IGF

INTERGOVERNMENTAL FORUM
on Mining, Minerals, Metals and
Sustainable Development

IGF Guidance For Governments:
Leveraging Local Content Decisions
for Sustainable Development

CASE STUDY

GUINEA: HORIZONTAL LINKAGES

CHALLENGES OF A LINKAGES-DRIVEN APPROACH TO MINING INFRASTRUCTURE

OVERVIEW

LEVEL OF OPERATION:
Industry, national

GOVERNMENT ROLE:
Regulator

LINK TO POLICY ADOPTED:
see Simandou project

KEY COMMODITIES:
Bauxite, iron ore, diamonds, gold[1]

TOTAL NATURAL RESOURCE RENTS (AS % OF GDP) (2015):
24.5 per cent[2]

NATIONAL EXTRACTIVES COMPANY:
N/A

UNDP HUMAN DEVELOPMENT INDEX VALUE (2016):
0.414 (Global Rank 183[3])

Guinea is believed to possess one third of global bauxite reserves and some of the world's highest-grade undeveloped iron ore deposits. However, the country still faces many challenges. More than half of its 10.3 million people live on less than USD 1.25 per day, life expectancy hovers around 58 years and child mortality rates are among the highest in the world.

Guinea exemplifies the resource-rich paradox; it is mineral rich, with minerals accounting for a quarter of its GDP and more than 90 per cent of its exports, and yet has a very low Human Development Index value.. While it has long been considered a high-risk investment destination due to a perception of resource nationalism and high regulatory instability, the recent successful transition to democratic rule[4] has offered an opportunity to break the paradox.

[1] Central Intelligence Agency (CIA). (2017). *The world factbook*. Washington, DC: CIA. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/fields/2111.html

[2] World Bank Group. (2017). *Total natural resource rents (% of GDP)*. Washington, DC. Retrieved from https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS

[3] United Nations Development Programme. (2016). *Human Development Reports: Guinea. Geneva, Switzerland*. Retrieved from http://hdr.undp.org/en/countries/profiles/GIN

[4] Alpha Condé was elected President of Guinea in the country's first democratic elections in 2010.

The Simandou project as developed by Rio Tinto and the Guinean government is an attempt to create horizontal linkages-led development by means of shared infrastructure. Whereas a paucity of economic infrastructure is a critical barrier to development, a linkages-driven approach to mining-infrastructure can catalyze economic activity. This case highlights the complexities and risks of such an approach.

THE SIMANDOU PROJECT

The Simandou Mountain Range in Guinea possesses the world's last known substantial tier-one iron ore deposit. While the existence of iron ore in Simandou has been known since antiquity, the exploratory work of Rio Tinto in the mid-1990s revealed the extent of the resource.

Mining of the Simandou deposit has yet to begin, however. After acquiring the exploration rights and discovering the deposit, Rio Tinto invested little in it in the following decade. However, when the price of iron ore soared between 2005 and 2015, Rio and other competitors showed considerable interest in Simandou. In 2008, the government of Guinea unilaterally stripped Rio of its license and reapportioned half of it to Beny Steinmetz Group Resources (BSGR), which then sold part of the deposit to the Brazilian mining company Vale, giving the latter a 51 per cent stake in BSGR's Simandou operations. This has now been reversed over allegations of corruption, and in 2011 Rio Tinto reacquired the rights to the Southern half of Simandou (blocks 3 and 4) against a USD 700 million settlement payment.[5]

Rio went on to complete the study phase in early 2013 and negotiated the investment framework with the government. Specifically, the Simandou concession was held by Simfer S.A. ("MineCo"), a Guinean subsidiary of Rio Tinto, China's Chalco, and the International Finance Corporation (IFC) of the World Bank Group. The Republic of Guinea also has options to progressively acquire up to a 15 per cent stake in mining assets over a 20-year period at no cost (free carry) and up to a 20 per cent contributing stake. A separate entity ("InfraCo") would be established to own the rail, port and associated infrastructure, and would be jointly owned by the Republic of Guinea (51 per cent) and the other Simfer shareholders.

