices in the USA



Source: WB 2011 Rail Reform

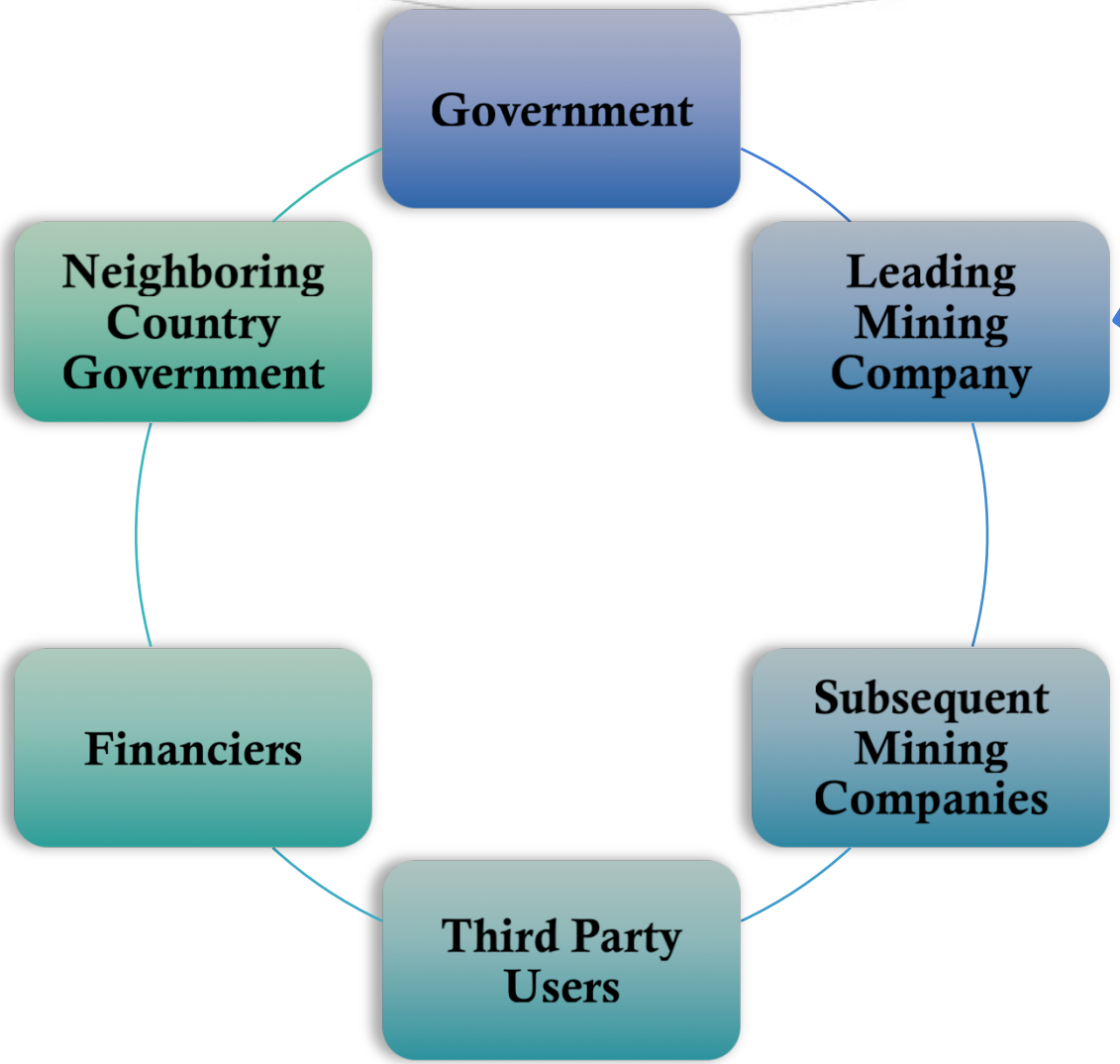
(Step 1) Understanding the players/interests



Maximize benefits of the extraction of resources, but different views on what should be prioritized:

