**The NSO, the NSS and Beyond!**

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**Abstract**

*This paper takes a brief look at some early ideas and concepts about quality management at a National Statistical Office (NSO), and reflects on the breadth and depth of content included through extensive collaboration in the first generic National Quality Assurance Framework (NQAF). Since the deployment of the generic NQAF in 2012, many NSOs have adapted it to their own circumstances and adopted either a regional or their own national version. While the expected audience of an NQAF is the NSO, in few countries does the NSO produce all or even most of the official statistics. Hence the intended audience for an NQAF should really be all federal ministries, departments and agencies (MDAs) participating in the National Statistical System (NSS). The latter half of this paper looks at the experiences of the Statistical Institute of Jamaica providing data quality workshops to introduce other participants of the Jamaican NSS to quality assurance, and the experiences of Statistics Canada in producing a data quality toolkit intended for data producers and users outside of the NSO.*

**Keywords:** Quality assurance framework, data producer, quality practices

**1. Introduction**

Official statistics are key inputs for various decision-making purposes and will continue to be for the foreseeable future. Certain basic assurances of the soundness of those inputs to users are a reasonable demand that data providers and producers, as well as producers of derivative official statistics, are obligated to meet. National statistics offices are chief among those producers, so it is expected that effective and efficient quality management will be developed as a normative way of handling the statistical business process and will be shared across the network of providers and producers of data and official statistics.

This paper summarizes the context for development of a generic template for quality management in statistical production which is responsive to regional and national distinctiveness. It demonstrates variability in countries’ adaptation and adoption of the tool and the role of international cooperation in the process. It then proffers key considerations for countries to make following the current revision of the template and implications of its implementation.

**2. Context**

Ensuring fitness of use of official statistics for data users requires a system for providing those assurances. This is the purpose of the United Nations Generic National Quality Assurance Framework Template and Guidelines (UN NQAF), adopted by the UN Statistical Commission (UNSC) in February 2012. The UN NQAF, or NQAF for short, is a solution for national statistics offices (NSOs) to establish a structured approach to managing quality in the production of official statistics or enhance existing frameworks. In March 2017, the UNSC re-established and endorsed the work programme of the Expert Group on National Quality Assurance Frameworks (EG-NQAF) – a group of representatives from several countries tasked with collaborative development of the NQAF. The current activities of the EG-NQAF centre on assessing countries’ implementation of the NQAF and using the results to update the repository of practices for assuring quality, accounting for current and anticipated developments in the statistical production process.

It is notable that the 1st edition of the NQAF explicitly acknowledged the impracticability of “a generic, one-size-fits-all *framework*” (UN EG-NQAF 2012, p. 1). The realistic alternative was “a generic national quality assurance framework *template*, accompanied by guidelines to provide examples and guidance on the possible ways in which an organizing framework could be formulated and operationalized” (ibid). Examples of how this has translated into countries’ ownership at the regional and national levels will now be outlined.

**3. NQAF Adaptation and Adoption and the Role of International Cooperation**

There is variation in the global adaptation and adoption of the generic NQAF. Since its deployment in 2012, many NSOs have adapted it to their own circumstances & adopted either a regional or national version. Two illustrations will be taken from the global South and North – more specifically, Jamaica and Canada, respectively. From these examples, what is apparent is that there is opportunity for using international cooperation – Principle 10 of the UN Fundamental Principles of Official Statistics – to achieve a shared structured approach to managing quality in the production of official statistics, which is simultaneously responsive to country- or region-specific peculiarities

*3.1. A Case from the Global South: Jamaica*

In 2016, the Secretariat of the Caribbean Community (CARICOM) commissioned Statistics Canada to facilitate a workshop among senior managers of the NSOs across the Caribbean to draft a CARICOM Regional Quality Assurance Framework (C-RQAF). The event occurred under the auspices of the Canadian Government via the Project for the Regional Advancement of Statistics in the Caribbean (PRASC) which it funds to enhance statistical capacity in the region. The workshop was informed by several reference documents. These included NQAF, the Economic Commission of Latin America and the Caribbean’s (ECLAC) Code of Good Practice in Statistics for Latin America and the Caribbean, CARICOM’s Statistics Code of Practice and Statistics Canada’s Quality Assurance Framework. Of note, the quality assurance framework developed by the Statistical Institute of Jamaica (SQAF) for governing its institutional operations, prior to the drafting of the C-RQAF, was also instrumental in the drafting of that regional framework.

The early stages of the development of SQAF were also aided by Statistics Canada in 2015, following participation of select senior managers in a joint initiative which preceded PRASC, known as the International Statistical Fellowship Program (ISFP). That joint initiative between Statistics Canada and the Canadian International Development Agency (CIDA) also aimed at enhancing statistical capacity in more than 40 participating countries in Africa, Latin America and the Caribbean. It was in response to leadership and management gaps identified in NSOs and national statistical systems (NSSs) in these territories (Statistics Canada 2016). SQAF was the deliverable from the organizational action plan resulting from Jamaica’s participation in the ISFP.

The Statistical Institute of Jamaica used NQAF to inform its quality assurance framework, with the rationale of first improving its own institutional efficiency as the leading producer and provider of key statistical outputs before extending this influence beyond the NSO. However, while the expected audience of the NQAF is an NSO, it should be targeted at all federal ministries, departments and agencies (MDAs) participating in the NSS, because only in a few countries does the NSO produce all or even most of the official statistics.

