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National Institute of Statistics and Geography of Mexico: international statistical standards and the harmonization of national statistics

Note by the Secretary-General

Summary

The present report describes a website developed by the National Institute of Statistics and Geography of Mexico (INEGI) containing an inventory of global statistical standards. The elaboration of this inventory was motivated by a requirement of the new Mexican statistical law that national methodologies be in concordance with international recommendations and standards. Mexico is offering this system to the international community and suggests that it be fully translated and loaded on the website of the United Nations Statistics Division. In addition, it is suggested that there be a process for reviewing, validating and updating the system in the future, in close collaboration with the international organizations that are responsible for maintaining the various global standards in the different subject matter areas. The Statistical Commission is invited to express its views on the report and the proposed course of actions, contained in the present report.

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Report of the National Institute of Statistics and Geography of Mexico on international statistical standards and the harmonization of national statistics

I. Introduction

1. The present report describes how the National Institute of Statistics and Geography of Mexico (INEGI) developed an inventory of international statistical standards as a result of an explicit requirement in the new national statistical law that the national statistical system should take international norms into account. The report argues that compliance with international standards is an important tool to harmonize and strengthen the Mexican statistical system. The many practical challenges of defining, describing and classifying international statistical standards in order that they may be included in a database are described. In addition, the idea of using the database as a benchmark to develop a tool to measure the degree of compliance with international standards is presented. The National Institute, having undertaken the considerable initial investment to create this inventory, is offering this database to the global statistical community for its use. It is suggested that it be loaded onto the website of the United Nations Statistics Division. As virtually all international statistical standards have been created and/or are being maintained by international organizations that are members of the Committee for the Coordination of Statistical Activities, it is also suggested that the Committee review the database in its current format and develop a process to improve and maintain this important inventory in the future.

II. A new legal framework

2. In April 2006, INEGI gained its technical and managerial autonomy through a constitutional amendment. Two years later, in April 2008, the new law on the national system of statistical and geographical information entered into force. The statistical law is an instrument to organize the “national system” according to the constitutional principles of access to information, transparency, objectivity and independence. The purpose of the national system is to provide the public authorities, as well as the users at large, with reliable, high-quality and relevant information in order to support national development. The data produced as part of the national system are considered to be official and must be used by the federal and state governments and by the municipal authorities. In this context, INEGI has been given normative authority and coordination responsibility for the national system.

3. In conformity with the constitutional principles, INEGI undertakes to ensure that: (a) what is conceptually defined as “information of national interest” satisfies the policy needs with respect to economic and social development of the country; (b) the information is comparable over time; and (c) the statistical and geographic processes are in line with international norms, allowing for international comparability. Under this new legal framework, the issue of international norms and recommendations has taken on special significance with respect to national statistics. The law explicitly requires that international norms, best practices and recommendations, as promulgated by international organizations, are taken into account. International standards need to be analysed and adapted to the national

context in such a way that regional and international data comparability is rendered possible.

III. International comparability of the information

4. In an increasingly globalized world with open economies and international markets, the need to have comparable official economic, social, environmental and geographic information has been frequently stressed. Today information flows freely across borders and is used in analytical processes involving foreign users and/or in the aggregation of data from other countries. Such integration of different data sources is a complicated process, however, and it can give rise to erroneous interpretations and conclusions, especially when seemingly equal data attributes have been compiled using different definitions, classifications or methods. It is precisely to avoid this situation that international organizations recommend the use of international norms and common practices to foster coherence among national statistical systems. The development of the family of international standards amounts to the development of a common language, which allows for meaningful international comparisons and dialogue, based on statistical information generated at various national levels.

5. While it is clearly a desirable objective to make national information more comparable, this requirement cannot be absolute. Not all international standards can be directly applied to a national system. There are areas where the development of national standards provides a better picture of a particular national reality. In this regard, the Mexican law requires that international standards be taken into account when creating national methods, that is, the objective of the integration of national information into the international context has to be measured and realistic, taking national circumstances into consideration.

