

Water Wells for Africa

DigitalGlobe Analytics' role in supporting natural resource security in Africa

Access to clean water is imperative for human health and wellness. Yet, there are millions of people who are forced to collect water from drains, ditches and streams to survive. On the African continent, roughly one out of three people are not using a clean water source. Water Wells for Africa (WWFA), a nonprofit that promotes rural African community development by providing sustainable water sources and reducing health risks associated with contaminated water, requested a DigitalGlobe Analytics assessment to support drilling water wells in Phalombe District, Malawi. In this area, there are an estimated 6,000 people who live within a five kilometer area without a dependable water source. There are only three water wells in the immediate area, which are either overused or in poor working condition. In addition, rains during the wet season often cause excessive flooding, which can further restrict villagers from reaching well sites.

DigitalGlobe Analytics provided two assessments to assist WWFA in the identification of the best locations to place new wells. The geospatial assessment was tailored to provide a 97% area reduction of the entire study area to identify the most suitable location to place new wells. GeoEye also provided a cost path assessment to determine traversability on foot to the potential well sites during the wet season.

We have been working in rural communities in Southern Africa for the last 16 years to bring clean safe drinking water to those who have none. One of the more difficult tasks we are faced with when beginning any project is where to place the well. Our goal has always been for it to be centrally located for equal access to everyone. This ensures no households are too far from the new well and it maximizes the well's use. While we have historically accomplished this with a physical survey, DigitalGlobe's services are a drastic improvement."

—ADAM PAYTON, WWFA EXECUTIVE DIRECTOR

Geospatial data was collected over a 400km² area encompassing four proposed well sites. Environmental variables incorporated in the analysis included transportation features, hydrological features, population density, soil moisture content derived from Landsat thermal data, and elevation and derived datasets. However, due to the remote area of study, the analysis was conducted without sub-surface water table information, geological survey datasets or detailed demographic information. Despite these limitations, DigitalGlobe Analytics' provided a well suitability report for three sites and included recommendations for two areas to be further surveyed. WWFA is currently using DigitalGlobe's recommendations to finalize the drilling of at least two wells. This type of information will ultimately save the organization future work and improve the accuracy of its services.



Villagers gathering water



Local children drinking from new water well



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