

## Mechanism for improving relations between mining companies and local communities in order to achieve sustainable development in mining areas in Siguiri, Upper Guinea

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### Abstract

In this study, we analyzed the dynamics of relations around the SAG mining concession in the Siguiri prefecture. The analysis of land use dynamics from 1992 to 2022 showed that during this period there were changes in land management and new dynamics in the relationships between local communities, state institutions and the industrial gold mining company AngloGold Ashanti of Guinea (SAG). The results of the relational capacity (RC) calculation showed some positive effects of the company's presence in the Siguiri prefecture. These results show a reduction in the poverty level of Siguiri. Siguiri is one of the prefectures in Upper Guinea with the lowest level of poverty. However, local communities that initially had high expectations of AngloGold Ashanti of Guinea (SAG) are not entirely satisfied with the company, even though there have been some improvements in terms of access to electricity, road infrastructure, and basic social services, as they have not yet received what they expected. Feelings of discontent have often led these populations to demonstrate against the company or to attempt to reoccupy former sites in the mining concession. Thus, the thesis has developed a conceptual model for a mechanism to improve relations between the gold mining company and the local communities of Siguiri. This mechanism is based on the process of obtaining a social license for acceptance and approval of the operation by the communities. The analysis showed that obtaining the social license to operate necessarily requires the development of good relations with local communities. Good relations are maintained and guaranteed by the fundamental criteria of trust, transparency, communication and the impact of basic infrastructure. This relationship dynamic has as its main expression the relationship of trust. The achievement of the trust relationship reduces the risk of social conflicts and improves the reputation of the company. The conceptual model used was not run on specialized software and the mining company did not collaborate with the research team despite the administrative arrangements made for this purpose, which are the limitations of this study. Future studies will involve running the conceptual model in specialized software and applying it to another mining company in another region.

**Keywords:** Mining; Mining Company; Local Community; Community Development; Relationship Dynamics; Social License to Operate

### 1. Introduction

In the Republic of Guinea, the Kankan region, located in Upper Guinea, concentrates most of the country's gold and diamond production and is particularly at risk of rising tensions related to mining activities. Large companies such as the Gold Mining Company of Guinea (SAG) in Siguiri and the Mining Company of Dinguiraye (SMD) are already operating there, while many others are in the exploration phase, preparing for future exploitation.

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Discontent often grows as local populations denounce corruption that hinders local development and the improvement of basic social services, the lack of formal employment in mining companies, the weakening of local production systems, and the establishment of industrial complexes on community lands. These mining conflicts are particularly acute in Upper Guinea due to the scarcity of arable land, the migratory influx of young people seeking opportunities linked to the mining sector, and the frustration of communities faced with inequalities and lack of opportunities (Maud and Alfred, 2016).

Although Guinea has not yet reached the chaotic stage of the so-called “resource curse,” the increasing frequency of conflicts and protests in mining areas raises several questions: Why do these conflicts occur? Why do they keep repeating? What is the role of the State? How can these conflicts be sustainably resolved?

Mining activities in Guinea date back several decades. Artisanal gold mining, for example, goes back to the era of the Mali Empire. Industrial mining, however, is much more recent and began during the colonial and post-colonial periods (diamond in 1936, bauxite in 1952, iron in 1953), with the opening of the first bauxite refinery in 1960 to produce alumina (Soumah, 2011).

It should be noted that despite several attempts to develop the sector, these projects have not yielded the expected benefits for the local or national economy. Most mining exploitation in Guinea is export-oriented, accounting for up to 90% of total revenues. Guinea is therefore highly dependent on the export of a few raw materials whose prices fluctuate greatly on the global market, leading to unstable public resource management over which the country has little control. The mining sector is considered the second largest employer after the civil service in Guinea—but this is a biased view, as it only considers formal employment, which remains marginal. In reality, the main sources of employment are agriculture and the informal economy, including artisanal mining, which employs between 150,000 and 300,000 people (Thomas, 2017).

Since the early 1990s, communities living near mining projects around the world have increasingly opposed mining operations. This phenomenon is observed both in developed and developing countries. In the post-Cold War international context, producing states can no longer easily suppress these protests by force (Y. Gnamien, 2014).

Thus, when reflecting on the quality of relations between mining companies and host communities, one might ask: Are miners bad neighbors?

In 2012, relations between the Brazilian giant Vale and the communities of Zogota in the Prefecture of N’Zerekore deteriorated over employment issues, leading to a community revolt that was violently repressed by the police and gendarmerie, leaving eight people dead. Material damages amounted to several million dollars, destroying almost all infrastructure and logistics on site, ultimately leading to a complete shutdown of the company’s activities.

