

# SEAM Ghana

## GPS Tracking: A Novel Prospect for Inspection and Monitoring of Pharmacies and Licensed Chemical Sellers

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### Background

Inspections and monitoring are at the heart of ensuring high-quality pharmaceutical services, which include access to high-quality medicines. By law, one of the Pharmacy Council's major functions is to secure the highest standards in the practice of Pharmacy; this is achieved through inspections and monitoring of pharmacies and licensed chemical sellers, among other activities. The Pharmacy Council is also legally responsible for improving geographic access to pharmaceutical service providers in Ghana. To function efficiently in this area, the Council needs a reliable database of all pharmaceutical facilities (pharmacies and licensed chemical sellers), with facility locations clearly indicated.

The current database of pharmaceutical facilities is weak, inaccurate, and does not have fields for geographical coordinates or the capacity to generate reports that can be viewed spatially or pictorially. This affects the licensing process and makes it difficult for the Pharmacy Council to meaningfully plan facility distribution, inspection, or monitoring.

Without exact data on the location of pharmaceutical facilities, the Pharmacy Council is unable to—

- ❖ Track pharmaceutical facilities that have not renewed licenses over a period of time
- ❖ Physically locate pharmaceutical facilities
- ❖ Make radius measurements and assess accessibility in order to enforce regulations regarding distances between one facility from another
- ❖ Reliably identify populations without adequate access to pharmaceutical facilities

To help address these problems, MSH, through the SEAM Program, provided the Pharmacy Council with global positioning system (GPS) units.

### Methodology

MSH supplied GPS units and mapping software to the Pharmacy Council. Six staff members of the Pharmacy Council took part in a two-day training program facilitated by MSH: a senior inspecting pharmacist, two inspecting pharmacists, and three data entry clerks. The first day consisted of an informational session and fieldwork. The second day was composed of practical exercises followed by a debriefing session.

### Key Activities Conducted

- ❖ Training on operation of the GPS unit, the GPS utility, and the mapping software
- ❖ Fieldwork demonstration on the use of GPS units and practice for participants on collecting coordinates in the field
- ❖ Demonstration on how to download information or coordinates picked from the field onto the computer and subsequent importation onto the map of Ghana
- ❖ Demonstration on how to calculate distances between two points on a map, using the mapping software
- ❖ Installation of the mapping software onto computers

### Key Training Challenges

- ❖ GPS units cannot pick up geographical data points if they are not allowed to initialize and establish a satellite connection
- ❖ A standardized way of positioning oneself in front of facilities when picking coordinates must be established

- ❖ There must be a standard way to differentiate between a pharmacy and a licensed chemical seller facility when recording coordinates
- ❖ GPS units cannot record names of pharmacies that are longer than six letters
- ❖ The paper form that is used to back up the GPS data needs to be modified to include additional information
- ❖ Some problems exist when importing data from several coordinates picked by the GPS units

