



# QUALITY ASSURANCE FRAMEWORK OF THE STATISTICAL INSTITUTE OF JAMAICA (SQAF)



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# QUALITY ASSURANCE FRAMEWORK OF THE STATISTICAL INSTITUTE OF JAMAICA (SQAF)

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## CONTROL PAGE

### Document specifics

Abstract	This document outlines the quality assurance framework of the Statistical Institute of Jamaica (SQAF). It is informed by the Economic Commission for Latin America and the Caribbean's (ECLAC) Regional Code of Good Practice in Statistics and subscribes to recommendations outlined in the United Nations Guidelines for the Template for a Generic National Quality Assurance Framework (NQAF). It articulates the context influencing development of the SQAF, definition of its key concepts, associations between SQAF and other frameworks, and quality assurance guidelines.
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# 1 QUALITY CONTEXT

## 1.1 Circumstances and key issues driving the need for quality management

As the national statistics office (NSO), the Statistical Institute of Jamaica (STATIN) functions to produce official statistics on the social, economic and general activities and condition of the people of Jamaica and their environment. Official statistics are indispensable inputs for planning, monitoring and assessing attainment of the targets of the national development agenda, strategic objectives of businesses and research objectives of academicians, but are also useful for various other evidence-based decision making purposes.

Given STATIN's obligation both to provide statistics that inform these various decision-making purposes and to provide leadership to other local providers of statistics used in the public domain, the quality of its statistics is paramount. Care has to be taken to guard against errors in the statistical business process and to mitigate and correct for deficiencies in the supporting (legal, administrative and technological) infrastructure and institutional environment. This is the context in which there is an initiative to manage the quality of the Institute's services, statistical processes and related products, as well as communication with stakeholders in a systematic, formalized way.

Our Quality Assurance Framework can help to provide the transparency and clarity necessary to manage and respond to data users' expectations, queries and demands while bolstering the credibility of the Institute. It is the responsibility of STATIN to clearly articulate the concepts and definitions that form the basis of the statistics produced, while outlining the methodologies used. It is also STATIN's responsibility to comment both on erroneous interpretation and misuse of statistics. This is especially useful for addressing instances when the reasonableness of statistics published by the Institute are questioned by members of the public whose concerns may be based on limited understanding of the methodologies used in deriving certain estimates.

Furthermore, the government-wide reform initiative – the Public Sector Transformation and Modernisation Programme – has also served as an impetus in the local environment for moving toward improving human resource capabilities to deliver government services, improving the quality of services and increasing transparency and accountability.

Of significance, the Institute does not operate in isolation. Both locally and regionally, STATIN works with other producers of official statistics. Information sharing with its partners necessitates adequate provisions for access to data, with due regard for confidentiality, as well as coherence and comparability of data.

Still, the broadest contextual parameters are global. The world has a shared development agenda – the 2030 Agenda for Sustainable Development – and the implication is that official statistics of high quality are necessary indicators for tracking progress in attaining these global development goals. STATIN is part of a global statistical system characterised by increasing interconnectedness, a dynamic knowledge economy and use of rapidly changing technology that

requires openness and adherence to scientific and professional standards, including use of a common architectural framework that allows for the sharing and exchange of information. The United Nations Fundamental Principles of Official Statistics and Principles Governing International Statistical Activities promote coordination and cooperation among national organisations for official statistics to improve systems of official statistics globally.

Against this background, the need for modernization of the Institute’s statistical production and services is also being driven by the need to reduce response burden and improve efficiencies in the production of official statistics. Additionally, our data users have an increasing demand for more timely and accurate data and there is growing competition from alternative data producers and researchers moving up the statistical value chain.

**1.2 Benefits and challenges**

A quality assurance framework functions as a well-defined but responsive structure that will *“provide context for quality concerns, activities and initiatives, and explain the relationships between the various quality procedures and tools. Such an organizing framework has proved to be very useful in providing a single place to record and reference the full range of current quality concepts, policies and practices, and is forward looking because it takes into account future actions and activities.”*<sup>1</sup>

The SQAF will serve to formalize both operational standards and criteria for evaluating the fitness of statistical data for their required purposes, as well as the methodologies used for data collection, processing, analysis and dissemination, and strategic and managerial issues of official statistics. Its benefits include improving consistency and efficiency in the National Statistical System (NSS) by reducing duplication of efforts; normalizing use of common concepts, definitions, classifications, standards, sampling frames, and methodologies, where appropriate; and, creating datasets that are responsive to data sharing demands.