At full production, Rio Tinto's portion of the Simandou resource was projected to export nearly 100 million tonnes of high-grade iron ore per year. Rio Tinto originally planned to begin production at Simandou in 2015, but project start was repeatedly delayed. One reason is because development of the mine is contingent on construction of a 650-km heavy-haul railway, a new deep-water port, and extensive complementary supporting investments. Given its reliance on new-build infrastructure the project is characterized by very high upfront capital costs estimated at over USD 15 billion, an unprecedented level for mining projects in Africa.

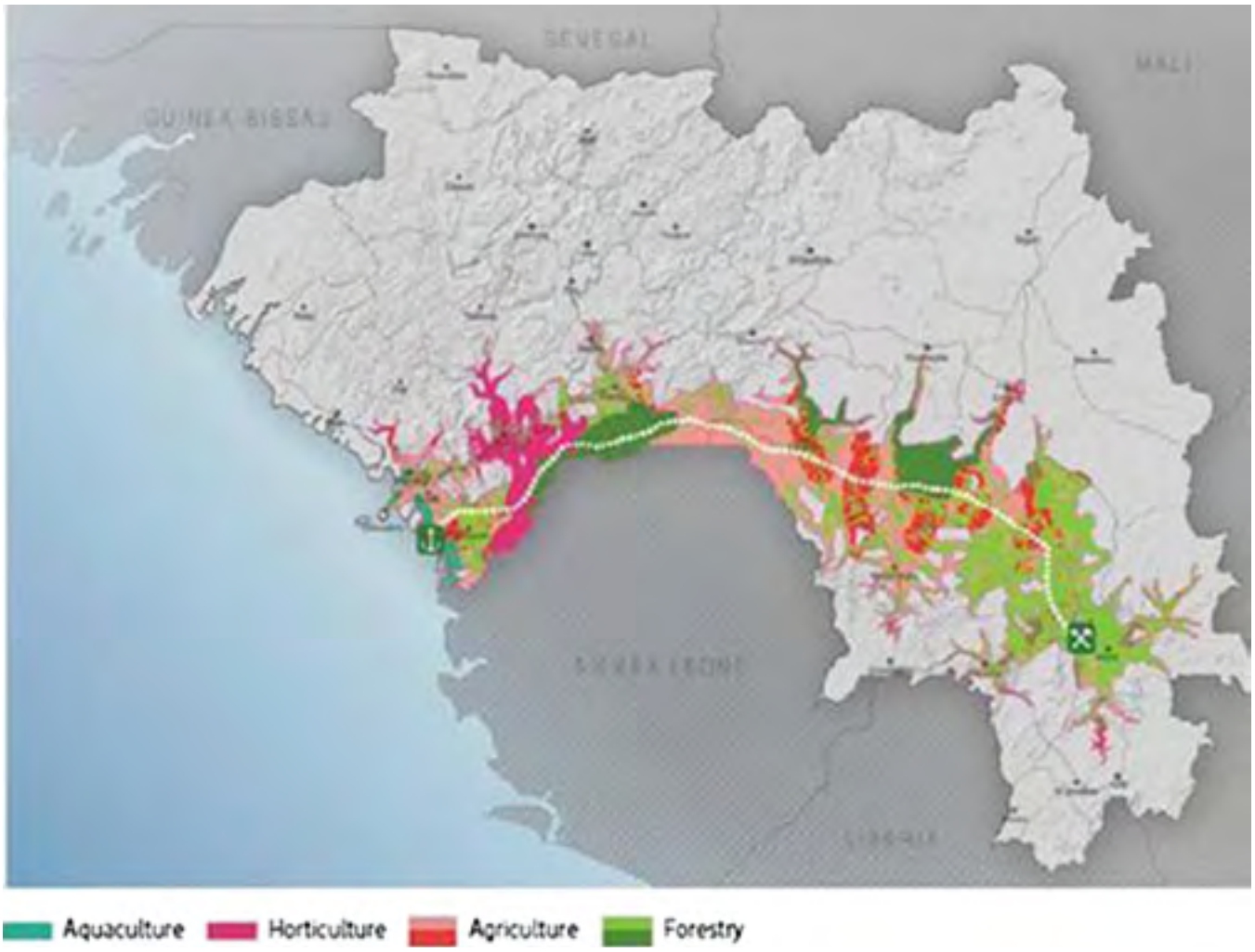
Yet only when measured on a relative scale does the full significance of the project become apparent. The direct value-added contribution of Simandou to the Guinean economy was forecasted by Rio Tinto at USD 5.6 billion per year—equivalent to Guinean GDP.[6] This means that at full production, the mine would double the size of the Guinean economy. With such a scope for greater employment, substantial increase in local expenditure, and a step-change in the tax base, it would fundamentally alter the country's economic trajectory.

