GUIDELINE

FOR QUALITY REVIEWING OF STATISTICAL REPORTS

Namibia Statistics Agency

GUIDELINE FOR QUALITY REVIEWING OF STATISTICAL REPORTS

VERSION 1.0

	Name	**Designation**	**Signature**	**Date**
Originator	**Dr. Isak Neema**	Executive Data Quality Assurance and NSS Coordination		29 October 2020
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DOCUMENT CHANGE CONTROL

Revision History

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Namibia Statistics Agency

Mission Statement

"Leveraging on partnerships and innovative technologies, to produce and disseminate relevant, quality, timely statistics and spatial data that are fit-for-purpose in accordance with international standards and best practice"

Vision Statement

"Be a high performance institution in quality statistics delivery"

Core Values

Integrity
Excellent Performance
Accuracy
Team Work
Accountability
Transparency

ACRONYMS

DQA   Data Quality Assurance

NQAFS   Namibia Quality Assurance Framework for Statistics

NSA   Namibia Statistics Agency

NSS   National Statistics System

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1. INTRODUCTION

The department of Data Quality Assurance (DQA) and National Statistics System (NSS) Coordination was created out of the necessity to satisfy the provisions of the Statistics Act No. 9 of 2011. In particular, part II of the Act, section 4 to 5 dealing with the purpose of the NSS and principles of statistics as well as part VI dealing with the statistical coordination and data quality assurance in terms of the development of standards and guidelines necessary to ensure quality and for the designation of national statistics as official statistics, are testimony to this effect. The department is therefore tasked with the responsibility of assuring quality throughout the statistical value chain and products as well as a dedicated focal point for the coordination of the NSS.

Therefore, in pursuing of its mandate particularly of ensuring quality of the Namibia Statistics Agency (NSA) statistical products in particular the statistical reports, the department has undertaken to develop the guideline for quality review of statistical reports. The aim of the guideline is therefore to guide stakeholders who are mainly statistical producers in all matter relating to quality review of their statistical products.

2. THE QUALITY REVIEW PROCESS

Quality review of statistical reports which will be referred to as the review process throughout this guideline, is carried out within the spirit of the Namibia Quality Assurance Framework for Statistics (NQAFS). The review begins with the submission of the required documentations from the production stakeholder to the DQA and NSS Coordination department, which is then directed to the Data Quality Assurance (in short referred to as Quality Assurance) arm of the department which carry out the review process. The following, are the required documentation to initiate a review process:

a) Statistical Report to be reviewed
b) Microdata[1] or any other related data tables
c) Metadata[2] for the report
d) Technical Report for Survey-based Reports

The Microdata are the anonymized data, ready to be released in the public domain. This data, is a must that it accompanies the report to be reviewed. In the absence of the microdata, Quality Assurance will not commence the review process until such a time that the data is provided. On the other hand, metadata must be prepared in line with the NSA Metadata template. Metadata is a set of data that describes and gives information about the data presented in the microdata and that has been used in the production of the report. Both microdata and metadata must be released in the public domain within 24 hours of the report release.

The duration of the review process depends on the magnitude of the report to be reviewed and the analytics involved. The table below (Table 2.1) present a summary of the maximum duration for a particular review process.

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[1] Excel and SPSS are the two data platforms (software's) that are easily accessible to external stakeholders; hence all NSA microdata must be presented in this format. Other formats can be produced to complement these two.
[2] Metadata must be presented in line with the NSA metadata template in a PDF format.

Table: 2.1: Estimated average duration for a quality review of major NSA statistical reports

Number	Statistical report	Magnitude of the Report (range number of pages)	Review Duration (working days)
Monthly Reports			
1	Monthly Reports	2 – 10	3
2	Monthly Reports	11 – 30	4
Quarterly Reports			
3	Quarterly reports	3 – 10	3
4	Quarterly reports	11 – 30	5
5	Quarterly reports	31 – 50	8
Annual Reports			
6	Annual reports	30 – 50	8
7	Annual reports	60 – 100	14
8	Annual reports	100 plus	20

NB: All other statistical reports not listed in table 2.1 will automatically assume the review duration corresponding to their respective sizes in line with those of the statistical reports provided in the table.

2.1. Duration of the review

Upon the departmental receipt of the complete submission for quality review, that is all relevant documentations as prescribed above, a response is made to the submitting stakeholder acknowledging receipt of the submission. Furthermore, the response notifies the submitting stakeholder as to the date the review process will commence. The duration of the quality review therefore refers to the time it takes the department to review a statistical report, calculated from the commencement date of the review to the date before the reviewed report is returned to the department.

