Map Middle East 2005

GEOSPATIA
INFORMATION A
KNOWLEDGE ECONO

23-25 April 2005
Al Bustan Rotana H
Dubai, UAE

ORGANISER

Proceedings

CSDMS

GOLD SPONSORS

INTERGRAPH

BAE SYSTEMS

BENTLEY

ROLTA

GLOBALSCAN

CO-SPONSORS

Military Survey Department, UAE

Town Planning Department,
Al Ain City Government of Abu Dhabi

Space Reconnaissance Centre, UAE

MEDIA SPONS

GIS

i4d

Developing Health Geographic Information Systems for Khorasan Province in Iran

Seyed Hossein Sanaei-Nejad
Faculty Member
Ferdowsi University of Mashhad
Mashhad, Iran
Sanaei_h@Yahoo.co.uk

Hasan Ali Faraji Sabokbar
Faculty Member, Tehran University,
Iran
Faraji1382@yahoo.com

Abstract

GIS has been used for many years In Iran, in agricultural, economic, natural resources, urban planning and other sectors. Using GIS in these sectors also face different barriers, mainly because lack of accurate and sufficient data. However, using GIS for health management and research is still in the beginning stages. Health service in Iran is widely spread and complicated activity. Health management is also a centralized decision making procedure. Therefore allocation of spatially scattered health facilities to urban and rural area is a very difficult task. On the other hand there has been a great effort to collect detailed health data from all over the country for many years. The data is stored in DBF format and no spatial topology or spatial relation has been established in the database so far. The local health management in Khorasan Province (North East of Iran) decided to use GIS as the main tools for processing the health data in spatial base. We proposed them to develop an enterprise Web based GIS for health service in Khorasan. A project has been designed to prepare spatial data, general platform, relational database and web based GIS software. The architecture of the system is based on Content Management System (CMS). In the CMS, three main branches are considered: Spatial data preparing, feature attribute data preparing, processing and management and spatially relating the feature attribute databases. Preparing thematic maps and the related attribute data is the main problem in establishing enterprise GIS. This is a more difficult task in developing countries (Sanaei-Nejad, 2002) and has become more problematic, when the enterprise GIS is for health service and management. Maps and spatial data sources, traditionally, are not used in health service and management. In Khorasan province, however, there are limited map sources available in other governmental organizations, which can be used as basic thematic maps for HGIS. Some other maps have been prepared by fieldwork using GPS and also address matching procedure. The structure of traditional databases in the health service and management of Khorasan were analyzed. The analyses showed that the number of the fields in the databases is very high. They were organized into different relational tables, but the architecture of the databases is very simple. There are some rules that have to be considered in defining the fields and their attributes in the database. The traditional databases are static and updated procedures are time consuming and also bureaucratically complicated. The new developed database is web based and dynamically can be updated in a distributed network by all of the authorized users. We used some open sources software and developed them according to the Khorasan-HGIS needs. The software appropriately meets the needs and it is ready to be installed in the server. It is well developed to support native languages and also the related feature attribute data. The health enterprise GIS uses World Wide Web as a platform to access the map and related attribute data. This is a new well-developed GIS tools and can be used as a powerful enterprise GIS. The project is completed and the system will be ready to be used in the near future. In this paper we have explained our plan and the stages that we have completed to establish the Health Geographic Information System for Khorasan province