

THE USE OF GIS IN SOCIAL DEVELOPMENT OF URBAN AREAS: THE CASE STUDY OF SOCIAL WELFARE SOCIETIES IN THE EASTERN PROVINCE OF SAUDI ARABIA

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Within the comprehensive planning process, welfare institutions are concerned with improving the conditions of people. This is achieved through alleviating differences among groups and classes of the society, particularly economic disparities. Because of social problems caused by population increase of modern societies and subsequent changes in urban life patterns and conditions- as well as the unpreventable invasion of many foreign ideas and traditions not suitable with our local cultural context- abundant information accumulates on existing records and are continuously changing over time causing traditional data processing methods to become more than handicapped. For instance, there has been an increase of the numbers of citizens registered on the Society of Benevolence, the Eastern Province (SBEP)- which is considered one of the largest and pioneer institutions working in social welfare development in the Kingdom of Saudi Arabia (KSA). The number reached more than 145000 members distributed on 37000 families. This number implies the collection of abundant amount of data required to describe the various social, economic, cultural, and other characteristics of beneficiaries.

It has been a necessity to collect, store, organize, update, analyze, and formalize decisions out of this big amount of data which covers the characteristics of population spreading on a large extent of geographic lands of the Eastern Province, KSA. It has, also, been required to recognize how people and their accompanying social, economic, and other activities are being distributed on the land at all local and urban, regional, national extents of the environment. A more important issue is the demand for analyzing the spatial information of the society and using the results of the analysis to support development decisions. All these conditions necessitate the adoption of enhanced systems to deal with accumulating and changing information.

Advanced Information Systems are used to deal with the human and spatial characteristics of people who are benefited from the various welfare and social services offered by the various branches of the Society of Benevolence of the Eastern Province. The study reached a number of significant results which insures the effectiveness of GIS, with all its organizational and analytical capabilities, in dealing with the information and supporting social development decisions of urban areas populated with less-fortuned people.

Based on lessons gained from the experience of the researcher over the last decade or more, a framework of recommendations is suggested as to optimize the positives, mitigate the negatives, and generalize the benefits of the experience to other similar social development projects in the KSA and in other countries.

KEYWORDS: GIS, Social Welfare development, Saudi Arabia.

