



# SADC EMIS Norms and Standards Peer Review Assessment Report

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Mr Mogotsa Kewagamang - Deputy Permanent Secretary (Programme and Policies)

Ms Taboka Nkhwa - Secretary Reforms

Nnosang Mhutsiwa - Deputy Permanent Secretary (Corporate Services)

Kgopotso Ramoroka - DPS (Support Services)

Mr Fernando Siamisang - Deputy Director, Department of Educational Planning and Research Services

Ms Dudu L. Nemaorani-Gouwe - Deputy Director, Performance Improvement Unit



Ushirika wa Maendeleo ya Elimu Barani Afrika  
الرابطة لأجل تطوير التربية في إفريقيا  
Association for the Development of Education in Africa  
Association pour le développement de l'éducation en Afrique  
Associação para o Desenvolvimento da Educação em África

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## ***Abbreviations***

**BOCODOL**-Botswana College of Distance and Open Learning

**BOTA**-Botswana Training Authority

**TEC** – Tertiary Education Council (Botswana)

**MoU**-Memorandum of Understanding

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## **1. EXECUTIVE SUMMARY**

A set of regional EMIS Norms and Standards were collaboratively developed by member states, and the 17 principles and their standards produced were adopted by Ministers of Education and Training at their SADC Meeting in Kinshasa, March 2010. Subsequently, SADC, with the assistance of ADEA's Working Group on Education Management and Policy Support (WGEMPS) and SADC's EMIS Technical Committee elaborated an EMIS Assessment Framework to benchmark member states' performance against the agreed EMIS Norms and Standards.

The main purpose of the EMIS Norms and Standards is to have a set of criteria and measures for advocating best practice and benchmarking countries capabilities in being able to produce relevant, accurate, timely and comprehensive education statistics and information. Adopting the Norms and Standards ensures countries will have sustainable, comprehensive and appropriate Education Management Information Systems in harmony with international and regional systems and practices.

The peer review focused on the four thematic areas, namely: Policy and Legal Frameworks; Resource Availability and Utilisation; Statistical Processes; and Education Information Reporting. In line with the areas, the following were the major findings with recommendations:

### **Policy and Legal Frameworks**

The EMIS unit draws its mandate of data collection from the Education Act that stipulates that all Education Institutions should submit Annual Statistical returns to the Permanent Secretary, Ministry of Education. This mandate is restricted to primary and secondary schools (Government and Government aided secondary schools) as well as Teacher Training Colleges. Other institutions also have the mandate to register and collect data from the institutions under their jurisdiction. Central Statistical Office (CSO) has transformed into a Parastatal called Statistics Botswana and the Ministry of Education has established a unit since 2011 with new staff absorbed to carry out all Education Management Information System (EMIS) activities.

The recommendations are that the EMIS unit must be mandated to collect/coordinate and report/disseminate statistical data on education and training for all education and training institutions (Government, Government aided, Civil Society and private) for all levels. Also, there is need for a Memorandum of Understanding (MoU) between Ministry of Education and other institutions involved in handling education and training statistics/information defining roles and responsibilities for each institution so as to collect comprehensive education statistics and share what was collected with EMIS.

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## **Resource Availability and Utilisation**

There are ten staff absorbed in EMIS with three seconded from Statistics Botswana, but responsibilities are not yet allocated. However, there are no EMIS staff in the regions and districts. The Ministry has no specific budget 'ring fenced' for EMIS (no budget of its own) and depends on the planning budget. In addition, equipment is not adequate and no specific equipment or transport is allocated for EMIS e.g. few computers, no lap tops and other required hard/software. The policy of the Ministry is that equipment belongs to the whole ministry and could be deployed to needy offices. This may lead to a loss of historical data and information, should the computer not be protected from deletions.

The Ministry has data capturing programs available (CS Pro and OSET software). However, there is no EMIS ICT inventory in place and audit of resource utilization. There seems to be no backup storage facilities for the activities in the ministry and only one person is familiar with the backend of the CS Pro.

The Ministry EMIS structure outlining key roles and accountabilities of each position coupled with a capacity building plan should be finalised, formalised and implemented as a matter of urgency. For EMIS to be useful, the EMIS unit should have sufficient and dedicated equipment and ensure that all data and programs are sufficient backed up at all times for easy business continuity. Thus, the EMIS financial resources should be adequate and ring-fenced with adequate transport so that the activities planned are implemented prudently and cost effectively.

EMIS being a management tool, the EMIS unit should be elevated to allow the Head of EMIS to participate in management meetings and decisions.

## **Statistical Processes**

Sound data collection instruments which comply with international standards are in place with data collection done in July. The guidelines for filling in the form is as follows: Primary and secondary- end of third week after schools open in second term, form must be filled but silent on submission/return date. For TVET, end of March form must be filled and submitted by end of April each year.

The Ministry follows up non-respondent schools through phone calls and this is a big challenge as there are no repercussions for noncompliance but when the non-respondents are few, the ministry imputes. Some schools do not keep/capture certain records that may be demanded by some stakeholders as nothing standard is given to the schools for data capture at school level. In addition, Statistics Botswana have their codes for districts, institutions etc., while other institutions are also using their own codes, thereby making data comparability a challenge.

The EMIS structure should be put in place with continuous capacity building. The EMIS staff should also be taking part or assisting in surveys undertaken by the

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different sections of the ministry as this could also help build capacity. The issue of coding should be sorted out for easy comparability of data as Statistics Botswana have their codes for districts, institutions etc., while other institutions are also using their own codes.

### **Education Information Reporting**

The data from the schools is reliable in that all schools are covered in the school (primary and sec) census and Statistics Botswana has the master school lists including private institutions though this may not be up to date. There is an aspect of duplication in counting as some institutions are accredited to more than one institution. e.g. some TVET institutions also appear under TEC.

Timeliness and punctuality in annual statistics has been a challenge in that they have a five year backlog with the last comprehensive (for all levels) report having been published in 2008. However, despite this scenario, data for primary schools for 2012 is available. Some data for the backlog is available for all the years e.g. primary and sec for use by the ministry though not yet complete.

Also, no guidelines on frequency and release dates of statistics i.e. plans with dates are set but the implementation is a challenge as the dates are not adhered to. Questionnaires from international organisations are completed by STATISTICS BOTSWANA and submitted to SADC, AU and UNESCO on behalf of the ministry and the contact person for filling in statistical questionnaires is still with Statistics Botswana. There is adherence to statistical guidelines and procedures in statistical value chain though the codes are given by different stakeholders depending on who registered them e.g. education, Ministry of Local Government, Statistics Botswana etc., thereby making comparability on political basis a nightmare.

The Ministry of Education has not yet published any statistics, but it sends to all stakeholders (to departments, regions, line ministries, schools etc.) when Statistics Botswana publishes i.e. hard copies, presentations, fliers, website etc.

Information reporting is tied to data collection. Thus, procedures for data collection with strict deadlines and guidelines for the distribution, collection and submission/returns of the data collection instruments should be in place. Data entry and processing should be automated to facilitate timely publication/dissemination of accurate, relevant, reliable and comprehensive education statistical data. The Ministry of Education should have the obligation to produce/publish and disseminate comprehensive annual statistics/reports on education and training widely within 12 months of data collection and the contact person for filling in statistical questionnaires should be with the Ministry and not Statistics Botswana and this should include international questionnaires such as those from SADC, AU and UNESCO.

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Ministers of Education in the SADC Region have placed importance on effective planning; policy making based on sound information and rigorous monitoring and evaluation of the performance of education systems by prioritising Education Management Information System in their regional agenda.

The minimum EMIS norms and standards are intended to guide countries in developing or improving and maintaining national appropriate, comprehensive and sustainable education management information systems. In addition, they are intended to facilitate harmonisation of education management information systems to contribute towards the development of regional and continental EMIS networks. Thus, this EMIS peer review is expected to help member SADC states address challenges they are faced and put measures in place to address them.

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## 2. BACKGROUND

A set of regional EMIS Norms and Standards were collaboratively developed by member states, and the 17 principles and their standards produced were adopted by Ministers of Education and Training at their SADC Meeting in Kinshasa, March 2010. Subsequently, SADC with the assistance of ADEA's Working Group on Education Management and Policy Support (WGEMPS) and SADC's EMIS Technical Committee elaborated an EMIS Assessment Framework to benchmark member states' performance against the agreed EMIS Norms and Standards.

The main purpose of the EMIS Norms and Standards is to have a set of criteria and measures for advocating best practice and benchmarking countries capabilities in being able to produce relevant, accurate, timely and comprehensive education statistics and information. Adopting the Norms and Standards ensures countries will have sustainable, comprehensive and appropriate education management information systems in harmony with international and regional systems and practices.

