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SNAPSHOT

Mapping Diamond Sites in Forécariah for Better Governance of the Artisanal Mining Sector in Guinea

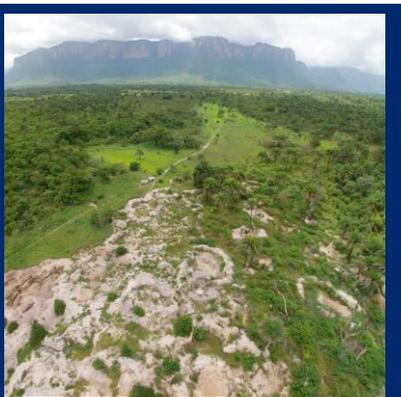
USAID and the Government of Guinea agreed to implement PRADD II in Guinea to improve the governance of the ASM sector

Photo: Souleymane Diallo



A woman holding the mini-helicopter in Kourouya

Photo: Mini-Helicopter



Aerial photo of mining site, Gberedabon

Telling Our Story

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Artisanal diamond mining in Forécariah, Guinea, dates to 1993, when a war broke out in neighboring Sierra Leone. Refugees fled the war and migrated to Forécariah, where they started to explore for diamonds. Alluvial diamond deposits were located not through sophisticated geological surveys, but through traditional techniques which consist primarily of detecting the presence of diamonds through the presence of indicator stones of a thin gravel layer. In this district, neither the government nor industry has ever conducted geological research.

In 2010, an unexpected surge in the percentage of diamond exports from Guinea occurred. As a result, the Kimberley Process authorities commissioned a team of the United States Geological Survey (USGS) and the World Diamond Council to conduct an assessment of diamond production potential in Guinea. Field visits were carried out throughout the country. In the end, the USGS decided to pilot an in-depth geological survey in Forécariah to test out new geological survey methodologies.

In the meantime, the Directorate of Mines carried out a process of parceling out more than 100 mining plots in Forécariah as a way to organize, control, and monitor artisanal diamond mining, which was until then managed by customary landowners. The parceling operation was aimed at expanding the state's presence in the artisanal diamond sector, and ensuring that the sector be monitored and controlled by the government. Parceling is the legal procedure for the Ministry of Mines to formalize and regulate artisanal mining in order to obtain compliance with the Kimberley Process. This process, though intended to allow the government to clarify and secure access to sub-surface rights, has not been linked to geological data showing the probable presence of alluvial diamonds. Miners have been reluctant to purchase parcels in Forécariah because they see no relation between the location of the parcel and the propensity to find diamonds. Since demarcation was launched in 2013, only five out of 100 parcels have been purchased. Clearly, the process is not working.

During the design of the PRADD II program in Guinea in early 2014, the Ministry of Mines and Energy emphasized the need to map out the location of diamond-bearing artisanal mining sites. The USGS agreed to test out new methods to map diamondiferous sites through high-resolution aerial mapping linked and modeling of geological parameters. The results of this study will help the ministry link licensed plots to the propensity to extract diamonds in alluvial deposits. This in turn should help diamond miners increase their return on investments and eventually reduce environmental damage through rehabilitation of mined-out sites. The USGS hopes to present initial survey results by December 2014 and, if the methodology is successful, scale it up throughout the country.

The USGS team brought into Guinea a small DJI Phantom quadcopter to conduct the aerial photography of all of the six artisanal diamond-mining sites in Forécariah. The mini-helicopter took 6000 low-altitude but high-resolution photos and sampled sites for the geological modeling. The vignettes below provide a glimpse of the reactions of local communities. Interest in new technologies in Africa starts at the grassroots!

Elhadj Mamadouba Bangoura, Imam of the village of Bassia, Guinea, recounted to a PRADD II team member, “Yesterday [Saturday, June 21, 2014], some members of our community informed me that they heard a message on the radio saying that an aircraft will be flying over our area to map out the diamond-mining sites. I think that this is an excellent thing if it can help identify diamond-bearing sites.”

Momo Bangoura, resident of nearby Woula, joined the conversation. “As far as the flyover mission is concerned, our authorities have informed us, and we were waiting for it because it will help the government to improve its parceling operation [mining claim registration]. Personally, I am not happy with the way the parceling has been conducted so far, because the sites on which it was conducted are our farmlands. However, if the helicopter can help identify the sites where diamonds are, this will keep masters from purchasing parcels that do not bear diamonds and leave those for agriculture.”

Mabinty Bangoura, a female miner in Safoulen, added, “I am conducting this diamond mining to only be able to feed my kids. My family is in Sierra Leone and I am here for work. If the flyover of this helicopter can help us to know where to work and have diamonds, I ensure you that this is a good thing. In this case, everyone (the village, miners, and the government) will gain something.”

A woman in Kourouya held the mini-quadcopter in her hands, saying, “Nobody is going to tell me about it later. I heard of it before, I am here, and now I have seen it and I am holding it.”

Following the USGS team’s presentation of its preliminary field results at a debriefing for the Minister of Mines and Geology in Conakry, Minister Kerfalla Yansané asked a broader question of how the USGS might use this technology for mapping other minerals in Guinea given the lack of up-to-date geospatial information at the Ministry. He noted the long process it usually takes for mining companies to provide such data. He expressed his interest in formally requesting assistance from US government agencies to scale up this approach to cover other minerals.

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