IV. Creating an inventory of international statistical standards

6. As INEGI faced the challenge of implementing the stipulations of the new statistical law, it quickly became apparent that an inventory of all relevant international statistical standards was needed. Such an authoritative inventory does not exist at present. International organizations make international standards public and disseminate them through their print publications or through their Internet websites. Owing to the large number of statistical subject matter areas, there are a number of different international actors involved in developing standards and recommendations at the regional as well as at the global level. Consequently, international norms and recommendations are currently highly dispersed and can be found in a great variety of sources, including Internet sites, methodological print publications, legal documents, glossaries and databases. International standards are often found inside larger documents, manuals or reference frameworks, making them difficult to locate. The situation is further complicated by the fact that there is no unique definition or even descriptor of an international standard.

7. In view of the above, INEGI decided to compile its own inventory of international standards. In embarking on this task, it was necessary to ask the following questions: What constitutes an international statistical standard? Who

develops and promotes them? When and how are they being modified? How are they being used and implemented?

8. It should be emphasized that this effort to compile an inventory of international standards must be seen in the context of the overall responsibility of INEGI, which determined some of the practical decisions that had to be taken with respect to the coverage and design of the inventory. The role of INEGI as the coordinator of the national system is to take a long-term perspective and to propose working methods for the entire system. These proposed methods should be usable for all producers of national information, eliminate duplication of efforts, and thus the misuse of resources, and make discrepancies between the national methodologies and international norms clearly visible. At the working level, this means the following:

(a) To clearly identify the themes, sub-themes and variables that constitute the information of national interest;

(b) To identify the international norms (types of standards and specific versions) that are related to the information of national interest and which should be taken into consideration;

(c) To analyse the international standards that are being applied, study the possible variations that could exist at the national level and measure the degree of compliance through questionnaires distributed to the various producers of national information;

(d) To document the variations from international standards using a unique metadata model;

(e) To disseminate information on the degree of compliance with international statistical standards so that it can be used to orient and support future national statistical development.

9. Given the lack of agreement on what constitutes an international statistical norm, INEGI decided to try to include all recommendations made by international organizations, including those practices that have been adopted with considerable success by certain countries. As statistical standards are usually developed by expert groups, bringing together experts from the national statistical offices and international statistical offices, it was also decided to include recommendations by relevant expert bodies. In its present form, the inventory lists close to 800 international standards.

10. Using the definition of standards in the Statistical Data and Metadata Exchange, the standards were classified into the following five broad categories:

- Concepts and definitions
- Classifications
- Methods and processes
- Data sources
- Indicators

11. In order to be effective, standards not only have to be well developed, but also have to be updated and easily accessible by potential users. INEGI therefore started

to organize all international standards in one database, using the above five broad categories as a first organizing principle. In addition, a uniform metadata system was developed, namely a set of questions relevant to each of the standards, for example, “Who developed the standard?”, “Who contributed to this development?”, “When were they developed?”, “With what objective?”, “What other versions exist?”.

12. This database, which provides access to the source of the respective international standards, is organized in accordance with the four sub-systems derived from the Mexican national system, namely: (a) economics, (b) social and demographics, (c) environment and geography, and (d) government, public security and justice. In this manner it is possible to review the content of a particular standard, together with its relevant attributes and in the context of these broad themes. The information regarding each standard is presented in one standardized technical note (see http://www.inegi.org.mx/inegi/default.aspx).

13. In order to better understand the relationship between international standards, conceptual maps or diagrams were developed to explain, in a simple manner, how international organizations and other relevant actors are related. Such information is particularly useful in areas where there are multiple reference frameworks.