During a SADC's EMIS Technical Committee meeting in Gaborone, Botswana, November 2010 the role of EMIS Norms and Standards (ENS) was discussed in light of the fact that a "similar tool" from UIS existed. During the meeting it was resolved that:

*"... there is a need to ensure the Assessment Framework meets international standards and ensure harmonization between the two instruments. SADC is keen to improve data availability and data quality in the region.... SADC recognizes the role of UIS as international education statistics body and emphasized the need to recognize the different roles that different organisations and the different assessment tools play. The ENS gives member states a very strong tool to abide by; this fosters regional integration – peer review and a development of the collective even if it may be at a different pace for different member states. The SADC EMIS Norms and Standards can never replace international standards but the region needs its own tool so that the region can meet international standards."*

The approaches taken by SADC (and ADEA WGEMPS) in creating the EMIS Norms and Standards (ENS) differs from that of UIS's Data Quality Assessment Framework (DQAF). The format and presentation of the core principles are different. DQAF is primarily focused on the quality and coverage of the education statistics, whereas ENS is broader in looking at the following areas:

- A. Policy and Legal Frameworks,
- B. Resource Availability and Utilisation
- C. Statistical Processes
- D. Education Information Reporting

The four areas of focus contain 17 principles/norms and their standards. Underpinning the Norms and Standards is a principle of the Quality of Statistics which is defined as 'fitness for use'. The Quality of Statistics has eight dimensions of quality, namely; relevance, accuracy, timeliness, accessibility, interpretability, coherence, methodological soundness and integrity. Five of these eight quality dimensions are also covered in the Data Quality Assessment Framework (DQAF) of the International Monetary Fund (IMF) and the UNESCO Institute of Statistics.

The SADC ENS is not copyrighted, but owned and collaboratively developed by member states and adopted by Ministers of Education as a code of practice. Although based on an analysis of international best practices in statistics, it was developed bottom-up unlike the DQAF tool which is developed by international institutions and introduced to countries.

The ENS aimed to employ a scoring strategy that is as objective as is possible, to ensure the final scores allocated to countries are not questionable. The assessment framework enables country self-assessment with peer ranking by external member state experts. Each of the 17 Norms are broken down into a number of components. Components are high level descriptors of a number of Standards. The degree of implementation of a Standard associated with a Norm is measured on a 4 point assessment scale. The ideal Standard is embedded in "Quality Statistics" (Level 4) while inadequate implementation will earn a Poor Statistics (Level 1).

### **3. INTRODUCTION**

A key challenge facing the SADC Region's ability to report on its human resource development achievements and challenges is information gaps or "data blanks". This is a problem of inadequate data coverage of all education institutions (both public and private) and all sub-sectors in the education system. In other cases, it is the structural arrangements for the management of education in the absence of a policy and norms and standards for the management of education information. Some countries have more than one Ministry responsible for the delivery and management of education and therefore each Ministry collects its own data and information.

Issues of duplication, varying definitions and poor coordination of sector wide data arise and thereby affect the quality and availability of education statistics. These issues are compounded when comparisons are made across countries. As a result few Member States are reporting comprehensively on all the required global education indicators. This tends to lead to a number of problems in monitoring and evaluating the performance of an education and training sector in countries and across the region.

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Effective country capacities in Education Management Information Systems (EMIS) is one of the priority areas in SADC's Regional Education and Training Implementation Plan and the African Union's Plan of Action for the Second Decade.

This EMIS Peer review is aimed at assessing how Botswana has embraced the SADC EMIS Norms and Standards, benchmark good practices, challenges encountered in EMIS as well as make recommendations on how the EMIS Botswana could be enhanced.

## **4. PEER REVIEW METHODOLOGY**

The peer review methodology used involved the following:

- Face to face interviews and focussed discussions;
- Questionnaire administration;
- Presentations;
- Review of documentation, instruments, policies, and reports;
- Debriefing and presentation of report.

## **5. LIMITATIONS OF THE REVIEW**

The assessment was conducted at a time when most staff in many offices that have a stake in EMIS and statistics were very busy, and as such could not meet some of them. Among the groups that we could not meet include Teacher Training and Development and BOTA.

As regards the framework itself, a single-valued aggregate data quality measure is subject to all the deficiencies associated with widely used indexes where many of the variables and implicit weightings are likely to be subjective. Also, the framework may not sufficiently take into account the specific country or institutional contexts which may make it difficult for some countries to meet the ideal standards outlined under Quality Level 4. In addition, the methodology largely rests on country self-assessments which may also limit the usefulness of the framework. Further, there is a tendency for the data producer to rate their data quality highly while the consumers of the statistics will perceive the data to be less credible, timely and free of error. There is not much engagement with the consumers of the statistics in this assessment framework.

## **6. FINDINGS**

The findings from the peer review have been presented according to the 17 thematic areas in the EMIS Norms and Standards as given below:

## **N1: Mandate for Data Collection for the Education Sector**

The Statistics Botswana seconds staff to the Ministry of Education to collect data, process and publish it on behalf of the Ministry of Education. However, this may/will no longer be the case as CSO has transformed into a parastatal called Statistics Botswana and the Ministry of Education has established a unit since 2011 with new staff absorbed to carry out all Education Management Information System (EMIS) activities. This is still in transition and the EMIS unit is yet to get on its feet as there are still three staff seconded from Statistics Botswana. In fact even the staff in EMIS is not yet appointed though the structure is in existence.

The mandate for Early Childhood Development (ECD) registration of institutions is with the Ministry of Local Government. However, the Ministry of Education (EMIS) collects data for ECD by sending the questionnaire to the Department of Basic Education – Pre-school Unit who administer it on their behalf. Post-secondary mandate for registration and data collection is with various stakeholders such as: the Tertiary Education Council which is responsible for all higher education and tertiary institutions offering diploma or higher courses that include the teacher training colleges and universities; the Botswana Training Authority (BOTA) that registers and collects data from skills development and tertiary institutions offering below diploma courses; the Department of Vocational Education and Training (TVET) collecting data from Government Institutions only including the brigades. (However, EMIS also collects data from the TVET institutions. The Out of School Education Training (OSET) data is collected by the ministry through the programme developed by the unit;

The EMIS unit will draw its mandate of data collection from the Education Act that stipulates that all Education Institutions should submit Annual Statistical returns to the Permanent Secretary, Ministry of Education. This mandate is restricted to primary and secondary schools (Government and Government aided secondary schools) as well as Teacher Training Colleges. However, despite the legal mandate being silent on private schools, the ministry also collects data from private schools. This is in accordance with the Education Act of 1967, CAP 58: 01, Part IV, Section 28, page 48; Part X, Section 29, no. 45 on page 72, No. 40, page 86;

The mandate for production of education reports for all levels is with Statistics Botswana and at times they even collect directly from TEC, TVET and OSET. The production of the reports is done quarterly and yearly. They also conduct literacy surveys and produce annual reports on statistics in education. However, Statistics Botswana is now strengthening capacity in following up institutions on data, also strengthening the capacity of EMIS and empowering them to collect education statistics and have focal point people responsible for specific EMIS activities.

### **N2: Quality Commitment**

Currently, the Ministry is using CS Pro and Excel for data entry for 2012 and processing which was developed by US census bureau. The data prior to 2012 is partly on IMPS while some of it is in hard copy. Was using IMPS and the machines where data is lying are not known and no one knows where they are. The database and machines (according to Statistics Botswana are at education (with Statistics Botswana seconded staff to EMIS) and the administration is/will be done by education, though the ministry (EMIS) is not aware of the whereabouts of the database and machines.

Data validation and collection is done termly as well as validation especially at TVET. However, since 2013, data collection for ECD, Primary and Secondary is now done annually. Data cleaning is done by EMIS staff with the help of seconded staff from Statistics Botswana then passed on to Statistics Botswana for publication. The previous data was backed up on external drives, though these are not available now. However, data comparability still remains a challenge as data comparison is only done nationally and not by school level.

### **N3: Statistical Confidentiality**

The ministry does not collect individual records for the teachers as they collect aggregated data, thus confidentiality is not an issue. However, though no data is confidential, dissemination is only done by the Ministry after Statistics Botswana has cleared the data. Nonetheless, the OSET data has some confidential information, thus the issue of confidentiality may be considered later.

### **N4: Reporting Accountability**

The ministry has no mandate to publish what is collected but it is done by/through Statistics Botswana. Thus, the Ministry of Education compiles the statistical reports then submits to Statistics Botswana who does the editing. Statistics Botswana produces reports on behalf of ministries but if there is a need for the ministries to disseminate reports or data they can still work with the Statistics Botswana technically. CSO also submits data/reports on behalf of the Ministry to UIS, SADC, AU etc.

The ministry has a five year backlog in production of statistical reports. Most data is incomplete, though they are working hard to finalize the 2012 and 2013 reports. They attributed the non-publication of data and reports for the last five years to challenges of poor response rates mainly due to fatigue at secondary school level. Feedback to the stakeholders is not an issue as the ministry gives feedback to the schools as publications/reports are sent to the schools..

### **N5: Impartiality and Objectivity**

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Impartiality may be compromised as there seems to be a lot of external intervention in data collection, analysis and dissemination.

### **N6: Registration of institutions**

Registration of institutions is done by different stakeholders as highlighted under N1. Thus, there is no comprehensive education institutions master list especially that the ministry registers government and private primary and secondary levels and does not register other levels. The Ministry of Education has no updated school master lists for ECD, private TVET, and Tertiary etc. However, Statistics Botswana has the master list of education institutions though it is also incomplete.

There is an issue with coding of school as this is done by Statistics Botswana, while the other codes for other institutions are provided by the registration institutions.