2.2. Submission of statistical reports and related materials

All submissions to activate a quality review process of the statistical reports shall only be made by the Executive of the production department or his/her designated staff member to the Executive Data Quality Assurance and NSS Coordination. This is to ensure absolute ownership by the Executive of the submissions and the overall quality of the report as it leaves the department. Similarly, upon conclusion of the review process, the Executive Quality Assurance and NSS Coordination or his/her designate shall communicate to the Executive of the submission department or his/her designate on the outcome of the review

2.3. Focus of the review

The review process undertaken by the department is very comprehensive covering all aspects of quality. In particular, the following areas forms the core aspects of the quality review process:

2.3.1 Flow of information;

2.3.2 Methodological presentation;

2.3.3 Layout and presentation of tables and graphs;

2.3.4 Spelling of names and related issues;

2.3.5 Analytical process and procedures;

2.3.6 Presentation and interpretation of the results, conclusion and related recommendations;

2.3.7 Consistency with respect to other indicators and statistics already in the public domain and related reports;

2.3.8 Assessing accuracy indicators such as margin of errors, response rates, coverage rates, and similar quality indicators; and

2.3.9 Metadata completeness.

3. EXCLUSION CRITERIA

It is a must that all statistical reports shall go through the quality review process and hence no exclusion criteria or exemptions applied.

The following templates are presented as additional materials to support the compilation of documentations required to initiate the review process.
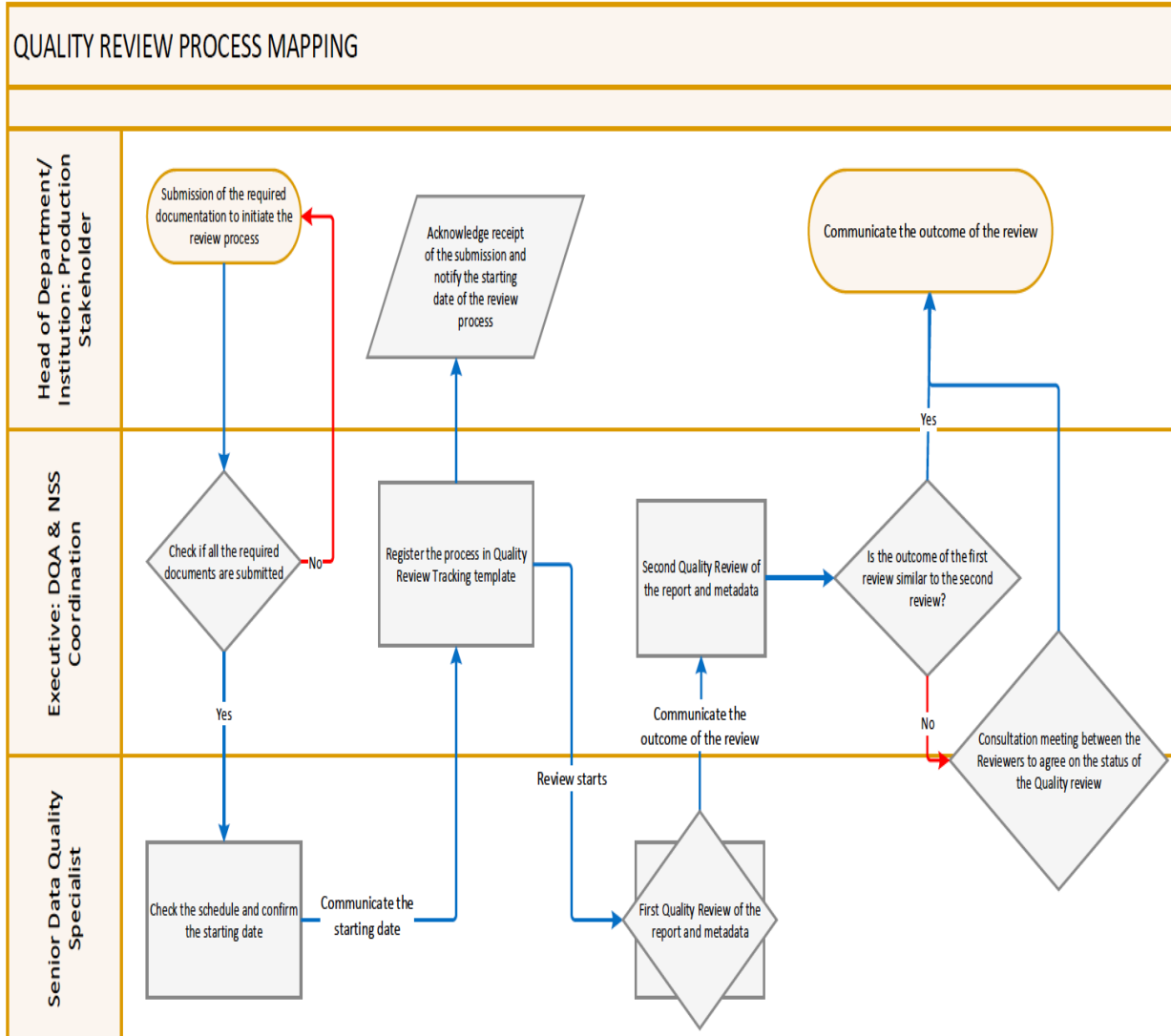
Appendix I presents the quality review of statistical reports process mapping **Appendix II** presents the metadata template, **Appendix III** presents instruction on how to complete the metadata template and.

