Activities and Problems of Urban Information System (UIS) in Turkey

S.Savas DURDURAN, Ali ERDI, TURKEY

Key words: GIS, Urban GIS, GIS Applications etc.

SUMMARY

Great labor is being spent to respond urban needs in our rapidly growing and developing cities. There have been formed several institutional structures for meeting increasing needs of urban areas. Local governments that are at the top of these institutions, benefit from several spatial and non-spatial databases.

Constitute to Urban Information System studies in Turkey, range of system, aim which is want to getting, looking as far as forming-applying, possible to saying there are lots of different. It's not said to common understanding subject of logic of totalitarian system, methods, standards and sharing system and so.

In this study, system logic, association cooperation and sharing, cooperation of apply and standardized, continue to the exist of system and range result-benefits analysis is doing. In study, studying the providing way map for Urban Information System study in Turkey. Subject of methodology, especially like wholeness of urban, to be necessary to appropriate to ones of a totalitarian approach, system which is associate institutional preference is digress the system soul is present with example.

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1. INTRODUCTION

Municipalities are the leading institutions which are responsible for providing contemporary living facilities to city people, use spatial information effectively, live data management densely and share the self-produced information with public (Geymen et al., 2004).

The municipalities study for performing their duties specified with laws and regulations by the help of the activities executed with the units of planning, construction, transportation, substructure, mapping, environmental protection, security, health etc. They require more resources due to their increasing services in the course of time at urban and rural areas in today's complex and dynamic environment. This situation increases the necessity to up-to-date, exact and easily obtainable information processed by managers who has owned more information useful for politics, application and municipality works (Yomralıoğlu, 2000).

This century is the century using information optimum and making right, fast, effective and current use of information by the help of information technologies. Because, producing, modeling, operating and analyzing information with manual methods as in present structure cause losses in time, cost and labor.

Being the urban-based application of Geographical Information Systems (GIS) in Turkey, Urban Information System should be organized to perform active, quick, right and modern urban management and carry service to urban people better by using maximum information.

2. URBAN INFORMATION SYSTEM APPLICATIONS IN TURKEY

A status determination has been made about the position of Urban Information System (UIS) study in all of the municipalities in Turkey by The Institute of Statistics in Turkey (TIST). In this study, there were made researches about maps whether they were in digital format or not and about numbering information whether they were updated or not, recorded in computer medium or not and related with digital maps or not. The research was applied on all the municipalities in Turkey during May 2005 – August 2005 time period. According to the results compiled from 3066 of 3228 municipalities, 543 municipalities (18 %) have numbering unit. 104 of these have updated numbering information. However, only 17 of 104 have numbering information recorded in the computers. In addition, 126 municipalities (4 %) have existing UIS study (TÜIK, 2006).

Urban Information System is a data system that examines planning, engineering, basic service and managerial information reliable and quickly which are needed to give the most appropriate decisions in performing urban activities (Durduran and Erdi, 2005)

Some of the local units presenting Urban Information System application efforts in Turkey can be listed in alphabetical order as Ankara, Alanya, Antalya, Aydın, Bursa, İstanbul and İzmir (Durduran, 2005)

A general evaluation is made by gathering UIS applications in Turkey under subtitles of; data, hardware, software, personnel, data sharing and coordination (Figure 1).