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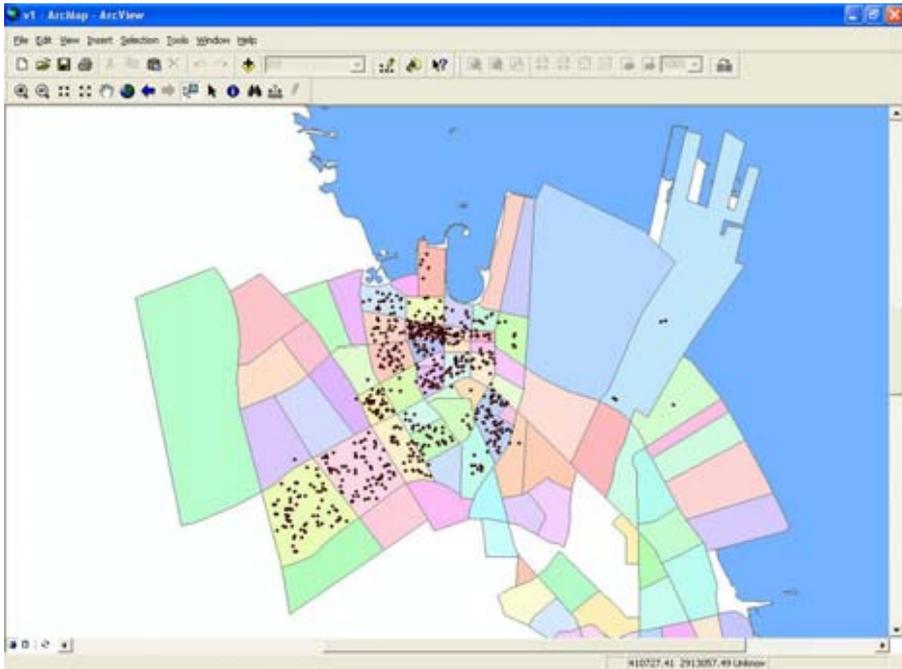
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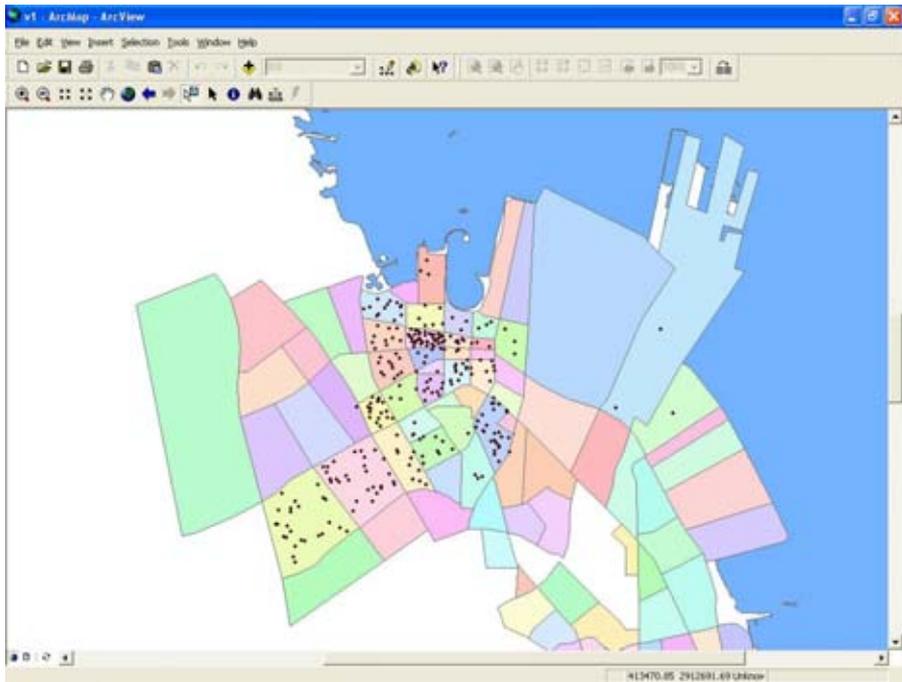
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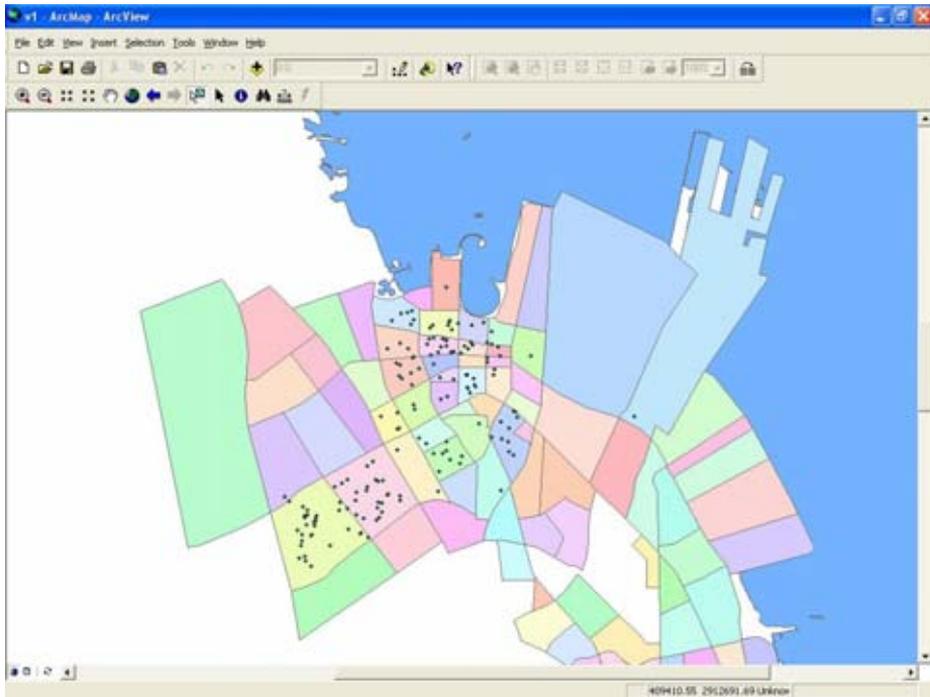
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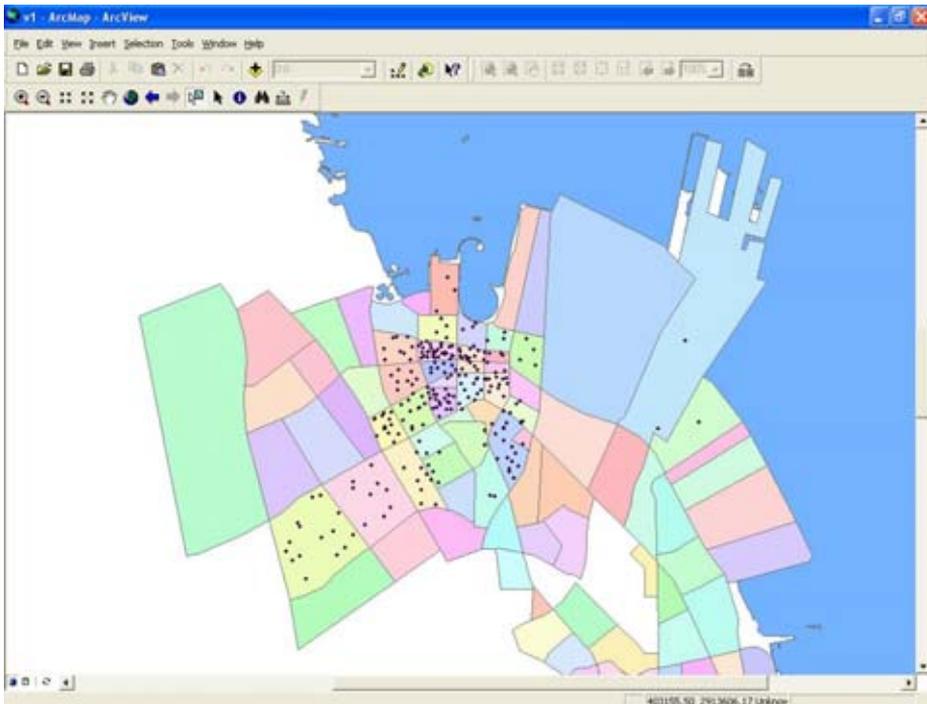
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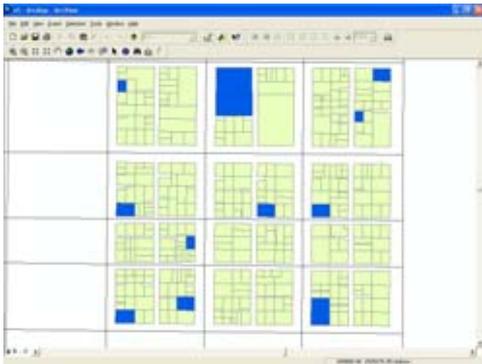
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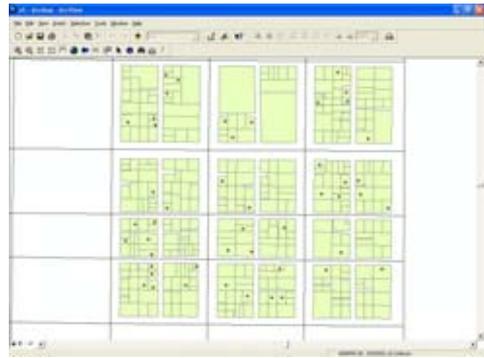
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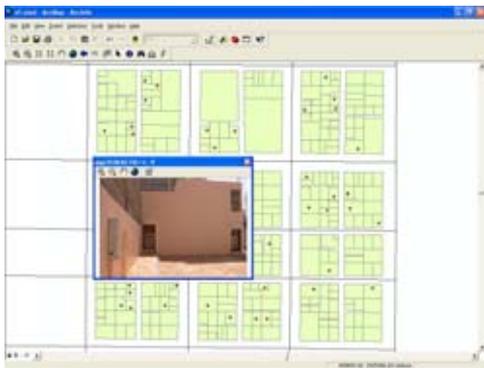
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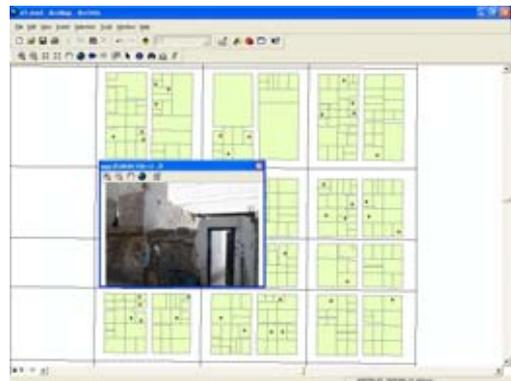
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- <http://www.planning.gov.sa/planning/intro.htm> : () []
- [2] Goodchild, Michael F. (2000), New Horizons for the Social Sciences Geographic Information Systems ISUMA, Volume 1 N° 1, Spring. Web Site: http://www.isuma.net/v01n01/goodchil/goodchil_e.shtml
- [3] Harris, T. and Weiner, D., eds. (1996). GIS and Society: The Social Implications of How People, Space, and the Environment are Represented in GIS: Scientific Report for the Initiative 19 Specialist Meeting. Retrieved 5 January 2001 from the World Wide Web: http://www.ncgia.ucsb.edu/Publications/Tech_Reports/96/96-7.PDF