### **N7: Registration of learners**

The Ministry registers Students through birth cards or under five (health cards) or even from the confirmation from parents or village headmen. Thus, the ministry collects enrolment data by age. There are already some systems in place to capture learners e.g. the out of school system software and CS Pro software.

### **N8: Adequate resources**

There are ten staff absorbed in EMIS with three seconded from Statistics Botswana, but responsibilities are not yet allocated. However, there are no EMIS staff in the regions and districts. No capacity building has been done to the heads of schools as the EMIS team is new and strategy for capacity building will be put in place later. In addition, the EMIS team has very little interaction with international networks and organisations.

The Ministry has no facilities for training of EMIS staff e.g. training laboratory. Equally, the Ministry has no specific budget for EMIS (no budget of its own) and depends on the planning budget. According to the ENS, EMIS should have a resource ring-fenced which is not the case with Botswana. In addition, equipment is not adequate and no specific equipment is allocated for EMIS e.g. few computers, no lap tops and other required hard/software. The policy of the Ministry is that equipment belongs to the whole ministry and could be deployed to needy offices. Such practices could cost the ministry dearly as they could lead to lose of valuable data and resources.

### **N9: Cost effective**

The Ministry has data capturing programs available (CS Pro and OSET software). However, there is no EMIS ICT inventory in place and audit of resource utilization. There seems to be no backup storage facilities for the activities in the ministry and only one person is familiar with the backend of the CS Pro. Also, there is no

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dedicated budget for EMIS which may lead to failing to track the prudent use of EMIS resources (inputs and outputs) and this includes non-availability of transport. These deficiencies have contributed to the Ministry failing to meet targets and deadlines related to statistical data and reports.

### **N10: Sound Methodology and Appropriateness of Statistical Procedures**

Sound data collection instruments which comply with international standards and are pre-tested are in place with data collection done in April<sup>1</sup>. The distributions of the questionnaires follow standard procedures. The guidelines for filling in the form is as follows: Primary and secondary- end of third week after schools open in second term, form must be filled but silent on submission/return date. For TVET, end of March form must be filled and submitted by end of April each year.

The Ministry follows up non-respondent schools through phone calls and this is a big challenge as there are no repercussions for noncompliance. However, the Ministry tries by all means to ensure all data is submitted, but when the non-respondents are few, the ministry imputes. Data processing systems are tested for errors with data verification inbuilt into the process. Also, data validation is done when the data entry and processing is complete so as to maintain quality.

Although schools do keep certain records, like registers, the information contained in these records is not sufficient to get all information as may be demanded by some stakeholders as nothing standard is given to the schools for data capture at school level. In addition, Statistics Botswana have their codes for districts, institutions etc., while other institutions are also using their own codes, thereby making data comparability a challenge.

### **N11: Non-Excessive Burden on Respondents**

Data is collected from all the schools and not done on sample basis and the detail of statistics is limited to absolutely essential data. Also, secondary source data is utilized whenever required e.g. Examination data, Tertiary, TVET etc.. The EMIS staff does not participate/assist in surveys undertaken by the different sections of the ministry as this is done by the Research unit in the Directorate of Planning though information sharing is practised effectively.

### **N12: Relevance**

The Ministry consults users regularly on what should be included in the Annual School Census (ACQ) form. However, there is little or no feedback provided to the institutions in that it is not formally planned for. In addition, most users are not trained and no user satisfaction surveys are conducted to analysis their satisfaction. The EMIS unit has no Strategic Plan as they are new in office, but yearly plans are

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<sup>1</sup> This year, because of delay, it was done in July.

formulated. Indicators in annual statistical reports are published and could be compared with international standards.

### **N13: Accuracy and Reliability**

The data from the schools is reliable in that all schools are covered in the school (primary and sec) census and Statistics Botswana has the master school lists including private institutions though this may not be up to date. Some of the challenges are that part of the data on post-secondary is not collected as only Government institutions are targeted e.g. some data for private TVET institutions is not available. There is also an aspect of duplication in counting as some institutions are accredited to more than one institution. e.g. some TVET institutions also appear under TEC.

### **N14: Timeliness and Punctuality**

Timeliness and punctuality in annual statistics has been a challenge in that they have a five year backlog with the last comprehensive (for all levels) report having been published in 2008. However, despite this scenario, data for primary schools for 2012 is available. Some data for the backlog is available for all the years e.g. primary and sec for use by the ministry though not yet complete. Equally, there are no calendar dates per-say that reports should be produced by specific dates but it appears in the Annual Work Plans and Budget (AWPB) stating that they should be released. Statistics Botswana has no calendar for production of reports.

Also, no guidelines on frequency and release dates of statistics i.e. plans with dates are set but the implementation is a challenge as the dates are not adhered to. Questionnaires from international organisations are completed by Statistics Botswana and submitted to SADC, AU and UNESCO on behalf of the ministry and the contact person for filling in statistical questionnaires is still with Statistics Botswana.

It was alluded to that response rates are low in that no deadlines on submissions/returns are set. However, ultimately with follow ups, most institutions eventually submit the questionnaires after a very long time, thereby delaying finalisation and publication of statistical data.

### **N15: Coherence, Consistency, comparability, and Integration**

It was highlighted that statistics are comparable even on cross regional, national and international levels and that comparison over the years is made for checking accuracy, coherence and consistency. However, there is adhering to statistical guidelines and procedures in statistical value chain though the codes are given by different stakeholders depending on who registered them e.g. education, Ministry of Local Government, CSO etc., thereby making comparability on political basis a nightmare.

## **N16: Accessibility and Clarity**

The Ministry of Education has not yet published any statistics, but it sends to all stakeholders (to departments, regions, line ministries, schools etc.) when Statistics Botswana publishes i.e. hard copies, presentations, fliers, website etc.. Also, hard copies are also on sale or could be collected from the education office and there is an option of obtaining copies of annual reports electronically e.g. through the website, email etc.

Some users are not informed about the statistical processes and outputs, while EMIS staff alluded to the existence of metadata on some data and are documented and updated regularly as need arises.

## **N17: Comprehensiveness**

The Ministry collects data from all institutions and sub sectors that are under the ministry of education, while some data is collected by other stakeholders e.g. TEC, and BOTA. The statistics are disaggregated by gender; rural/urban etc. and integrates Learners with Special Education Needs (LSEN) with other education statistics.

In addition, the indicators are imputed on an annual basis for non-responding schools. However, the ministry still has backlog because they could not impute in some regions due to high non respondent rates.

## **7. CONCLUSION AND RECOMMENDATIONS**

In view of the findings and observations made during the peer review, the recommendations have been broken down according to the thematic area.

**A. Policy and Legal Frameworks:** The Ministry of Education must have a clear legal mandate to collect information from all education and training institutions and bodies, both public and private, for educational statistical purposes. Thus, we recommend that:

- Mandate the EMIS unit to collect/coordinate and report/disseminate statistical data on education and training for all education and training institutions (Government, Government aided, Civil Society and private) for all levels;
- There needs to be a Memorandum of Understanding (MoU) between Ministry of Education and other institutions involved in handling education and training statistics/information defining roles and responsibilities for each institution;
- All public and private education institutions are registered with Ministry of Education or relevant government authority and updated annually;

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- There is need for the ministry to collect individual records for the teachers as the information could be very handy especially when urgent management decisions have to be made which require the use of the teacher data.
- The Ministry may consider setting strict dates for returns of forms from all institutions. As it is, hard to calculate some indicators especially those that use ages of learners and teachers alike as calculation of the ages is to be done by a specific date.

**B. Resource Availability and Utilization:** Adequate resources and their effective use in managing an Education Management Information System has a major impact on the quality of education statistics. Thus, the Ministry of Education should ensure that resources are commensurate with the statistical programmes, personnel, facilities, equipment, technology, training and financing of their education management information systems. In view of the above, we recommend that:

- The EMIS structure outlining key roles and accountabilities of each position should be finalised, formalised and implemented as a matter of urgency;
- There should be EMIS focal point persons in the regions;
- There must be continuous capacity building for EMIS staff. Set up a computer laboratory for capacity building as outsourcing may not be sustainable;
- The EMIS unit should be elevated to allow the Head of EMIS to participate in management meetings and decisions as EMIS is a management tool;
- The EMIS financial resources should be adequate and ring-fenced with adequate transport so that the activities planned are implemented prudently and cost effectively;
- The EMIS unit should have sufficient and dedicated equipment and ensure that all data and programs are sufficient backed up at all times for easy business continuity;
- Botswana should be taking part in international EMIS meetings and networks.

**C. Statistical Processes:** The credibility of the statistics is enhanced by a reputation for good management and efficiency on statistical production processes. The relevant aspects are sound methodology, appropriate statistical procedures, definitions and classifications of internationally acceptable practices and non-excessive burden on respondents. Sound methodology must underpin quality statistics. This requires appropriate statistical procedures throughout the

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entire statistical value chain such as guidelines with specific deadlines for questionnaire filling in and submission dates.