**1.3 SQAF’s relationship to other policies, strategies and frameworks**

STATIN’s quality assurance framework has been influenced by and/or is coordinated with:

- (a) the Statistics (Amendment) Act 1984 which established STATIN as the NSO of Jamaica and mandates it to lead the production of official statistics on, among other things, the social, economic and general activities and conditions of the people of Jamaica;
- (b) STATIN’s Five-year Strategic Plan 2012-2017;
- (c) policies and strategies of STATIN addressing data confidentiality, access to data, metadata, publication of data, data revision, misuse of information, the Institute’s commitment to quality, and other relevant items pertinent to quality management;
- (d) the UN Fundamental Principles of Official Statistics which outline minimum standards for production of official statistics;

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<sup>1</sup> Guidelines for the Template for a Generic National Quality Assurance Framework (2012), pp.5-6

- (e) the UN Principles Governing International Statistical Activities which outline minimum standards that will enhance the functioning of the global statistical system;
- (f) the International Statistical Institute's (ISI) Declaration on Professional Ethics;
- (g) the IMF's Data Quality Framework (DQAF);
- (h) the Statistical Data and Metadata Exchange (SDMX) Metadata Common Vocabulary (September 2009);
- (i) the SDMX Glossary (February 2016);
- (j) the European Statistics (Eurostat) Code of Practice (CoP) which outlines principles pertaining to the institutional environment and statistical production processes and outputs;
- (k) the Economic Commission for Latin America and the Caribbean's (ECLAC) Code of Good Practice in Statistics for Latin America and the Caribbean which outlines principles and best practices necessary for the institutional environment and international cooperation, as well as statistical processes and products;
- (l) CARICOM's Statistics Code of Practice; and
- (m) the Quality Framework/Quality Assurance/Quality Assessment Framework of:
  - Statistics Canada (STATCAN)
  - Statistics South Africa (Stats SA)
  - Organization for Economic Cooperation and Development (OECD)

## 2 QUALITY CONCEPTS

Quality is a multidimensional concept that means *“The degree to which a set of inherent characteristics fulfils requirements.”*<sup>2</sup> For STATIN, ‘quality’ is *the extent to which a product or service of the Institute is fit for users’ intended purposes*. It defines our behaviour on the job, ensuring that our products and services are of the highest standard, integrity and credibility.

Data quality, in particular, can be poor, questionable, acceptable or of a high standard and requires an assessment on several dimensions in order to be appropriately classified. Relevance, accuracy, reliability, timeliness, punctuality, accessibility, clarity/interpretability, coherence, consistency, methodological soundness and integrity are foremost among those dimensions, and are briefly outlined below.

**RELEVANCE** is the *“[d]egree to which statistical information meets the real or perceived needs of clients.”*<sup>3</sup> This dimension of quality addresses how useful official statistics are for the issues that are important to users. Resource constraints necessitate identification of and responsiveness to the most important needs among many user needs.

**ACCURACY** refers to the *“[c]loseness of computations or estimates to the unknown exact or true values that the statistics were intended to measure.”*<sup>4</sup> This reflects the degree of nearness that official statistics have achieved in correctly representing the phenomena they measure. This can be expressed in terms of quantitative measures of accuracy, including possible sources of error such as coverage, sampling, non-response and response error rates; or qualitative assessment indicators.



QUALITY’ IS THE EXTENT TO WHICH A PRODUCT OR SERVICE OF THE INSTITUTE IS FIT FOR USERS’ INTENDED PURPOSES. IT DEFINES OUR BEHAVIOUR ON THE JOB, ENSURING THAT OUR PRODUCTS AND SERVICES ARE OF THE HIGHEST STANDARD, INTEGRITY AND CREDIBILITY.

**RELIABILITY** is closely associated with accuracy and speaks of the *“[c]loseness of the initial estimated value to the subsequent estimated value.”*<sup>5</sup> Consistently large differences between subsequent estimates to an initial estimate suggest possible bias in the initial estimate, while random large gaps between subsequent estimates and an initial estimate may indicate a need to re-assess the timeliness of subsequent estimates.

**TIMELINESS** pertains to the *“[l]ength of time between data availability and the event or phenomenon they describe.”*<sup>6</sup> This references both:

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<sup>2</sup> SDMX Glossary (February 2016)

<sup>3</sup> Op. cit.

<sup>4</sup> Op. cit.

<sup>5</sup> Op. cit.

<sup>6</sup> Op. cit.

- a) the time lapse between the end of a reference date/period for data collection and receipt of the data for compilation and processing (timeliness of source data), and
- b) the time lapse between the end of a reference date/period and data dissemination (timeliness of output).

**PUNCTUALITY** is closely associated with timeliness and is the “[t]ime lag between the actual delivery of the data and the target date when it should have been delivered.”<sup>7</sup> This relates to whether or not data are disseminated on scheduled release dates. Data that are punctual may still be considered untimely if the release date lags too far behind its reference period (i.e. the time of the occurrence of the event/phenomenon), rendering it less useful or useless for decision-making.