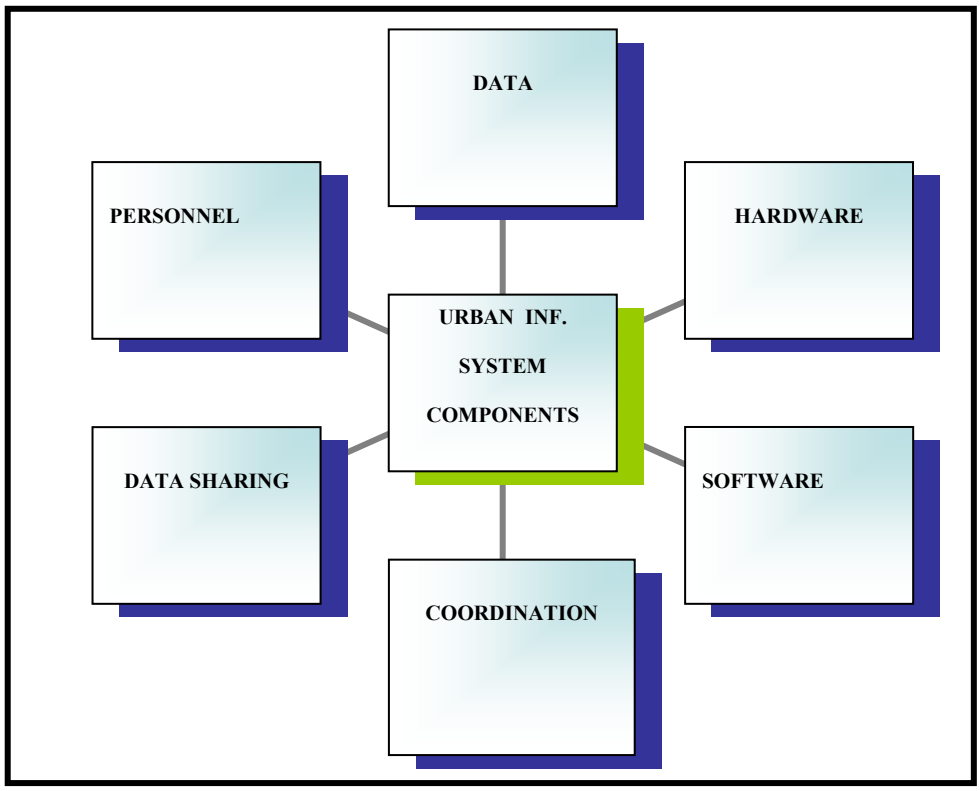

Figure 1. Urban Information System Components

Having been continuing for long years this study was updated in year 2004 and completed by using annual business reports of municipalities, interviews made with relevant people, survey results applied to municipalities and article, paper and writings published about these subjects.

2.1 Data in Urban Information System Applications

Existing data in urban applying Urban Information System in Turkey are digitalized due to following reasons;

- development applications in general,
- determination of up-to-date present maps by the help of satellite views,
- making digitalization processes due to local applications,
- and necessity of data collection for the application of prepared engineering projects,

As a result of protocols fulfilled with Land Registry and Cadastre General Directorate, cadastral maps and land registry information including ownership information can be taken. Sometimes, managerial and judicial problems can be experienced during the determination of this information.

2.2 Hardware in Urban Information System Applications

Most of the Urban Information System applications in Turkey have hardware opportunities. The hardware of desired trade and properties can be chosen and purchased in Turkey in this century in which we live information technology. Municipalities are presenting a transparent management in supplying necessary hardware.

2.3 Software in Urban Information System Applications

There are used 3 types of softwares in Urban Information System applications in Turkey which are named as CAD products, mapping products and UIS softwares.

Within these softwares, NETCAD products are usually used in performing mapping activities and MAPINFO and ARCINFO softwares preferred among UIS softwares and their compatibility with CAD products also facilitate their usage in other engineering studies (Durduran, 2005)

2.4 Personnel in Urban Information System Applications

In urban performing Urban Information System study; the personnel who were so far busy with the beginning stage of the projects, were mainly formed from people that were closer or interested in this subject instead of having profession information. Afterwards, especially in the application stage, the necessity of employing experienced and educated personnel in this subject who have serious engineering, computer and system information was perceived after the confronted problems.

2.5 Data Sharing in Urban Information System Applications

Inside institution data sharing is provided in the municipalities that perform Urban Information System. Since municipality has a network system between its units, data transfer and data sharing between units can be done easily.

2.6 Coordination in Urban Information System Applications

In general, a complete coordination does not exist in Urban Information System applications. On the contrary, an institutional confidence takes place which fulfills service in the same urban, uses the same digital maps, needs but not shares the same information and hesitates from coordination.

3. PROBLEMS OF URBAN INFORMATION SYSTEM APPLICATIONS IN TURKEY

The urban worked hard to establish Urban Information System in Turkey and had some various problems due to too much dense, various and complex services presented during the installation stage of Urban Information System. In Urban Information System applications being performed in Turkey, there was met various problems related with data, management, justice, coordination and economics during and after system installation. These problems are explained item by item in the following (Figure 2).

