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The Institutional Dimension of Environmental Statistics

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1. Introduction

The purpose of this paper is to draw attention to the institutional dimension of environmental statistics and propose that it be explicitly addressed in the development of the revised FDES. Much work is being done on developing statistical methodologies, standards and classifications of environmental statistics, but there has been less focus on the institutional aspects of this emerging field. Given the trans-disciplinary and multi stakeholder nature of environmental statistics, it is very important to also consider providing guidance on key institutional elements required to develop a successful official national environmental statistics program.

This paper draws on the experiences of Latin American and Caribbean (LAC) countries that are currently struggling to set up and sustain environmental statistics programs within their official national statistics systems. Hence, most of its content is relevant to developing countries; however, some elements may also apply to developed countries facing similar challenges.

2. Institutional challenges of ES

The production of Environmental Statistics (ES) requires both methodological and statistical expertise, as well as institutional capacities to enable the systematic production and dissemination of good quality and timely statistical products.

By definition ES are multi disciplinary, cross-cutting and involve numerous stakeholders. ES are produced and used by several institutions and at different levels (national, regional and local). To effectively transform environmental information into official ES requires the collaboration and coordination of a significant number of actors. Moreover, to successfully produce official ES on a permanent basis requires institutions with strong leadership and the skills and resources to facilitate multi-stakeholder processes.

Building the capacities of institutions to lead, plan, organize and coordinate the production of ES is essential, especially in developing countries where resources are scarce. In general, in many developing countries institutional weakness, lack of an institutional framework, unclear mandates, duplication of efforts and poor coordination are key barriers for the systematic production of ES.

Identifying the primary institutional obstacles that impede the production of ES and developing a strategy to overcome these is vital for countries keen on developing or strengthening their ES systems. In general, countries face the following institutional challenges in the production of national ES:

a) In many countries a coherent and explicit institutional framework to govern the production of environmental statistics is lacking. For starters, often it is not clear which agency or agencies are responsible for the country's official environmental statistics.

b) The various institutions involved in the production of ES, i.e. National Statistical Offices (NSOs), Environmental Ministries and other sectoral agencies (Water, Air, Forest, Agriculture, Ocean authorities) frequently do not coordinate or share data often resulting in duplication of efforts.

c) It is common that human and financial resources dedicated to ES are limited. Consequently activities such as coordination and collaboration with other agencies do not take priority.

d) Often ES begin to be produced ad hoc with teams set up to carry out specific projects aiming to publish a first set of environmental statistics, indicators and/or accounts. In many cases the production of ES fails to be "institutionalized". In other words, the generation of the statistical product does not become a regular activity with the human and financial resources needed to carry it out on an ongoing basis.

e) The turnover of staff is high in both NSOs and Ministries. These losses of human capital are an important concern for there is a general lack of ES expertise among both environmental experts and statisticians.

f) There is insufficient communication and coordination among the producer and user communities of ES at all levels (national, sub-regional and local).

g) There is insufficient information and operational guidelines (available in the languages of the practitioners) regarding the institutional dimension of ES production, thus often NSOs and Environmental Ministries do not have a clear idea of the minimum requirements to implement an official ES program.

To address the above mentioned challenges and assist countries in developing their official ES, it is important to consider capacity building not only on technical and statistical issues, but also on the institutional dimension of ES production. The revision and development of the FDES presents an excellent opportunity to integrate the institutional dimension of ES and provide some guidance to developing countries.

3. Four key elements embody the institutional dimension of ES

In this section, the key elements that make up the institutional dimension of ES are presented along with the most important institutional requirements for building and sustaining ES at the national level. These include the legal framework, institutional arrangements, inter-institutional collaboration and government collaboration at different levels.

a) Legal Framework

For different institutions to collaborate towards a shared goal, at least two conditions must be met: a) there must exist a genuine desire to collaborate, and b) this collaboration must be supported by the country's legal framework and the resulting institutional arrangements and practices.

