

Distr.  
GENERAL

ECE/CES/SEM.54/27  
23 May 2006

ENGLISH ONLY

**UNITED NATIONS STATISTICAL COMMISSION and  
ECONOMIC COMMISSION FOR EUROPE  
CONFERENCE OF EUROPEAN STATISTICIANS**

**EUROPEAN COMMISSION  
STATISTICAL OFFICE OF THE  
EUROPEAN COMMUNITIES (EUROSTAT)**

**ORGANIZATION FOR ECONOMIC COOPERATION  
AND DEVELOPMENT (OECD)  
STATISTICS DIRECTORATE**

Joint UNECE/Eurostat/OECD Seminar on the Management of Statistical Information Systems (MSIS)  
Sofia, Bulgaria, 21-23 June 2006

Special Session: Presentations of developing information systems in the Bulgarian National Statistical Institute

## **PRESENTATION OF THE INFORMATION SYSTEM “PLANNING AND DESIGN OF THE STATISTICAL SURVEY”**

**Invited Paper prepared by Antoaneta Nikolova, National Statistical Institute of Bulgaria**

### **I. INTRODUCTION**

#### **Legal basis**

1. The development of Information System “Planning and design of the statistical survey” is performed in compliance with the Strategy for development of Integrated statistical information system (ISIS) at the NSI since October 2004 that is prepared within the framework of the PHARE 2000 National Programme, BG 00.06.04 project. Development of the system is performed by an external executor – “ACCIOR – LIREX BG consortium” under a contract since 31.12.2004 between the Ministry of finance and the executor.

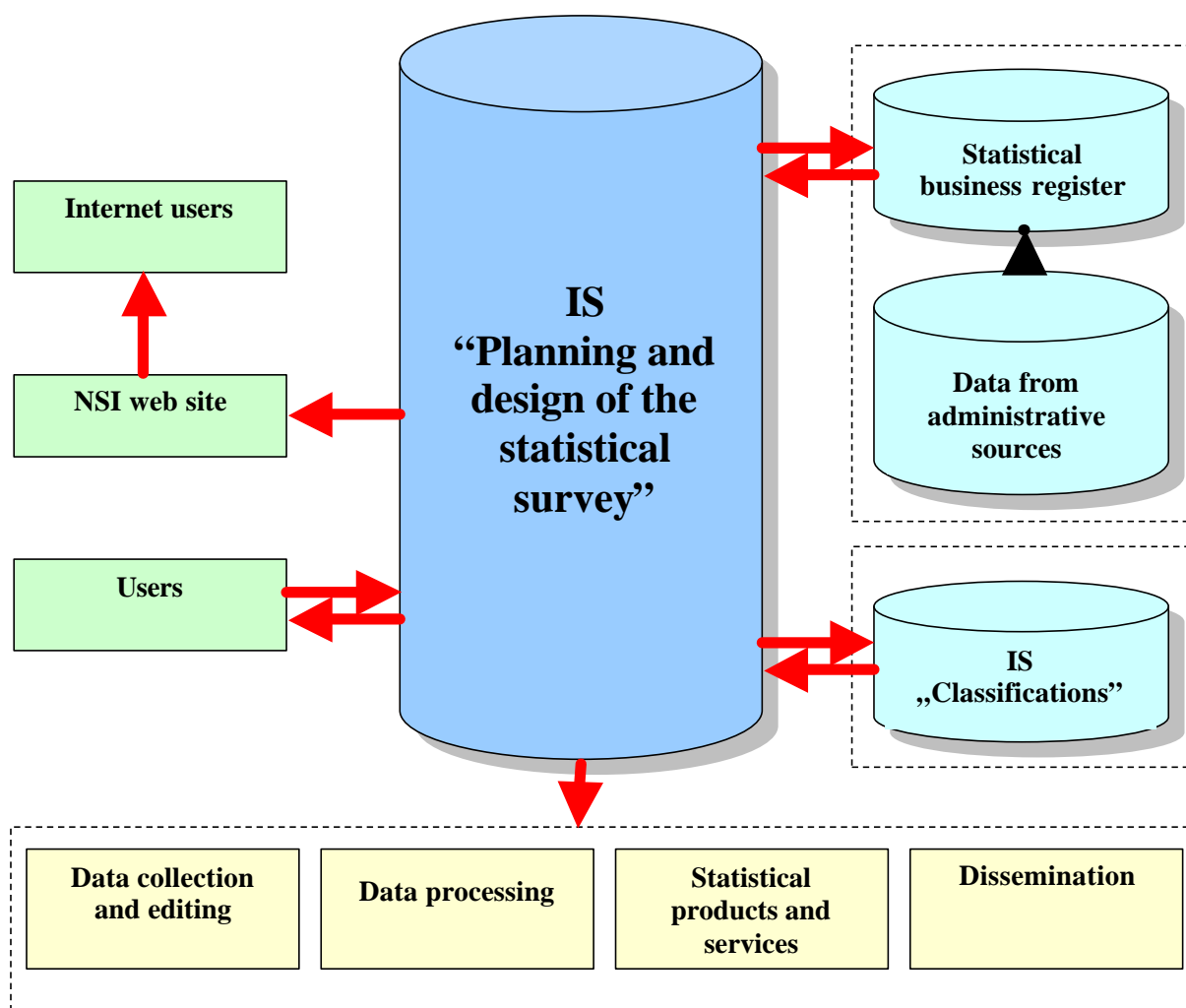
### **II. ESSENCE AND GOAL OF IS PDSS**

2. The aim of the project is to provide a complex software product including tools for:
- Documentation of the statistical surveys under particular standard;
  - Definition of the statistical outputs and description of algorithm for their obtaining;
  - Definition of characteristics of the observation units;
  - Design of the statistical questionnaires (forms) and instructions;

