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**AERIAL MAPPING OF DIAMOND
SITES TO REDUCE CONFLICT,
BENEFIT ARTISANAL MINERS**



Credit: Moustafa Cheaiteli

PROPERTY RIGHTS AND ARTISANAL DIAMONDS

Worldwide, between 20 and 25 million artisanal miners labor under generally archaic and difficult working conditions. Many live in extreme poverty, often receiving less than 9 percent of the retail price of the stones they extract. Poverty prevents miners from acquiring the licenses required to operate within the law, the equipment necessary to increase their gains, and the assets needed to diversify their livelihoods.

Not surprisingly, miners are incentivized to quickly find and extract diamonds, sell them, and move on to new sites. These practices have devastating economic and environmental consequences. The production and commercialization of minerals has driven conflict in countries like Sierra Leone, Angola, Liberia, and the Democratic Republic of the Congo, with property rights struggles often at the core of these conflicts.

When an artisanal miner's rights to prospect and dig for diamonds are clear and secure, diamonds are more likely to be sold through legal channels – enabling the government to track their origin and prevent them from fueling conflict.

Through the Property Rights and Artisanal Diamond Development (PRADD) project – a joint initiative by USAID, the U.S. Geological Survey (USGS) and the U.S. Department of State (DOS) – the United States is taking a whole-of-government approach to strengthening the property rights of artisanal miners in Côte d'Ivoire and Guinea in support of the Kimberley Process, which is the international mechanism that stems the flow of conflict diamonds. As a result of its success in decreasing conflict in project areas, the European Union now provides joint financial support to PRADD activities in Côte d'Ivoire.



USING TECHNOLOGY TO IMPROVE GOVERNANCE

Efforts to clarify and secure the property rights of artisanal miners are often hampered by a lack of accurate geologic information. Results have shown that miners are reluctant to purchase, lease, or register parcels if they do not know how many diamonds each plot is likely to yield. Linking information on parcels to geological data showing the probable presence of alluvial diamonds can create powerful incentives for miners to enter the formal legal system. But geologic surveys can be expensive and difficult to conduct, especially in remote areas.

In Forécariah, Guinea, the PRADD project is employing an innovative approach to solve this problem. The PRADD team is working with the Government of Guinea and the local community to conduct terrain analysis and produce maps of the most likely locations of diamond deposits using a remote-controlled mini-helicopter. The mini-helicopter

uses GPS and a camera to collect high-resolution aerial photos and videos through a process developed by USGS to map the elevation and terrain, which can lead to a better understanding of where diamonds may be found.

This information will empower miners to lease parcels of land that are more likely to generate a return on their investment and enable the Government of Guinea to better monitor and regulate artisanal mining. Conflicts over land and resources in the region are expected to decrease overall due to this effort. According to Mabinty Bangoura, a local female miner, “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.”

Front Cover Photo Credit: Peter Chirico/USGS



Credit: Kate Malpeli/USGS

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