- [4] Rangoori, R., & Singh, S. (2005, March 26). Evolving spaces in landscape management: Linking spatial information for effective decision-making. *International Journal of Education and Development using ICT* [Online], 1(1). Available: <http://ijedict.dec.uwi.edu/viewarticle.php?id=11>
- [5] Loewe, Markus, (2004), New avenues to be opened for social protection in the Arab world: the case of Egypt, *International Journal of Social Welfare*, Volume 13 Issue 1 Page 3 - January.
- [6] Chan, Y. and Easa, S. (2000). Looking Ahead. In S. Easa and Y. Chan (eds.), *Urban Planning and Development Applications of GIS*. Reston, Virginia: American Society of Civil Engineers.
- [8] UNISCO, (2005), *GIS Analysis for Urban Development*, United Nations Centre for Regional Development Publications, Module H, Ch 3, UN, New York, May. Web Site of the Publication: <http://www.virtualref.com/unocrd/default.htm>
- [10] Mandayam, Gokul, (2002) *Geographic Information Systems: A planning tool for human service agencies*. Published online on: The Geospatial Resource Portal, Web Site of the Article: <http://www.gisdevelopment.net/application/health/overview/health0007h.htm>
- [11] Committee on Review of Geographic Information Systems Research and Applications at HUD: Current Programs and Future Prospects, Committee on Geography, National Research Council, (2003), *GIS for Housing and Urban Development*, Washington D. C. Web Site of the Online Version of the Report: <http://books.nap.edu/books/0309088747/html/17.html>