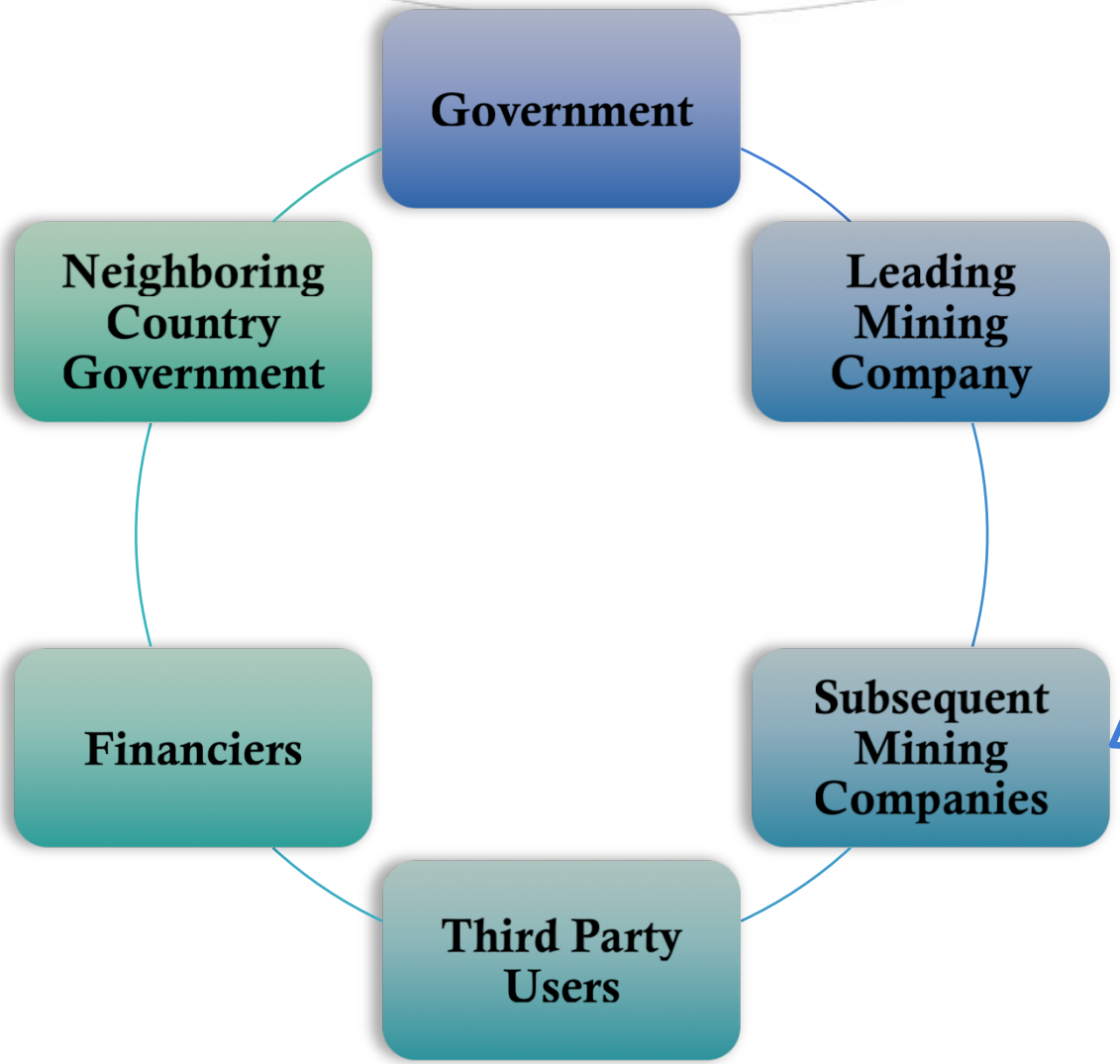
- Ministry of Finance – Tax revenues
- Ministry of Industry – Local processing
- Ministry of Transport – access to infrastructure

(Step 1) Understanding the players/interests



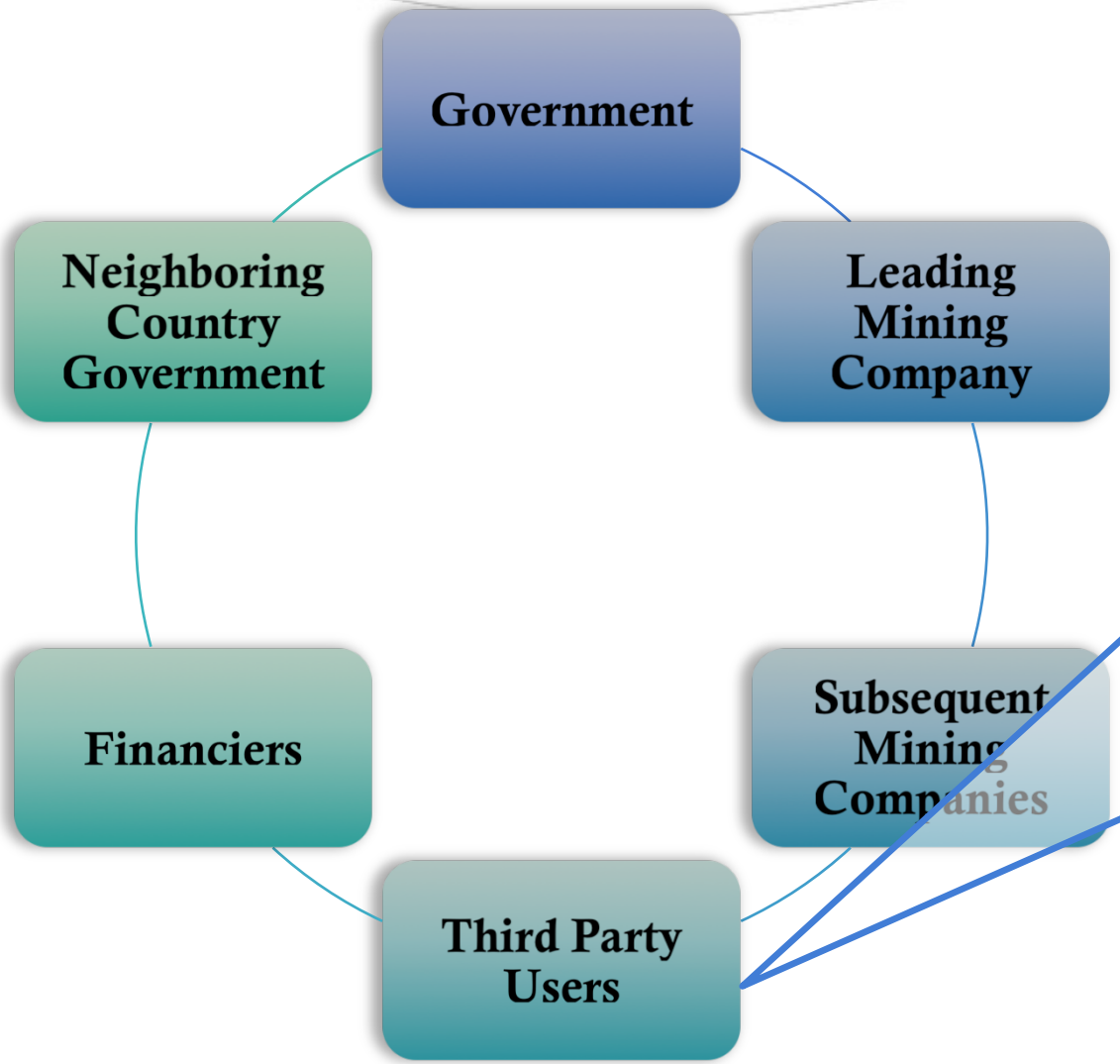
- Maximize returns of its investment
- Control design, and operation of fully integrated logistics corridor
- Scope for shared investment/use if does not interfere with own operations
- Against multi-purpose access