[5] While these parts of the Simandou story are the subject of ongoing legal battles and attract considerable attention, they are not the focus of this case study. They are mentioned here to give a complete account and serve to emphasize the interest for Simandou. We are not making arguments on the competing claims of the different companies, nor even the desirability of their rival development plans for the project.

[6] Rio Tinto. (2014). *Simandou Economic Impact Report: Investment Framework update*. Retrieved from http://www.riotinto.com/documents/RT_Simandou_Economic_Impact_Report_EN.pdf. Figures expressed in 2014 USD.

INFRASTRUCTURE-LED HORIZONTAL LINKAGES: THE SOUTHERN GUINEA GROWTH CORRIDOR (SGGC)

The potential impacts of a project of this magnitude could not be ignored by the state, as economic multipliers would even further stretch the significance of the direct benefits. Hence, the Simandou project germinated the Southern Guinea Growth Corridor (SGGC) initiative through a comprehensive planning process, including extensive baseline analyses, the identification of broader economic prospects and an initial evaluation of commercial opportunities and priority investments in infrastructure. Working in collaboration with donors and the private sector, the government embraced the Corridor as a key policy tool for promoting economic growth. A first step quantified the untapped economic potential of the impacted corridor, defined as all areas within a 2-hour travelling time from project infrastructure, encompassing 47,000 km² and a population of 1.8 million (excluding the capital city of Conakry). The goal was to help unlock broad-based economic activity across complementary industries: agriculture, services, and trade—sectors generally more labour-intensive than mining, more prone to be high in local content and often sustainable beyond the life of the mine.



Primary sector development potential within the SGGC.

Source: Rio Tinto (2014), Id. note 6.

The case of Simandou underscores the significant potential for horizontal linkages through transport infrastructure:

- The railway would provide access through a highly fertile but unexploited agricultural region.
- The deep-water port could add much needed shipping capacity and support international trade growth.
- Fibre optic and wireless communications along the corridor could be opened to third parties.
- Over 1,000 km of new and upgraded roads would cut travel time to and from hundreds of towns and villages.
- Investment in power generation, employee housing, training facilities, social infrastructure and financial services in hub towns would underpin development poles, especially at either end of the rail.

While different design options existed for each of these project components, their developmental potential fundamentally depended on Rio management's willingness to balance the conditions for project operability with some prerequisites of multiple-party infrastructure usage pushed by the government.

Simandou project's investment and infrastructure footprint.

Source: Rio Tinto (2014), Id. note 6.

AN ALTERNATIVE TO THE SGGC

Despite holding such transformational promise, the realization of the SGGC is greatly hindered by the significant upfront capital costs. The opportunity cost of the investment is rendered even more acute by the existence of an alternate, more economical logistical route for shipping Simandou's ore, that is, through Guinea's southeastern neighbor Liberia.

