

# 1 INTRODUCTION

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## 1.1 Background

The Dakar Metropolitan Area occupies 200 square kilometers and its estimated population for 1999 is 1.9 million. The main concern in Dakar, as in many African cities, is not only the size of the city itself but also its rate of growth, estimated at nearly 4% a year. Urban problems manifest themselves as governmental measures in providing facilities and services lag behind rapidly increasing population in such a way that almost 30% of the area is covered by illegal housing. Individual efforts by responsible organizations has not yielded desired results as data preparation effort is duplicated among different organizations and collected data is often mutually incompatible. It is highly desirable that a common information system readily employable by organizations concerned in the provision of social infrastructure be established as soon as possible.

With this understanding, the Government of Senegal decided to establish an infrastructure information management system utilizing GIS in order to support the development of urban facilities and services in the Dakar Metropolitan Area, and requested a technical assistance to the Government of Japan.

In response to the request of the Government of the Republic of Senegal, the Government of Japan decided to implement the Study on Infrastructure Information Management System of the Dakar Metropolitan Area in the Republic of Senegal. In February 1999, the Japan International Cooperation Agency (JICA), the agency responsible for the implementation of official technical cooperation programs, sent a Preparatory Study Team to hold discussions with Department of Geographic and Cartographic Works (DTGC) of the Ministry of Equipment and Transport and Department of Urban Planning and Architecture (DUA) of the Ministry of Urban Planning and Housing. On 17 February 1999, DTGC, DUA and JICA agreed upon the Scope of Work for the Study.

In July 1999, JICA called technical proposals for the selection of a consultant to implement the Study. A team of experts organized by PADECO Co., Ltd. and Asia Air Survey Co., Ltd. was selected and contracted as the Study Team in September 1999, and was mobilized immediately to Senegal.

On behalf of the Government of Senegal, DTGC and DUA coordinated the Study in relation to other governmental and non-governmental organizations concerned, including formation of a Steering Committee, for the smooth implementation of the Study. JICA also formed an Advisory Committee for the Study in Japan in order to efficiently supervise the Study. The Study was carried out in Senegal and in Japan for a period of one year and half commencing in September 1999, during which the Study Team spent a total of 9 months on three

occasions in Senegal and the remaining periods in Japan to carry out the formulation of the system, its establishment and installation, and technology transfer.

The Government of Senegal assigned DTGC and DUA as the counterpart agencies to the Study Team, and formed a Steering Committee for the Study consisting of main members of the National Map Committee for the purpose of smooth implementation of the Study. In Japan an Advisory Committee was established consisting of experts in the subject field for the purpose of advising the Study Team.

## **1.2 Technology Transfer**

Every effort was made throughout the Study period to facilitate technology transfer as the main objective of the Study was to establish a working system actually utilized by related organizations in Senegal.

### **Workshops**

In 1999, workshops were held five times for technical personnel of DTGC and DUA explaining and discussing the direction and contents of the Study.

In June 2000, two sets of system hardware were delivered and temporarily installed at the Study Project Office within DTGC. From early July to Mid-September, training of DTGC and DUA officials was carried out almost every day including installation and operation of hardware, installation of software, establishment of the Infrastructure Information Management System on the hardware by inputting a large amount of data, and the operation of IIMS.

In August 2000, three separate workshops were held for DUA officials for ways to utilize the IIMS.

### **Seminars**

Full scale seminars were held inviting a large number of organizations with desire to utilize the IIMS in addition to the counterpart agencies.

- September 28, 1999: Introductory Seminar, introduction of study objectives and the concept of GIS.
- January 25, 2000: Interim Seminar, explanation of urban development issues in Dakar and interim results of the Study
- November 2000: Second Seminar, explanation of the Draft Final Report and introduction to the IIMS

## **Training in Japan**

During the Study period, one official from each of DTGC and DUA received three week training in Japan.

### **1.3 Terminology**

In this report some particular concepts are expressed in terms specific to this study. Some are not readily understandable as their meanings are much more specific than their meanings in general use suggest. The following show what these terms actually indicate in this study.

#### **GIS (Geographic Information System) :**

Any computerized system of data set and software in Senegal that can store and retrieve information linked with geographic location associated with the information. Output of such a system is typically ordinary map or “thematic map” (See below)

#### **Thematic Map :**

A map showing location of selected theme. A selected theme may only be represented by points on a map or may cover a certain area or areas on the map.

#### **IIMS (Infrastructure Information Management System) :**

A GIS system specifically designed and established by this Study to assist planning and management of urban infrastructure and services in Dakar.

#### **Spatial Data Infrastructure :**

A set of computerized data files that forms the basis of data sets used in IIMS. As such a data set should be commonly used by various agencies, it is highly desirable that a single national agency should manage and take up the task of keeping Spatial Data Infrastructure up to date at all times. Since DTGC will be in charge of this task, the Spatial Data Infrastructure can be defined as the set of data files of selected geographic and other information in IIMS that is to be maintained by DTGC.

#### **Other GIS Data :**

All data files to be included in IIMS but not in Spatial Data Infrastructure.

## **1.4 Report Organization**

The Final Report, in French, English, and Japanese, consists of four volumes and an executive summary as follows:

- 1 Executive Summary
- 2 Volume I: Main Report
- 3 Volume II: Appendices
- 4 Volume III: Textbook for Preparation of GIS System
- 5 Volume IV: Operation Manuals