The above aspects could be achieved with the EMIS structure in place and continuous capacity building. The EMIS staff should also be taking part or assisting in surveys undertaken by the different sections of the ministry as this could also help build capacity. The issue of coding should be sorted out for easy comparability of data as Statistics Botswana have their codes for districts, institutions etc, while other institutions are also using their own codes.

**D. Education Information Reporting:** Published and disseminated education statistics must meet users' needs. Education statistics need to comply with international quality standards and serve the need of stakeholders. The important issues concern the extent to which the statistics are relevant, accurate and reliable, timely, coherent, comprehensive, comparable, over time, across regions and countries and readily accessible by users. We recommend that:

- Information reporting is tied to data collection. Thus, procedures for data collection with strict deadlines and guidelines for the distribution, collection and submission/returns of the data collection instruments should be in place;
- Data entry and processing should be automated to facilitate timely publication/dissemination of accurate, relevant, reliable and comprehensive education statistical data;
- The Ministry of Education should have the obligation to produce/publish and disseminate comprehensive annual statistics/reports on education and training widely within 12 months of data collection;
- EMIS should formulate a Strategic Plan or Plan of Action for their activities as a means of being systematic and organised;
- The Ministry of Education should sensitise, educate and market the use of statistics for evidence based decision making;
- The Contact person for filling in statistical questionnaires should be with the Ministry and not Statistics Botswana and this includes international questionnaires such as those from SADC, AU and UNESCO;

Ministers of Education in the SADC Region have placed importance on effective planning; policy making based on sound information and rigorous monitoring and evaluation of the performance of education systems by prioritising Education Management Information System in their regional agenda. The minimum EMIS norms and standards are intended to guide countries in developing or improving and maintaining national appropriate, comprehensive and sustainable education management information systems. In addition, they are intended to facilitate harmonisation of education management information

## BOTSWANA EMIS PEER REVIEW REPORT

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systems to contribute towards the development of regional and continental EMIS networks. Thus, this EMIS peer review is expected to help member SADC states address challenges they are faced and put measures in place to address them.

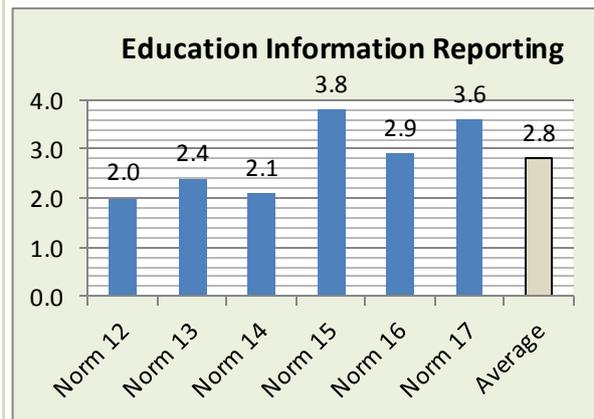
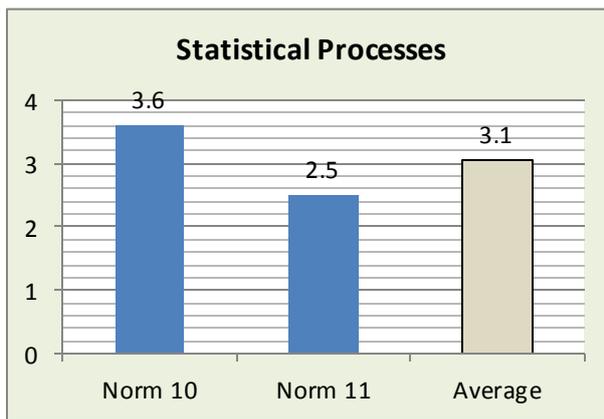
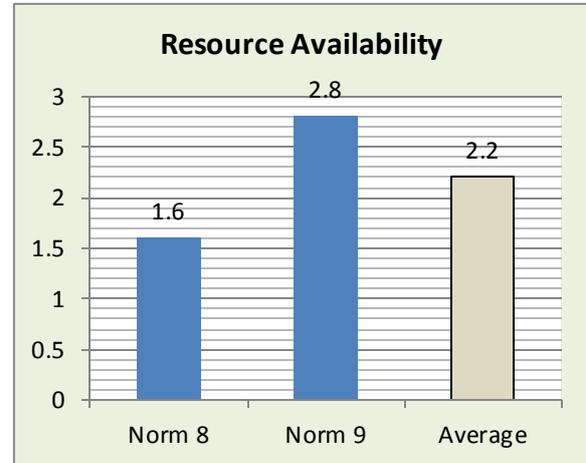
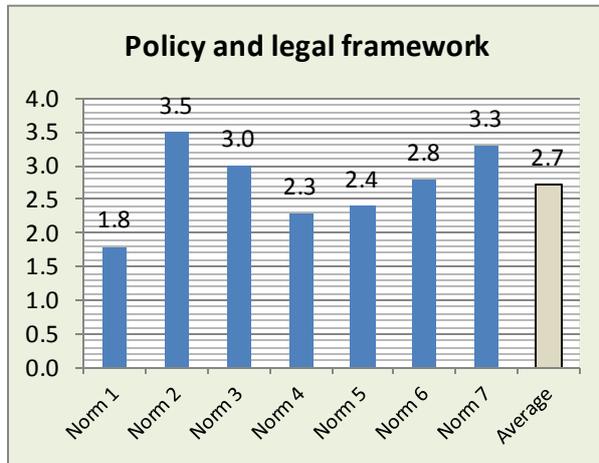
# BOTSWANA EMIS PEER REVIEW REPORT

## Appendix I: Summary Scores

EMIS Norms and Standards				
Botswana Peer review, Summary Scores				
November 2013				
<b>A. Policy and Legal Framework</b>				
<b>Norms</b>	<b>C-Score</b>	<b>P-Score</b>	<b>Average</b>	
Norm 1: Mandate for data collection for the education sector	2.0	1.6	1.8	
Norm 2: Quality commitment	4.0	3.0	3.5	
Norm 3: Statistical confidentiality	3.0	3.0	3.0	
Norm 4: Reporting accountability	2.3	2.3	2.3	
Norm 5: Impartiality and objectivity	2.7	2.1	2.4	
Norm 6: registration of institutions	3.0	2.5	2.8	
Norm 7: Registration of learners	3.5	3.0	3.3	
Average	2.9	2.5	2.7	
<b>B. Resources Availability and Utilization</b>				
<b>Norms</b>	<b>C-Score</b>	<b>P-Score</b>	<b>Average</b>	
Norm 8: Adequate resources	1.7	1.5	1.6	
Norm 9: Cost effectiveness	3.0	2.5	2.8	
Average	2.3	2.0	2.2	
<b>C. Statistical Processes</b>				
<b>Norms</b>	<b>C-Score</b>	<b>P-Score</b>	<b>Average</b>	
Norm 10: Sound methodology and appropriate statistical procedures	3.6	3.5	3.6	
Norm 11: Non-Excessive burden on respondents	2.5	2.5	2.5	
Average	3.1	3.0	3.1	
<b>D. Education Information Reporting</b>				
<b>Norms</b>	<b>C-Score</b>	<b>P-Score</b>	<b>Average</b>	
Norm 12: Relevance	2.0	2.0	2.0	
Norm 13: Accuracy and reliability	2.7	2.2	2.4	
Norm 14: Timeliness and punctuality	2.4	1.8	2.1	
Norm 15: Coherence, consistency, comparability and integration	3.8	3.8	3.8	
Norm 16: Accessibility and clarity	2.9	2.9	2.9	
Norm 17: Comprehensiveness	3.6	3.6	3.6	
Average	2.9	2.7	2.8	
Overall Average	2.8	2.6	2.7	