4. REFERENCES

1. Namibia Quality Assurance Framework for Statistics, Namibia Statistics Agency, 2020
2. Data Collection Processing and Dissemination Policy and Practice, Namibia Statistics Agency, 2014
3. Namibia Statistics Act, No.9 of 2011
4. Field Operation Manual, Namibia Statistic Agency, 2016
5. Data Collection Instruction Manual, Namibia Statistics Agency, 2016

Appendix I

Quality Review Process Mapping

QUALITY REVIEW PROCESS MAPPING

Head of Department/Institution: Production Stakeholder

- Submission of the required documentation to initiate the review process
- Acknowledge receipt of the submission and notify the starting date of the review process
- Communicate the outcome of the review

Executive: DQA & NSS Coordination

- Check if all the required documents are submitted — No
- Register the process in Quality Review Tracking template
- Second Quality Review of the report and metadata
- Is the outcome of the first review similar to the second review? — Yes / No
- Consultation meeting between the Reviewers to agree on the status of the Quality review
- Communicate the outcome of the review

Senior Data Quality Specialist

- Yes
- Check the schedule and confirm the starting date
- Communicate the starting date
- Review starts
- First Quality Review of the report and metadata

Appendix II

NSA Metadata template

Namibia Statistics Agency

STANDARDIZED METADATA TEMPLATE

IDENTIFICATION

1	Title of the Project		

2 Producer(s)/Primary Investigator(s)

Name
a)
b)
c)

3 Contributor(s)

Name of organization(s)/Person(s)	Role(s)
a)	
b)	
c)	

4 Sponsors

Name of organization(s)/Person(s)	Role(s)
a)	
b)	
c)	

5	Budget (N$)	
6	Identifier	
7	Version description	

OVERVIEW

8 Type of project

Sample Survey	
Census	
Administrative records	
Others	(if other, specify)

9 Unit of Analysis

Individuals	
Households	
Enterprises	
Other	(if other, elaborate)

10 Frequency of the data production

Monthly	
Quarterly	
Anually	
Other	(if other, elaborate)

11	Abstract	
12	Keywords	
13	Scope	

14 File format

SPSS	
Excel	
CSPro	
Stata	
Other	(if other, elaborate)

15 Language

16 Key concepts and Definitions

Concepts	Definitions

ACCESSIBILITY

17 Mode of Accessibility

Website	(link)
CD/USB	(How to get it)
Other	(if other, elaborate)

18	Citation	
19	Disclaimer	
20	Copyright	
21	Contact details	

COVERAGE

22	Geographic coverage	
23	Universe	

SAMPLING PROCEDURES (Only applicable for sample surveys)

SAMPLING PROCEDURES (Only applicable for sample surveys)

24	Sampling design		

25	Sample size		

26	Replacement for non-contacts	Yes	*(if yes, how was it done)*
		No	

27	Replacement for refusal	Yes	*(if yes, how was it done)*
		No	

28	Sample Frame used	Yes	*(if yes, which frame was used)*
		No	*(if no, reasons)*

RESPONSE RATE

29	Response rate (%)	

30	Response Status	Fully completed	
		Partially completed	
		Non-contact	
		Refusal	

WEIGHTING

31	Weighting	Yes	*(if yes, how was it done)*
		No	

DATA COLLECTION

32	Data collection date	*from (DD-MM-YYYY) to (DD-MM-YYYY)*

33	Descriptions of data collection instruments used	a)
		b)
		c)

34	Data collection mode	Face-to-face interview	
		Self-administered	
		Telephonically	
		Mail	
		Other	*(if other, elaborate)*

