Chapter 8
Less Comprehensive and Discontinued Programs

Juana Sanchez

8.1 Introduction

In its remote origin, a NSO's mandate was to measure the State. To do that, data were produced and summarized for those who needed them in government and research. The media did not play as big a role then as nowadays, and the Internet did not exist. Older individuals will remember the grey aspect of having to go to the Government Statistics section of a library and looking for dusty government reports and data tables to complete a research project. Another aspect of that gloomy scenario was the ordering of complete data sets, on paper first and then on those floppy disks that cost a fortune. But all this has changed. In contemporary society, everybody is exposed to official statistics and has to make use of them to make decisions. Creating data and summary statistics only for government is no longer enough. The NSOs represented in earlier chapters of this book saw the changes coming and adapted to them in a comprehensive way, by designating departments dedicated to the education of their constituencies and maintaining them still today. Other NSOs adapted similarly, but then their programs got discontinued. Their web sites are indications of a golden era still to be admired. Other NSOs did not have the resources or the motivation to adapt and many others simply did not want to adapt.

In this chapter, we summarize some of the most conspicuous projects of the nature described above.

8.2 Educational programs focused exclusively on the census or other major survey, and updated only when the Census or Surveys take place

Some government statistical offices have developed lesson plans for primary and/or middle and high schools that in some cases help students not only learn about society and the economy but also learn at the same time how to use Statistics to summarize and to interpret information coming from data. In this section, I summary some of the most developed programs

8.2.1 Ireland

The Central Statistics Office of Ireland has a program called Census for School http://www.cso.ie/census/census%20for%20schools%202006.htm with lesson plans and resources for primary and secondary school teachers. This is one of the pages of the site dedicated to students, called Students Corner (http://www.cso.ie/studentscorner/). This last page, as well as the Census for School page, can be used by anybody trying to learn what the official statistics mean.

8.2.2 Japan

Welcome to the World of Statistics. Introduction to Official Statistics (http://www.stat.go.jp/kids/teacher/video/html2/video.htm) is a movie in English (or Japanese) about the world of official statistics in Japan. It starts with a very important question: Imagine a world without statistics published by official governments. What

couldn't we do? A lot of things. The video nicely promotes statistics and explains how the official numbers come to light. It has music, color, nice images and real people.

"Naruhodo data for kids" (http://www.stat.go.jp/kids/index.htm) (in Japanese) (Here are Statistics for Kids) is a very comprehensive website set up for children to promote their understanding of statistics and ensure eventually the reliability of statistics. It provides for free more than 120 kinds of statistical data, including population census data.

8.2.3 United States

Census In Schools (http://www.census.gov/dmd/www/teachers.html) is the main educational program of the US Census Bureau.
The United States Census Bureau is an important resource for data about the people and economy of the United States. The Census in Schools program promotes data literacy and increases awareness of Census Bureau products and activities by providing educators with teaching tools, resource materials, workshops, and other professional development opportunities. Its objectives are:

- Create fun and relevant teaching materials that promote the use of the Census Bureau as an information resource and that meet the curriculum objectives of educators.
- Distribute materials to educators via publications, the toll-free request line, the Internet, conferences and workshops.
- Provide professional development to in-service and pre-service teachers.
- Maintain relationships with educational organizations.

Some activities of this program are:

- The Census in Schools program provides K-12 teaching tools for educators. These
  include lesson plans that correlate with national standards in math, geography, civics and government, history, economics, and language arts.
- Census in Schools staff will direct educators to other resources helpful in achieving their curriculum needs.
- The Census Bureau will provide workshops and professional development opportunities for educators.
- The Census Bureau will provide materials and assistance for in-service and pre-service development courses.
- Census in Schools staff will exhibit at conferences of national education associations.
- Partner with educational organizations and associations as a means of ensuring quality products and distribution channels.

Since the United States has a lot of other Government offices providing public data (in addition to the Census Bureau), it is not rare to find stand-alone programs in other government web sites. An example is the Kid's page of Fedstats (http://www.fedstats.gov/kids.html) or the Corner for kids of the National Center for Education Statistics (http://nces.ed.gov/nceskids).

8.2.4 United Kingdom

Like the United States and other countries, the United Kingdom has a program tied up to the latest Census http://www.statistics.gov.uk/census2001/censuseducation_cis.asp, Colourful resource packs show how the census is not just about counting people and households but involves Maths, History, Geography and Citizenship and other related topics. There are separate packs for primary and secondary schools.

More than 27,000 schools in England and Wales received the packs which include a range of student activities with guidance notes for teachers. Produced by experienced teachers, the packs cover a diverse range of topics involving the census, including housing, jobs, transport, health and welfare. They also explain the background to the 2001 Census and how the information it obtains has a direct relevance on people's lives.

Another program of the ONS is *Stats4schools* http://www.stats4schools.gov.uk/ which is about helping teachers and pupils to get more from Statistics. For pupils, they have datasets they can download and include in their own projects, free of charge. For teachers, they have lesson ideas, lesson plans and worksheets. This program is not maintained anymore, I was told. *Stats4schools* is managed by the UK Statistics Authority's executive Office for National Statistics, and includes data from across government. The web site has a link to curricular materials and to the UK curriculum, reflecting the deliberate intention of those who created it to use this material in the classroom.

8.3 Stand alone programs

Some NSOs have stand alone programs, cartoons or games, that are not tied up to any particular goal or audience and are mainly ways of showing in a fun way some official statistics and information about the country. These programs do not have any lesson plans or activities for teachers.