The route through Liberia, from Simandou to the port of Buchanan, is 350 km compared to about 700 km through Guinea to Conakry. Furthermore, the rail link through Liberia would require only upgrading and minimal extension, as opposed to building a new railway line. The World Bank estimates that the cost savings of going through Liberia are roughly USD 1 billion over a 20-year period when the full lifecycle costs of running the two alternative railroads are considered (or USD 3.49 per tonne via Conakry vs. USD 1.22 per tonne via Buchanan).

Liberia also reportedly has better geographic conditions for a deep-water port near Buchanan compared to Conakry: for example, Vale says that the deep sea waters, which are critical to the use of its Valemax vessels, are at a 2 km to 3 km distance from the Liberian shore in comparison to a 15 km to 20 km distance in Guinea. In addition, there is another iron ore deposit just south of Simandou in Liberia (near the existing rail line), which Kumba Iron Ore, in partnership with Jonah Capital, is exploring. This creates an opportunity for potential returns to scale, further reducing costs and improving returns to the operators and to the states through tax revenues.

Logistical route to Simandou through Liberia.[7]

Source: Di Boscio, Slade, & Ward (2014).

While the Liberia option does involve regional political and economic cooperation as a critical prerequisite, it is undisputed that it would significantly improve the feasibility of Simandou and that revenue could start flowing earlier. However, the Guinean government has demanded the building of a Simandou-Conakry railway line because of the expected benefits that would accrue for Guinea from the SGGC.

RECENT DEVELOPMENTS

In October 2016, with iron ore prices on a prolonged downward trend,[8] Rio Tinto abandoned the Simandou project and signed a preliminary deal to sell its stake to its Chinese partner Chinalco. In March 2017, Chinalco sent the government a draft agreement that included a proposal to take over blocks 1 and 2 before it starts developing 3 and 4 (blocks 1 and 2 are not currently granted to anyone and remain at the center of litigation between Guinea and BSGR).

[7] Di Boscio, N., Slade, M., & Ward, J. (2014). Digging deeper for development: The case of Simandou and the Southern Guinea Growth Corridor. *Mineral Economics 27*(2–3), 127–134.

[8] Prices went from an annual average of USD 135 per dry metric tonne unit in 2013, to an average of USD 97 in 2014, to USD 55 in 2015 and USD 58 in 2016.

Some reports suggest Chinalco wouldn't start mining until 2025, and industry sources say Guinea has missed the iron ore supercycle as large Australian deposits will amply supply the world for many years to come. With Simandou's location deep in Guinea's interior and the cost to develop it—up to USD 25 billion by some recent estimates—the SGGC project seems further away from reality than ever.

With the transit through Liberia option on the table, Guinea could cut the bill and improve the economics of the project. A media report in May 2017 quoted the Guinean Minister of Mines as saying this "would never be acceptable to the government, which sees the trans-Guinean railway as important for national development."[9] Guinea's mining companies, however, argue that had they been allowed to export Simandou's ore through Liberia, Guinea could by now have built the trans-Guinean railway on its own with the resulting revenues.

KEY LESSONS

- The feasibility of mining infrastructure projects depends on the overall return on the investment. Requiring the development of multipurpose infrastructure lowers this potential return and increases risk.
- To guarantee multipurpose access to infrastructure, the government will need a high level of intervention. This may require it to retain ownership or control of the infrastructure, as well as adequate levels of regulatory capacity.
- Coordinating and implementing large-scale multistakeholder infrastructure projects is complex and subject to many internal and external constraints. The benefits of additional conditions on the route, type, and capabilities of the infrastructure should be weighed against the additional costs, including the cost of delays. Overcoming the coordination constraints involves expending significant resources in the planning stages and requires time, commitment, and political will.

[9] Cocks, T. (2017). Exclusive: Chinalco proposes taking entire Guinea Simandou iron ore mine. Reuters. Retrieved from https://www.reuters.com/article/us-guinea-mining-chinalco-exclusive-idUSKCN18B1QL

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