

# **Enterprise GIS Solution for Census Operation: A Case Study from Kingdom of Saudi Arabia**

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**Key words:**

## **SUMMARY**

Census operation is a very important event in the history of a nation. This operation covers every bit of land and property in the rural and urban areas in the country. In Kingdom of Saudi Arabia, Central Department of Statistics (CDS) conducts census operation every 10 years. The last census operation was conducted in (1413H-1992). The preparation of the next census operation started one and half year ago (1423H-2003) and expected to be finished by the end of (1425H-2005). The strategic plans of CDS, that census information must be shared by all divisions within the organization to support mandated functions and also to supply other ministries and organizations in KSA with this information.

When we look at major forces of the 21<sup>st</sup> century like population growth, economic development and consumption of natural resources, we see that all of them have a spatial component. Data produced by census is a primary source of information needed for effective development, planning and monitoring of population, services distribution and socio economic.

The census database contains a lot of attribute information which can be linked to spatial data by spatial referencing. Relating the spatial component along with non-spatial attributes of the existing organization data enhances user's understanding and gives new insights into the patterns and relationships in the data that would otherwise not be found and to enhance the decision making process. Taking into consideration that many potential users of spatial information don't know about GIS technology, the development of an Enterprise GIS solution would serve two crucial purposes. Firstly, it would allow the users to operate the system without having to go the underlying intricacies of GIS and RDBMS technology. Secondly, it would allow sharing of information and technical experience between a wide range of users.

Over the past few years, the terms Enterprise GIS and Enterprise-wide GIS are becoming more common in the GIS community, in organizational strategic plans in requests for services. Enterprise GIS is not a method to provide automated map plotting capabilities to the entire organization. Enterprise GIS is the sum of a coordinated GIS effort and its federated systems working together to support and promote coordinated geo-spatial data development and access across jurisdictional and organizational boundaries.

The vision and promise of Enterprise GIS is its ability to be an essential or core technology that integrates information across the many "islands of computer information systems" that exist in any organization.

The critical capabilities associated with Enterprise GIS include:

- a GIS that integrates geographic data across multiple departments and serves entire organization.
- a GIS that provides desktop access via LAN and WAN connection to anyone who needs access, i.e. Enterprise GIS fully supports client-server operability.
- a GIS that provides access to other information systems in the organization by using a map or application as the integrator of the organization's information.
- a GIS that can communicate with other entities outside of the enterprise itself.