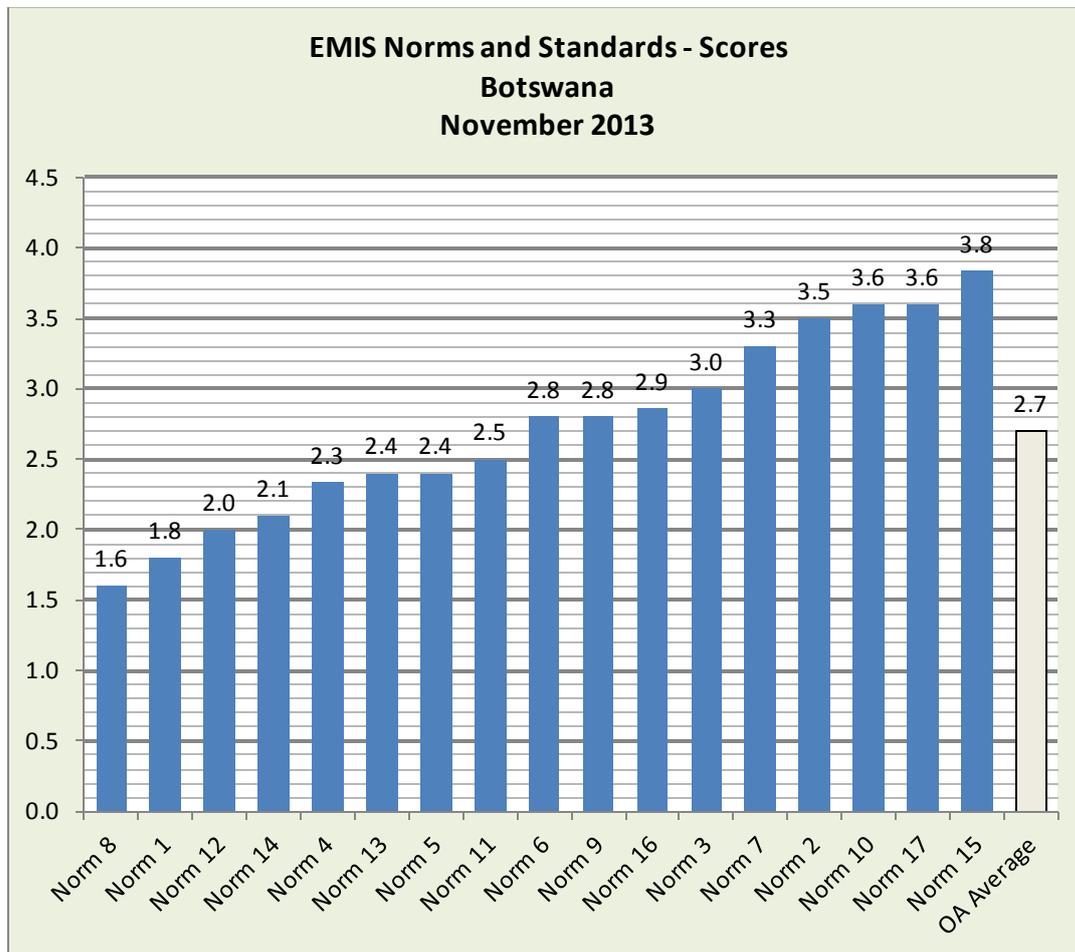
# BOTSWANA EMIS PEER REVIEW REPORT

## Appendix II: Summary Scores by Themes



# BOTSWANA EMIS PEER REVIEW REPORT

## Appendix III: Botswana ENS Scores by Rank



# BOTSWANA EMIS PEER REVIEW REPORT

<b>Appendix IV: Scores by standards</b>							
EMIS Norms and Standards Assessment Scores							
<b>Botswana, November 2013</b>							
<b>A. Policy and Legal Framework</b>							
<p>Policy and legal frameworks governing education statistics have a significant influence on the effectiveness and credibility of a Ministry of Education to produce and disseminate education statistics. The relevant issues are a mandate for data collection from all education institutions and bodies, clarity on roles and responsibilities, registration of pupils and institutions, commitment to quality, reporting accountability, statistical confidentiality, impartiality and objectivity. All education statistical policy frameworks come under the umbrella of national statistical policy.</p>							
<b>NORM 1. MANDATE FOR DATA COLLECTION FOR THE EDUCATION SECTOR</b>							
<p><b>The Ministry of Education must have a clear legal mandate to collect information from all education and training institutions and bodies, both public and private, for educational statistical purposes</b></p>							
Sn	Components	No	Standards	Assessment level 4	C-Score	P-Score	Average
				Quality Statistics			
1	Legal mandate	1.1.1	Legal mandate is given to EMIS to collect information for educational statistical purposes <sup>2</sup>	There is a law or legal instrument on the collection of information for production and dissemination of education and training statistics.	4	3	3.5
2		1.1.2	The usage of the legal mandate.	The legal mandate is utilized to cover all sub-sectors (including training).	4	3	3.5
3		1.1.3	Legislation on the use of administrative records for statistical purposes .	Legislation authorizes the Ministry access to use administrative records for statistical purposes.	2	2	2
4		1.1.4	Compliance of education institutions to provide education information.	Failure to respond to such requests has consequences for education institutions <sup>3</sup> .	1	1	1

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<b>5</b>	Mandate to coordinate EMIS processes	1.2.1	Mandate <sup>5</sup> to collect and integrate data from the different sub-sectors and various government agencies, institutions and structures of relevant departments, ministries and civil society.	The Ministry of Education has the mandate to collect and integrate data from the different sub-sectors and various government ministries and agencies of education and training, some institutions and relevant structures of other departments, ministries and civil society.	2	2	2
<b>6</b>		1.2.2	Strategy to collect and integrate data.	The Ministry of Education has a strategy to process data across other sub- sectors within the Ministry and with other Ministries and various government agencies <sup>6</sup> .	1	1	1
<b>7</b>		1.2.3	Information sharing across the Ministry of Education sub- sectors and government agencies.	Comprehensive measures are in place to ensure that there is information sharing across sub-sectors and across government agencies. <sup>8</sup>	1	1	1
<b>8</b>		1.2.4	Timeliness of information sharing across Ministry sub- sectors and government agencies.	Very timely sharing of information across Ministry sub-sectors and government agencies.	1	1	1
<b>9</b>		1.2.5	Memorandum of Understanding (MoU) between Ministry of Education and the National Statistics Office.	There is a MoU between the Ministry of Education with the national statistical office (Statistical authority) on all information related to their needs <sup>9</sup> .	2	1	1.5
<b>10</b>		1.2.6	Defined missions, structures and roles of the Ministry of Education and Educational Institutions on EMIS.	The Ministry has clearly spelt out the roles and responsibilities of education institutions and structures in the collection, compilation, distribution and sharing of educational information with users. These exist as administrative guidelines and are widely used in practice.	2	1	1.5
					<b>2.0</b>	<b>1.6</b>	<b>1.8</b>
				<sup>2</sup> This could be part of any policy document or separate legal document.			
				<sup>3</sup> Institution heads are charged, disciplinary action or a school is deregistered.			
				<sup>5</sup> This could be part of any policy document or separate legal document.			
				<sup>6</sup> The EMIS is integrated with administrative records in finance and personnel among others. One Ministry needs to be identified as the responsible party as in some instances more than one Ministry may be involved in education and training.			
				<sup>8</sup> Information sharing should be systematic and move across sub-sectors, various directories (HR, Finance), flow right back to the schools as well as information sharing with other Ministries, agencies and departments.			

## BOTSWANA EMIS PEER REVIEW REPORT

<b>NORM 2: QUALITY COMMITMENT</b>						
<b>The Ministry of Education commits itself to work and cooperate according to the norms fixed in the quality declaration of its national statistical systems and in other international statistical frameworks.</b>						
Sn	Components	Standards	Assessment level 4	C-Score	P-Score	Average
<b>Quality Statistics</b>						
1	Policy and Procedures to ensure quality statistics.	2.1.1 Policy and procedures to ensure quality.	Policy frameworks specify processes Ministry of Education will use to promote and ensure quality in the statistical value chain taking into account national and acceptable international quality standards.	4	3	3.5
2		2.1.2 Processes to monitor and ensure data quality.	Processes are in place to monitor and ensure the quality of the data collection, processing, and dissemination of statistics. These include processes of information verification and validation. <sup>10</sup>	4	3	3.5
Norm Average				<b>4.0</b>	<b>3.0</b>	<b>3.5</b>
<b>NORM 3: STATISTICAL CONFIDENTIALITY</b>						
<b>The Ministry of Education guarantees the privacy of data providers' individuality, the confidentiality of the information they provide and its use for statistical purposes only.</b>						
Sn	Components	Standards	Assessment level 4	C-Score	P-Score	Average
<b>Quality Statistics</b>						
1	<b>Statistical Confidentiality</b>	3.1.1 Policy outlining measures to safeguard individual data confidentiality and usage.	The individual data confidentiality is well stated in the policy document and implemented once every 12 months. Measures <sup>11</sup> are in place to ensure that individual data are kept confidential and used for statistical purposes only <sup>12</sup> .	3	3	3
2		3.1.2 Protocols for external users accessing data and usage.	Necessary protocols apply all the time to external users accessing statistical data.	3	3	3
Norm Average				<b>3.0</b>	<b>3.0</b>	<b>3.0</b>
<sup>12</sup> Among these measures should be clear procedures on how to archive records, a policy on how long records are kept and a strategy to safely dispose or destroy the records						

## BOTSWANA EMIS PEER REVIEW REPORT

Sn	Components	No	Standards	Assessment level 4	C- Score	P- Score	Ave rage
<b>NORM 4: REPORTING ACCOUNTABILITY</b>							
The Ministry of Education adheres to a policy of timely and accurate reporting to the statistical information requirements of national, regional, continental and international education frameworks.							
<b>Quality Statistics</b>							
1	Statistical reports	4.1.2	Procedures of statistical reports	Annual reports on statistics on education and training institutions are produced and disseminated widely within 12 months of data collection.	1	2	1.5
2		4.1.2	Obligation to report education performance annually.	The Ministry has an obligation to report on all information related to education by law.	4	2	3
3	Report of education statistics to international organizations	4.2.1	Responsiveness of a country to international reporting requirements.	The country supplies complete education statistics to SADC, the African Union, and other international agencies as per required.	2	3	2.5
Norm Average					2.3	2.3	2.3
<b>NORM 5: IMPARTIALITY AND OBJECTIVITY</b>							
The Ministry of Education must produce and disseminate education statistics respecting scientific independence and in an objective, professional and transparent manner in which all users are treated equitably.							
Sn	Components	No	Standards	Assessment level 4	C- Score	P- Score	Ave rage
<b>Quality Statistics</b>							
1	Impartiality and objectivity.	5.1.1	The compilation of education statistics is based on scientific and statistical considerations only.	Statistics are compiled on a scientific basis determined by statistical considerations only.	4	3	3.5
2		5.1.2	Corrections of errors are published.	Errors discovered in published statistics are corrected at the earliest possible date and publicized.	1	1	1
3		5.1.3	Data revisions and/or updates are publicized <sup>14</sup> .	Revisions of data and/or updates of information are always publicized.	2	2	2