Like Vale, many mining companies operating in Guinea face tensions—though to varying degrees—with the communities they affect. From Boké to Siguiri, through Fria, Kouroussa, and Mandiana, grievances are numerous and conflicts recurrent. This climate undermines peace and coexistence, slowing down sectoral development.

According to a study by Pakoun (2015), more than 90 conflicts were recorded in 17 localities covered by conflict diagnostics in industrial mining areas of Guinea. These conflicts are more frequent in active mining projects, with 70% occurring during the production phase versus 30% during exploration. On average, there are 14 conflicts per company in production, compared to 10 during exploration.

Mining conflicts are particularly frequent in the Prefecture of Siguiri, Upper Guinea, due to the scarcity of cultivable land, the influx of young migrants attracted by opportunities—both formal and informal—in the mining sector, and the population’s frustration with inequalities and lack of opportunities (Maud and Alfred, 2016).

From our perspective, the challenge in the mining sector is to develop practices and tools better adapted to the expectations placed on companies and communities. Such tools should enable all stakeholders to better assess and understand the issues and impacts of mining activities, thereby agreeing on the terms of a win-win social contract.

Luke (2017) explored the drivers behind the withdrawal of the social license to operate and the dynamics leading to successful local resistance movements, proposing a “diamond model” of the social license to operate. The advantage of this diamond model is that it serves as a decision-making tool for policymakers and extractive industry leaders to better understand the evolution of community responses to industrial developments.

In his thesis, Dialga (2017) developed a Mining Countries Sustainability Index (MCSI) applied to Burkina Faso and Niger, using a top-down/bottom-up approach. The application of this tool, based on data from both mining countries, revealed a discrepancy between rents received and development indicators, as the profitability index of exploited resources was very low (0.9% in Burkina Faso and 3% in Niger in 2015).

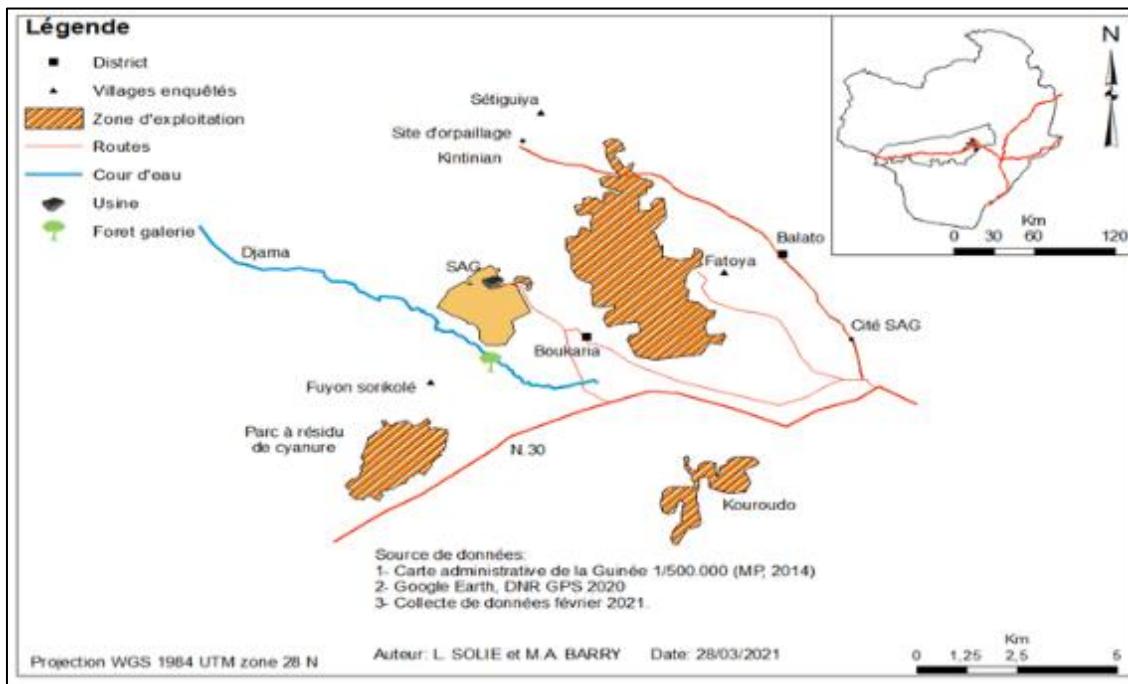
Bergeron et al. (2015) treated social acceptability of mining projects as a major issue for mining companies. They proposed an index to determine the risk of conflict between mining projects and local communities. In the case of Quebec, their model is based on an analytical description of conflict determinants. Different variables are weighted to indicate the social risk index, which can be used by investors, extractive companies, local communities, and the State. This tool helps identify factors that generate social risk and fosters dialogue among stakeholders. However, its limitation lies in the difficulty of quantitatively assessing social risk at an early project stage. To address this challenge, one must first acknowledge that relations between mining companies and communities do not naturally reach equilibrium, and that risk must be evaluated collectively by all stakeholders.