**ACCESSIBILITY** refers to “[t]he ease and conditions under which statistical information can be obtained.”<sup>8</sup> This relates not only to how easily data can be accessed by users, but also the form the data are in and the means through which users have access to the data.

**CLARITY** is “[t]he extent to which easily comprehensible metadata are available, where these metadata are necessary to give a full understanding of statistical data.”<sup>9</sup> It addresses whether or not statistical data are complemented by descriptive information about the data’s quality and limitations and if additional assistance is available to users by providers to enable users to work with the data to meet their needs.

**COHERENCE** speaks of the “[a]dequacy of statistics to be combined in different ways and for different uses....and refers to comparisons between statistics for the same or largely similar populations.”<sup>10</sup> Coherence in statistics is the degree to which the data constitute a logical picture of the population they are describing. For example, in the domain of labour statistics, the employed and unemployed must account for 100 per cent of the labour force.

**CONSISTENCY** refers to statistics having “[l]ogical and numerical coherence.”<sup>11</sup>

**METHODOLOGICAL SOUNDNESS** is “[t]he extent to which the methodology used to compile statistics complies with the relevant international standards, including the professional standards enshrined in the UN Fundamental Principles for Official Statistics.”<sup>12</sup>

**INTEGRITY** refers to “[v]alues and related practices that maintain confidence in the eyes of users in the agency producing statistics and ultimately in the statistical product.”<sup>13</sup> It is adherence to ethical and professional standards to ensure that transparency, accountability, methodological

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<sup>7</sup> Op. cit.

<sup>8</sup> SDMX Metadata Common Vocabulary (September 2009)

<sup>9</sup> Op. cit.

<sup>10</sup> SDMX Glossary (February 2016)

<sup>11</sup> Op. cit.

<sup>12</sup> SDMX Metadata Common Vocabulary (September 2009)

<sup>13</sup> Op. cit.

soundness and professional independence guide the policies and practices of producing and disseminating official statistics.

### 3 QUALITY ASSURANCE GUIDELINES

The guidelines for this quality assurance framework are organized to address the management of STATIN's institutional environment, statistical processes and outputs.

#### 3.1 Coordinating STATIN's Statistical System

##### SQAF 1: Managing STATIN's statistical system

STATIN's Board of Directors, of which the Director General is a member, is the ultimate decision-making and policy-setting body which oversees the operations and administration of the organisation, under the stipulations of the Statistics (Amendment) Act 1984 and other relevant statutes and policies of the Government of Jamaica. The Board provides effective leadership by advising on the general policy and strategic plans of STATIN. An Audit Committee is the sub-committee of the Board of Directors. This sub-committee provides independent, effective oversight of the financial reporting process and internal controls of the Institute; and provides advice to the Accounting Officer on the adequacy of audit arrangements (internal and external) and on the assurances provided in respect of risk and control in the Institute.

The second tier of governance is the Senior Management Committee which assists the Chief Statistician, the Director-General, in the development and management of the NSO. The sub-committees that are accountable to the Senior Management Committee and which preside over the various domains of operations and administration in the Institute are the:

1. **TECHNICAL COMMITTEE:** provides direction on all technical matters of the Institute, including all matters pertaining to the standards and methodologies employed in the implementation of the work programme of the Institute.
2. **QUALITY ASSURANCE COMMITTEE:** promotes the production and dissemination of credible, objective and factual statistical products and related services through the implementation of various quality management strategies.
3. **HUMAN RESOURCE DEVELOPMENT COMMITTEE:** provides advice to the Director General through the Senior Management Committee with respect to the development of Human Resources (HR) of the Institute in tandem with its strategic direction.
4. **PROCUREMENT COMMITTEE:** reviews the Institute's tendering and procurement policies and practices to ensure that the operating policies and procedures relating to tendering and procurement as stipulated by the Government of Jamaica's Procurement Framework are adhered to; that all tenders are conducted in a fair and ethical manner; and, that no conflict of interest exists with any staff member connected to the procurement process.
5. **FINANCE COMMITTEE:** monitors expenditures in the Institute, particularly as they relate to the allocation of funds by the Government and advises on expenditures from funds earned by the Institute.

6. **PROJECT MONITORING COMMITTEE:** provides strategic direction, oversight, approval at key milestones and guidance on all aspects of the delivery of projects undertaken by the Institute, including all approved and potential projects delivered through sole funding from the Government of Jamaica, through partnership with International Agencies and private clients.
7. **EDITORIAL COMMITTEES:** ensures that the publications of the Institute are properly edited before they are released.

## SQAF 2: Managing relationships with STATIN's stakeholders

STATIN serves several stakeholder groups: data users; data providers; international development partners (IDPs); other ministries, departments and agencies (MDAs); senior government officials; non-governmental organizations (NGOs); the media; the private sector; and civil society. The mediums through which consultations are held between the Institute and its stakeholders appear in Table 1.

