

STATISTICAL COMMISSION and
ECONOMIC COMMISSION FOR EUROPE

Working Paper No. 8
English only

CONFERENCE OF EUROPEAN STATISTICIANS

Work Session on Geographical Information Systems
(Brighton, United Kingdom, 22-25 September 1997)

Item (iii) of the provisional agenda

THE NETHERLANDS: NATIONAL REPORT

by

Dick Meuldijk, Statistics Netherlands

GE.97-

I. INTRODUCTION

1. Two years ago The UN work session on GIS was held in Washington. The national report of the Netherlands, which is added as an appendix to this report, was fairly optimistic about the speed of introduction of GIS at Statistics Netherlands.

2. This brief update on that report is less positive. External factors such as budget and staff cuts led to a major step backwards and forced the GIS task force to anticipate a new situation. In this national report I will try to illustrate the way we kept up the good spirit and redefined our goals.

II. THE BASIC CONCEPT

3. The basic concept for GIS at Statistics Netherlands has not changed. Our goal is not to create a central GIS or geography division but to bring the technology to every statisticians desk. On the mid-end level we try to convince statistical divisions of the need for a small GIS unit at that level. The basic task of such units is to co-ordinate use at the division level, maintain the GIS databases with subject-matter contents, create high-quality output and to act as a consultant on GIS matters for statisticians.

4. On the central corporate level only small GIS units are foreseen. This unit will, however, be equipped with high- capacity hard- and software. Its main task is to acquire, maintain and update the large central GIS databases. This unit is also responsible for harmonization and standardization procedures and for the external co-ordination of GIS activities.

III. PROBLEMS ENCOUNTERED

5. At the end of 1996 Statistics Netherlands was confronted with major budgetary problems. All investments were blocked and recruitment of new staff was not possible before 1998. At the same time one of the staff members of the GIS unit moved to another position within the organization. As a consequence of these developments we had to adjust our plans for the year 1997.

6. The build up of the mid-end GIS level and the introduction of the national digital topographical base file are both postponed until 1998. Further investments for the central GIS server have also been postponed. Pilot projects were frozen because the availability of staff from other Divisions could not be guaranteed.

IV. GOALS REACHED

7. Although the present situation does not look very promising, a lot of our goals defined in the national report of 1996 have been reached. Our efforts to raise awareness throughout the statistical organization were very successful. GIS was successfully introduced in statistical activities which did not depend on GIS and the low-end GIS level is fully operational. There is a strong increase in the demand for geo-coded administrative data.

8. Mapping and simple GIS tools are available for every statistician. Maps are used more often for the presentation and dissemination of statistics. The high-end GIS level is operational for national boundary files, files with the boundaries of administrative areas, and statistical areas. Standardization and harmonization throughout Statistics Netherlands is accepted.

V. NEW CHALLENGES

9. One of the new tasks is the development of a national grid database on a grid level of 500 x 500 meter for population, income, housing and land cover statistics. We are convinced that the introduction of GIS will revitalise the old grid system that was originally created during our last population census in 1971. Maps based on this system are well-received because of the clear picture they offer of the distribution of phenomena independent of administrative areas.

10. Another great new challenge is the co-operation with the Ministry of Finance and the Ministry of Internal Affairs in the Netherlands. These Ministries are responsible for the transfer of funds from national to local government. Until now a part of this funding is based on the volume of built-up areas. These volumes are measured by stereo cartography every three years. Statistics Netherlands has suggested basing the funding on a two dimensional figure (area) in stead of a three dimensional figure (volume) and deducting these figures from the digital topographical map of the Netherlands. This proposal was made after a long series of studies were finally adopted. Statistics Netherlands has been asked to build a GIS system for this activity and to perform the calculations on a yearly basis.

VI. FINAL REMARKS

11. Although there were some disappointments during the last year, Statistics Netherlands is still convinced of the added value of the presented GIS concept. In general we have proved that every disappointment creates new opportunities if they are met with a positive attitude. GIS certainly offered us the tools to take up challenges. The problems we encountered gave the GIS unit the possibility to make our concept more solid and to draw attention to the described external project which will provide us with additional funding. Another opportunity was the possibility to concentrate on the national statistical grid database.

Appendix



Statistics Netherlands

Division Presentation and Integration

Department Integrated Short Term and Regional Statistics

Prinses Beatrixlaan 428,

2273 XZ Voorburg

The Netherlands

phone : +31 70 3374796

fax : +31 70 3375981

National report on the use of GIS at Statistics Netherlands

Dick Meuldijk

August 1995

Views expressed in this paper are those of the author and do not necessarily reflect the policies of Statistics Netherlands or the views of other staff members

Introduction

GIS is foreseen to play a mayor role as one of the basic tools for the compilation of statistics at Statistics Netherlands. After a structural change in the way Statistics Netherlands is organised a specialised output division is formed. Within that Division activities like marketing and publication, but also matters concerning harmonisation and standardisation, national accounts and regional affairs are grouped together. Besides the internal positioning of GIS, Statistics Netherlands also plays a role in the external promotion of geo related information by its membership of the RAVI, the co-ordinating body for geographical information in the Netherlands. In this brief national report the planned role of GIS is described, the way we try to realise that goal and the involvement in external geo-related activities like standardisation and harmonisation.