### Successes

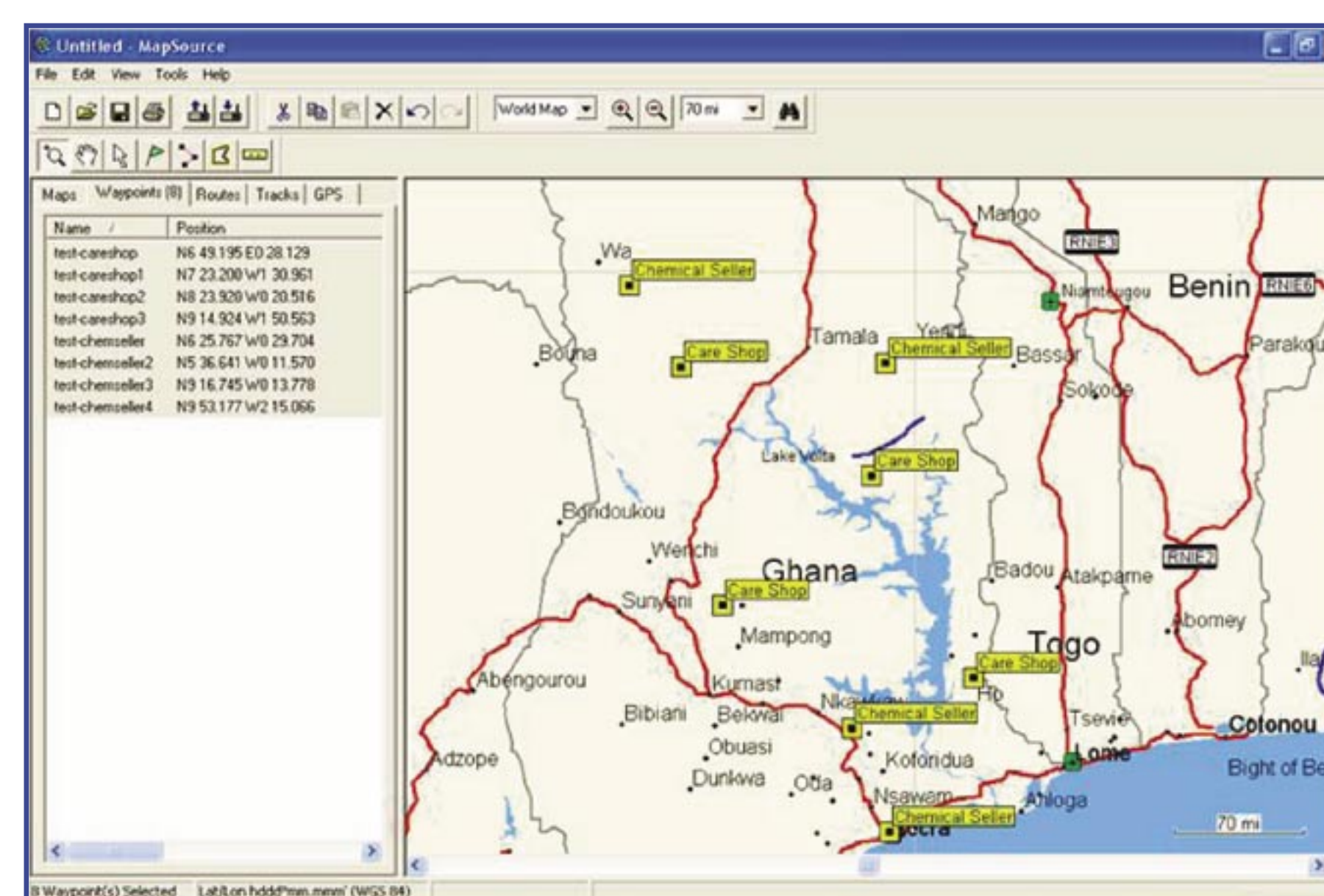
Generally, the training session was useful and therefore considered successful. Participants expressed satisfaction with the mode of delivery and the field practice, which brought more insight and understanding to the training. The staff members who received the training now have the ability to use the GPS units and import coordinates picked onto the Ghana map.

The fieldwork and debriefing session were also useful components of the training session because they gave the facilitator the opportunity to solve some of the problems that normally emerge with new technology use.

### Added Benefits of GPS Data

This technology will assist the Pharmacy Council in pharmaceutical facility data management, in the following ways—

- ❖ The technology will be used to input geographical coordinates of pharmacies and licensed chemical sellers into the new database
- ❖ It will be used to describe the pharmaceutical facilities and service distribution spatially and pictorially
- ❖ It will be used to identify the number of facilities and their locations relative to each other
- ❖ It will be used to ensure that licensed chemical sellers and pharmacies are located within appropriate distances from each other. Ghanaian pharmaceutical regulations state that chemical sellers' shops must be separated by a distance of 1 km and pharmacies must be separated by a distance of 900 m. Without a complete map depicting the location of facilities, it is difficult to enforce this law.
- ❖ It will be used to analyze the distribution of shops relative to the local population, which, in the long term, will help identify whether or not populations are being adequately served with existing pharmaceutical facilities
- ❖ It will be used to identify shops that have relocated illegally
- ❖ The technology can be adapted by the Pharmacy Council for use in site inspections, identifying shops requiring regulatory action, and other activities



Mapping software listing out locations of sample chemical sellers and CAREshops in Ghana

### The Way Forward

- ❖ Scaled-up training for all Pharmacy Council inspectors
- ❖ Identify and implement mapping exercises in specific areas
- ❖ Seek additional funding for and implement nationwide mapping of facilities