**Table 1: Mediums for stakeholder consultations**

		Mediums for Stakeholder Consultation					
		Written correspondence	Telephone/ Web conferencing	Meeting	Memorandum of Understanding (MOU)	User/ Client satisfaction survey	Other
Stakeholder Group	Data users	✓	✓	✓	-	✓	-
	Data providers	✓	✓	✓	✓	-	✓
	IDPs	✓	✓	✓	✓	-	-
	MDAs	✓	✓	✓	✓	-	-
	Senior government officials	✓	✓	✓	-	-	-
	NGOs	✓	✓	✓	-	✓	-
	The media	✓	✓	✓	-	-	-
	The private sector	✓	✓	✓	-	✓	-
	Civil society	✓	✓	✓	-	✓	-

Guidelines for the management of STATIN's relationship with others in the national statistical system appear in Table 2.

**Table 2: Guidelines for managing relationships with STATIN's stakeholders**

Domain	Guidelines
A. Managing the statistical system	<ol style="list-style-type: none"> <li>1 The legislation in force grants STATIN access to, and use of, administrative records for the purpose of generating official statistics.</li> <li>2 STATIN shall develop rules of procedure to facilitate communication between the NSO and the various users of official statistics.</li> </ol>



### SQAF 3: Managing statistical standards

Standards are collections of statistical concepts and definitions that serve to allow comparability and coherence of data by making the treatment of statistical issues uniform within various contexts, such as within a survey, across surveys and over time and space. There are standards for the structure and content of both data and metadata. Guidelines for managing statistical standards are presented in Table 3.

**Table 3: Guidelines for managing statistical standards**

Domain	Guidelines
A. Managing the statistical system	<ol style="list-style-type: none"><li>1 There shall be a common statistical production architecture.</li><li>2 A Standards Unit shall be appointed to develop/approve concepts, definitions and standards for use within STATIN.</li><li>3 Expert Groups by subject matter/Technical Committees shall be appointed to provide guidelines and standards for the production of statistics. These shall be temporary committees that serve an advisory role in collaborating with the Standards Unit referenced in item 2 above in the development of concepts, definitions and standards for use within STATIN, in keeping with good practices in statistics.</li></ol>

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### 3.2 Managing the Institutional Environment

#### *SQAF 4: Assuring professional independence*

The credibility of official statistics requires professional independence and freedom, which refer to the absence of inappropriate influence, such as interference or pressure from government agencies or policy, regulatory or administrative departments and bodies, the private sector or other person or entity of influence. The guidelines for assuring professional independence are outlined in Table 4.

**Table 4: Guidelines for assuring professional independence**

Domain	Guidelines
B. Managing the institutional environment	<ol style="list-style-type: none"><li>1 The legislation in force specifies that STATIN shall compile and disseminate official statistics independently of political influence and other external interference.</li><li>2 The Director General of STATIN shall be appointed at a sufficiently high rank to ensure that he/she has senior-level access to political authorities, Government agencies and national and international entities, but shall not be a political appointee.</li><li>3 Divisional Directors of STATIN shall be professionally competent and have expert knowledge in the field of statistics, specifically with regards to the area of work for which they are in charge.</li><li>4 Official statistics disseminated by STATIN shall be clearly distinguished from, and issued separately from, political statements.</li><li>5 STATIN shall have a committee comprising professionally competent experts who advise on the general policy and strategic plans of the system and ensure that the entity adheres to its legislative mandate of professional independence.</li><li>6 STATIN shall have sole responsibility for deciding on the use of statistical methods, standards and procedures and on the content and timing of statistical releases, adopting best practices and internationally agreed upon methodologies.</li><li>7 When appropriate, the highest authorities of STATIN shall issue public statements on statistical matters, including criticisms, and shall address misuses of official statistics.</li></ol>



### **SQAF 5: Assuring impartiality and objectivity**

Development, production and dissemination of official statistics within STATIN occur on the basis of scientific independence and in a manner that is professional, transparent and neutral, and such that all users are treated equitably. Guidelines for the assurance of impartiality and objectivity appear in Table 5.

**Table 5: Guidelines for assuring impartiality and objectivity**

Domain	Guidelines
B. Managing the institutional environment	<ol style="list-style-type: none"><li>1 Official statistics shall be prepared using methodologies and technical processes based on impartiality and transparency.</li><li>2 The choice of information sources, methods, processes, concepts and data dissemination paths is a professional responsibility and shall be based on national and international principles and best practices.</li><li>3 The approaches and guidelines used shall guarantee all users simultaneous access to statistical reports, in an impartial and comprehensible manner, except only to effect timely computation of other official statistics as stipulated in the Institute's dissemination policy. Where early access of statistical releases is granted, this shall be made known to the public.</li></ol>

### SQAF 6: Assuring transparency

STATIN's statistical policies and practices and the terms and conditions under which its statistics are developed, produced, and disseminated are documented and made available to users, survey respondents and the wider public. Guidelines for assuring transparency are itemised in Table 6.

