



# **SIMANDOU PROJECT: RISKS AND IMPACTS ON WATER RESOURCES**



Large-scale mining projects consume enormous amounts of water, disrupting the quality of water essential to the survival of frontline communities and biodiversity. This alert summarizes the risks and impacts of the Simandou mining project on water resources, and makes recommendations to the government and mining companies for inclusive and concerted management.

### THE SIMANDOU PROJECT AT A GLANCE

Nestled in the forested mountains of Guinea in West Africa lies what is reportedly the world's biggest untapped high-grade iron ore deposit. One of the continent's most ambitious combined mining and infrastructure projects, the Simandou project covers a total area of 1,500 square kilometers where ore will be extracted, processed and then transported 650 kilometers along a rail line cutting through the country's endangered species habitats, agricultural lands and protected areas before finally arriving at a new deepwater port in local fishery areas for export.

Coveted by international mining companies for decades, today's project proponents include two consortiums: Australian mining giant Rio Tinto with Chinese aluminum producer Chinalco (Simfer) and China's largest aluminum producer, Hongqiao with a Singapore-based entity Winning (Winning Consortium Simandou or WCS). News reports indicate China's largest steel maker, Baowu, is in talks with both consortia. Construction has started on the rail line and port – estimated to cost USD 13 billion to build – held by the two consortiums and the Guinean government, and on the WCS blocks. Rio Tinto is in the process of updating its studies in order to start construction.

## 2- THE PROJECT'S IMPACT ON WATER RESOURCES

It is well known that mining companies consume large quantities of water and energy, and that they affect the quality of drinking water for communities living near the project, as well as water essential to the well-being and survival of animal and plant species. In the case of Mount Simandou, springs and underground reservoirs will be damaged, and water will be used throughout the project's operating cycle. Consequently, integrated and concerted management of water resources is essential for the survival of communities.

According to hydrographers, Guinea has one of the largest reservoirs of groundwater and surface water in Africa. However, the drinking water coverage rate is 2%, which means that 98% of Guineans are not connected to the drinking water supply network, and are therefore not only exposed to all the health risks associated with this absence, but are also forced to spend large sums of money on the daily purchase of mineral water.

And according to the analyses and recommendations of hydrogeologist Dr. Gilles Wendling, there is every reason to believe that the development of this major project could worsen the situation of access to water resources if measures to remedy the situation are not taken.

Guinea is a country rich in water resources, with three major rivers (the Gambia, the Senegal and the Niger) having their source there. However, access to drinking water is limited. As a result, three out of ten people are said to be deprived of it.

Moreover, climate change is set to accentuate this precarious situation. Rising temperatures will disrupt rainfall patterns, with a projected deficit of up to 36% below current norms by 2050, and 40% by 2100. This will have a major impact on water resources for the population and all the country's socio-economic sectors.

### 3. CURRENT IMPACTS OF THE PROJECT ON WATER RESOURCES.

It is well known that mining companies consume large quantities of water and energy, and contaminate the quality of drinking water in the communities surrounding the projects. Water will be used throughout the project's operating cycle, and negative impacts on water sources have already been revealed, with the pollution of watercourses by pipeline water at the Sekoussoriyah tunnel (Kindia region), pollution of the Balin stream at Oure Kaba (Mamou region), pollution of springs (Warada and Namba) by drilling work at Damaro (Kérouané region), and drainage of mud and sand into the Karako-Konsankoro stream bed (Kérouané region).

Excessive dumping of muddy sediments from road, port and railroad construction work has reduced access to rivers, choked vegetation, destroyed fauna, flora and aquatic life, and made it difficult for communities bordering the project to farm.

### 4. HIGH RISKS OF THE PROJECT ON WATER RESOURCES.

The risks of the Simandou project on water resources must not be ignored by the mining companies and the Guinean government. They are of several kinds, including the following:

#### A- HEALTH PROBLEMS

Mining on Mount Simandou will release heavy metals that will affect the health of communities living near the project and endanger aquatic ecosystems. There is a high probability that these substances will be discharged into groundwater and watercourses, and that people will be exposed to them. Health risks are classified as chemical, biological, biomechanical, physical and psychosocial.

#### B- THE SHORTAGE OF ACCESS TO DRINKING WATER

Water scarcity has been identified as the number one global risk to society over the next ten years by the World Economic Forum (WEF). From a human rights perspective, access to a clean, safe and potable water supply, hygiene and sanitation is a fundamental right. According to hydrographers, Guinea has one of the largest reservoirs of groundwater and surface water in Africa. However, the rate of access to drinking water is 2%, compared with a Sahelian country like Senegal, where the rate is 98% in urban areas and 82% in rural areas. Clearly,

This means that 98% of Guineans are not connected to the drinking water supply network, and are not only exposed to all the health risks associated with this absence, but are also forced to spend large sums of money on the daily purchase of mineral water.