This research focuses on the relationships between mining companies and local communities in the Prefecture of Siguiri. It aims to show the complexity of these relationships through interactions among the Gold Mining Company of AngloGold Ashanti de Guinée (SAG), local populations, gold resources, and the State. The study seeks to identify conditions that foster dialogue and collaboration among stakeholders, to determine obstacles to acceptance of industrial gold mining, and to propose mechanisms to improve relations and promote peaceful coexistence in mining zones.

## 2. Material and methods

The Boure area, where the mining operations of Gold Mining Company of Guinée (SAG) are located, covers an area of 1,728 km<sup>2</sup> and is home to a population of 124,847 people in 12 villages — Kintinian, Boukaria, Balato, Fatoya, Kofilani, Samany, Kourouni, Kamatiguiya, Setiguiya, Kourouda, Lenkekoe and Fenserekolen — all situated in the sub-prefecture of Kintinian. The population density is 72.25 persons per km<sup>2</sup>, with an annual demographic change of 9.5 % from 1996 to 2014 (RGPH, 2014).

The Gold Mining Company of Guinée (SAG), a subsidiary of AngloGold Ashanti, produces 350,000 ounces per year. Further exploration at Sintroco allowed conversion of an additional 1.3 million ounces into reserves. Studies aimed at increasing production throughput were launched in 2010. In 2019, the mine's production accounted for 14 % of the region's output.



**Figure 1** Map of the SAG's industrial gold-mining zones

The figure above shows some industrial gold-mining zones of SAG in the Kin Tinian sub-prefecture.

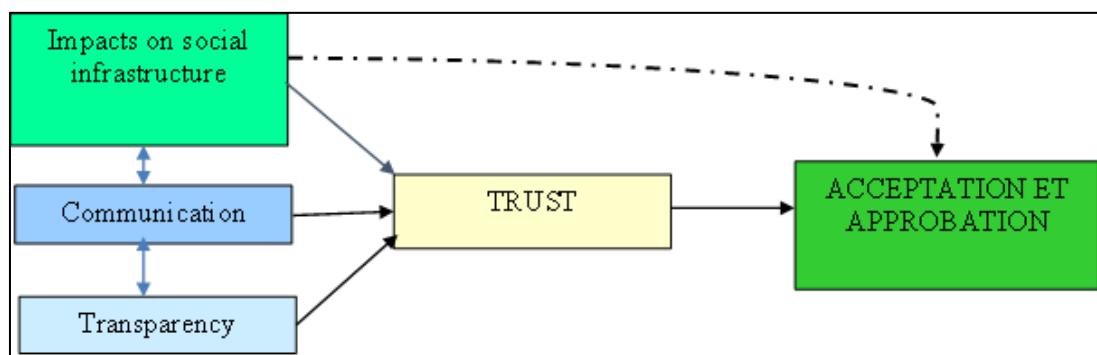


**Figure 2** Satellite view of the SAG exploitation mine in Siguiri

The study employed a qualitative research approach centered on survey and observation. It used two main techniques: semi-structured interviews with technical service staff, mining company workers, local officials and households in Siguiri, and focus groups of targeted socio-economic groups (each comprising five persons). The focus groups served to deepen and validate the individual survey findings. Discussion topics included: how the mining company (SAG) interacts socially with host communities, the quality of stakeholder relations, adherence to commitments to community development, compensation mechanisms for expropriated agricultural land and relocated villages, community participation in decision-making, information sharing, conflict prevention and management, and the mining company's application of local content and social/environmental responsibility.

## 2.1. Development of a mechanism to improve relationships

To this end, we measured the critical elements of the social license by drawing on social-psychology research in intergroup relations. The objective was to assess the factors that can contribute to the local communities' acceptance of industrial gold mining by the Gold Mining Company of Guinea (SAG), a subsidiary of AngloGold Ashanti. In this approach, we used community trust in the mining company as a central element of the social-license framework. The question was to what extent the populations living around SAG's mining concession would now be willing to accept this industrial gold-mining operation without opposition and without recurring conflicts.