**Table 6: Guidelines for assuring transparency**

Domain	Guidelines
B. Managing the institutional environment	<ol style="list-style-type: none"><li>1 Official statistics shall be prepared using methodologies and technical processes based on impartiality and transparency.</li><li>2 The standards, classifications, methods and processes used to produce the statistics shall be documented and made known to the public.</li><li>3 Revisions shall follow well-established standard procedures in accordance with an established time-table. Studies and analysis of revisions shall be made known to the public.</li><li>4 A date and time shall be set for the dissemination of all official statistics. If the deadline will not be met, notification shall be given in advance together with an explanation and an indication of a new date for publication.</li></ol>

### SQAF 7: Assuring statistical confidentiality and security

The Statistics (Amendment) Act 1984 stipulates STATIN’s obligation to protect the privacy of data providers (individuals, households and enterprises) and to hold confidential the information they provide. STATIN takes great care in the dissemination of data to minimize the risk of identification of a person or entity without their prior written consent. Guidelines for assuring statistical confidentiality and security are detailed in Table 7.

**Table 7: Guidelines for assuring statistical confidentiality and security**

Domain	Guidelines
B. Managing the institutional environment	<ol style="list-style-type: none"><li>1 The legislation in force specifies that data are confidential and shall be used for statistical purposes only.</li><li>2 Persons with access to individual or confidential information shall sign a declaration stating their respect for confidentiality and taking note of the penalties for non-compliance.</li><li>3 The legislation in force specifies standards and commitments to confidentiality for STATIN’s staff involved in the generation of official statistics, together with the penalties that apply for non-compliance.</li><li>4 There shall be protocols establishing guidelines on the security and integrity of statistical databases.</li><li>5 Respondents shall be informed of the main uses and limitations in terms of access to the information that they provide.</li><li>6 Access to micro-data shall be subject to confidentiality protocols for external users who access them for purposes of analysis and statistical research.</li><li>7 Information shall be stored in accordance with established security and confidentiality protocols and existing standards.</li></ol>

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### SQAF 8: Assuring the quality commitment

For STATIN, “quality” is the extent to which a product or service of STATIN is fit for users’ intended purposes. It defines our behaviour on the job, ensuring that our products and services are of the highest standard, integrity and credibility. The Institute not only recognizes the need to produce statistics that are fit for users’ intended purposes, but also the need to balance quality objectives with available resources.

STATIN subscribes to the Generic Statistics Business Process Model (GSBPM v5.0) which was developed by the United Nations Economic Commission for Europe (UNECE) and endorsed by the United Nations Statistics Division (UNSD). The GSBPM outlines the production cycle for statistical products and guides the documentation of products and services produced by STATIN. It encourages a decentralized approach to the production of statistical products and services with responsibilities spanning various Divisions within the Institute. Guidelines for assuring the Institute’s quality commitment are outlined in Table 8.

**Table 8: Guidelines for assuring the quality commitment**

Domain	Guidelines
B. Managing the institutional environment	<ol style="list-style-type: none"><li>1 A quality model and policy shall be clearly defined, documented and made known to the members of STATIN’s statistical system (staff and external stakeholders).</li><li>2 The quality of the statistical output shall be assessed periodically to ensure that it complies with internal guidelines and international standards.</li><li>3 Systematic efforts shall be made to promote and further a culture of continuous improvement in statistical production.</li><li>4 STATIN shall participate in international activities of statistical interest and in the joint establishment of standards supported by international bodies.</li><li>5 STATIN shall participate in local and international cooperation activities in order to share with, and transfer knowledge to, Ministries, Agencies and Departments, international bodies and other national statistics offices.</li><li>6 Local, regional and international cooperation mechanisms shall be developed for the transfer of knowledge.</li></ol>

### SQAF 9: Assuring adequacy of resources

Ideally, an NSO's resources – financial, human and technological (IT) – should be adequate “*both in magnitude and quality, and sufficient to meet their needs with regard to the development, production and dissemination of statistics.*”<sup>14</sup> Agency and programme level assurances of resource adequacy are outlined in Table 9.