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4		5.1.4	Information on the methods and procedures for statistical production used by the Ministry is publicly available.	Information on the methods and procedures used by the Ministry is publicized and routinely disseminated.	4	3	3.5
5		5.1.5	The release of statistics is made in an impartial and objective manner.	All statistical releases and statements made in the media are objective and non-partisan.	4	3	3.5
6		5.1.6	Staff is aware of professional and ethical conduct.	There are guidelines in place to ensure professional independence and ethical behavior by staff. A clear strategy <sup>15</sup> to ensure staff is conscious of acceptable conduct is in place.	3	2	2.5
7		5.1.7	Conditions under which policy makers can access data before its release are outlined in the dissemination policy.	Conditions under which policy-makers, specifically government, may have access to data before its release are published and is available for public scrutiny.	1	1	1
Norm Average					2.7	2.1	2.4
<sup>14</sup> Publicize means to bring to the public's attention - make something known - this can be done using various forms of media such as an advert in the newspaper or use of bulleting boards.							
<b>NORM 6: REGISTRATION OF INSTITUTIONS</b>							
<b>All education and training institutions must be compelled to register with appropriate education Ministries if they are to operate as an education and training institution.</b>							
Sn	Components	No	Standards	Assessment level 4	C-Score	P-Score	Average
				<b>Quality Statistics</b>			
1	Registration of Institutions	6.1.1	All public and private education institutions are registered with Ministries of Education or relevant government authority.	More than 90% of education institutions are registered with a unique number by the Ministries of education.	4	3	3.5
2		6.1.2	Ministries of Education have an up to date directory of all education and training institutions.	The appropriate education Ministry has a complete directory of all education and training institutions (public and private) which is updated on a yearly basis. There is a procedure for updating the list and it is implemented.	2	2	2
Norm Average					3.0	2.5	2.8

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<b>NORM 7: REGISTRATION OF LEARNERS</b>							
<b>All learners are required to present their birth certificate/records in any given year at any education and training institution.</b>							
Sn	Components	No	Standards	Assessment level 4	C-Score	P-Score	Average
				Quality Statistics			
1	Availability of learner data by age	7.1.1	All education institutions report on the age of their learners according to valid birth registration documentation	The Ministry reports accurate and comprehensive age by grade education statistics for all institutions <sup>16</sup> .	4	3	3.5
2		7.1.2	The Ministry has appropriate consultation with the Ministry responsible for universal registration of births to ensure widespread practice.	All learners are able to present their birth certificates/records on entry to education institutions.	3	3	3
Norm Average					3.5	3	3.3
<b>B. Resources Availability and Utilization</b>							
<b>Adequate resources and their effective use in managing an education management information system has a major impact on the quality of education statistics.</b>							
<b>NORM 8: ADEQUATE RESOURCES</b>							
<b>The Ministry of Education ensures that resources are commensurate with the statistical programmes, personnel, facilities, equipment, technology, training and financing of their education management information systems.</b>							
Sn	Components	No	Standards	Assessment level 4	C-Score	P-Score	Average
				Quality Statistics			
1	Finance	8.1.1	Allocation of an appropriate budget for EMIS.	The Ministry of Education allocates a ring-fenced <sup>17</sup> adequate percentage of its national education budget for the production of accurate, relevant and timely statistics.	1	1	1

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<b>2</b>	Personnel	8.1.2	There are sufficient qualified personnel in key EMIS positions.	There are sufficient qualified personnel in all key EMIS positions; with the minimum number comprising of an EMIS specialist, education statisticians, system analyst, programmers and education planners and data capturers at the national level.	4	3	3.5
<b>3</b>		8.1.3	The existence and implementation of professional development strategy <sup>18</sup> in place for EMIS staff.	The Ministry promotes and implements regular professional development and upgrading through training programs and on-site technical assistance to ensure progress and continuity of EMIS work. District Officers sufficiently trained to manipulate and analyse their local databases <sup>19</sup> .	1	1	1
<b>4</b>		8.1.4	There is a Strategy in place to retain scarce specialist skills.	There is a strategy in place to attract and retain specialist staff in areas of scarce skills by either offering additional incentives and / or performance contracts outside the normal salary post levels.	1	1	1
<b>5</b>		8.1.5	Participation and Interaction with international networks of EMIS experts.	EMIS personnel Annually participate in regional/international nil networks and conferences of EMIS experts in order to learn and share best practices. The Ministry EMIS experts are recognized as regional resources in EMIS expertise and to improve their expertise.	1	1	1
<b>6</b>	Equipment	8.1.6	Adequate information technology (IT) equipment and communication tools and other necessities.	EMIS unit has access to quality IT equipment, with modern communication tools <sup>21</sup> of Adequate processing and storage capacity at all administrative tiers <sup>22</sup> .	2	2	2
	Norm Average				<b>1.7</b>	<b>1.5</b>	<b>1.6</b>
<sup>17</sup> Secured funding that cannot be moved to other budget lines							
<sup>18</sup> Internal and external training programs which include computer programming updates, database management skills, survey administration, planning and budgeting skills, analytical report writing, etc.							
<sup>19</sup> Professional development initiatives are across all sub sectors							

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	<sup>21</sup> Internet, Wide Area Network and Local Area Network. Access to such ICT facilities should not only be at Head Offices but even at Provincial and District Offices						
	<sup>22</sup> Head Office, Regions, Provinces and districts						
	<b>NORM 9: COST EFFECTIVENESS</b>						
	<b>Resources must be effectively used.</b>						
Sn	Components	Sn	Standards	Assessment levels	C-Score	P-Score	Average
				Quality Statistics			
<b>1</b>	Utilization of Resources.	9.1.1	Monitoring of resource utilization	There are internal and external mechanisms in place to monitor the use of EMIS resources <sup>23</sup> .	4	3	3.5
<b>2</b>	Technology	9.2.1	Utilization of technology.	Information and Communications Technologies (ICTs) are optimized for essential operations in implementing the statistical value chain <sup>24</sup> .	3	3	3
<b>3</b>	Human Resources Management	9.3.1	Management of human resources	EMIS staff used 90% on their core business in line with their job descriptions.	4	3	3.5
<b>4</b>	Finance	9.4.1	Utilization of EMIS Funds	EMIS finances are used specifically for EMIS activities and functions. Resources received are effectively used.	1	1	1
	Norm Average				<b>3.0</b>	<b>2.5</b>	<b>2.8</b>

<sup>23</sup> (e.g. Performance Assessments Frameworks, Audits)

<sup>24</sup> Some processes are automated. The productivity potential of ICT is being optimized for data collection, processing and dissemination. Active use of website, CD's, E-mails etc.

## C. Statistical Processes

SADC's Protocol on Education and other international standards, guidelines and good practices must be fully observed in the process used by Ministries to organise, collect, process and disseminate official statistics. The credibility of the statistics is enhanced by a reputation for good management and efficiency on statistical production processes. The relevant aspects are sound methodology, appropriate statistical procedures, definitions and classifications of internationally acceptable practices and non-excessive burden on respondents.

	<b>NORM 10: SOUND METHODOLOGY AND APPROPRIATE STATISTICAL PROCEDURES</b>						

## BOTSWANA EMIS PEER REVIEW REPORT

<b>Sound methodology must underpin quality statistics. This requires appropriate statistical procedures throughout the entire statistical value chain.</b>							
Sn	Components	No	Standards	Assessment levels	C- Score	P- Score	Average
				<b>Quality Statistics</b>			
<b>1</b>		10.1.1	Methodology follows international/national standards or peer agreed standards.	Standardized methodology used processing methodology; monitoring of the statistical chain; Definitions of terms and concepts are documented; a standard system for data processing; and necessary user and technical manuals are available.	4	4	4
<b>2</b>	Data collection, processing, publication and dissemination methodology	10.1.2	Piloting and testing	Data collection instruments are piloted prior to administering them. Data entry and database structures are piloted and tested.	4	4	4
<b>3</b>		10.1.3	Verification processes	Data verification processes in place include the following: internal control tables in the survey questionnaire; physical checks of the questionnaires by receiving officers; missing data identified and estimated; current enrolment figures and indicators are checked against previous year's results.	4	4	4
<b>4</b>	Specialised survey methodology	10.2.1	Survey designs	Survey designs, sample selections and weights follow standard methodology and are properly documented.	4	4	4
<b>5</b>		10.2.2	Definition of standard concepts and terms are available' documented and used.	Procedures are in place to ensure that standard concepts, definitions and classifications are consistently applied in the statistical value chain	4	4	4
<b>6</b>		10.2.3	Availability of questionnaires for sub-sectors	There is a standard data collection instrument for each subsector (formal and non-formal education).	3	3	3
<b>7</b>	<b>Record Systems</b>	10.3.1	Compatibility of institutional records	Standardized <sup>25</sup> institutional records <sup>26</sup> compatible with the information needs of the Education Census.	4	4	4

