

Accurate data for social programmes

Ministry of Social Development and UNICEF | Lesotho

The country of Lesotho in southern Africa is completely encircled by the Republic of South Africa and has a population of just over 2 million. It is known for its mountains, which cover two-thirds of the country, and was the inspiration for the fictional country of Wakanda from the “Black Panther” movies.

To ensure social and financial support reaches households in need, Lesotho’s Ministry of Social Development (MoSD) established the National Information System for Social Assistance (NISSA), which

helps identify eligible households for the Child Grant Programme and other social assistance programmes.

NISSA’s database initially included demographic, socioeconomic, health and agriculture data for approximately 330,000 rural households. The ministry sought to expand NISSA into all urban areas by adding approximately 200,000 households and 680,000 people from Lesotho’s 11 urban councils and the Maseru Municipal Council. To support this initiative, the United Nations Children’s Fund (UNICEF) Lesotho joined as a funding and implementation partner.



Data collection

Hexagon partner GeoSpace International was appointed to plan, implement and manage community mobilisation and field data collection operations; develop the data collection system and digital questionnaire; and migrate all collected data to the SQL-based NISSA Management Information System. To gather and manage the information necessary to expand the NISSA database, the project team needed to remotely manage and control the implementation of field data collection operations down to the household and fieldworker levels.

The success of the initiative relied on the initial identification of potential dwelling units. In the planning phase, GeoSpace used a combination of digital aerial photography and GIS to identify potential structures where someone might live. GeoSpace utilised Hexagon's GeoMedia Professional to edit existing spatial data and create new spatial points for potential households identified from recent digital aerial photography.

GeoSpace also provided the digital technology for survey data collection and management. The project team used Hexagon's M.App Enterprise as the basis for a data management and quality assurance application and HxGN Smart Census for mobile field data management. HxGN Smart Census is a fully integrated digital system built on M.App Enterprise that manages all census-taking tasks and roles. The system incorporated administrative boundaries, Census Enumerator Area (EA) boundaries and digital imagery of all 12 councils.

Field survey management

Approximately 200 fieldworkers were trained and tasked with traversing the large urban council areas using smart tablets to collect household and resident data and remotely manage data collection activities. HxGN Smart Census enabled fieldworkers to navigate to and identify points by EA, determine if they were viable dwellings and capture the outcome for each point. The data for a point could only be uploaded if a fieldworker was within 30 metres of a point, providing a way of remotely managing fieldwork movement and coverage, and ensuring points were visited. In all, 307,000 spatial points were created.

"HxGN Smart Census allowed us to allocate, track and manage fieldworker units in real time, right up to the HQ level," said Francois Bezuidenhout, GIS manager at GeoSpace International. "Relevant staff members from the MoSD and UNICEF had real-time access to the system, so they could view and track progress firsthand. The app made the enormous task more manageable."

Unique challenge

Fieldworker training and data collection were interrupted by periodic COVID-19 pandemic lockdowns and gathering and movement restrictions, which impacted field operation timelines and necessitated pandemic field data collection protocols. At times, Lesotho's borders were closed and GeoSpace management staff could not enter the country; however, thanks to the Hexagon software, data management could continue remotely once fieldworkers were allowed to resume household visits.

On the data collection side, fieldworkers were trained online when necessary and when borders were open, they wore personal protective equipment (PPE) to protect against COVID-19. During the global pandemic, fieldworkers were able to carefully enumerate 157,309 households and 547,423 individuals across all the urban councils.

"Thanks to the additional expansion of the NISSA database, the Ministry of Social Development will now be able to provide vital aide to those who need it most," said Bezuidenhout. "The ultimate goal is that NISSA becomes a single registry for all social assistance and security programmes in future, and thanks to the hard work and initiative of the implementation partners, the Lesotho fieldworkers and the Hexagon technology, that goal is closer to being a reality."



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GIS manager at GeoSpace International

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