(Step 1) Understanding the players/interests



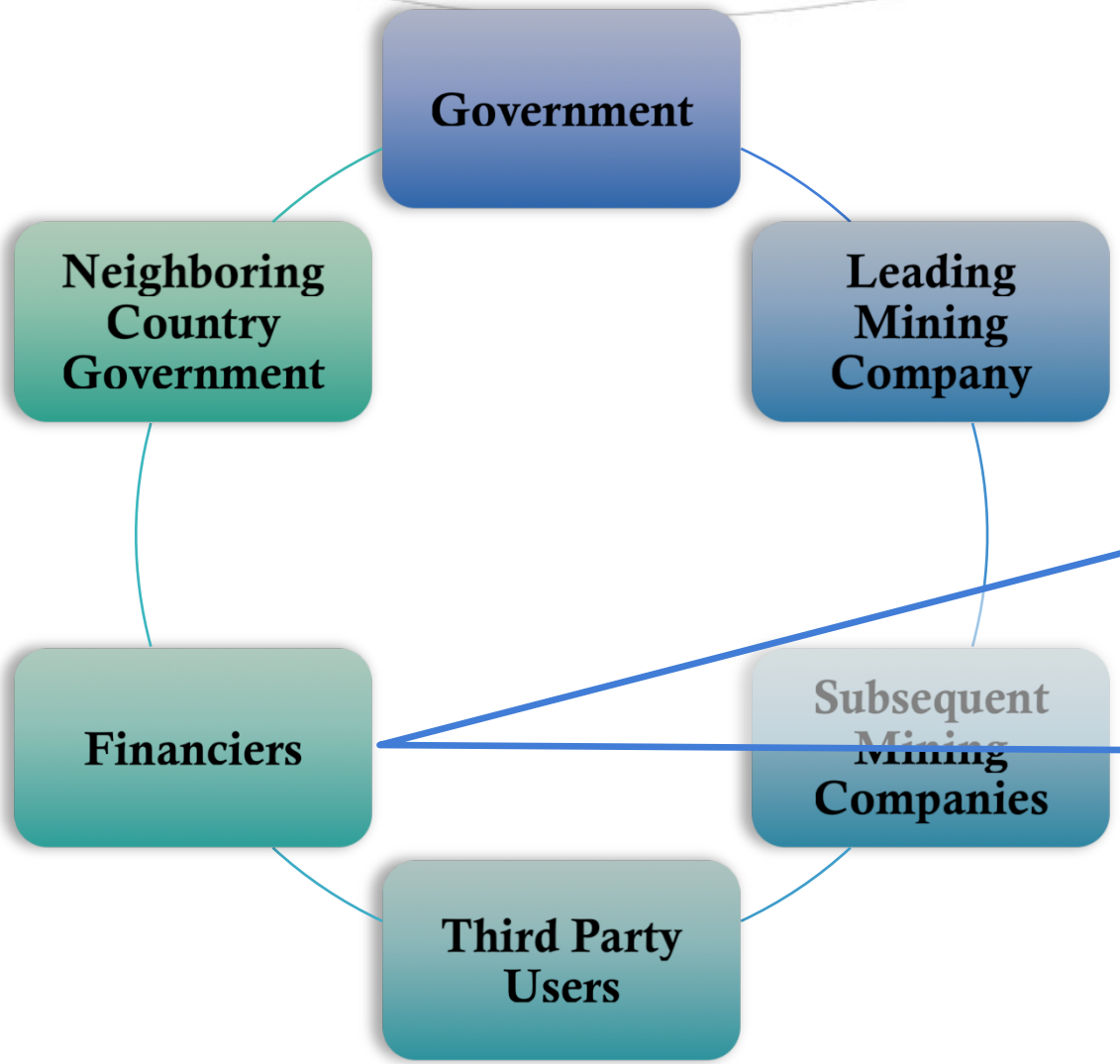
- Multi-user access
- Third party operating the rail and port infrastructure
- Smaller mining companies may prefer a haulage regime
- Large-scale subsequent parties may want their own infrastructure solution