Implementing a quality assurance framework for Jamaica’s NSO that is aligned to the generic NQAF has been one of the earliest steps taken to modernize Jamaica’s national statistics office. The NSO has now moved further to mobilize the rest of the NSS, through a series of United Nations funded workshops, to gather around a common work programme of improving data quality for monitoring attainment of the 2030 Sustainable Development Goals. The NSO has pursued fostering effective partnerships with both statisticians and senior managers of national MDAs to draft a national quality assurance framework for the NSS and obtain high-level political buy-in. In the process, it has also engaged in international cooperation by again drawing on technical assistance from Statistics Canada

*3.2. A Case from the Global North: Canada*

Statistics Canada, which produces the vast majority of Canadian official statistics, originally drafted its Quality Assurance Framework in 1997 to describe the measures it had in place to manage the quality of data it produced. The [3rd edition of the Quality Assurance Framework](http://www.statcan.gc.ca/pub/12-586-x/12-586-x2017001-eng.htm) describes the strategies Statistics Canada has put in place to facilitate and ensure effective management of quality in all its statistical programs and organizational initiatives. The [Quality Guidelines](http://www.statcan.gc.ca/pub/12-539-x/12-539-x2009001-eng.htm) describe good quality practices for all steps in a statistical business process, and offers quality indicators to measure the impact of those practices. Statistics Canada’s Policy Suite is a collection of policies, directives, standards and guidelines aimed directly at the effective and efficient execution of Statistics Canada’s statistical programs. The 6th edition of the Quality Guidelines is currently underway, and the governing instruments in the Policy Suite are constantly evolving. The Framework, Guidelines and Policy Suite together make up Statistics Canada’s quality management strategy.

As Statistics Canada made more and more use of administrative data, it became apparent that a common approach to assessing the fitness for use of administrative data sources was needed. Lavigne and Nadeau (2014) developed an assessment framework that explores the potential uses and benefits versus the challenges and usability of administrative data. They created a checklist that walks the practitioner through all the quality dimensions and once completed, provides an overall recommendation to proceed with acquisition or not. The scoring method has a flexible weighting scheme so that certain quality dimensions or features of the dataset can be prioritized over others. This has proven to be a useful tool not only for facilitating objective decision making but also for documenting those decisions.

In 2017, the Canadian federal government began sharing its information holdings on an Open Data Portal. With increased transparency of data comes a greater need for data literacy and good data quality practices. Statistics Canada anticipated a need among other federal departments for an accessible tool to raise awareness about data quality concepts. The [Data Quality Toolkit](http://www.statcan.gc.ca/eng/data-quality-toolkit) is that tool. The toolkit offers two checklists; and although far from being a perfect quality management tool, is a starting point for engaging data producers outside of the NSO in the quest for good quality data.

**4. Key Considerations Going Forward**

Bearing in mind the importance of the soundness of data and the official statistics derived from them as key inputs in decision-making, there are four key considerations that should be made going forward. The first is a clear definition of official statistics and alignment of their production with the UN Fundamental Principles of Official Statistics. The second is NSO-lead collaboration among members of the NSS, while the third is a clear but flexible (re)definition of the NSS. Finally, the interrelation of these antecedents with supporting legal and regulatory frameworks must also be given thought and is addressed along with each of them.

It is a taken for granted assumption that all references to official statistics mean the same thing. However, the Conference of European Statisticians (CES) Bureau (2017) has noted, “there are no commonly agreed upon definitions” (p. 3). As such, countries should clearly define what they term official statistics. Further to this, the national statistical legislation should expressly promote alignment of the production of official statistics with adherence to the UN Fundamental Principles of Official Statistics, an internationally agreed upon set of principles governing official statistics.

Extensive collaboration between the NSO and other members of the NSS should also be a priority. However, the impetus for this is likely to be weak or non-existent if it is not entrenched in national statistical legislation. The NSO should be formally recognized by law as the highest authority in the national network of data providers and producers involved in producing official statistics. The statistical law should also explicitly state the role of the NSO regarding coordination of the rest of the NSS. The implication is that the legislation should also clearly articulate a (re)definition of the NSS.

Regarding this consideration, the CES Bureau acknowledged, “A well-defined NSS lays the foundations for effective coordination of statistical work, often carried out by the national statistical office (NSO). This may be helpful in harmonizing statistical practices across producers and educating staff members of the NSS…to better understand their role and implement the Fundamental Principles of Official Statistics” (ibid). However, the Bureau also cautioned that “the composition of the NSS should not be strictly defined in legislation” (ibid). What is called for is a clear but flexible definition of the NSS to facilitate dissimilarities in the structures of national statistical systems in different places.

In light of the Data Revolution’s influence on statistical production, such as through, inter alia, Big Data, driving a shift away from traditional data sources and methods of data collection, not all entities involved or potentially involved in providing or producing data are government entities. However, they may be sources of valuable inputs into what is ultimately produced as official statistics. Recognizing that not all data providers and producers are also producers of official statistics requires identification of which entities must be thought of and recognized as being part of the NSS and what their role and function(s) are.

Consequently, revision of the generic NQAF could include suggestions of minimum standards to be applied in identifying what qualifies as official statistics. The utility of NSOs’ subscription to the NQAF as the point of reference for such minimum standards is that it would be flexible enough to account for emerging issues and transitions in the statistical production arena.

**5. Conclusion**

The journey is long yet fruitful. The exercise of reviewing priorities, challenges, bottlenecks and inefficient practices provides an opportunity to develop and document good quality practices, and worthwhile goals to work towards. While one size rarely fits all, the NQAF has proven to be a valuable and flexible resource, offering scope and direction while allowing for regional and national differences. Once the quality concepts and practices described in the NQAF have been fully embraced by the NSO, the next logical step is to expand its influence across the NSS. In this paper we have described two examples of how this is being accomplished.

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