3. The main tasks are:
  - Providing the planning of the statistical surveys and building the Statistical surveys database;
  - Providing shared use of the statistical surveys metadata under authorized access to the database;
  - Control and documentation of the changes in the statistical surveys;
  - Providing unified software and technological tools for the design of the statistical questionnaires, instructions and other documents needed to carry out statistical observations of the statistical surveys;
  - Providing tools and mechanisms to prepare and coordinate the Plan of statistical surveys of the NSI and to coordinate and adopt the statistical forms and instructions;
  - Supporting the coordination activities in NSI – preparation of calendar for publication of the results from the statistical activities and catalogue of statistical questionnaires as well as other documents accompanying the NSI statistical activity;
  - Providing software tools to prepare and maintain catalogues of the input indicators and the statistical outputs.
4. The system is designed to provide a uniform work approach on the period of planning of the statistical survey and on the period of design of the statistical questionnaires forms and instructions.

### III. GENERAL SYSTEM ARCHITECTURE

#### General architecture of the ISPDSS and relations



5. The following is a list of information objects and groups of characteristics for the period of planning:

- **Statistical survey:**

- Legal basis;
- Goal of the survey;
- Administrative information (responsible unit/methodologist/budget);
- Dates connected to the survey life cycle and history (year of first conduction, initiation of a new version, last conduction, etc.);
- Main users.

***Relation to other information objects:***

- Statistical survey;
- Statistical output;

- Document (documents accompanying the survey – methodology, technical specification);
- User.

- **Statistical survey:**

- Observation unit (object);
- Observation subject;
- Observation type (exhaustive/sampling);
- Periodicity;
- Observed period/moment;
- Information source (questionnaire/internal/administrative);
- Administrative information (responsible unit/methodologist/budget);
- Organizing the observation conduction;
- Terms and dates connected with the observation conduction.

***Relation to other information objects:***

- Statistical questionnaire;
- Internal source array (individual or aggregated data from other observation conducted at the NSI);
- Administrative source array;
- Coverage/Population;
- Document (documents accompanying the observation);
- User.

- **Statistical questionnaire:**

- Description of the logical and arithmetic control over information entry and the subsequent control;
- Print method (location, number of pages, format, circulation);
- Information regarding the coordination and adoption of the statistical questionnaire;
- Administrative information (responsible unit/author);
- Terms and dates connected with the information collection and processing;

***Relation to other information objects:***

- Block (relation to the information objects of the period of design is implemented);
- Document (documents accompanying the questionnaire – instruction to fill);
- User.

- **Internal source array:**

- Description of the individual/aggregated data;
- Goal of use;
- Terms connected with the individual/aggregated data obtaining;
- Administrative information;

***Relation to other information objects:***

- Statistical survey;
- Statistical observation;
- Questionnaire;
- Table;

- Statistical output;
- **Administrative source array:**
  - Description of administrative source data (administrative register unit and characteristics used in the statistical observation)
  - Goal of use;
  - Terms connected with administrative source data obtaining;
  - Administrative information;
- **Statistical output:**
  - Definition;
  - Measurement unit;
  - Calculation algorithm;
  - Description of the time series (start, breakdown);
  - Data type (preliminary/final);
  - Period that the data is calculated for;
  - Dissemination type (participation in the calendar);
  - Week and concrete date of presentation;
  - Presentation method – (Internet, press release, publication);
  - Data presentation on territorial level;
  - Classification aggregations;
  - Providing to Eurostat (dataflow, media, format) and international organizations.
- **Statistical infrastructure task:**
  - Legal basis;
  - Goal of the task;
  - Activity/subject of the task;
  - Administrative information (responsible unit/methodologist/budget);
  - Terms and dates connected with the task implementation;
  - Task product and dissemination method;
  - Main users.