(Step 1) Understanding the players/interests



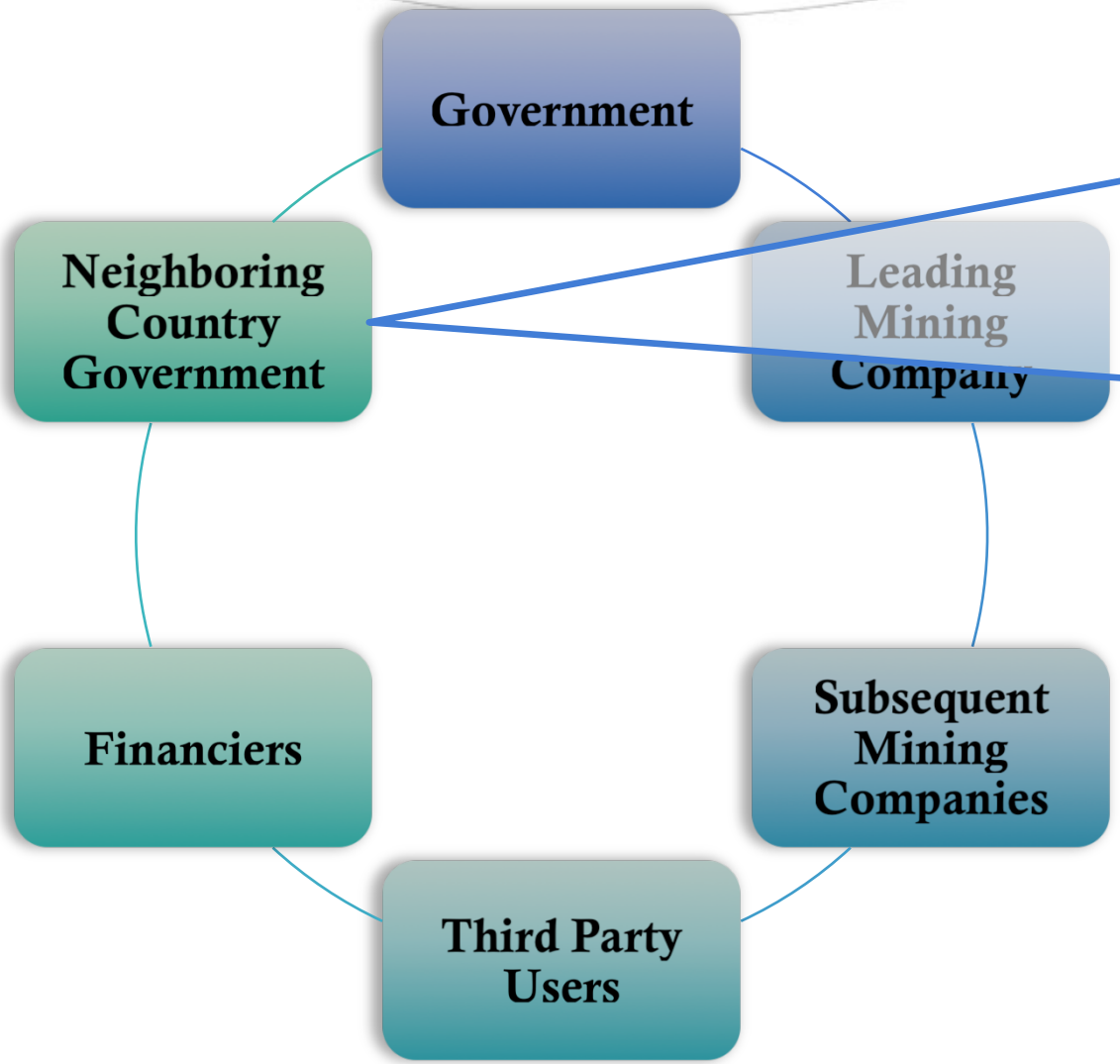
- Multi-purpose access
- Strong government intervention
- Cross-subsidization for passenger services

(Step 1) Understanding the players/interests



- Prefer vertically integrated single user model
- The more players involved, the higher the risk
- Worst scenario with multi-user and multi-purpose access with unallocated capacity at financial close

(Step 1) Understanding the players/interests



- Multi-purpose access to infrastructure
- Transit fees

(Step 1) The Importance of Timing

Pre-Negotiations

- Leading mining company can take open access into account in the decision making process and design phase

Late in Negotiations

- Could harm the relationship between the government and the leading mining company. Might delay the project if open access is requested at a late stage in negotiations

Post-Construction

- Very difficult to impose open access, especially if infrastructure is operating at capacity

