Supreme Council of Antiquities
GIS CENTER

Contents

The GIS center is the General Department of the Supreme Council of Antiquities (SCA) for geographic information system, directed by Mrs. Azza Shawarby. The department was set as a Centre of Excellence within the Public Sector, to manage and protect the Egyptian Heritage by identifying the location and characteristics of the archaeological sites and monuments. The data is then recorded in a searchable GIS database.

GIS Center: Reporting and Follow Up System

In order to maintain an efficient workflow and continue our 9 years success to digitally archive the archaeological sites in a GIS based database, the GIS Center is adopting an orderly reporting and follow up system.

The system begins by preparing a work plan (both annual and quarter); through a series of meetings between Head of Units. The work plan generally identifies targets and specifically assigns roles of each employee in the GIS Center.

Having the activities planned, following up is crucial to ensure smooth implementation. Each employee is required to present a monthly progress report which highlights his activities during the last month and any problems encountered. The monthly progress reports are then used to generate quarter and annual progress reports. These reports are are in-line with the governmental requirements in order to prepare the following annual estimated budget and distribution of means.

Also, as a mean of tracking the employee's attendance and activities, an internal "Monthly Time Sheet" was developed which provide information on daily activities; including the time spent on each activity.

Accordingly, Mrs Azza al-Shawarby, the GIS Center General Director, uses all the above mentioned reporting to produce an individual evaluation report; which basically aims at assessing the performance of each member of the GIS Center, hence encouraging team interaction and eventually generating a healthy competition-based work environment.

GIS Center: Archaeological Research Unit

Historical Sites of Egypt

Suez governorate is considered a prosperous governorate with its archaeological possessions. Upon visiting the governorate, a diversity of sites belonging to different eras will reveal an exceptional wealth. Following, is a brief exploration of two of the governorates archaeological sites known for their exceptional value.

Tall al-Yahudiyyah as-Saghir

The site is 1.55km NW of Suez City. The site was used in the Graeco-Roman; Coptic, Islamic and modern periods.

Tall al-Yahudiyyah as-Saghir

The site was excavated in 1966 by the SCA who recorded a square limestone building dating to the Graeco-Roman or Coptic periods in the central part of the site. And it was divided internally into rooms, including a bathroom. Poor burials from the Graeco-Roman periods were also recorded.

Among the more recent finds were three burials in wooden coffins dating to the reigns of Muhammad 'Ali Basha, 'Abbas al-Awwal and Sa'id Basha. Objects found in the coffins include gold coins made in Constantinopel with the name of sultan Mahmud Turkiya. A marble stela from 1861 with an inscription in English was also found in association with the burials. Among the debris of the tombs were three ceramic lamps, numerous potsherds and pieces of glass as well as a limestone piece with a hieroglyphic inscription which was probably brought here from another site.

Agrud Castle

Athar Agroud area lies in the north west of al-Suez city, in the 19th kilo of Suez-Cairo road.

During the Greek rule in Egypt a suburb in the north west of (klisma) Kalzam was constructed under the name of Hagrout. It contained a water well that belongs to the Roman era. Hadrian 115-138 B.C renewed the Suez well but neglected Agroud well.

Sultan al-Nasser ibn Kalawoon rebuilt the well in 719 a.h. and also built a water wheel with scoops, in addition to a traveller`s Khan or hostel in the north east of the well.

On the other hand, his son Sultan Hassan constructed four fountains near the water wheel. Sultan Kansoah al-Ghoury ordered prince Khayer Beik in the year 915 a.h / 1509 a.c to renew the hostel, and build a castle around the well to secure it and to establish a mosque near the hostel.

Agrud Castle

Due to excavation works, the site is divided into three parts;

(1) the archeological mound that lies around 250m from the desert road, (2) a site containing a castle built in limestone, (3) a site containing a (khan) or hostle

Sites Visit

To complement the research activities of the GIS Center, site visits are conducted aiming to update existing researched data and record the archaeological site's latest conditions as well as verification of both the legal and maps data with Taftish.

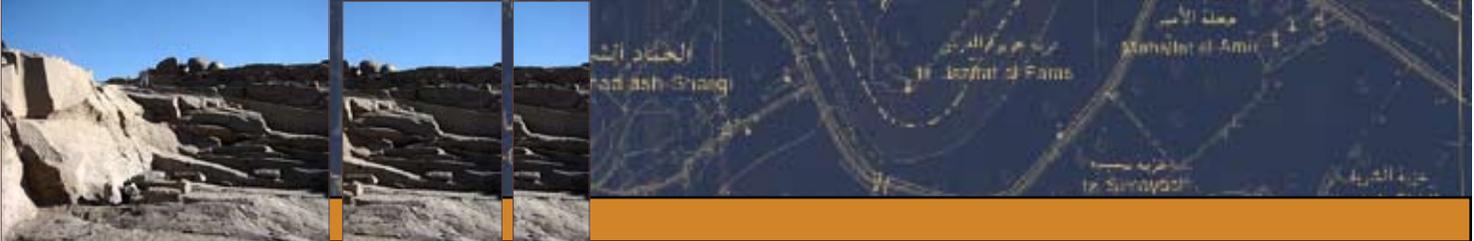A team of specialized members from the GIS Center carry out the sites visits each with a defined role.

(1) The coordinator organizes and facilitates the team's mission by contacting the local inspectorates, planning the sites to be visited and arranges accommodation, if required.

(2) The archaeologist records the site's current condition, threats and any significant observation.

(3) Also, photos are taken by the photographer to be later used as a reference and to comprehend the site's data in the GIS Center's System.