In most countries the legal framework for the production of ES commonly consists of a statistical, environmental and other relevant sectoral legislation such as Water, Energy and Agriculture. Each of these laws defines the mandate and competencies of the institutions in charge of each sector.

Under the national statistical legislation the NSO is the responsible authority for creating and coordinating the national statistical system; however, in most cases the law does not explicitly make reference to environmental information, as this is a relatively new area of statistical production. Moreover, in many cases it does not explicitly provide guidelines for statistical coordination among the relevant statistical parties at the country level nor spell out responsibilities and obligations. Nevertheless, since the environment is becoming increasingly important in the development agenda, NSOs have included the

production of ES in their programs albeit without clarity on the institutional arrangements. Environmental legislation explicitly requires that the Ministry of Environment create a national environmental information system that normally consists of a set of national environmental indicators to monitor the environment and the implementation of environmental policies. Additionally, in some Latin American countries environmental legislation requires and mandates the Ministry of the Environment to carry out integrated environmental accounts to inform policy making. Adding to this complexity, in several LAC countries Central Banks and not the NSO are responsible for producing national accounts.

It is not hard to imagine that in this complex institutional context there may be overlapping mandates, duplication of efforts, and coordination difficulties. In fact, often it is difficult to know what the official figures are on a specific indicator because different official agencies are producing the same or similar indicators.

Clearly to overcome these difficulties countries need to review their statistical and environmental legislation to provide clarity on the authorities responsible for producing official environmental statistics along with guidelines for statistical governance and coordination.

b) Institutional development

It is common to find environmental statistics being produced as part of economic or social statistics programs. Environmental statistics have yet to enjoy the same status as economic and social statistics, but this is slowly evolving. Over the past decade some progress has been made with a growing number of environmental programs being established, particularly in developing countries.

For example, a considerable number of LAC countries have staff dedicated to ES and a growing number of countries have a unit working exclusively on the matter. Nevertheless, the number of staff dedicated to ES remains low (between 1-3 persons) and most institutions lack a budget to carry out statistical activities such as environmental data collection or specialized surveys.

To successfully carry out a national environmental statistics program it is important for leading institutions to have established ES units with a minimum amount of personnel, ideally trained for the tasks at hand. Given the heterogeneity of each country in terms of size, population and territory, it is difficult to set an optimum number of personnel, but a minimum would be a team of between 3 and 5 people working full time.

Furthermore, the staff assigned to this work need to have the technical capacities to carry it out and often they do not. Hence, it is important for the ES units to have a capacity building program for their staff along with the financial resources to carry it out. Finally, it is important that the ES units have their own budget so they can carry out specific data collection and dissemination activities.

Generally speaking, institutions that have decided to make ES part of their regular work program could benefit from guidance on human resources needs, technical capacities and minimum infrastructure requirements and other critical information for the establishment and/or strengthening of their environmental statistics programs.

c) Inter-institutional collaboration

The multi-disciplinary and cross-cutting nature of ES requires that several actors collaborate for the production of official statistics. ES covers several topics for which the hard data, whether in the form of administrative records, scientific measurements or survey results, is being generated by specialized agencies, ministries, provincial and municipal governments. To compile, collect, process and transform this data into official statistics requires the collaboration of key stakeholders.

Although it is clear that this is no simple task, it is important to recognize that the majority of countries around the world are in the process of modernizing their government institutions and management styles with more participation, collaboration, transparency and accountability being required. This trend obviously can favor and foster collaboration among the different institutions and levels (i.e. national, provincial, municipal) to work collaboratively towards shared goals and programs. These challenges and opportunities among institutions within countries can be thought of as the first interface of coordination, at the national scale.