(Step 2) Cost Benefit Analysis of Open Access

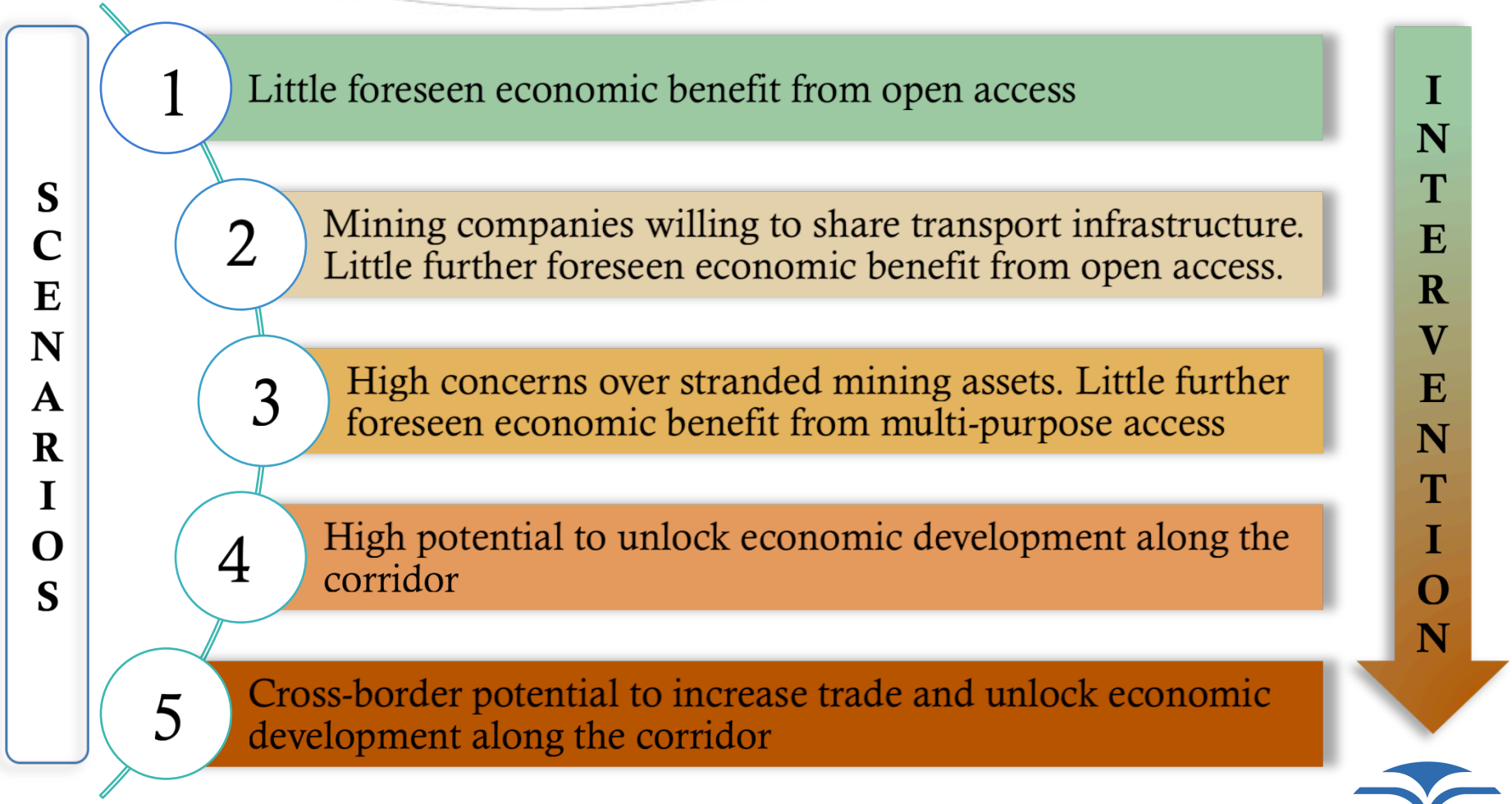
Costs & Risks

- Capital expenditure to warrant multi-user/ multi-purpose access
- Capital expenditure to increase capacity
- Efficiency loss
- Access to finance
- Delay in negotiations
- Costs of regulatory body to supervise shared use

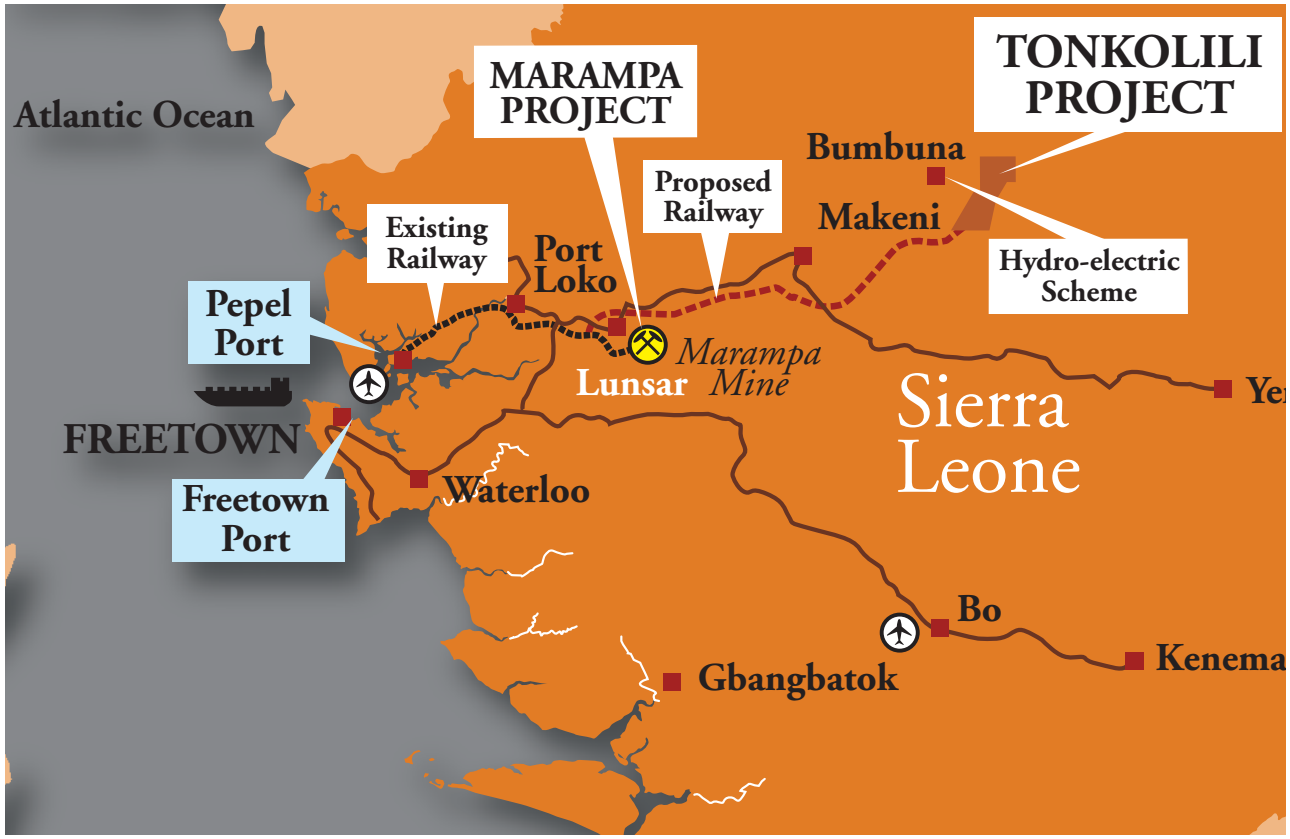
Benefits

- Economies of scale
- Development of otherwise stranded assets
- Non-mining development along the corridor
- Limited back-haulage opportunities
- Regional integration