35	Data collector(s)	a)
		b)

DATA PROCESSING

36	Data editing/cleaning	

37	Data Imputations *(if there's any)*	*(record any imputation or replacement technique used to correct inconsistent or missing data)*

DATA APPRAISAL

38	Estimates of sampling errors and design effects	*(Margin of Error, C.I)*

39	Data quality measures that were taken	

VARIABLES DESCRIPTION

40 **Description of all variables in the microdata**

File 1 Name:

ID	Names	Description	Type	Number of cases			
				Total	Valid	Invalid	Missing

File 2 Name: *(If there's more than 1 file)*

ID	Names	Description	Type	Number of cases			
				Total	Valid	Invalid	Missing

File 3 Name: *(If there's more than 2 file)*

ID	Names	Description	Type	Number of cases			
				Total	Valid	Invalid	Missing

File 4 Name: *(If there's more than 3 file)*

ID	Names	Description	Type	Number of cases			
				Total	Valid	Invalid	Missing

Compiled by	
Division	
Department	

Appendix III

How to complete the Metadata template

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APPENDIX III

How to complete the Metadata Template

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Forewords

The department of Data Quality Assurance and National Statistics System Coordination has developed a standardized metadata template for microdata set as part of the implementation of the Namibia Quality Assurance Framework for Statistics (NQAFS). The metadata template was developed in compliance with the Data Documentation Initiative (DDI) and the Dublin Core (DCMI) metadata standards. Generally, a metadata is a presentation that defines data elements and attributes such as variable names, data type, size, structures and other information on basic identification elements, accessibility, sampling and so on. This template will then assist in appraising the microdata set(s) along with statistical processes in accordance with the NQAFS principles. This is extremely helpful in the consolidation of the reliability of databases and their efficiency.

Once, the assessed statistics passed the quality assessment and are designated as official statistics in line with the provisions of the NQAFS, the metadata must then be posted on the NSA microdata portal together with the microdata set, the questionnaire(s) used plus any other materials deemed necessary based on the individuality of the project. Information from the metadata will thus assist the users of the particular data to interpret the information correctly and perform secondary analysis appropriately.

Therefore, this note provides the data producers with guidelines on how to successfully complete the metadata template.

Case by case description of the metadata elements

IDENTIFICATION

Element	Description
1. Title of the Project	Insert the title of the survey or project for which the metadata is prepared for
2. Producers /Primary Investigator(s)	This is the name of the organization(s)/person(s) who are the producers of the data
3. Contributor(s)	These are other organization(s)/person(s) that significantly contributed to the project, this can be technical or financial assistance. Their specific roles that they contributed in the project should be stated as well.
4. Sponsors	Name of the Organization(s)/Person(s) who funded the project and their specific roles that they funded in the project.
5. Budget	State the budgeted amount for the project in Namibian dollars only
6. Identifier	This is a single identification code of the document, which uses the format **Country_Producer_Title_Year** whereas, ✓ **Country**: the abbreviation of the country according to International Organization for Standardization (**ISO**) 3166 ALPHA-3. ✓ **Producer**: the abbreviated name of the Producer ✓ **Title**: the abbreviation of the title of the project ✓ **Yea**r: the year in which the metadata template was created For example, in the case of 2011 Population and Housing Census and the Metadata documentation was created in 2013, then it will be recorded as: **NAM_NSA_PHC_2011**
7. Version description	The version description should always have the word "**version**" in front of the number of document series. e.g. Version 1, and the date which the data was produced should be provided in brackets, (January 2020). A data file may undergo various changes and modifications, hence the microdata set file versions can be tracked to this element.

OVERVIEW

8. Type of project	Choose the type of survey used to collect the information in the microdata set ✓ **Sample survey**: where a representative sample of the population was chosen and enumerated, ✓ **Census**: where a full enumeration of the population was conducted, or ✓ **Administrative records**: collection of secondary data from administrative records, ✓ Or if others types were used, please elaborate more on the approach taken.

9. Unit of Analysis	Choose the units on which the analysis was based in the microdata set. The choices given are individuals, households, enterprises or others; if others unit of analysis were used, please elaborate more.
10. Frequency of the data production	Indicate how often is the data collected
11. Abstract	Give a short summary of the project. The author should give a brief motivation of why the project was carried out, its objectives, methodology used, results and conclusions.