(4) The GPS specialist, along with acquiring the GPS points of the site's borders, verifies the data of the official Amlaak maps previously obtained.

(5) The Legal researcher also check for updated official decrees related to any of the sites being visited.

Antiquities Survey along proposed Metro line no.4.

Study team from JICA, Japan International Cooperation Agency, has been working on a Preparatory Survey for the Greater Cairo Metro Line no.4. The study area is identified by the proposed route of the new metro line; which starts at Al-Remaya Square through Al-Malek Al-Saleh station to Nasr City or El-Sawah Square. This route would directly pass through the Islamic Cairo area; hence the study is required to grant absolute priority to the archaeological and historical properties.

In order to comprehend the archaeological and historical properties' accurate location and current status, it was crucial to have an up-to-date digital data. This data should show the location of the archaeological and historical properties along with a description of their value.

Seeking to acquire the digital data, the JICA team contacted the Supreme Council of Antiquities, which in turn referred to the GIS Center; as the only source for digital data of the archaeological and historical properties' locations and description.

Knowing that the study area was not previously covered by the GIS Center and was not included on the

Ragab ash-Shirazi dome

short term work plan, and that the JICA Study teams were working on a very tight schedule, the Center proposed performing an intensive

Border of SCA Archaological Sites found along ML4 propsed route

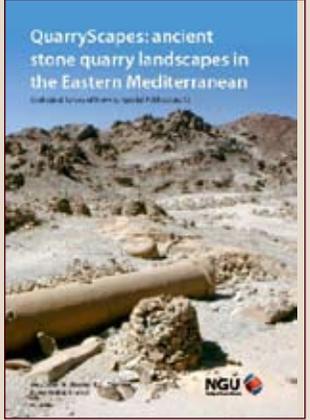inventory (3 months) to acquire the requested data.

Though not the standard procedure, the activities started by conducting visits along the proposed route to list, and when possible, acquire digital photos for the archaeological and historical properties present in the study area (both Egyptian and Islamic). The listed properties were then digitized from their official maps (1:5000) through the use of GIS. Meanwhile, the archaeology and legal department initiated a research for the listed properties to stand on their value and legal status.

Over the course of 3 months, at least 160 archaeological and historical properties were researched and included in the digital database. Their location varied from being directly on the proposed routes or adjacent. The digital data was delivered to JICA Study team along with datasheets and photos for selected properties. Antiquities Survey along proposed Metro line no.4.

QS Project's Publication

The 'QuarryScapes' project drew together professionals from academic and other institutions in Egypt, Jordan, Turkey, UK, Belgium, Italy and Norway to focus specifically on documentation, conservation and heritage management of fragile quarry landscapes within the first collaborative and innovative project of its kind. The SCA/GIS Center participated by preparing and delivering a National Quarry Map for Egypt and to incorporate the quarry's identified into the GIS system developed in the Center.

Though QuarryScapes project is officially concluded, 01/11/05 – 31/10/08, but the work continues. A new book with contributions from the consortium is now published by the Geological Survey of Norway (NGU). In full color, the NGU Special Publication 12 presents ten articles with different perspectives on ancient quarries in the Eastern Mediterranean (see front page, example page and table of content below).

The book can be purchased at NGU. You can also view a copy of the book in the GIS Center.
http://www.quarryscapes.no/news_December_09.php

Archaeological Sites' Web Application

On March 2009, a collaboration activity was initiated between the Supreme Council of Antiquities and the National Center for Scientific Research (CNRFS); which is French government-funded research organization, this activity brought together the SCA's GIS Center and CEDEJ (Centre d'Études et de Documentation Économiques) to develop a web based application to be used for publishing various kind of information about archaeological sites.

The data of the archaeological sites of ash-Sharqiyyah government were used as pilot information; this included maps (of different types and scales), archaeological and historical data. The application developed was based on "open source software" as a step towards unconstrained usage.

Over the course of 9 months efforts were exerted to optimize the data available at the GIS Center to facilitate their browsing through the internet. Problems related to the data size and resolution is an example of demanding issues which acted as challenges to overcome. The project's preliminary phase was concluded by the end 2009, and produced an application which allows the user to view and brows maps and basic information for ash-Sharqiyyaah sites.

What is GIS (Geographic Information System)? .... Part 1

Introduction

Geographic Information System (GIS) is a computer based information system used to digitally represent and analyze the geographic features present on the Earth' surface and the events (non-spatial attributes linked to the geography under study) taking place on it.
Work on GIS began in late 1950s, but first GIS software came only in late 1970s from the lab of the ESRI

Defining GIS

GIS is both a database system with specific capabilities for spatially referenced data as well as a set of operations for working with the data.
GIS technology integrates common database operations such as query and statistical analysis with the unique visualization and geographic analysis benefits offered by maps

Components of GIS

GIS constitutes of five key components:
- Hardware
- Software
- Data
- People
- Method

Map Features

Locational information is usually represented by points for features such as wells and telephone pole locations, lines for features such as streams, roads and contour lines and areas for features such as buildings, lakes and governorates.

Point feature

A point feature represents single location. It defines a map object too small to show as a line or area feature. A special symbol of label usually depicts a point location.

Line feature

A line feature is a set of connected, ordered coordinates representing the linear shape of a map object that may be too narrow to display as an area such as a road or feature with no width such as a contour line.

Area feature

An area feature is a closed figure whose boundary encloses a homogeneous area, such as a state country soil type or lake.

For more information check:
http://www.gisdevelopment.net/tutorials/

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