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<b>8</b>		10.3. 2	Imputation of missing data	Appropriate automated editing and scientific imputation systems are used and regularly reviewed, revised or updated as required.	1	2	1.5
<b>9</b>		10.3. 3	Data Revisions	Revisions follow standards and well established and transparent procedures.	4	3	3.5
<b>10</b>		10.3. 4	Source of population statistics <sup>27</sup>	The latest survey or census population estimates and projections obtained from the Statistical authority (CSO/NSO) are used to calculate education indicators.	4	3	3.5
	Norm Average				<b>3.6</b>	<b>3.5</b>	<b>3.6</b>
	25 Standardised in terms of uniformity and quality; there has to be a glossary of standard concepts.						
	26 Includes all institutions – schools, colleges, universities, etc.						
	27 This is to make sure that there is one source of population statistics –Central Statistics Office.						
	<b>NORM 11: NON-EXCESSIVE BURDEN ON RESPONDENTS</b>						
	<b>The reporting burden should be proportionate to the needs of the users and should not be excessive for respondents. The Ministry of Education monitors the response burden and set targets for its reduction over time.</b>						
Sn	<b>Components</b>	No	<b>Standards</b>	<b>Assessment level 4</b>	<b>C- Scor e</b>	<b>P- Sco re</b>	<b>Ave rag e</b>
				<b>Quality Statistics</b>			
<b>1</b>	Essential minimum	11.1. 1	Core information needs.	The range and detail of education statistics demands is limited to what is essential.	4	4	4
<b>2</b>		11.1. 2	The burden of response.	The burden of responding to questionnaires is spread as widely as possible over survey populations through appropriate sampling techniques in instances where a census of education institutions is not being undertaken.	1	1	1
<b>3</b>		11.1. 3	Sources of data.	Administrative sources <sup>28</sup> and secondary data are used whenever possible to avoid duplicating requests for information.	4	4	4

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<b>4</b>		11.1. 4	Collaboration on education surveys.	The ministry's EMIS unit is the coordinating and registering body of internal education Surveys in collaboration with the national statistical office. This ensures that they arbitrate the quantity, quality and standards of surveys undertaken in education and training Institutions.	1	1	1
	Norm Average				<b>2.5</b>	<b>2.5</b>	<b>2.5</b>
	<sup>28</sup> Includes EMIS data						
<b>D. Education Information Reporting</b>							
Published and disseminated education statistics must meet users' needs. Education statistics need to comply with international quality standards and serve the need of African institutions, governments, research institutions, business concerns and the public generally. The important issues concern the extent to which the statistics are relevant, accurate and reliable, timely, coherent, comprehensive, comparable, over time, across regions and countries and readily accessible by users.							
<b>NORM 12: RELEVANCE</b>							
<b>Education statistics must meet the needs of users.</b>							
Sn	Component s	No	Standards	Assessment levels	C- Scor e	P- Sco re	Ave rag e
<b>Quality Statistics</b>							
<b>1</b>	<b>User needs</b>	12.1.1	Identification of user needs.	Key users <sup>29</sup> of data have been identified with their most recent contact details.	3	3	3
<b>2</b>		12.1.2		Processes <sup>30</sup> are in place to regularly consult users on their needs, monitor the relevance and practical utility of existing statistics in meeting their needs, and advise on their emerging needs and priorities <sup>31</sup> .	2	2	2
<b>3</b>	<b>User and producer feedback</b>	12.2.1	Feedback reports.	Institutional data reports are sent back to all institutions and different administrative levels for feedback and to allow schools to make comparisons. Follow-ups are made.	1	1	1

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<b>4</b>	<b>Feedback collection</b>	12.3.1	A User Satisfaction Survey is conducted among users.	There is a user satisfaction survey or other formal arrangements are conducted annually to collect feedback from users and producers of the information <sup>32</sup> , in particular those institutions who are involved in the collection, compilation and reporting of educational information.	1	1	1
<b>5</b>	<b>Appropriateness of EMIS strategies</b>	12.4.1	<b>EMIS Strategic Plan</b>	There is an EMIS strategic plan in place that covers all subsectors and addresses the Ministry's policy objectives <sup>33</sup> .	2	2	2
<b>6</b>		12.4.2	Indicators in Annual Statistical publications	Key indicators are analysed and tracked to measure performance of the entire education system. International and regional comparisons of indicators are widely used.	3	3	3
<b>7</b>	Data utilization	12.5.1	Key data users are trained to use data effectively.	Annual training programmes take place.	2	2	2
	Norm Average				2.0	2.0	2.0
<p><sup>29</sup> Key users are civil society, development partners, researchers; senior policy makers, government and teachers.</p> <p><sup>30</sup> Includes a responding to priorities in a register of user requests, a memorandum of understanding between users and producers, annual user satisfaction surveys on publications; annual engagement with key stakeholders in the refining census questionnaires – at least two should be in place to score quality statistics.</p> <p><sup>31</sup> Availability of dissemination, briefing, distribution of outputs etc.</p> <p><sup>32</sup> Refers to institutions, different administrative levels and other line Ministries.</p> <p><sup>33</sup> Existence of a documented strategy.</p>							
<b>NORM 13: ACCURACY AND RELIABILITY</b>							
<p><b>Education statistics must accurately and reliably portray reality. The accuracy of the statistical information is the degree to which the output correctly describes the phenomenon it was designed to measure.</b></p>							
Sn	<b>Components</b>		<b>Standards</b>	<b>Assessment level 4</b>	<b>C- Score</b>	<b>P- Score</b>	<b>Average</b>
				<b>Quality Statistics</b>			

## BOTSWANA EMIS PEER REVIEW REPORT

<b>1</b>	<b>Assessment of coverage of data collection in comparison to the target population</b>	13.1.1	Coverage of the school <sup>34</sup> census.	There is a complete and updated schools master-list which is used to determine the size of the target population. All private and public schools are listed and updated annually.	4	3	3.5
<b>2</b>		13.1.2	Coverage of post secondary (non tertiary) tertiary) institutions census	There is a complete and institutions master-list which is used to determine the size of the target population. All private and public institutions are listed and updated annually.	3	3	3
<b>3</b>		13.1.3	Coverage of higher and tertiary institutions census	There is a complete and updated institutions master-list which is used to determine the size of the target population. All private and public institutions are listed and updated annually	3	3	3
<b>4</b>	<b>Assessment of response rates to the census.</b>	13.2.1	Response rate to the school census.	There is over 95% response rate from both private and public institutions in returning their census questionnaires. Response rates and the assumptions on missing institutions are clearly indicated in statistical reports.	4	3	3.5
<b>5</b>		13.2.2	Response rate to the post secondary (non tertiary) census.	There is 80% or above response rate from both private and public institutions in returning their census questionnaires. Response rates and the assumptions on missing institutions are clearly indicated in statistical reports.	1	1	1
<b>6</b>		13.2.3	Response rate to the higher and tertiary census.	There is over 95% response rate from both private and public institutions in returning their census questionnaires. Response rates and the assumptions on missing institutions are clearly indicated in statistical reports.	1	1	1
<b>7</b>	<b>Improving sample surveys</b>	13.3.1	All non-sampling errors are calculated <sup>35</sup> .	There are no non - sampling errors (put technique here).	1	1	1
<b>8</b>		13.3.2	Measures of sampling errors for key variables are calculated e.g. Standard error, coefficient of variation.	Measures of sampling errors must be calculated for the main variables. They must be available for the other variables on request.	3	2	2.5

## BOTSWANA EMIS PEER REVIEW REPORT

<b>9</b>	Triangulation of Data	13.4.1	Data consistency.	Annual School Education Census data is regularly compared with other sources of data - Household Survey data and other data sources.	4	3	3.5
	Norm Average				<b>2.7</b>	<b>2.2</b>	<b>2.4</b>
	<sup>34</sup> Includes pre-primary, primary and secondary (junior and senior) schools and technical vocational schools at the secondary level.						
	<sup>35</sup> Poor responses to survey questionnaires either deliberately or due to lack of comprehension or poor conceptualisation by the surveyors.						
	<b>NORM 14: TIMELINESS AND PUNCTUALITY</b>						
	<b>Education statistics must be disseminated in a timely and punctual manner.</b>						
<b>Sn</b>	<b>Component s</b>	<b>No</b>	<b>Standards</b>	<b>Assessment levels</b>	<b>C- Scor e</b>	<b>P- Sco re</b>	<b>Ave rag e</b>
				<b>Quality Statistics</b>			
<b>1</b>	Statistics publication	14.1.1	An Annual Statistical report is published.	Annual statistical report is published within the academic year of collection.	3	2	2.5
<b>2</b>	<b>A calendar of publication of data</b>	14.2.1	Guidelines on frequency and release dates for data in place.	Clear guidelines are in place stating the frequency of releasing statistics, and setting out a time frame for their release.	3	2	2.5
<b>3</b>	<b>Punctuality of release</b>	14.3.1	Guidelines on frequency and release dates for data in place.	Clear guidelines are in place stating the frequency of releasing statistics, and setting out a time frame for the release of statistics.	2	2	2
<b>4</b>		14.3.2	Deviation from the dissemination schedule publicised.	Any divergence from the dissemination schedule is publicised in advance, explained and a new release date is set.	1	1	1
<b>5</b>		14.3.3	Preliminary data disseminated in accordance to set timeframes.	Guidelines exist making it possible to release preliminary data. High quality preliminary data is disseminated according to the recommended timeframes.	3	2	2.5
	Norm Average				<b>2.4</b>	<b>1.8</b>	<b>2.1</b>
	<b>NORM 15: COHERENCE, CONSISTENCY, COMPARABILITY AND INTEGRATION</b>						