Source: Author's design.

**Figure 3** Correlation between the critical elements of the social license

### 3. Results and discussions

This section presents the results of our research displayed in tables and graphs

#### 3.1. Hea Characteristics of the dynamic of the relations between the mining company (SAG) and the local communities

##### 3.1.1. Indicators of the quality of relations

**Table 1** Indicators of the quality of relations"

Indicators	Variables	Respondents %
Nature	Passive	40%
	Cooperative	20%
	Opposed	10%
	Conflictual	15%
	Negative	10%
	Positive	5%
Value	Poor	57%
	Very poor	10%
	Good	31%
	Very good	2%
Impact	Very low	2%
	Low	4%
	Medium	7%
	High	75%
	Very high	12%
Satisfaction	Not at all satisfied	20%
	Slightly satisfied	60%
	Moderately satisfied	10%
	Satisfied	8%
	Very satisfied	2%
Sincerity	Much more sincerity	3%
	A lot of sincerity	10%
	Somewhat more sincerity	22%
	No sincerity	65%

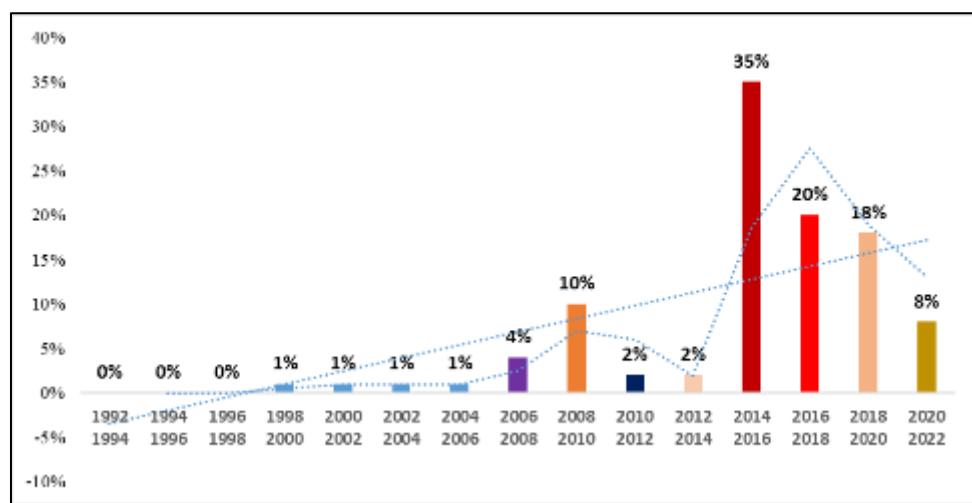
### 3.2. Evaluation criteria for relation

**Table 2** Evaluation criteria for the quality of relations

Criteria	Variables	Frequency / %
Trust	Lost	25%
	Broken	55%
	Renewed	15%
	Accurate	5%
Engagement	Weak	56%
	Medium	30%
	Strong	12%
	Very strong	2%
Communication	Much more communication	2%
	A lot of communication	9%
	A little more communication	65%
	No communication	24%
Transparency	Very low	15%
	Low	77%
	Medium	6%
	Strong	1%
	Very strong	1%

### 3.3. Chronology and causes of conflicts between The Gold Mining Company of Guinea (SAG) and local communities from 1992 to 2022

The gold-mining area of Siguiri, operated by SAG, is frequently the scene of various protests that can escalate into conflicts between the company and surrounding communities. The figure below shows the timeline of conflicts as a percentage per year from 1992 to 2022.



**Figure 4** Chronology of conflicts between the mining company AngloGold Ashanti at Siguiri and the local communities

According to the figure above, the conflicts between AngloGold Ashanti at Siguiri and the local communities began in 2008 (4 %) and intensified from 2014-2016 (35 %), 2016-2018 (20 %) and 2018-2020 (18 %)