(Step 3) Level of Government Intervention



Sierra Leone – Multi-user Agreement



Source: AML Annual Report 2007

- In 2012, African Minerals signed agreement with Cape Lambert, allowing access to rail and port infrastructure
- Cape Lambert to fund 33% of the Infrastructure upgrade in return for 2mtpa of capacity on the rail and port infrastructure

(Step 3) Legal Framework

Open Access Regime

Regulatory Body

SCENARIOS

1

2

3

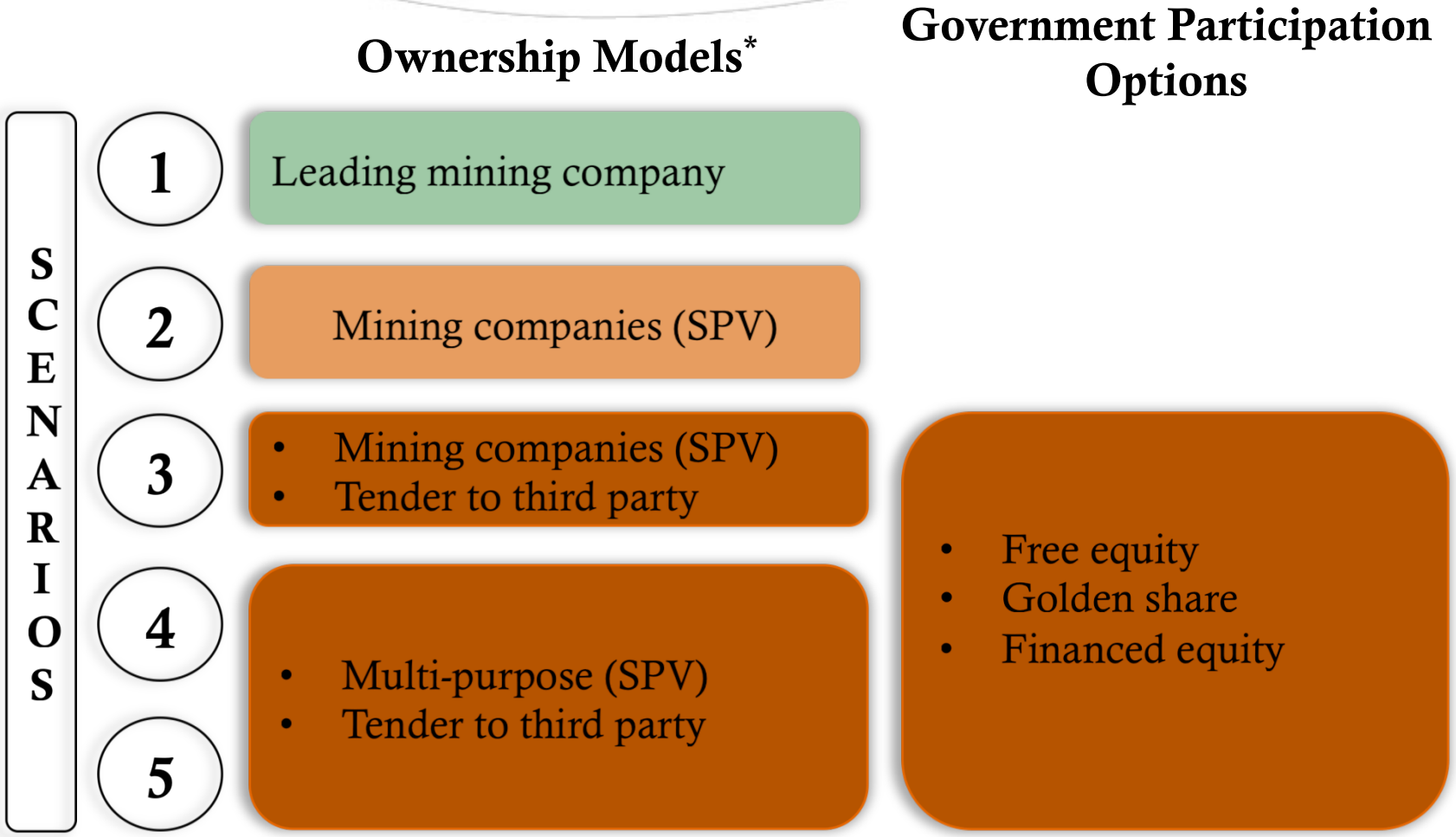
4

5

- Blanket-open access regime vs. industry specific regime
- Regulation to apply to all access seekers and not only to the same industry
- Important to clearly draft regulation to achieve open access
- Mining contract should not contradict legislation

- Monitor non-discrimination of access
- Monitor/regulate access charges and tariffs
- Guarantee infrastructure investments & expansion opportunities
- Analyze and arbitrate access complaints

(Step 3) Infrastructure Ownership



*Government should always retain ownership and control of the right of way

(Step 3) Infrastructure Design

SCENARIOS

1

2

Company/Companies to design infrastructure which maximizes efficiency

3

4

- Excess capacity
- Potential double track on railway
- Expansion considerations

- Multi-purpose
- Additional quays at port
- Service road

5

Regional gauge on railway

Liberia – Infrastructure Design

The Putu Iron Ore Mine in South East Liberia will build its own railway line and port facility.