**Table 9: Guidelines for assuring the adequacy of resources**

Domain	Guidelines
B. Managing the institutional environment	<ol style="list-style-type: none"><li>1 Sufficient human, financial, physical and technological resources shall be made available in order to meet the need for statistical information.</li><li>2 The coverage and detail of official statistics and the cost and time necessary for their generation shall be based on an analysis of information requirements.</li><li>3 New requests for information shall be assessed and justified with reference to their costs, using control mechanisms.</li><li>4 The exclusion, inclusion or continuity of official statistics shall be evaluated periodically by those responsible for statistical production in order to optimize resources.</li></ol>

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<sup>14</sup> UN NQAF, 2012, p. 25

### 3.3 Managing statistical processes

#### SQAF 10: Assuring methodological soundness

Conformity of statistical methodologies to internationally agreed standards, guidelines or best practices and established scientific principles is essential when developing and compiling statistics. This is accomplished through the implementation of effective and efficient statistical procedures throughout the statistical production cycle. Guidelines for managing statistical processes by assuring methodological soundness are outlined in Table 10.

**Table 10: Guidelines for assuring methodological soundness**

Domain	Guidelines
C. Managing statistical processes	<ol style="list-style-type: none"><li>1 Agreement shall be reached on the implementation of methodologies, concepts, classifications and good practices that follow principles and guidelines for national and international acceptance.</li><li>2 The survey methodology and the use of administrative registers shall be assessed periodically and, where necessary, adjusted to improve the quality of STATIN's products and services.</li><li>3 There shall be detailed concordance between the national and international benchmark classifications prepared by the competent bodies.</li><li>4 At the design stage of the statistical operation, flexibility shall be permitted for the preparation of instruments for data capture and processing based on users' information needs.</li><li>5 There shall be academic, inter-institutional and sectoral committees to assess and improve the methodology used in the statistical process.</li></ol>

### SQAF 11: Assuring cost-effectiveness

Effective resource allocation is imperative in the statistical business process. Accounting for the cost-effectiveness of the Institute’s statistical programmes involves the use of mechanisms that track the extent to which programme objectives have been attained and results achieved at a reasonable cost, considering the primary uses of the statistics produced. Guidelines assuring cost-effective resource allocation are outlined in Table 11.

**Table 11: Guidelines for assuring cost-effectiveness**

Domain	Guidelines
C. Managing statistical processes	<ol style="list-style-type: none"><li>1 The use of resources by STATIN shall be cost-effective.</li><li>2 Proactive efforts shall be made to improve the statistical potential of administrative registers to minimise the cost of surveys.</li><li>3 Inter-agency cooperation shall be facilitated by national regulations which enable members of the national statistical system to share data on corporations and persons in order to reduce collection costs without prejudice to statistical quality, confidentiality or any reservations that may exist under the law.</li><li>4 Information and communications technologies shall be used in order to optimize processes for the generation and dissemination of official statistics.</li></ol>

### SQAF 12: Assuring soundness of implementation

Careful planning of the implementation process for statistical activities based on internationally agreed standards and guidelines and the application of sound and scientific methods facilitates timeliness, accuracy and reliability of statistical outputs. Guidelines for assurances of soundness of implementation of statistical processes are outlined in Table 12.

**Table 12: Guidelines for assuring soundness of implementation**

Domain	Guidelines
C. Managing statistical processes	<ol style="list-style-type: none"><li>1 The methodologies, questionnaires, manuals, computer-based applications and other instruments shall be checked and validated before starting the data-collection process.</li><li>2 Computer systems shall be used for data capture, coding, evaluation and validation of information, where possible</li><li>3 The stages of the statistical process shall be reviewed or updated as required by statistical operation and research.</li><li>4 Appropriate technological resources shall be used to carry out estimates and imputations and to review or update them periodically as provided for by the design of the statistical operation.</li><li>5 Revisions shall follow well established standard procedures in accordance with an established time-table. Studies and analysis of revisions shall be made known to the public.</li><li>6 The concepts and definitions used when administrative registers are used for statistical purposes shall comply with the parameters required in a quality statistical process.</li></ol>

### SQAF 13: Managing the respondent burden

STATIN acknowledges that the demand to collect information should be balanced against production costs and the burden placed on respondents. Mechanisms to maintain good relationships with data providers (individuals, households and businesses) and proactively manage the response burden are essential for improving quality and are outlined in Table 13.

**Table 13: Guidelines for managing the respondent burden**

Domain	Guidelines
C. Managing statistical processes	<ol style="list-style-type: none"><li>1 STATIN shall use coordinated and systematic procedures for obtaining information, including that relating to corporate accounts (financial information).</li><li>2 The coverage and level of detail of the request for information from respondents shall be limited to information that is strictly necessary.</li><li>3 A constant effort shall be made, or techniques developed, in order to reduce the burden on respondents, including use of best estimates when exact information is unavailable.</li><li>4 Sharing data between producers of statistics shall be promoted in order to avoid duplication of statistical output.</li><li>5 STATIN shall reduce the respondent burden on businesses through an integrated approach to survey administration by combining data collection both within STATIN and with other MDAs.</li><li>6 STATIN shall reduce the respondent burden on households by using measures that ensure there is a reasonable minimum time lapse before sample units are selected for inclusion in another survey.</li><li>7 STATIN shall rotate sample units out of longitudinal surveys, where possible, to reduce the general response burden.</li><li>8 Administrative and other data sources shall be used, where possible, to inform estimates.</li></ol>

### 3.4 Managing statistical outputs

#### SQAF 14: Assuring relevance

Responsiveness to current and/or potential or emerging needs or requirements of stakeholders is vital. STATIN acknowledges that *“assessing relevance is subjective and depends upon the varying needs of users”* and the demand *“to weigh and balance the conflicting needs of current and potential users in order to produce statistics that satisfy the most important and priority needs within given resource constraints.”*<sup>15</sup> Guidelines for assurances of relevance are outlined in Table 14.