## BOTSWANA EMIS PEER REVIEW REPORT

<b>Education statistics should be coherent and consistent , over time, and comparable between regions and countries; it should be possible to combine and make joint use of related data from different sources</b>							
Sn	Components	No	Standards	Assessment levels	C- Score	P- Score	Ave rag e
				<b>Quality Statistics</b>			
<b>1</b>	Coherence <sup>36</sup> <b>and consistency<sup>37</sup> of data</b>	15.1.1	Statistics are compiled on the established common standards.	Statistics are always compiled on the basis of common standards – information on statistical procedures and data dictionary is available <sup>38</sup>	4	4	4
<b>2</b>		15.1.2	Statistics are consistent over time.	Statistics use the same principles and procedures over time <sup>39</sup> ).	4	4	4
<b>3</b>		15.1.3	Statistics are coherent over time.	Statistics are coherent or reconcilable over a minimum of five years.	4	4	4
<b>4</b>	Compatibility	15.2.1	Statistics from different ministries can easily be compared based on . Regional codes, . Schools codes, . location coordinates etc.	Statistics are compatible with other government databases(such as central statistical office and other government ministries) through unique identifiers.	3	3	3
<b>5</b>	<b>Comparison with other systems</b>	15.3.1	Statistics are compared with other statistical systems.	Comparisons are made with household surveys and the like when they are appropriate. Cross national comparability of the data is ensured through frequent comparisons with other international statistics (UIS, AU Outlook Database) and regional assessments of country statistics.	4	4	4
<b>6</b>	Interpretability	15.4.1	Time series data to allow for effective interpretation	Five years of data is available for effective interpretation.	4	4	4
	Norm Average				<b>3.8</b>	<b>3.8</b>	<b>3.8</b>
	<sup>36</sup> It reflects the degree to which data sets are logically connected and complete. The degree to which statistics can be brought together with other information						
	<sup>37</sup> The same definitions and procedures are used over time.						
	<sup>38</sup> with respect to scope (same parameters such as institutional profile, facilities, teacher and learner information, etc.), definitions, units of measure and official classifications in the different surveys and sources.						
	<sup>39</sup> Refer to Accounting consistency which is reconciliation across years (missing data is taken into account) and arithmetic consistency is where subtotals add up to totals						
	<b>NORM 16: ACCESSIBILITY AND CLARITY</b>						

## BOTSWANA EMIS PEER REVIEW REPORT

<b>Education statistics should be presented in a clear and understandable form, disseminated in a suitable and convenient manner, available and accessible on an impartial basis with supporting metadata and guidance.</b>							
Sn	Components	No	Standards	Assessment levels	C- Score	P- Score	Average
				<b>Quality Statistics</b>			
<b>1</b>	<b>Clarity of education statistics</b>	16.1.1	The statistics are presented in a clear and understandable manner.	Statistics are presented in a clear and understandable manner. analysed and presented in a form that facilitates proper interpretation and meaningful comparisons.	4	4	4
<b>2</b>	Dissemination	16.2.1	Annual Statistical reports disseminated utilizing various methods.	Dissemination services use modern information and communication technology tools <sup>40</sup> and traditional hard copy.	4	4	4
<b>3</b>		16.2.2	Regular dissemination strategy in place.	Ministry establishes an information desk to cater for users and customizes its dissemination of annual publications to meet needs of diverse target groups.	3	3	3
<b>4</b>		16.2.3	Users are informed about the statistical processes and outputs.	Users are kept informed through provision of metadata on the methodology of statistical processes and the quality of statistical outputs.	<b>1</b>	1	1
<b>5</b>		16.2.4	Analytical reports provided to lower structures.	Lower levels <sup>41</sup> of government structures receive official or published annual summary statistics (both actual and indicator statistics) appropriate to their area.	4	4	4
<b>6</b>		16.2.5	Regular training given for EMIS personnel on analytical reporting	Annual training on analytical reporting is provided to all levels of EMIS personnel	1	1	1
<b>7</b>	Metadata	16.4.1	Documentation on metadata exists.	Meta-data documentation exists on the database and documentation includes a data dictionary and information on how the statistics are collected, produced and stored.	3	3	3
	Norm Average				<b>2.9</b>	<b>2.9</b>	<b>2.9</b>
				<sup>40</sup> Web sites, internal shared drives, online storage sites, CDs and email.			
				<sup>41</sup> Regions, provinces, districts and schools			
				<b>NORM 17: COMPREHENSIVENESS</b>			

## BOTSWANA EMIS PEER REVIEW REPORT

<b>Education statistics and information are reported on for all sectors of education and training.</b>							
Sn	Components	No	Standards	Assessment levels	C- Scor e	P- Sco re	Ave rag e
				<b>Quality Statistics</b>			
<b>1</b>	Comprehensive statistics	17.1.1	Education statistics collected on all education sub-sectors are reported on.	Statistics are reported on all sub-sectors of education and training	2	2	2
<b>2</b>		17.1.2	There are statistics on quality indicators <sup>42</sup> in the annual statistical reports.	Statistics within education and training institutions that impact on the quality of education reported annually.	4	4	4
<b>3</b>		17.1.3	Statistics are disaggregated by gender.	<b>Gender</b> is disaggregated across all levels of education	4	4	4
<b>4</b>	Statistics on learners with special needs education <sup>43</sup>	17.2.1	Statistics on learners with special needs education is integrated with other education statistics.	Statistics on learners with special needs to be collected at all sub- sectors of education. These are reported in annual statistical publications.	4	4	4
<b>5</b>	Statistics on rural/urban characteristics	17.3.1	Statistics are disaggregated by rural and urban.	Distinctions are made between rural and urban characteristics (as defined by national statistical offices) of learners and institutions where possible.	4	4	4
	Norm Average				<b>3.6</b>	<b>3.6</b>	<b>3.6</b>
<sup>42</sup> Quality indicators are debatable but at the minimum should include graduation rates and at least three other indicators of efficiency - completion rate, promotion rate, repetition rate, drop out rates, pass rate, educator/learner ratio, textbook pupil ratio disaggregated by gender.							
<sup>43</sup> Students who are either gifted or have physical or mental challenges to learning							
91 Standards all in all						24	
NB: Botswana left rows 9.4.1 and 13.3.2 blank (as they do not practice, not applicable)						<b>2.6</b>	

# BOTSWANA EMIS PEER REVIEW REPORT

## Appendix V: Evaluation Page

### EMIS Norms and Standards Assessment

11-15 November 2013, Botswana

*Evaluation Page*

**Instruction:** Please place "X" in the box to the right for each questions

<b>Evaluation Questions</b>	<b>Extre mely useful</b>	<b>Very useful</b>	<b>useful</b>	<b>Some what useful</b>	<b>Not useful at all</b>
	(4)	(3)	(2)	(1)	(0)
1. Was the discussion on EMIS legal mandate to collect education statistics from institutions and sub sectors useful for EMIS operations?	✓				
2. We hope the discussion on EMIS Norms and Standards instrument, line by line, has revealed areas of focus for Botswana EMIS? How useful was this discussion?	✓				
3. How useful was the discussion with Statistics Botswana in revealing certain issues related to EMIS Botswana?			✓		
4. How useful was the discussion with Performance Improvement in the office of the Permanent Secretary to EMIS Botswana?		✓			
5. How useful was the discussion we had with the deputy PS (planning) for strengthening EMIS?		✓			
6. How useful was the discussion with the deputy head planning department for EMIS?			✓		
7. How useful was the discussion we had with TEC <sup>2</sup>		✓			
8. How useful was the experience sharing of peer reviewers about the situation in their respective countries, in the middle of assessment exercises?	✓				
9. The peer-review team believes that the core issues were included in the final briefing to the PS. How useful was the briefing to Permanent Secretary, deputy PSs for EMIS Botswana?		✓			
10. How useful was the emphasis made by the review team on continuous capacity building in the form of training and orientation for EMIS Botswana?	✓				

Please include below the final statement made by Pogiso (final statement after the workshop by one of the participants)

First I would like to thank the team for the visit they paid us. It has been an eye opener on issues of EMIS. We have learnt a lot about EMIS; what it is, its mandate and the direction we should take in establishing our EMIS. We all what we learnt, we hope with the support from our superiors we will be able to fill in the gaps and come to think of Botswana EMIS System that will best serve our country.

<sup>2</sup> Tertiary Education Council

# BOTSWANA EMIS PEER REVIEW REPORT

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