### 3.4. Mechanism for improving relations between the mining company and local communities

#### 3.4.1. Measurement of factors and variables

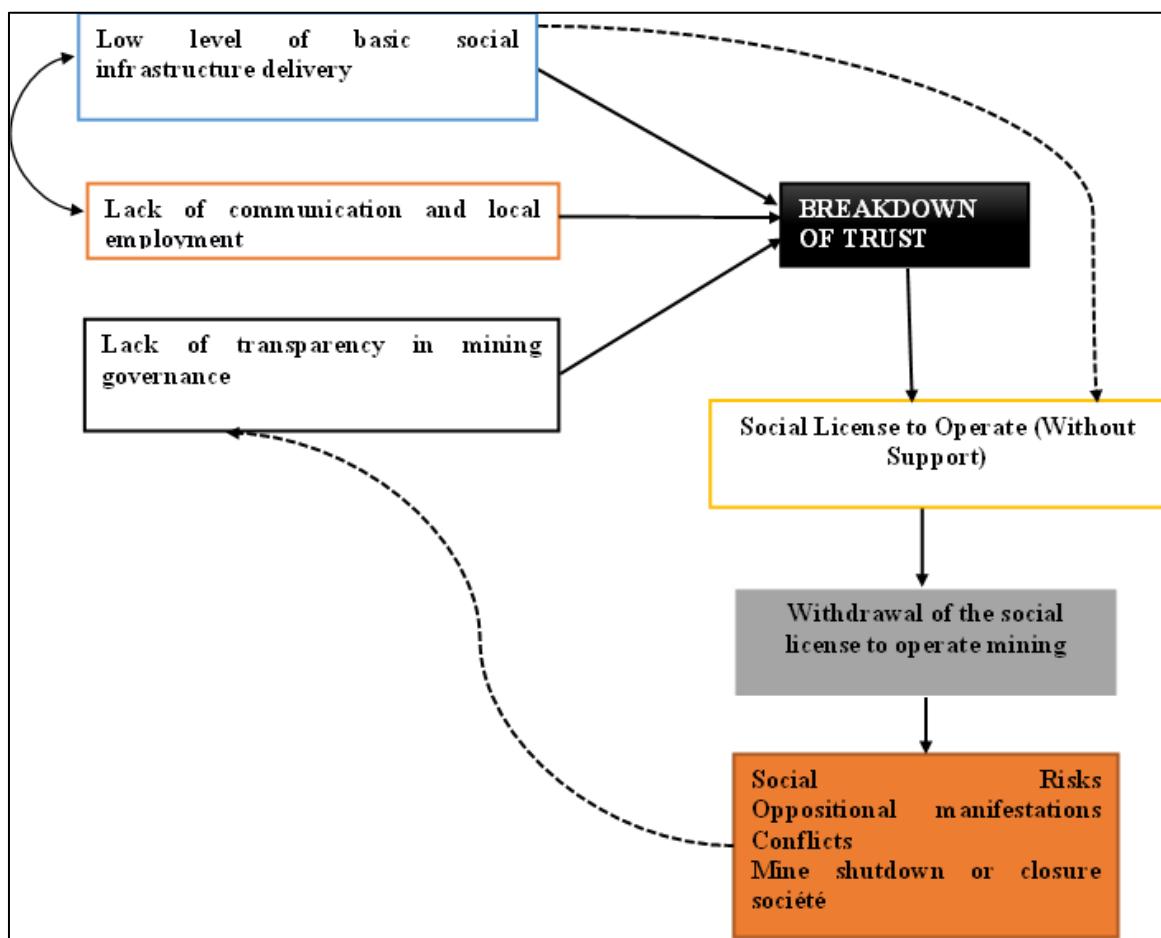
Special attention was given to how interest-related factors were linked to the acceptability of industrial gold-mining operations by the communities in the Prefecture of Siguiri.

#### 3.4.2. The impact of basic social infrastructure

Level of satisfaction of the local communities towards the mining company

This factor was measured using five variables related to the level of satisfaction of the communities' expectations (1 = not at all satisfied, 2 = slightly satisfied, 3 = moderately satisfied, 4 = satisfied, 5 = very satisfied).

Presentation of the difficulties in the relations between the mining company and the local community



Source: Author's design

**Figure 5** Difficulties in relations

From this case study of the relationships stemming from the process of obtaining the social license to accept mining operations, we retain that trust is the fundamental criterion of a social license to operate. Trust is essential for mining companies, as it represents the collective degree of confidence of local populations. The mining company must strive to obtain the community's full trust in its host area. A trusting community ensures that the company will act for its welfare. This goes beyond promises and requires ongoing collaboration, built over time. Once lost, trust is difficult to regain — underlining the importance of integrity in relations.

