

Generating location data to allocate community workers where they are most needed in the fight against HIV

In the southern highlands of Tanzania, KIHUMBE's team uses low-cost digital tools to produce maps and manage data to more efficiently allocate their limited resources to reduce HIV/AIDS.

BACKGROUND

KIHUMBE is a non-profit NGO located in Mbeya, Tanzania—a district that has one of the highest prevalence rates of HIV/AIDS in the country. KIHUMBE provides HIV-related services and counselling to at-risk individuals representing vulnerable populations, including orphans and children. Given the region's growing population and a pressing need to allocate limited resources and services strategically, KIHUMBE's team is eager to adopt more efficient methods for information management to be able to effectively serve those communities in greatest need for support and services.

PROBLEM

Before collaborating with Data Zetu, KIHUMBE was using paper-based methods to conduct data collection, generate daily reports of people receiving services, and maintain records of their activities' impact. Knowledge around the use and creation of data through open technology to enhance the program's efficacy was limited but greatly sought after.

Data availability and data access is a common challenge for KIHUMBE staff. Peer educators—a group of KIHUMBE volunteers who conduct citizen outreach in areas with high HIV prevalence—need updated data showing where “hotspots” (areas like motels or nightclubs where HIV is at higher risk of transmission) are in a given neighborhood. For years, KIHUMBE provided its peer educators with a directory listing the names and locations of known hotspots that they would use to visit these locations, find people at risk of contracting sexually transmitted diseases and provide support or counselling to these individuals depending on the conditions.

This approach poses several challenges to KIHUMBE. It did not easily track daily progress of their peer educator volunteers or how many at-risk individuals were being reached, and there was no mechanism for this data to feed into a central database highlighting the changes in names, locations and level of risk associated with each hot spot. Without this information, KIHUMBE's team members were operating in an information vacuum that prevented them from optimizing where they send their limited resources.

SOLUTION

Although Data Zetu partner Humanitarian OpenStreetMap Team (HOT) had previously developed hotspot maps and shared them with KIHUMBE,¹ a logical next step—and more sustainable solution—was to train KIHUMBE with the means to generate their own data and

¹ Read the use story for that engagement [here](#).

maintain a more sophisticated database highlighting how many people were reached and where.



A workshop with KIHUMBE staff and peer educators about ways to use hotspot maps for more effective community outreach.

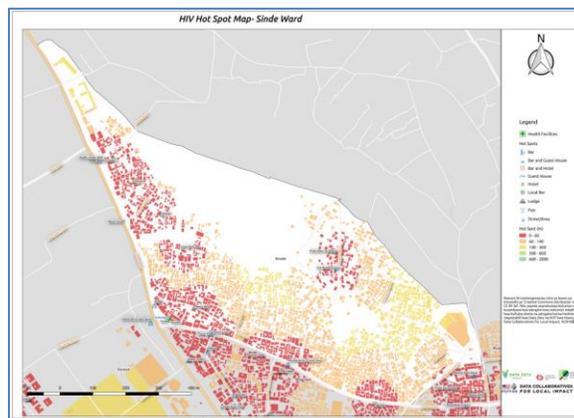
So, HOT delivered tailored training and capacity-building on mobile data collection, generating data and analyzing this data. In order to effectively train their staff and volunteers on the tools and methodology, HOT's team also supported KIHUMBE in conducting hotspot mapping in five pilot wards in Mbeya.

PROCESS

After the team learned about KIHUMBE's challenges with generating and maintaining their own datasets through site visits, HOT

developed a training program that focused on using OpenDataKit (ODK) Collect to create and deploy surveys, using a Kobo Toolbox server to monitor incoming data/submitted responses and using QGIS to visualize data and generate a hot spot map. These are all free tools.

The team learned that the most effective way to encourage ownership over activities was to train specific individuals on the tools that would benefit them most in the work they already do. Because Jeremia, the M&E Officer, focuses on the organization's impact data, he received focused training on building mobile survey forms in Excel. Since peer educators would use the hotspot maps in their respective wards to conduct outreach, these individuals were trained on using ODK and deployed to collect hotspot data in their communities.



This hotspot map of in Sinda ward was produced by KIHUMBE's staff using open-source and low-cost technologies. Peer educators can use it to more effectively visit these places when conducting outreach activities within communities.

Once data collection was complete, KIHUMBE staff was provided additional training to use clean and compile the spatial data in QGIS and perform basic steps to generate hot spot maps of a given ward.

OUTCOMES AND IMPACTS

"[These tools] have been extremely helpful to our organization."—Programme Manager, KIHUMBE

- *Uptake of modern data collection approaches across the organization.* Since learning how to use ODK to map hotspots through the Data Zetu engagement, other field activities—like their mobile clinic offering HIV services—now use the tool as well.

- *Measuring in order to manage.* The hotspot maps for the five pilot wards has enabled the organization to be more strategic about *where* peer educators are stationed on a weekly basis. Resource allocation now depends on where the highest concentration of hotspots are located within a given ward, **based on the location data generated by KIHUMBE's peer educators themselves.**
- *Real-time feedback to motivate staff.* The Programme Manager at KIHUMBE, Ptolemy Samuel Mwakanyamal, has expressed the benefits of the newly introduced mobile tools which have contributed positively to their operation: “ODK and KoboToolbox have been extremely helpful to our organization since we can now **conduct daily reporting in a timely manner, easier monitoring of daily and weekly activities and we now know the location of peer educators and the work conducted on a daily basis**”.
- *Scale up hot spot mapping in remaining 31 wards.* KIHUMBE aims to roll out hotspot mapping in the remaining 31 wards of Mbeya City Council to enable more peer educators, and other HIV-related organizations in the region, to have information about where HIV prevalence is highest on a local scale.

KEY COLLABORATORS