8.3.1 El Salvador

The Direccion General de Estadistica y Censos (DIGESTYC) de el Salvador has an "Area Infantil," http://www.digestyc.gob.sv/PublicacionInfantil/Inicio.htm , which consists of cartoon characters talking about some census numbers. It is intended to familiarize children with census information, but it could be used by anybody.

8.3.2 IBGE 7-12 e IBGE Teen, Brazil

The Brasilian Institute of Geography and Statistics (IBGE) hosts two web sites for school students: (a) The IBGE 7-12 http://www.ibge.gov.br/7a12/default.php , with many games, puzzles and fun information about the country for students of this age, all centering around information in Brazil. The web site itself is the activity, that is, there are no activities prepared as handouts where students have to summarize information or do graphs or interpret the summary information provided. There are no lessons in statistical concepts prepared for the teachers and there are no definitions of the statistical terms used. But there is an extensive use of official statistics in all the activities. The page then uses official statistics to teach the students history, geography, and all about Brasil, but does not intend to educate the student on how the numbers came about.
(b) The IBGE Teen contains some quizzes and a lot of information for older students, also presented in a colorful and fun way. As in the IBGE 7-12, there are no lessons of Statistics or activities to make students interpret official statistics by themselves. There

are very interesting official statistics and informative articles of interest to young people about them.

8.3.3 Switzerland

The Swiss Federal Statistics Office developed a game that was posted on their front page during the Eurocup, the European soccer tournament of 2008. But it is no longer there. It can be found at
http://www.bfs.admin.ch/bfs/portal/en/index/news/veranstaltungen/blank/blank/kopftor.html
In this game, people can pretend to be competing, but the skills needed to win consist of knowledge of summary statistics from the different countries that were actually participating in the tournaments. The player may warm up before starting the game by reading all these summary statistics ahead of time. There are some really interesting and puzzling numbers that run counter to one's intuition, which makes the warming up entertaining.

8.3.4 Estonia

Estonia has a school corner http://www.stat.ee/files/koolinurk/

8.4 No targeted programs, but information and data are presented according to the latest trends in data visualization, color and formats.

Countries that still adhere today to the notion of Statistics as the Measurement of the State tend to be some of the oldest countries to have a State in history. A statistical office, in these countries, is supposed to measure the State and make these measurements accessible to the public. These countries, for the most part, do not devote resources to educate the public in data analysis and chance and what is Statistics, so that the public could use Statistics to measure its own state or affairs. We can divide these countries into two categories: (a) those which have caught up with the recent trends in data visualization, graphics and interactive data summarization in their Yearbooks, "country in figures sections", "know your country" sections or "interactive sections"; (b) those which are still using old fashioned formats and have not updated their tools according to the recent trends. These countries have as common threads that they are small, relatively new countries that never were big empires.

As an example of category (a), we have Armenia http://www.armstat.am/Eng/
Armenia is a very small country of no more than 4 million inhabitants, which has a NSO with nice publications that could be used in a statistics class to illustrate some statistical and probability concepts to students. Numerous stacked bar graphs, time plots, population pyramids and tables can be used to illustrate concepts of empirical conditional probability and multivariate data analysis. Although some graphs are questionable according to modern standards, they are modern and appealing for a young audience or adults without statistical literacy. Maps and interesting stories can be found in the Yearbooks and Publications. Armenia also has an online textbook http://www.armstat.am/Eng/Publications/Publications2001.asp with the misleading title "*What is Statistics?.*" The title is misleading because there is no lesson aimed at defining for the public what statisticians do, or what is an average or how statistical summaries or graphs are obtained. Rather, the book is a set of chapters transcribing the law about what a statistics office is supposed to do, its mission, the types of laws that it is supposed to follow.

To give another example of case (a) The Republic of Belarus, like Armenia, has a nice web site and its statistics are nicely displayed with colorful graphs and simple tables. However, there are no lessons.

Denmark (http://www.dst.dk/homeuk.aspx), South Africa, Spain, all the countries covered in earlier chapters of this book and many other countries fall under category (a). To make the most of these web sites, teachers have to already know how to use the statistics, how to interpret the graphs, how to read the data sets. It is more likely that experts in official statistics or teachers already knowledgeable and functional with Statistics could extract from these web sites material for research or presentations or projects with their students.

As to those countries falling under category (b), there are some examples too. Austria, for example, does not seem to have programs to educate the public or even nice graphs or articles that can be freely accessed for a classroom discussion. Statistics Austria's webpage (http://www.statistik.at/web_en/) is devoid of any pedagogical content for adults or for children. The same can be said of the web site in Bulgaria. It is probably the case that these countries have very strong programs that are not done via the Internet. For example, South Africa, counted among countries in category (a) has one of the most comprehensive programs

8.5 The future

There is no doubt that in the future the NSOs mentioned in this chapter will either have to revive their frozen Internet programs, expand the small stand alones or initiate a program in statistical education for the population at large. The Internet is rapidly expanding to areas where it did not play a role just two years ago, particularly via cell phones and other devices, and it is becoming the preferred venue of choice for people to acquire information. Even if other programs play a major role, like in South Africa and other developing countries, the creation of statistical capacity will have to be accompanied by Internet capacity. We hope that the countries featured in this chapter, which are already on the Internet, will learn from each other and from the countries featured in earlier chapters and will speed up their role in statistical education of the public.