#### C- THE POLLUTION OF REGIONAL WATERWAYS

The process of extracting, crushing and transporting iron ore will result in the release of sediments, the mobilization of heavy metals, the storage, transport and use of chemicals and hydrocarbons, and the storage of huge quantities of low-grade ore and mining waste. The influx of all these products poses a serious risk of contaminating waterways and groundwater, making them unfit for consumption by local populations and wildlife.

According to the project's Environmental and Social Impact Assessment (ESIA), there is a high probability that toxic effluents will be produced near the region's major rivers, notably the Dion, Milo and Diani.

The first two are tributaries of the Niger River, one of the sub-region's rivers, which crosses the territories of six countries before emptying into the Atlantic Ocean in the Niger Delta region of Nigeria. As ELAW's hydrogeologist Dr. Gilles Wendling noted in his critique of the project's ESIA, "any deterioration in water quantity or quality along the Simandou chain will have an impact on this immense watershed in West Africa."



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## D- THE LIMITS OF THE ESIA

A preliminary critical analysis of the WCS ESIA carried out on the water impacts of the Simandou project revealed the absence of a national benchmark for water resource management in the context of mining project development. The data is unreliable, as the reference data regarding pluviometry comes, in part, from a station located more than 150 km from the mining zone, and only covers the period from 1968 to 1976.

Furthermore, the stations and wells established for the definition of baseline data and environmental monitoring are highly insufficient to adequately characterize surface and groundwater, and the data presented do not include the samples collected at most of the so-called stations. The ESIA's therefore need to be reworked to properly define existing conditions and assess the risks of future deterioration.

There are strong suspicions that Winning is not living up to its commitments to protect the environment and local populations especially in Guinea (NJ audit report 2023; HRW report 2018; UN report 2023) and that Rio Tinto either is not living up to its commitments in Guinea (CAO CBG complaint; other examples - London Mining Network) nor in many countries around the world

## CONCLUSIONS AND RECOMMENDATIONS

If appropriate measures are not taken by the mining companies and the Guinean government, the Simandou project will pose a high risk to water resources. In the long term, it is likely to worsen access to water for communities, and have a very negative impact on watercourses in the sub-region.

The following recommendations are addressed to Winning Consortium WCS, Simfer. S.A. and the Guinean government:

- Revise their existing Land Acquisition, Compensation and Resettlement Framework (LACRF) to address concerns identified in HRW's March 2023 memorandum, as well as lessons learned from gap analysis and community consultations.
- Adopt the national reference framework for compensation, indemnification and resettlement of populations affected by development projects.
- Commit clearly to the on-the-ground implementation of economic displacement compensation.
- Provide more detailed plans for restoring and monitoring livelihoods, including a description of the livelihood support measures that will be proposed and how they will be funded and monitored.
- Introduce mechanisms to ensure that affected households receive legal advice and support before agreeing to "negotiated settlement transactions".
- Considering the risks listed above, not only for riverside communities, but also for whole swathes of the country's socio-economic activity and for the entire region, demanding integrated and concerted management of water resources is more than necessary.
- Immediately publish the full ESIA and the related environmental and social impact management plan.



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- Demand additional studies to fill any data gaps. In particular, install suitable stations to collect data on surface and groundwater, and collect data over a sufficiently long period covering a representative territory of the sub-basins that could be affected.
- Relocate facilities likely to produce toxic effluents to ensure that any discharges do not affect watercourses, especially the Milo and Dion rivers.
- Develop and publish detailed plans for the management of hazardous substances, including toxic products, with the full participation of communities.
- Establish appropriate environmental management standards for surface and groundwater, in accordance with Guinean law.
- Correct the pollution of the headwaters of watercourses in all communities bordering infrastructure constructions where the survey has already produced contamination, especially in Sekoussoriyah, Oure Kaba, Damaro, and Karako-Konsankoro.

#### **TO THE GOVERNMENT OF GUINEA:**

- Require mining entities to ensure that plans for the quality and quantity of mining liquid effluents discharged into the environment are non-toxic to communities, fields, livestock and wildlife;.
- Ensure that companies respect their contractual commitments and Guinean law regarding water management and access



**Disclaimer: This data sheet has been compiled on the basis of information available at the date of publication and will be updated as and when required.**