#### 4. Discussions

The dynamics of relations between the AngloGold Ashanti company and the local communities of Siguiri from 1992 to 2022 show that the relationship between the mining company (SAG) and the local community of Siguiri has deteriorated over time, evolving from exact trust in 1994 to lost trust in 2022. The local community began losing confidence in the company from 2006, and again between 2014–2016 and 2016–2018. Trust was temporarily broken during the periods 2014–2016 and 2016–2018, before gradually being renewed until 2022.

Conflicts between AngloGold Ashanti of Siguiri and the local communities began in 2008 (4%) and intensified between 2014–2016 (35%), 2016–2018 (20%), and 2018–2020 (18%). Local employment issues (36%) and basic social infrastructure (34%) constitute the primary causes of community conflicts in the Prefecture of Siguiri.

These findings are confirmed by the study of conflicts conducted in mining zones across Guinea. Pakoun (2015) reported on the evolution of conflicts in mining areas in Guinea, noting that more than 90 conflicts were recorded in 17 localities covered by diagnostic studies of conflicts in industrial mining impact zones. These conflicts are more frequent in mining projects in production, with 70% occurring in active projects compared to 30% in exploration phases. On average, there are 14 conflicts per company in the first case compared to 10 in the second.

From both case studies of relationships resulting from the process of obtaining the social license to operate, trust emerges as the fundamental criterion of a social license to operate.

In our study, SAG has not yet been subject to a withdrawal of its social license to operate; however, it has often come close to a shutdown or total suspension of its activities due to numerous protests and conflicts with the residents of the Prefecture of Siguiri. Nonetheless, protests, opposition movements, and conflicts remain recurrent, leading to slowdowns, blockages, or temporary suspensions of the company's operations caused by local communities opposing AngloGold Ashanti of Siguiri.

Today, research results indicate that very few mining companies have successfully built relationships with communities at this level. This is the case for AngloGold Ashanti (SAG) in Siguiri, which currently maintains a level of trust varying between low and medium. Regarding the community's levels of acceptance and approval, they are also medium according to the results. This situation is explained by the social risks and protest movements that persist between the community and the mining company (SAG) engaged in industrial gold exploitation in the Prefecture of Siguiri.

In this context, obtaining a social license to operate necessarily depends on developing good relationships with local communities. Good relationships with local communities are based on trust, transparency, communication, the impact of basic infrastructure, and employment. This finding aligns with those of Bergeron et al. (2015) in Canada, in the case of Quebec. These authors developed a model based on the analytical description of conflict determinants. They treated social acceptability of mining projects as a major issue for mining companies. Social acceptability is based on the means by which a mining project can prevent conflicts likely to compromise the development of its operations.

Building trust-based relationships is the key solution for AngloGold Ashanti of Guinea (SAG) to reduce the risk of social conflicts and to improve the company's reputation within the Siguiri mining concession in Upper Guinea. This corroborates Chevrel et al. (2017), who emphasized that obtaining a social license depends on developing good relationships with all stakeholders, particularly local communities. The credibility of mining companies is based on mutual respect, honesty, open dialogue, transparency, prompt responses to community concerns, disclosure of information, as well as consistency and predictability in ethical behaviour.

#### 5. Conclusion

The mechanism for improving relations between the gold-mining company (SAG) and the local communities of Siguiri is based on the process of obtaining the social license for acceptance and approval of mining operations by the communities. In this context, obtaining a social license to operate necessarily requires developing strong relationships with local communities. Good relations with local communities are built on trust, transparency, communication, the impact of basic infrastructure, and employment. Establishing a relationship of trust is essential to reduce the risk of social conflicts and to improve the company's reputation.

In view of the above, and taking into account the concerns of the surrounding populations, we recommend that the State, AngloGold Ashanti (SAG), local authorities, and local communities work in synergy to build a solid relationship of trust — a guarantee of responsible and sustainable resource exploitation. To this end, they should

- Establish a climate of trust based on shared values (earning the trust of local populations and promoting community development);
- Prioritize local recruitment (reinforcing efforts by hiring from within the host community);
- Promote local procurement (supporting training programs and the development of local enterprises);
- Ensure fair compensation in cases of population displacement and relocation of affected community installations;
- Ensure compliance with and implementation of local content policies to diversify income-generating activities in mining areas;
- Use mining revenues rationally, especially for community development infrastructure, to reduce dependence on mining;
- Encourage investment in shared infrastructure and commit to socially responsible, efficient, and sustainable investments;
- Intensify geological research and allow researchers access to mining areas;
- Ensure socially acceptable and environmentally safe mining operations;
- And promote dialogue among the mining company, local communities, and other stakeholders in the mining sector within the Prefecture of Siguiri.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.

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