The abstract should be at most 100 words long. |
12. Keywords	Mention the main words used in the project
13. Scope	Provide the areas that the project covers e.g. in NHIES areas covered were Income, Expenditure, Health, Education, etc.
14. File format	Specify the file format(s) used to store the microdata set. For accessibility purposes all microdata must be in an Excel or SPSS format.
15. Language	State the language used in the project. English is recommended for all projects for which data is designated as official statistics.
16. Key concepts and Definitions	Fill in all the **KEY** concepts and definitions used in the project

ACCESSIBILITY

17. Mode of Accessibility	Indicate the means on how microdata can be acquired (Multiple responses can apply)
18. Citation	Specify how result from the project should be cited.
19. Errors and Omissions Disclaimer	While the NSA has made every attempt to ensure the information contained in the microdata has been obtained from reliable sources, NSA is not responsible for any errors or omissions, or for the results obtained from the wrong use including analysis of the microdata. In no event will NSA, its related partnership or corporations, or the agents or employees thereof be liable to anyone else for any decision made or action taken in reliance on the results derived from the wrong use including analysis of the microdata or for any consequential, special or similar damages, even if advised of the possibility of such damages.
20. Copyright	This is a statement of exclusive and assignable legal right given to the originator of the microdata for a specified period
21. Contact details	Provides the contact information such as the physical and postal address, telephone number and email address in case the user would want more clarity on the micro data.

COVERAGE

22. Geographic Coverage	State the geographical areas that were included in the data collection of the project
23. Universe	Explain the entire set of units which the project is focusing on. For example, in Household's surveys the universe includes all household members and it excludes homeless people and the people who are living in institutions.

SAMPLING PROCEDURES (Only applicable for sample surveys)

24. Sampling design	Concisely comment on the methods used to select sample items and provide the description of all steps taken in sampling, like how the respondents were chosen to represent the population and so on.
25. Sample size	The total number of the sampling units intended for the project.
26. Replacement for non-contacts	Was there any replacement done for the sampled population who were not found to partake in the project? If it is yes, elaboration should be given.
27. Replacement for refusal	Was there any replacement done for the sampled population who refused to partake in the project? If it is yes, elaboration should be given.
28. Sample Frame Used	Indicate if the sample frame was used or not. If yes, indicate which sample frame was used and if not, give the reasons why it was not used.

RESPONSE RATE

29. Response rate	This the overall response rate of the project.
30. Response Status	Fill in the final response status accordingly. The total number of un-weighted cases should be given.

WEIGHTING

31. Weighting	Indicate if any weights were applied to the microdata set, if yes, describe how weighting was done.

DATA COLLECTION

32. Data Collection date	Provide the dates when the data collection process of the project was carried out. The date must be written following the format, which is DD-MM-YYYY

33. Description of Data Collection instruments used	List all instruments used in the collection of data for the project and their target unit of analysis
34. Data collection mode	Indicate as to how the data was collected from the respondents (more than one response can apply)
35. Data collector(s)	Organization(s) responsible collecting the data or administering the data collection process of the project

DATA PROCESSING

36. Data Editing/Cleaning	Briefly explain what measures were taken to perfect the data, thus to correct the inconsistencies in the data to enable correct analysis.
37. Data imputations	**Imputation is the process of assigning values to missing or inconsistent data that failed edits or cleaning.** If imputation was done, briefly explain what techniques were used to replace or correct missing data or to assign new values to variables with missing data, in order to enable correct analysis.

DATA APPRAISAL

38. Estimates of sampling errors and design effects	Provide estimates of sampling errors and design effect values, like margin of error and confidence interval calculations.
39. Data quality assurance measures that were taken	Describe the key actions that were taken to ensure high quality results were achieved for the project. These can be anything done in the statistical process value chain, for example, the involvement of stakeholders for the questionnaire's development, training of field staffs, the supervision of field staffs, monitoring and evaluation for data collection, etc.

VARIABLES DESCRIPTION

40. Variables Description	All the variables in the microdata set file should be describe as follows: ✓ **ID**: The unique identifier of the variable in the file ✓ **Names**: The name of the variable ✓ **Description**: The detailed description of the variable ✓ **Type**: The data type of the variable, it can be either discrete or continuous if the variable is Quantitative or character if the variable is Qualitative. ✓ **Total:** The total number of cases recorded under the variable ✓ **Valid:** The total number of valid cases recorded under the variable ✓ **Invalid:** The total number of invalid cases recorded under the variable ✓ **Missing:** The total number of missing cases recorded under the variable

NOTES

NOTES