14. Some of the difficulties encountered in organizing international standards are related to the fact that different subject areas are at different stages of statistical development. For instance, national accounts were conceptually developed a long time ago and they are part of a well-developed reference and analytical[1] framework; on the other hand, in the area of environment statistics, there are various reference frameworks that are being promoted by different actors. To determine whether these different reference frameworks are actually similar, complementary and/or to which degree they are using the same definitions, classifications and methods is not an easy task. As noted above, the organization of international standards is complicated by the large number of actors involved. The development of a standard is typically supported by a process of international cooperation which brings together experts from various countries, institutions and organizations. Once a standard or a group of standards have been agreed upon, it is not unusual for each participating organization to publish or disseminate information according to their own specific mechanisms and dissemination methods.[2] A typical example of this process are the many websites referring to the Millennium Development Goals.

V. Developing a measure of compliance of national statistics with respect to international standards

15. Once the information on all relevant international standards has been collected and organized for each data collection mechanism (including census, registers, surveys and monitoring methods), it will be possible to evaluate the differences and

[1] Analytical framework: a conceptual system with standardized definitions and classifications for data (Statistical Data and Metadata Exchange, 2008): see para. 10 above.

[2] Clearly, that the use of information and communications technology has facilitated the dissemination of information, which has created enormous benefits for society; however, it has also created an overload of sometimes redundant information for final users (Heylighen 2002), which does not always translate into better knowledge (Hall, 2007).

variations between the conceptual elements and methods used at the national level and the international standards that have been selected as the relevant reference frame. This amounts to the development of a measure of compliance with international standards. Having such a compliance measure would facilitate the identification of which areas future harmonization efforts should be focused. The development of such a measure is clearly a complex challenge that will require intensive analysis.

16. The measurement of compliance will be based on specialized questionnaires which will permit an analysis as to what extent an international standard has been applied. This will be done by theme, sub-theme or for related groups of variables, and will be broken down by conceptual dimension (definition, classification, calculation methods for indicators) for each data collection instrument. The results will be captured under a unified metadata model.

VI. Using the inventory of standards at the global level

17. INEGI has had positive experiences with the compilation and application of the inventory of international standards. By basing the production of national information on the international norms recommended by major international organizations, the coherence and efficiency of the national system will be strengthened. The rigorous process of reviewing all subject matter areas in a systematic manner will make it possible to integrate information with common attributes so that it is comparable at all levels: state, national, regional and international.

18. The compilation of the database required a considerable initial investment, not so much in financial terms, but in human resources, as the initial design had to be discussed and reflected upon carefully. While the database, in its current form, covers all broad subject matter areas in principle, there are some sub-themes that could benefit from further technical elaboration. In addition, it should be mentioned that the elements of the system were originally elaborated in Spanish. While INEGI was able to produce a translation of all the core elements into English, it was not possible to enter all updates in both languages. Maintaining the database is also turning out to be resource intensive as statistical norms keep evolving and new fields are constantly being added.

19. For all of the reasons set out above, INEGI and the United Nations Statistics Division have discussed possible methods of cooperation. Making the inventory fully accessible to the global statistical community would have obvious benefits. A first step into this direction would be to load the current database on a special website of the Statistics Division.

20. In order to further develop the database as a useful tool for the global community, a number of tasks would have to be accomplished: (a) full translation of all parts of the database into English; (b) validation of its content with all respective custodians of international norms; (c) review of the coverage and design of the database; (d) review of the regional dimension of the database (relevant statistical norms from other regions may have to be added); (e) possible translation of the database into the other official languages of the United Nations; (f) definition of a sustainable updating mechanism.

21. Many of these tasks can and would have to be carried out in partnership with other organizations working in the statistical field. Those international organizations that are custodians of specific standards, as well as the United Nations regional commissions, would have to play an important part. As virtually all international statistical standards currently contained in the database have been created and/or are being maintained by international organizations that are members of the Committee for the Coordination of Statistical Activities, it is suggested that the Committee review the database in its current format, develop a proposal of how to improve and maintain this important inventory in the future and report back on this to the Statistical Commission at its forty-second session.

22. The Statistical Commission is therefore invited to:

(a) Discuss the merits of such a global inventory of statistical standards;

(b) Endorse the proposal that the database be posted on the website of the Statistics Division;

(c) Request the Committee for the Coordination of Statistical Activities to review the database and make proposals for its further development and maintenance.

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