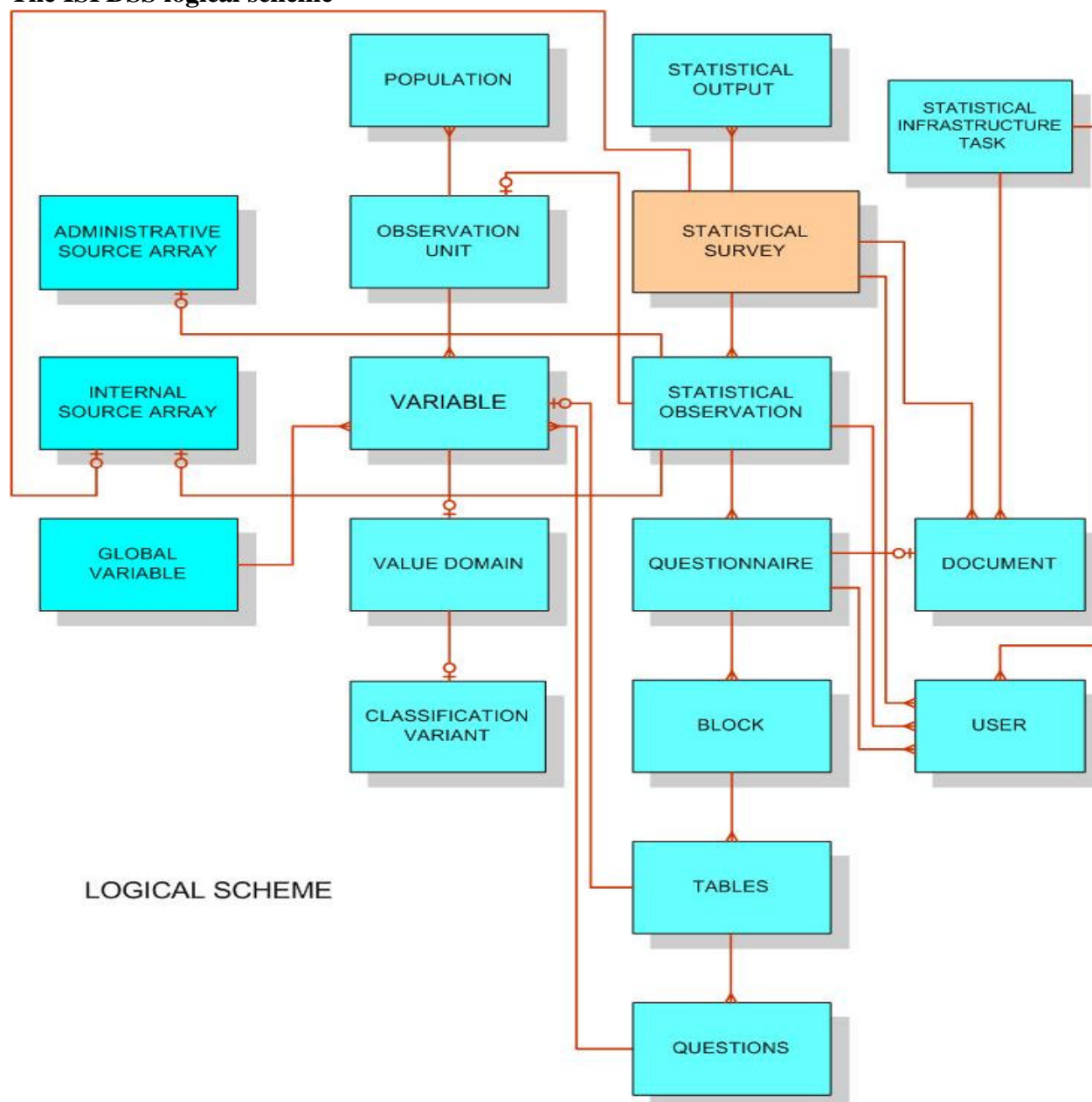
*Relation to other information objects:*

  - Document (documents accompanying the task);
  - User.
- **Information objects for the period of design:**
  - **Observation unit (object);**
  - **Global variable** – general conception of statistical variable regardless of its use within the statistical activity. A set of variables could be arranged in group by particular attribute to one global variable;
  - **Variable** – each characteristic of the observation unit;
  - **Value domain variable** – a set of valid variable values for concrete observation;
  - **Question** – a logical composition of object variables in relationship ‘Û’ that hierarchically define a inquiry on left or right side of the table;
  - **Table** – combination of questions that define an element-matrix connected with particular characteristic of the observation unit for which information is collected. The

matrix may consist of 1 to NxM cells depending on characteristic distribution by statistical classifications;

- **Block** – combination of tables where there is a complete coincidence of the questions on the left or right side of each of the tables.

### The ISPDSS logical scheme



### • Users

- **Methodologist-statistician** – the NSI experts/employees responsible for the planning and conduction of statistical surveys and observations.
- **Statistical task/activity methodologist** – the NSI experts/employees responsible for the planning and implementation of statistical tasks/activities.

- **User** – NSI and RSO experts and external users of information from the System. (This type of workplace is every workplace from where the System is visible and there is no defined higher access level.)
- **Expert in “Statistical tools” department** – NSI experts who perform the methodological maintenance and development of the System.
- **Administrator in “Statistical tools” department** – NSI experts who administer the information content of the System.

#### IV. CONCLUSION

6. The Information System “Planning and design of the statistical survey” is still in the development stage. A test is currently being performed of planning of the statistical surveys. The system development should be finished by the end of June 2006 according to the schedule.

-----