

# Middle Egypt Master Planning Project

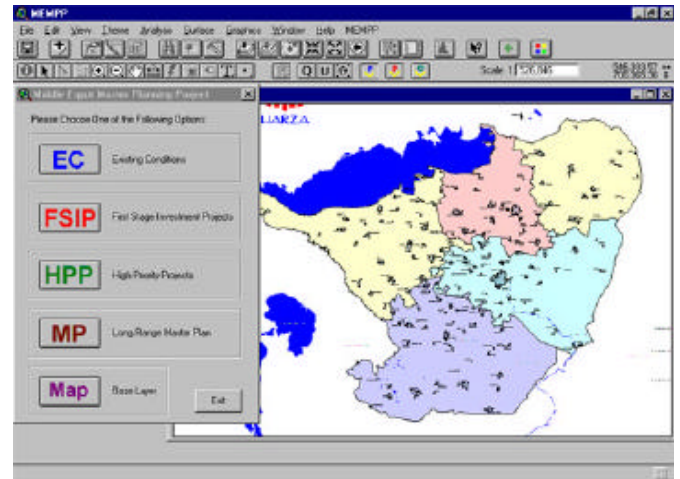
US Agency for International Development  
Harza Engineering Company

Designed and implemented a GIS-based water and wastewater master planning tool

Highland Geographic developed a GIS for use in a strategic long-term water and wastewater master plan for three Middle Egypt governorates (states) for USAID's Egypt Utility Management Program. The project goal was to provide a tool to update existing conditions, revise the master plan, and use the master plan as a decision making tool. We employed a novel planning approach which incorporates GIS to facilitate access and view various types of data including maps, GPS data, digital photos, and water and wastewater facilities data in the same coordinate space.

The integrated system tracks changes in demographic patterns and facilitate future infrastructure development. All data is readily accessible to both USAID and the various Egyptian governmental agencies and ministries involved with infrastructure development, allowing for closer cooperation during future planning activities.

The GIS is being used to prepare datasets for hydraulic modeling efforts and will become a repository for the model results. GIS software is being refined to provide end users access to simplified menus to allow casual users to access



The main MEMPP ArcView GIS menu is the portal to approximately 13 GB of project data. This view displays existing water and wastewater treatment and delivery systems .

summary data, model data, maps, and drawings.

## Project Highlights

- Development of GIS applications employing GIS as a management tool for integrating CAD drawings, GIS data, GPS and field survey crew data.
- System integration
- Customized GUI (graphic user interface) development
- Provided USAID with a set of planning tools to help manage water and waste water infrastructure for the governorates of Minia, Fayoum and Beni Suef, covering an area roughly the size of the U.S. state of Indiana.
- Sponsored by US Agency for International Development (USAID)
- Part of a 30-year master planning activity

## Benefits

- For the first time, the Egyptian government will have a full appreciation of their existing infrastructure needs along the most highly populated sections of the Nile River basin.
- The GIS developed in this project will be used for future infrastructure development and for tracking changes to existing population patterns.
- All project data is now readily accessible by USAID and the various governmental agencies and ministries within Egypt. Future planning activities will be streamlined.
- HGI's GIS will allow closer cooperation among the various governmental organizations involved with infrastructure development.