

## **Fine-scale mapping of localities households to plan, implement, monitor and evaluate malaria control campaigns on Bioko Island, Equatorial Guinea**

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The Bioko Island Malaria Control Project (BIMCP), in collaboration with the National Malaria Control Program (NMCP) of the Ministry of Health and Social Welfare (MOHSW) of Equatorial Guinea, has been implementing malaria control activities on Bioko Island for at least 14 years. Like many developing nations, the urban environment of Bioko Island is characterized by informal housing, a lack of a household address system, and the absence of formalized geospatial administrative units. In 2011, the BIMCP established a Geographic Information System (GIS) to enumerate households to track household interventions and has collaborated with the Ministry of the Interior to delineate geopolitical administrative units. The GIS mapping efforts have allowed the BIMCP and the Equatorial Guinea Malaria Vaccine Initiative (EGMVI) to plan, mobilize, monitor, evaluate interventions at the household level, and aggregate results at different spatial scales depending on their needs. The system has been possible largely due to considerable support from project donors, collaboration with the government of Equatorial Guinea, and also due to the size of the island (2,017 km<sup>2</sup>), with less than 100 km<sup>2</sup> of which is populated. These factors have made it possible to map populated areas at very fine-scales within small geopolitical units undergoing rapid change due to the country's economic development. Fine-scale urban mapping has been a challenge on Bioko, as 95% of the inhabitants live in a densely populated urban core representing more than half of the island's total populated area. High-resolution mapping of localities and households has enabled the BIMCP to track household interventions in near-real-time, and the outputs have empowered local authorities and leaders to take action in their communities to increase intervention coverage and individual uptake.