

CONFERENCE OF EUROPEAN STATISTICIANS

Joint UNECE/EUROSTAT Work Session on Electronic Data Reporting  
(Geneva, Switzerland, 13-15 February 2002)

Topic (iii): Metadata, conceptual models and standards

ESTABLISHMENT OF A METADATA SYSTEM AT THE ARMENIAN NATIONAL  
STATISTICAL SERVICE – AN OVERVIEW

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Contributed paper

I. INTRODUCTION

1. The role of statistics has grown as the country makes the transition to a market economy. Users of statistics want to be provided with data in a more convenient form, with detailed descriptions of how the indicators used in reports are obtained. An informed society weighs its decisions more carefully. Hence the Armenian National Statistical Service (NSS) is devoting great attention to the distribution of information and the development of a metadata system.

2. In February 1999 NSS opened an Internet site at <http://www.armstat.am>. Using modern communications technology, users are provided with high-quality, trustworthy information on the state of the Armenian economy and society.

3. The users of statistical information are governmental bodies, voluntary organizations, international organizations, educational institutions, firms and individual citizens. It is noteworthy that the number of businessmen making use of statistics has recently been on the rise.

II. GENERAL

4. Giving the rising demand for statistics it was decided to post information about the socioeconomic situation in the Republic in 1997, 1998 and ensuing years on the website. Four types of information were selected for posting:

- ?? General yearly compilations giving an overview of socio-economic change;
- ?? Quarterly publications on the socio-economic situation;
- ?? Special publications describing the **research carried** out under a variety of programmes;
- ?? Analytical publications on a variety of problems.

5. The principles governing publication, including standardization of formats and publication content, were amended effective September 1999.

6. In accordance with IMF recommendations, the titles of these publications are subject to rules establishing unified solutions.

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7. Following this approach and in conjunction with the Institute of Computer Studies of the Armenian Academy of Sciences, we set up a publications data base to make it easier to search for the appropriate material. It must be pointed out that, being novel, this endeavour requires voluminous additional instructions.

### **III. DEVELOPMENT OF THE SYSTEM**

8. Investigation has shown that the usability of the publications accessed through the site is unsatisfactory. Statistics users would like Internet access to a macrodata base. In deference to the principles of data confidentiality, we plan to grant such access by means of SQL queries using WEB technology.

9. Over the past year work on the automation of the NSS **library** has been in progress. Over the internal web server, using a flexible search system, statistics users can now find out whether the library contains literature of interest to them. Laws and regulations, teaching materials, classifiers and other useful information have also been posted in electronic form. In the near future the intention is to make this information available over the Internet.

10. We have begun work on the creation of a Single Data Warehouse which will contain corporate data on a variety of economic sectors together with metadata.

11. The metadata system is being developed in close coordination with the creation of the data warehouse. The idea is that it will consist of three parts: metadata on indicators as received, on interpolated indicators, and on indicators for publication.

12. There are also plans to publish statistical compilations on CD. For this purpose we want to develop a data base into which material from statistical compilations and metadata will be uploaded, and as output we will receive hypertext linking data to metadata and a convenient search system. The CDs will also contain information on the statistical return forms adopted by NSS with Ministry of Justice approval, and the classifiers in use at NSS.

13. At present NSS routinely processes 225 different statistical return forms over the course of a year. In the quest for maximum reporting efficiency during the transitional period, these forms are undergoing substantial changes. Automatic form generation is thus an efficient way to go.

14. The NSS Information Resources and Technologies Division has produced a software package called GE\TER to generate return forms. Details of how often the information provided on a given form is to be processed, a list of the organizations submitting it and instructions on how to fill the form in are entered into the metadata base at the same time. When necessary, the form can be accompanied by an instruction sheet explaining the particular features of the calculations used. Thus when working with a particular form a staff member should already have at his disposal enough information culled from the metadata base.

15. The uploaded metadata are linked by the same keys to the data bases that produce the statistical output. If the return form is altered, the data bases should be amended automatically.

16. In the future, as this system develops, the intention is that the output information will also be accompanied by metadata.

### **IV. INVOLVEMENT IN INTERNATIONAL METADATA-SYSTEM DEVELOPMENT PROJECTS**

17. Realizing that the use of the IMF General Data Dissemination System (GDDS) would offer increased opportunities to develop the sphere of statistics, especially as regards the supply of timely, reliable statistics

to users, NSS informed the IMF Statistics Department in early November 1999 that Armenia wished to join the System. NSS statistical publications have, in fact, been compiled and produced in accordance with GDDS since April 1999.

18. Work began in July 2000 on gathering the information needed to compile tables of metadata for the main statistical indicators in the format proposed by the IMF Statistics Commission. These tables, compiled by the IMF Statistics Department specifically for the main types of data input into GDDS, are intended for a special GDDS site which will, it is planned, contain metadata for all GDDS signatory countries. The intention is that the information in the tables (a total of 22) will be updated every year.

19. The compilation of metadata for Armenia is based on the recommendations of Eurostat, ECE methodological materials, and specimen pilot metadata for certain countries including Kazakhstan that were compiled with IMF expert support for the express purpose of offering guidance to other countries. Besides the statistics methodology unit, this work is being coordinated by an intradepartmental working group on the data dissemination system whose tasks include coordinating efforts to secure from other governmental departments (the Armenian Central Bank and the Ministry of Finance and Economy) the information needed to compile metadata. Given the need to submit the metadata tables to the IMF Statistics Department as quickly as possible for uploading onto the special GDDS Internet site, they are initially being compiled in Russian and English.

20. Realizing the importance of such data for statistics users within the country, we plan eventually to translate the tables into Armenian for their benefit. It is also our intention to expand the circle of statistics users for whom metadata are to be compiled. We consider that metadata could be made available to the general public either on request or in statistical publications.

## **V. CONCLUSION**

21. Given the experience of the international statistical bodies in developing a blueprint for an integrated statistical space, NSS regards the development of the metadata system as a task of the highest order. There are immense prospects, especially for the development of meta-information standards. It will thus become easier to set up both national and international corporate data warehouses.