**Table 14: Guidelines for assuring relevance**

Domain	Guidelines
C. Managing statistical outputs	<ol style="list-style-type: none"><li>1 The supply of statistics nationally shall be based on mechanisms and strategies for identifying the priority information needs of the Government, the business sector and the country as a whole.  STATIN shall follow procedures for advising, training and reporting 2 to users on the statistical outputs and for consulting them periodically on the practical use of statistical data.</li><li>3 Users and producers of official statistics shall participate in the processes of identification, analysis and evaluation of information requirements through academic, inter-institutional and sectoral committees.</li><li>4 Reviews shall be conducted once every five years to determine whether or not the related official statistics are satisfactory to users.</li></ol>

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<sup>15</sup> UN NQAF, 2012, p. 36

### SQAF 15: Assuring accuracy and reliability

It is the priority of the Institute to develop, produce and disseminate statistics that are accurate and which consistently measure the reality that they are designed to represent. The guidelines that address accuracy and reliability appear in Table 15.

**Table 15: Guidelines for assuring accuracy and reliability**

Domain	Guidelines
C. Managing statistical outputs	<ol style="list-style-type: none"><li>1 Revisions shall follow well established standard procedures in accordance with an established time-table. Studies and analysis of revisions shall be made known to the public.</li><li>2 The original data, intermediate results and statistical output shall be assessed and validated by comparing them, where appropriate, with other statistical information.</li><li>3 Sampling and non-sampling errors shall be analysed and documented.</li><li>4 The data shall be collected in accordance with the methodology and designs published.</li><li>5 A review of the statistical process of each statistical programme shall be undertaken at least once every five years to introduce improvements.</li><li>6 Methodologies shall be updated periodically to comply with the quality criteria for producing official statistics and to bring them in line with international standards.</li></ol>

### SQAF 16: Assuring timeliness and punctuality

STATIN endeavours to minimize delays in making data available to users. Mechanisms for assuring timeliness and punctuality of official statistics are outlined in Table 16.

**Table 16: Guidelines for assuring timeliness and punctuality**

Domain	Guidelines
C. Managing statistical outputs	<ol style="list-style-type: none"><li>1 In order to be relevant, official statistics shall be produced on a timely basis, that is, within a reasonable period after the completion of the reference period.</li><li>2 The periodicity with which the official statistics are to be made available shall be determined bearing in mind users' requirements, as well as appropriate international standards and commitments.</li><li>3 A date and time shall be set for the dissemination of all official statistics. If the deadline will not be met, notification shall be given in advance together with the relevant explanation and an indication of a new date for publication.</li><li>4 Any significant error(s) identified in the official statistics disseminated shall be corrected and the correct figures published promptly.</li><li>5 Any substantial update in the statistical methodology, procedures or techniques shall be announced prior to the final publication of the results.</li></ol>

### SQAF 17: Assuring accessibility and clarity

Ease of access to data and comprehensible metadata, provided on an impartial and equal basis in various convenient formats, is important in serving data users, while honouring obligations to secure statistical confidentiality. Guidelines for assurances of accessibility to and clarity of statistical outputs are outlined in Table 17.

**Table 17: Guidelines for assuring accessibility and clarity**

Domain	Guidelines
C. Managing statistical outputs	<ol style="list-style-type: none"><li>1 Systematic efforts shall be made to promote and further a culture of continuous improvement in statistical production.</li><li>2 All users shall be guaranteed free access to official statistics in an impartial and comprehensible manner on the basis of clearly established and well-known procedures.</li><li>3 The timing of the release of official statistics shall be announced through an advanced release calendar (ARC).</li><li>4 Official statistics and the relevant metadata shall be made available to users clearly and precisely to enable users to interpret them correctly and make meaningful comparisons.</li><li>5 Different media and technologies that meet requirements and ensure full coverage shall be used for the dissemination of official statistics.</li><li>6 In order to promote the use of official statistics, relevant information shall be prepared and made available to the press and the public as a whole.</li><li>7 As far as possible, technical support for data analysis shall be provided at the request of users, and, depending on the agreement, the results should be made public.</li><li>8 Information shall be provided to users on projects, working papers and methodologies.</li></ol>

### SQAF 18: Assuring coherence and comparability

Information-sharing is characteristic of the global statistical system. Therefore, statistics that are coherent and comparable over time and are produced using common standards with respect to scope, definitions, classifications and units are necessary. In response to the open data revolution, it should be possible to combine and make joint use of related data from different sources. Guidelines for assuring coherence and comparability of statistical outputs are outlined in Table 18.