An organisation in transition

In the beginning of 1995 Statistics Netherlands has undergone a mayor organisational change. From a subject matter orientated approach the organisation is converted to a market orientated approach in which the activities are grouped in four statistical divisions, an input and an output division and a division for methodology and IT. One of the aims of the reorganisation was to guide official statistics in the Netherlands towards the next century by presenting it as a modern information processing organisation with an open eye for the consumers of statistical information. Within the output Division a small organisational unit is formed which has the task to introduce and promote the use of GIS as one of the tools for the production of statistics.

The GIS organisational concept

The GIS unit has to reach its main goal by the end of 1998. Then simple mapping tools must be available at each statisticians personal computer with co-ordinated basic digital data for each statistical division of the national territory used at Statistics Netherlands. Next to this so called low-end GIS use mid-range platform are foreseen within each statistical division where geo-related information is used. A specialised high-end GIS platform will be used at a central level for the management of the GIS use and the acquisition, maintenance and distribution of the basic geographical data files. In this way a co-ordinated but decentralised use of GIS is foreseen. The basic rule for this approach is that statistical work has to be carried out by the specialised units the department. Although it has been successful in other countries Statistics Netherlands did not choose for a concept where all geo-related activities are grouped in one so called geography division, like at Statistics Sweden and in Canada. The concept we choose for will depend heavily on modern information technology like distributed networks and client-server applications.

The GIS unit has an ambitious program to perform. The starting point is to raise or create awareness as well at the bottom as at the top of the organisation.

Activities planned are:

organising mini seminars for the middle and higher management

- the publishing of a bimonthly newsletter
- the development of pilot projects to give the organisation a clear view on the potential benefits of GIS
- the organisation of a GIS expertise and knowledge centre
- the maintenance of national and international contacts in the GIS field.
- to perform a study on the necessity of the acquisition of the Dutch national topographic digital base map.
- maintenance of the used statistical boundary files.

Pilot projects

Pilot projects are considered to be of great value. In close co-operation with subject matter units they will be defined in a way they actually contribute to present activities. In our view it is important to define pilots which focus on the use of GIS in the input and analytical statistical activities. The possibilities of creating nice output by means of maps is already well known and besides only use a small part of the GIS functionality. Two pilot projects are defined

The first one has to do with the use of GIS to refine the statistics on commuting and transport. With the aid of GIS tools and a national geometrical correct roads network it will be made possible to give more exact information on the distances involved with commuting and the type of burden it gives to roads and the environment. The basic idea is to link to and from addresses to the nearest node in the transport network and from these nodes on perform a GIS network analyses. In this way the most exact presumption of travel distances can be made. The goal of the pilot is the reduction of the samples, higher quality, better output in the form of maps instead of tables and the most important a more efficient way to perform results.

A second pilot aims at a more flexible use of the enumerators corps of Statistics Netherlands. By linking their addresses to the addresses of the houses or companies to be visited a more flexible approach will be possible. The first goal is the reduction of travel costs and a geographical more efficient location of new enumerators. In performing a model approach it will be made possible to be more efficient at less planning cost. An important spin-off of this project will be the possibility to gain knowledge on sampling techniques in which the location is one of the variables.

Both pilots are at the time this paper is written in their definition stage. If any information on these projects is available we will be pleased to present this at the Work Session.

External co-ordination and harmonisation

In general statistical work is in a transition phase. In the past most of the work of statistical offices consisted of the building and the maintenance of large registers for the compilation of statistics. The ongoing development of the information technology and the still increasing power of computers are the main reason for these registers are becoming more and more externally available. For instance the compilation of digital topographical base maps by national mapping agencies makes it possible to use these initially only for map production meant files, as registers. GIS and object orientated design of these files open the possibility to obtain basic land cover information from such files. In the past e.g. Statistics Netherlands has build up its own digital land cover / land use register. Tools like EDI, electronic data interchange, will make it possible to use these registers and administrations in stead of the own maintained registers. By using external registers, internal standardisation and harmonisation will no longer be sufficient. Statistical offices will be more dependant of external adapted standards. In the field of geo related data in the Netherlands, Statistics Netherlands has decided to join the RAVI, the national board for geo information, to be able to participate in the definition of those external standards. In the paper on standardisation by Statistics Netherlands this issue will be dealt with in more detail.

GIS: an on-going evolution

Compared with the situation two years ago at the Voorburg meeting of this working group, activities at Statistics Netherlands concerning geo related statistical activities, have changed drastically. Plans have become reality because of an open mind for changes that is part of the organisations philosophy. I sincerely hope that in one of two years we can present you a working concept for GIS use at an organisation-wide scale, where the cost benefit ratio will be positive at the benefit side of the scale.