



In countries such as Ghana, Liberia, Sierra Leone, and Tanzania, the minerals sector accounts for about a third of the gross domestic product. Although these governments depend on the sector for revenues, illegality and non-compliance in the Artisanal and Small-Scale Mining (ASM) sector prevents them from fully capitalizing on it. Unlicensed ASM operators dodge license fees and smuggle minerals across borders to evade taxes. Unauthorized use of machinery quickly depletes mineral deposits and damages the environment. With limited means to monitor the sector and enforce its rules and regulations, these countries witness meager revenues, unchecked environmental damages, and hazardous working conditions.

Problem Statement

Recognizing the need for stricter monitoring of its ASM sector, the National Minerals Agency (NMA) of Sierra Leone hired a new cohort of frontline mining monitors. These public servants patrol large areas to detect illegal ASM activities and enforce regulations. However, since they do so with limited oversight, they face regular opportunities for accepting bribes or shirking. Miners and local authorities offer bribes to monitors to overlook unauthorized mining activities; monitors may be tempted to supplement their salaries by accepting occasional bribes or fixing ongoing arrangements with illegal operators. The difficulty of patrolling large areas without oversight means some monitors neglect their official duties.¹

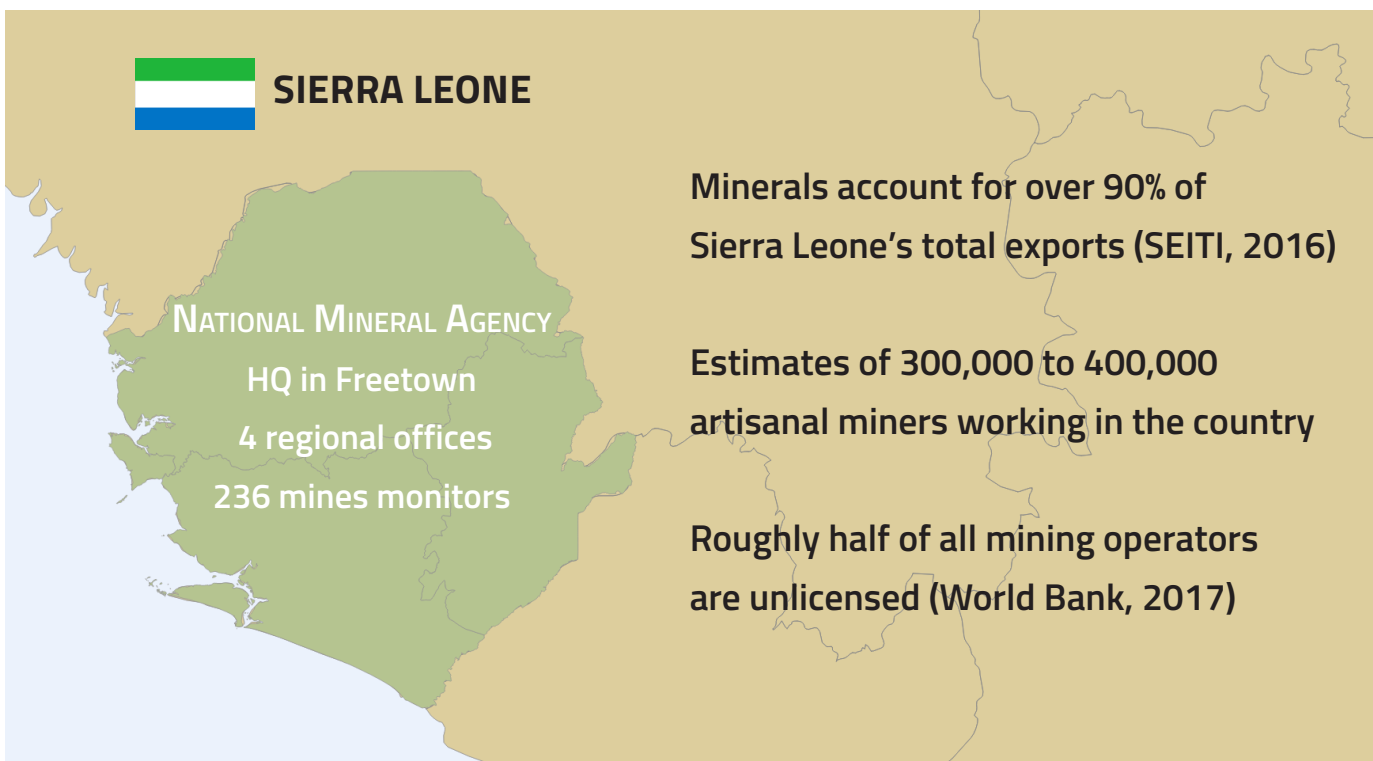
¹Evidence shows that low civil servant wages are associated with higher levels of corruption (Van Rijckeghem and Weder, 2001; Veldhuizen, 2013). Sierra Leone's history with malfeasance in the public sector, and their current low remuneration in its civil service suggests that corruption practices are still widespread (Roberts, 2020; Srivastava and Larizza, 2012).

Building an Effective Corps of Compliance Officers

Proposed Solution

One proven way to increase bureaucratic performance is to provide financial incentives for improved performance. However, the NMA was limited in its ability to offer financial incentives and, thus, looked to identify non-financial strategies to elicit better performance from their frontline staff.

The Project on Resources and Governance (PRG) worked with NMA to design and test whether deploying monitors to more or less familiar parts of the country affects their performance. On one hand, a monitor deployed to a “home” region could use their existing ties to collude with miners and local authorities. They may also face more social pressure to turn a blind eye. Alternatively, being placed in a “home” region could promote productivity, as the monitor can use their relationships and local knowledge to easily ferret out illegal ASM and enforce regulations. Randomized deployment of the monitors allows us to measure whether local ties enhances or diminishes monitor’s effectiveness as state agents.



Building an Effective Corps of Compliance Officers

Research Activities

To enable this experiment, we first built a database of 236 NMA frontline staff, which includes information on their ethnicity, languages spoken, and hometown. We then used the information from the database and NMA's deployment plan to develop a deployment algorithm that randomly assigned the qualified staff to one of four regional offices. Half of the staff were placed in regions that included their hometown and where they shared language or ethnicity ("home"), and the remaining half were placed where they had no such ties or commonality ("away"). This algorithm allowed NMA to assign the staff to their postings in a fair and impartial manner, i.e., without any preferential treatment.

To isolate the impact of the deployment assignment, we needed a consistent monitoring measurement of staff's performance. We administered nearly 70 qualitative interviews with NMA staff and other stakeholders to understand the frontline staff's motivations, constraints, and nature of their work, and used insights from the interviews to design five key performance indicators (KPI): 1) revenue mobilization; 2) compliance; 3) conflict resolution; 4) integrity and effectiveness; and 5) supervisor assessment. The five KPIs were combined into one performance score.

The KPIs rely on administrative data, as well as new data that the monitors generate during their patrols and mine-site visits. We designed user-friendly, mobile data-collection tools that work in low-connectivity settings. In addition to generating data about monitors' performance, the digital checklists can provide NMA with timely, granular understanding of ASM operations in the country by feeding NMA with real-time, mine-level data.

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