Commonly, the collaboration takes the form of data sharing agreements between key institutions and involves the establishment of a multi-stakeholder platform tasked with coordinating the production of ES. One of the tasks of the platform is to ensure that a common statistical standard and methodology is being used to generate the information to ensure the information is statistically sound. In some countries the data sharing agreements are formalized to explicitly stipulate that government agencies share their data. In other countries this is done on an informal basis. Additionally, along with the multi-stakeholder platform, working groups are established to work on specific topics i.e. water, forest, protected areas, solid waste, etc.

In LAC, the majority of countries that are systematically producing ES have established a multi-stakeholder platform to coordinate the generation of ES and the development of the country's national ES system. The problem is that although these platforms are established in theory, more often than not, in practice they simply do not operate or face great difficulties doing so. So although the platforms exist, they may not have developed a strategy, workplan and protocols, nor meet on a regular basis to advance the work.

It is common that the NSO as the official authority tasked with overseeing the national statistical system is required to coordinate these platforms but without adequate authority, resources or capacities to lead multi-stakeholder processes the work simply is not done.

To overcome these difficulties it is important that the agency tasked with coordinating the platform has the authority and institutional backing to carry it out. Moreover, it needs to

have adequate human resources to dedicate to the time consuming activity of setting up a platform and coordinating its operations. Furthermore, it would be useful for the lead agency or agencies to have their capacities built in facilitating multi-stakeholder processes and partnership building.

Apart for establishing a platform at the technical level it is essential to have an executive board or committee to oversee the strategic aspects of the process and to whom the technical platform reports to. This will ensure that the technical platform has the authority and institutional backing needed and that decisions can be taken on important strategic and management issues. The high level mechanism can also be called upon to support the work of the technical platform, particularly in terms of allocating resources and including the work of the platform as part of staff's regular workplan.

d) Inter-institutional collaboration among different levels

The institutional challenges common in countries are also faced by the international statistical community. It is very important to also consider the institutional arrangements and mechanisms that are conducive to better coordination and cost effectiveness among the national, regional and global levels. In previous ECLAC work (MDG Statistical Program), the situation has been described as one consisting of three levels of statistical production (i.e. national, regional and global); from which three clear interfaces for collaboration among scales emerge, namely: a) national-global, national-regional, regional-global.

When reviewing ES development worldwide, the collaboration among these levels remains a considerable challenge with its own particularities. For example, consider the case of national to global coordination. Of course data sharing among agencies at national and global levels is legitimate and necessary, but the way it is carried out is often suboptimal with precious time, statistical inputs and results often lost or discontinued, especially in the less statistically developed countries. This is exacerbated by the high turnover of staff experienced in developing countries.

It is common for specialized UN agencies to request statistics directly from national sector agencies (i.e. health, education, water, etc.) without coordinating with UNSD and the regional statistical agency which often leads to duplication of efforts and respondent fatigue. Adding to this problem, the national agency does not coordinate with the NSO when preparing to respond to the UN agency. The agencies that are not included in the requests for data usually are critical of these uncoordinated practices, but can do very little until a national strategy or inter-institutional platform is set up to better organize and optimize statistical processes, data gathering and sharing. Also, there needs to be better coordination and collaboration among the international statistical agencies.

Although the situation is heterogeneous both in the world and within each particular region, the coordination in the other two interfaces, namely national to regional, and regional to global, is considered to be gradually improving.

4. Recommendations for the revised FDES

Based on the issues developed in this paper, the following recommendations can be made:

a) As part of the development of the FDES it is recommended that the institutional aspects be explicitly addressed and part of the Expert Group's workplan over the next 2 years.
b) To accomplish this, it is suggested that a review be carried out that documents country experiences and best practices on the institutional dimension of ES and the tools used to manage inter-institutional relationships.
c) Develop a document to complement the FDES with some basic guidelines on the institutional requirements for countries looking to develop or strengthen their ES systems.
d) As part of the guidelines include specific recommendations on the need to deepen, extend and optimize inter-institutional collaboration and cooperation among the three levels of ES production (national-regional-global).