**Table 18: Guidelines for assuring coherence and comparability**

Domain	Guidelines
C. Managing statistical outputs	<ol style="list-style-type: none"><li>1 Official statistics shall be coherent internally and reconcilable over time.</li><li>2 Statistics based on administrative registers shall be coherent in the use of classifications and concepts required for a quality statistical process.</li><li>3 The use of statistical frameworks, classifications, procedures, indicators, concepts and good practices shall be promoted in the production of official statistics in order to enhance their comparability over time and with other data sets.</li><li>4 Steps shall be taken to promote the national and international comparability of the statistics produced.</li></ol>



## 4 QUALITY ASSESSMENT AND REPORTING

Systematic assessment and reporting allow for statistical risk reduction through evaluation of the sub-processes of the statistical business process. It allows for detection of errors and taking appropriate action to mitigate, if not eliminate, undesirable impacts on statistical products. A methodical assessment and reporting mechanism is the means by which STATIN will assure its professionalism and credibility in leading the other members in Jamaica's national statistical system as a producer of high quality statistics.

### 4.1 Measuring Product and Process Quality: Use of quality indicators, quality targets and process variables and descriptions

STATIN embraces an adaptation of Eurostat's three-layered approach to quality assurance involving:

1. accounting for what happens during the statistical production process through documentation and measurement
2. evaluating the statistical process and its outputs, as well as users' satisfaction with those outputs, and
3. using results of assessments of conformity to standards and user requirements to improve quality within the agency and standardization to improve efficiency in producing official statistics

Quality assessment requires defining quality concepts and an acknowledgement of their precondition. The UN's Template for a Generic National Quality Assurance Framework (NQAF) has identified relevance, accuracy and reliability, timeliness and punctuality, coherence and comparability, accessibility and clarity as dimensions on which the quality of statistical practice is to be assessed. Measuring these quality concepts can be accomplished through use of quality indicators, which are *"simplified and generally quantified measures – calculated according to clear rules – they intend to characterize a complex phenomenon, i.e. the many different quality features of the data."*<sup>16</sup> They capture both process and product quality and facilitate transparency. Indicators are accompanied by levels of requirements which form targets against which attainment of a quality standard can be assessed and this lends itself to monitoring quality.

In acknowledging the collaborative approach needed to adequately define and develop quality indicators, it is intended that survey managers, data collection specialists and methodologists, as well as data users will necessarily engage each other in the creation and revision of a Quality Assessment Framework document – SQAF-Assess. It is also intended that the assessment framework will extensively borrow from the structure and content of the South African Quality Assessment Framework (SASQAF), the Quality Framework for OECD Statistics and the European

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<sup>16</sup> UN NQAF, 2012, pg. 49

Statistical System's Quality and Performance Indicators, and appropriately tailor its content to ensure responsiveness to the Jamaican context.

#### **4.2 Communicating about Quality – Quality Reports**

Quality reports account for results of assessments made according to the quality dimensions used to define statistical products' fitness for their intended purpose(s). The resulting transparency will enable data users to assess product quality for themselves but will also help managers within the agency and of specific statistical programmes to monitor process and product quality over time. STATIN's Quality Assessment Framework is intended to outline a standard reporting structure that allows for comparability of statistical programmes on the basis of specific quality indicators.

#### **4.3 Obtaining Feedback from Users**

STATIN has adopted the best practice of regularly consulting its data users about their needs and perceptions of data quality, through an improved user satisfaction survey adapted from Eurostat. User feedback will be a distinct component of STATIN's quality assessment strategy and the Institute commits to conducting follow up with data users through appropriate mediums.

#### **4.4 Conducting Assessments - Labelling**

The aforementioned assessment tools – SQAF-Assess and user satisfaction survey – will be used in self assessments, audits and peer reviews. Regardless of the assessment context, results will be used for assuring credibility in the statistics produced by the Institute by demonstrating transparency about the extent to which quality standards are met. It is intended that pre-determined labels will accompany the various levels of fulfilment of quality standards, with corresponding explanatory notes for each label.

#### **4.5 Assuring Continuous Quality Improvements**

The global statistical community is progressive. Ongoing developments in quality management require responsiveness that can assure currency and ongoing improvement in the quality assured by the national statistics office of Jamaica. As such, monitoring of new information on quality and use of this in statistical production processes for improved outputs is an indispensable component of the collaborative work programme of the quality management staff and managers of STATIN.