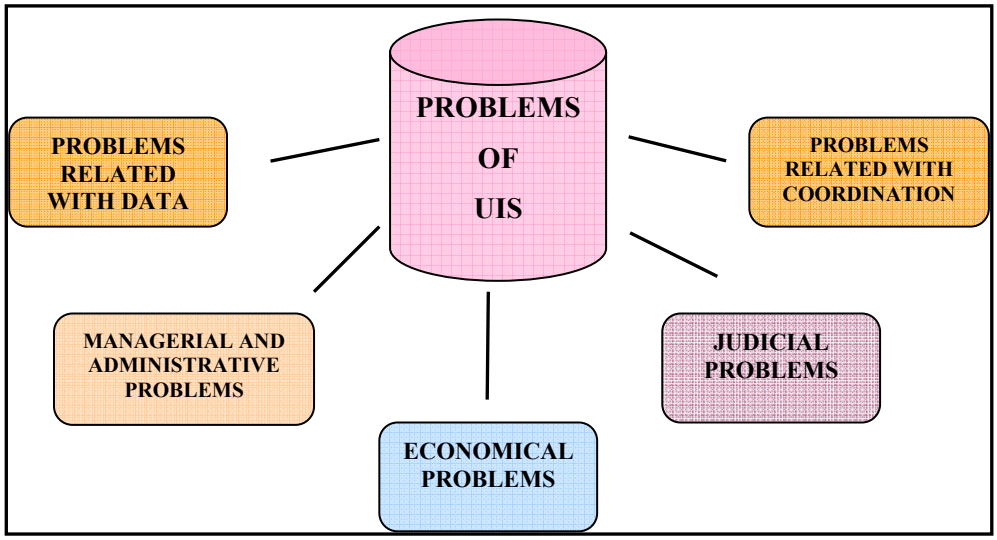

Figure 2: Problems of Urban Information System

3.1 Problems Related With Data

The municipalities are on the way of obtaining required spatial data from their own units and other institutions. This kind of an approach causes losses in terms of time, personnel, manpower and economy. This structure results in municipalities to work in clumsy conditions.

3.2 Managerial and Administrative Problems

The major managerial and technical problems are caused due to the negative effects of local selections, negative standpoints, reluctant behaviors of personnel, and the replacement of technical and managerial personnel during the installation stage of the system.

3.3 Judicial Problems

While the municipalities are executing their UIS projects, they require information utilization from their institutions and outside-institutions. However, there are legal problems causing

time, manpower and money losses due to legal regulations of the other institutions in the city which are aimed at not giving chance to share information with the municipalities.

3.4 Problems Related With Coordination

There is a structure away from coordination personally and institutionally in the information sharing activities of the institutions. The personnel have behaviors far-off from coordination and information sharing.

3.5 Economical Problems

The municipalities do not have sufficient budgets for the completion of UDS projects. During the preparation of annual budget, money is not shared out considering the realities, and then consequently, there were met problems during the updating, keeping alive and integration of data.
The determination of problems met in UIS applications and trying to solve them will cause to have higher benefits. Nowadays, many municipalities purchase softwares and hardwares for the utilization of existing data and operating municipality automation; however they pay higher costs resulting in higher losses (Geymen, 2006).

4. CONCLUSION

Having and effectively using spatial information carries great importance in performing urban activities reliably. Feeling the need of planning especially in terms of local governments, reaching the information of engineering projects and applications quickly, producing newer information by using former information and pursuing and controlling all of them are indispensable components for a planned urbanization.

Necessary spatial information analyses are fulfilled with Urban Information System by correlating especially the spatial map information produced by computer with other non-spatial information. Therefore, since basic functions of local governments which require map information will be performed in a short period of time by the help of technology, a great economical benefit will be provided and a powerful decision support system for urban activities will be formed by Urban Information System.

There are no specific principles and standards in Turkey in order to establish Urban Information System. This condition falls the relevant and institutions into pessimism who want to be busy with this subject. There should be established regional organizations or centers formed from relevant agencies of all institutions and universities that produce topographic, cadastral, forest, infrastructure maps, plans etc. under the municipality association or a regarded organization. Principles and standards of Urban Information System should be specified with the coordination and collaboration that will be provided between these centers. Furthermore, these centers could give consulting service by making collaboration with universities.

The numerous advantages of widespread use of Urban Information System in Turkey are known by institutions and organizations that mostly need spatial data. Information will be reached quickly, correctly and updated with the establishment of Urban Information System and decision support politics will gain speed.

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BIOGRAPHICAL NOTES

S. Savas DURDURAN is an Assist. Prof. Dr. at Selcuk University in Turkey. He graduated from the Department of Geodesy and Photogrammetry Engineering at Selcuk University in 1992. He received his Ms.C. degree in July 1996 and his Ph.D. degree in June 2005. His research interests are Geography Information System, Urban Information System and Urban GIS.

CONTACTS

S.Savas DURDURAN
Selcuk University
Faculty of Engineering and Architectural
Department of Geodesy and Photogrammetry Engineering
Konya
TURKEY
Tel. + 90 332 2231931
Fax + 90 332 2410065
Email: durduran@selcuk.edu.tr