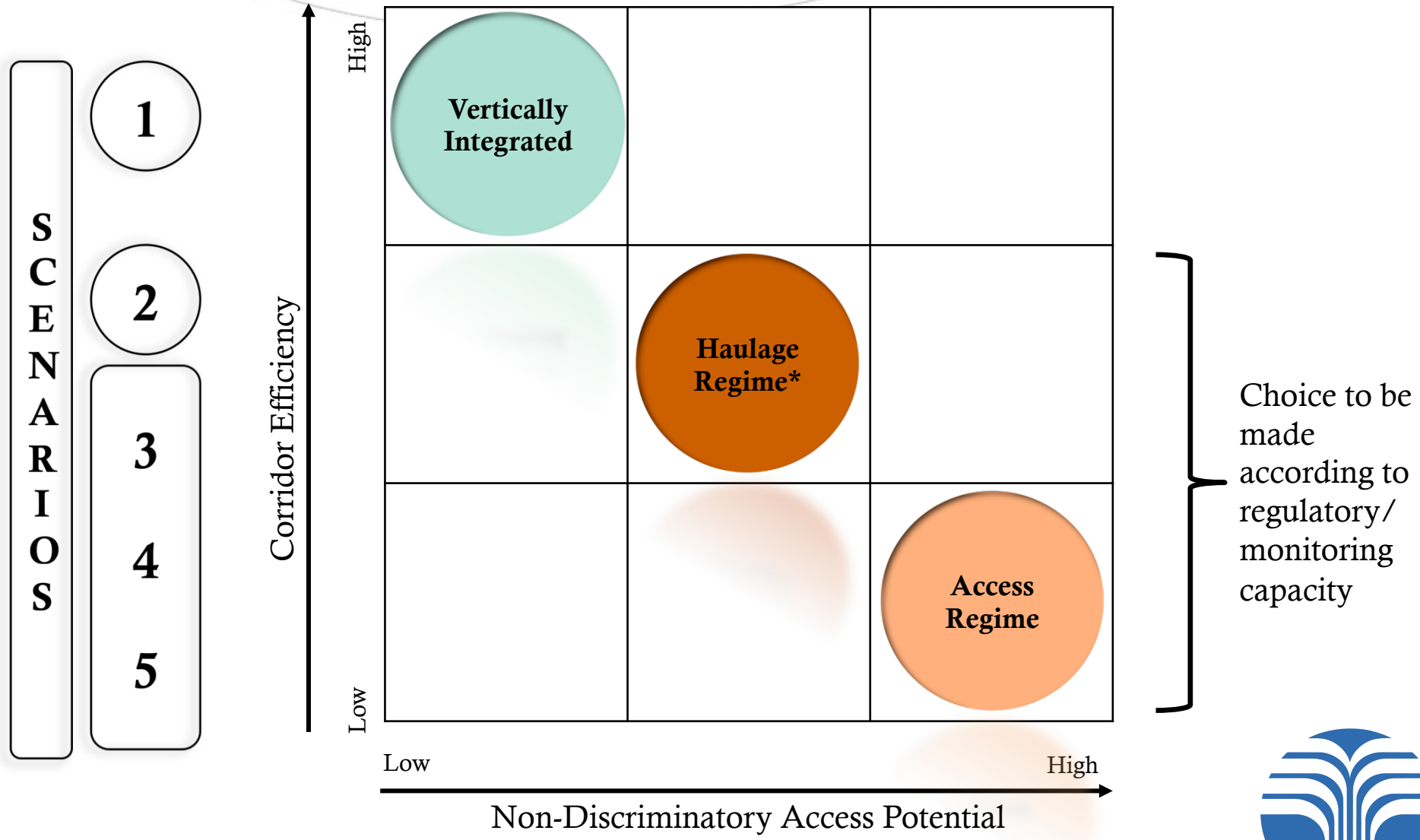
The contract design lays the foundations for future expansion of rail:

> *"The Railroad shall be **designed so that it can be expanded on a commercially feasible basis to carry on a continuing basis twice as much traffic** as is contemplated by the preceding sentence…"*

And port:

> *"**The Port shall be designed and constructed such that it can be expanded on a commercially feasible basis to handle twice as much capacity** as is contemplated by the preceding sentence. Such expansion capacity shall include the possible construction of an additional 50 meters on the **Iron Ore jetty** and the driving of iron ore jetty piles at least 5 meters deeper. The **Port basin** shall be designed to facilitate further large scale development consistent with any expansion of the railroad (e.g., lengthening of primary wharf, room for additional wharf, or adequate protected anchorage)."*
>
> *"The **land side** of the port shall be designed to facilitate future expansion and public or third party access to general petroleum products and general cargo storage and handling facilities."*

(Step 3) Operating Model

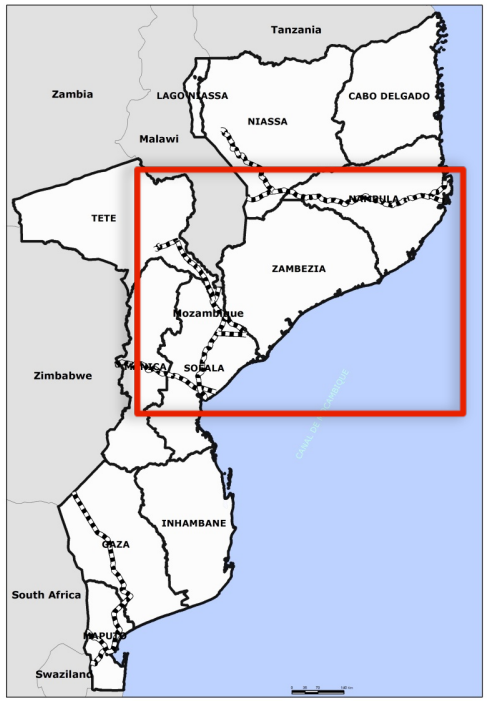


*Yet to be tested in practice

(Step 3) Regulator Attributes

Attributes	Problem	Solution
Minimize Information Asymmetry	• Operators have a better understanding of costs/profits of rail and port infrastructure	• Regulator needs expertise to monitor access charges and tariffs • Seek foreign expertise until capacity is built up
Impartiality	• The market is not going to trust the regulatory body to make a fair judgment if it is influenced by a stakeholder that has an interest in the outcome of the decision	• Regulatory body should be independent from the the Government • Guidelines should be outlined upon which decisions are made
Predictability	• Perceived risk is going to increase if the regulator is inconsistent with its rulings	• Guidelines should be outlined upon which decisions are made

Mozambique – 3 Models & Regulator



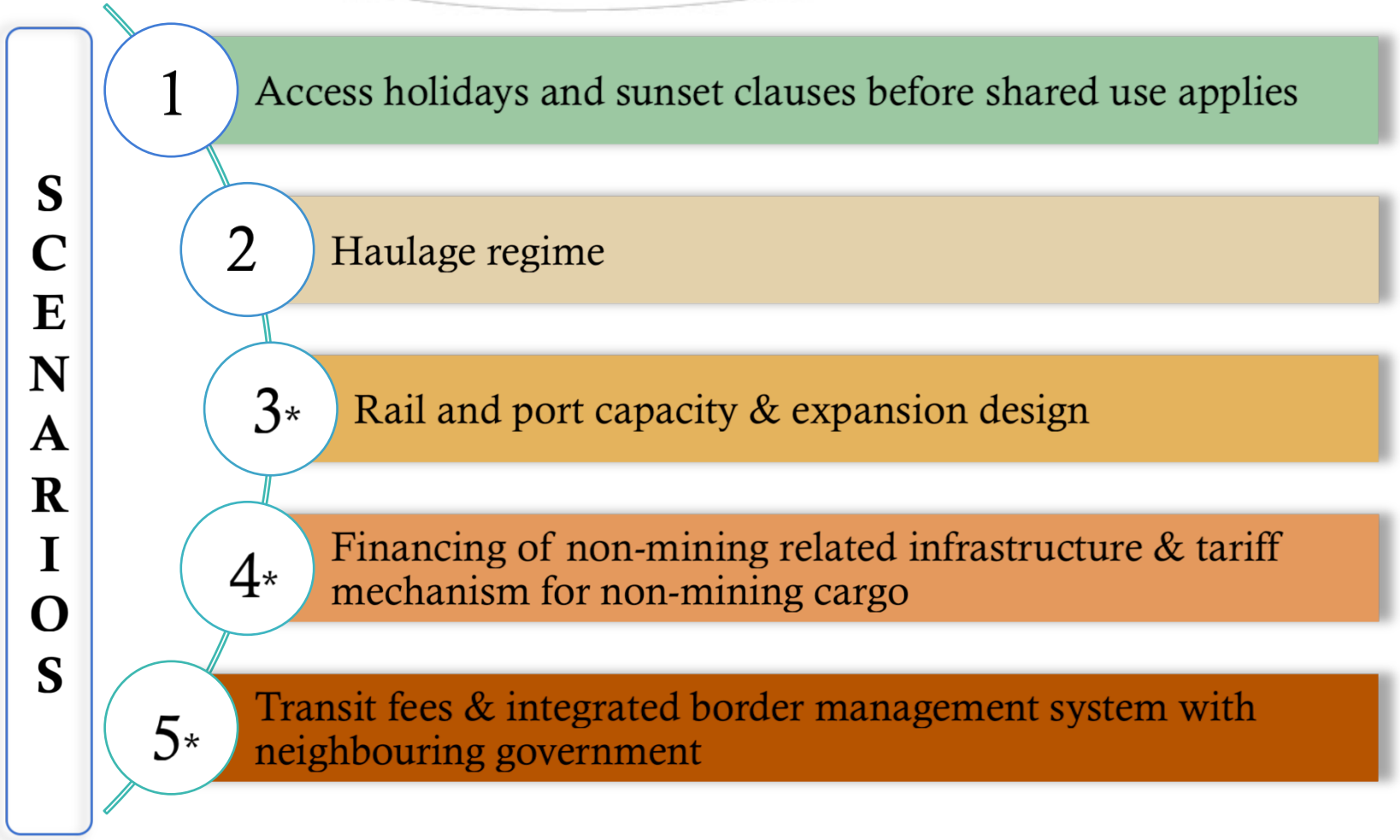
Mozambique – 3 Models & Regulator

	Beira	Nacala	Macuze
State of Implementation	Existing line, capacity to be increased	Under construction	Tendered
Ownership/ Operation	State owned company	Leading Mining Company	Third Party
Open Access	Yes	Imposed (4mtpa general cargo & 2 passenger trains)	Requirement in tender
Constraints	• Difficulty of accessing finance for necessary expansion • Port/rail capacity alignment	• Unclear tariff setting mechanism to guarantee multi-purpose access	• Large interest in tender (21 companies), but reported difficulty to provide bank guarantees

Regulator (INATTER)

- Approved by the Government in August 2011
- Mandate to regulate terrestrial transport (monitor & arbitrate)
- Integrated in the Ministry of Transport
- Staffing and technical capacity constraints

Step (4) Selected Negotiation Points



* Government will need to grant leading mining company founding rights & capacity allocation guarantees

Step (4) Government Negotiation Tactic

Cost-benefit Analysis

- Strategic importance of the infrastructure in question
- Comparison to alternative solutions (options analysis)

Leverage

- Quality and profitability of mining concession
- Costs imposed on mining companies in competing jurisdictions
- Likelihood that another mining company will develop the project if negotiations fail

Finance

- Ultimately, the legal arrangements of a mining related infrastructure agreement will be the reflection of what is financially doable, rather than the other way around.

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