

DEVELOPMENT AND HARMONIZATION OF EFFECTIVE STATISTICAL NORMS AND STANDARDS FOR AFRICAN REGION

Higher Education Management Information Systems Norms
and Standards Benchmarking Framework for African Region



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



Association of
African Universities
Association des universités africaines
ةيقيرفأل اتاعمراجلا قطبار



Table of Contents

ABBREVIATIONS & ACRONYMS	3
ACKNOWLEDGEMENTS	4
PREFACE.....	5
DEFINITION OF STATISTICAL TERMS	7
1. INTRODUCTION.....	9
METHODOLOGY	9
Remit for the review.....	10
Scope and approach to review.....	10
INSTITUTIONS' EXPERIENCES, INTERESTS AND NEEDS	11
Findings of available Benchmarking Framework	11
Overview of available benchmarking resources - Market data sources	11
A STRATEGY-CONTINGENT APPROACH TO HEMIS BENCHMARKING.....	14
PROPOSAL HIGHER EDUCATION MANAGEMENT INFORMATION SYSTEMS BENCHMARKING FRAMEWORK.....	16
2. PURPOSE OF THE NORMS AND STANDARDS	16
3. QUALITY OF STATISTICS	17
4. USING THE ASSESSMENT FRAMEWORK.....	18
Steps to follow in scoring country performance:	18
The Process of Engagement	19
5. LIMITATIONS OF THE ASSESSMENT FRAMEWORK.....	20
6. THE HEMIS NORMS AND STANDARDS ASSESSMENT FRAMEWORK.....	20
A. Policy and Legal Framework	20
NORM 1. MANDATE FOR DATA COLLECTION FOR THE EDUCATION SECTOR.....	20
NORM 2: QUALITY COMMITMENT.....	25
NORM 3: STATISTICAL CONFIDENTIALITY	27
NORM 4: ACCOUNTABILITY TERMS OF THE PRODUCTION AND PUBLICATION OF STATISTICAL REPORTS.....	29
NORM 5: IMPARTIALITY AND OBJECTIVITY	31
NORM 6: REGISTRATION OF INSTITUTIONS.....	34
NORM 7: REGISTRATION OF LEARNERS	36
B. Resources Availability and Utilisation	38
NORM 8: ADEQUATE RESOURCES	38



NORM 9: COST EFFECTIVENESS	42
C. Statistical Processes	44
NORM 10: SOUND METHODOLOGY AND APPROPRIATE STATISTICAL PROCEDURES.....	44
NORM 11: NON-EXCESSIVE BURDEN ON RESPONDENTS	48
D. Education Information Reporting	50
NORM 12: RELEVANCE	50
NORM 13: ACCURACY AND RELIABILITY	54
NORM 14: TIMELINESS AND PUNCTUALITY	57
NORM 15: COHERENCE, CONSISTENCY, COMPARABILITY AND INTERPRETABILITY	59
NORM 16: ACCESSIBILITY AND CLARITY.....	62
NORM 17: COMPREHENSIVENESS.....	65
CONCLUSION	67
ANNEXURE A: SCORING MATRIX.....	68
ANNEXURE B: EXTERNAL PEER RATING TEAM AND COUNTRY SCORING MATRIX.....	70
REFERENCES.....	72



ABBREVIATIONS & ACRONYMS

AAU	Association of African Universities
AfDB	African Development Bank
ADEA	Association for the Development of Education in Africa
AU	African Union
CIEFFA	African Union International Centre for Girls' and Women's Education in Africa
CSO	Central Statistics Office
DQAF	Diagnostic Quality Assessment Framework
ENSAT	EMIS Norms and Standards Assessment Team
ECOWAS	Economic Community of West African States
GIS	Geographic Information Systems
HEMIS	Higher Education Management Information Systems
ICT	Information and Communication Technology
ISCED	International Standard Classification system of Education
MDGs	United Nations Millennium Development Goals
MoE	Ministry of Education
MoU	Memorandum of Understanding
NCTE	National Council for Tertiary Education
NESIS	National Education Statistical Information Systems
NFE	Non Formal Education
NSO	National Statistics Office
OECD	Organization for Economic Cooperation and Development
REC	Regional Economic Community
Stats SA	Statistics South Africa
TVET	Technical and Vocational Education and Training
UIS	UNESCO Institute for Statistics
UN	United Nations
WGEMPS	ADEA Working Group in Education Management and Policy Support
WGNFE	ADEA Working Group on Non Formal Education



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PREFACE

The availability of a comprehensive and relevant data and statistics on Higher Education is central to the effective delivery of the higher education sub sector in African. Quality data is critical for planning, monitoring, to ensure accountability which is an essential element in strengthening governance, leadership and management of higher education institutions and the education sector as a whole.

Most countries in Africa are faced with numerous challenges in the collection, compilation and analysis of statistical data. Higher education is one of education sub sectors in Africa where it's very difficult to get comprehensive and exhaustive statistics.

The development of an effective Higher Education Management Information Systems (HEMIS) is still at the infancy stage in many countries. As a result, there is a huge data gap and information to monitor and report progress of African Higher Education. According to UIS report in 2016, only 2 countries in Sub-Saharan Africa submitted the HE questionnaire in 2015.

In some instances, the challenge is inadequate institutional capacity in relation to sustainable infrastructure and human resources for an effective HEMIS. Consequently data coverage for the list of all higher education institutions (both public and private) continues to be challenge. In other instances, the concern is the structural arrangements for the management of education characterized by the absence of a benchmarking tool such as the Norms and Standards Assessment Framework (NSAF) for the management of education information in the higher education sub sector Experience has shown that when the NSAF is utilize at the basic and secondary education sub sector – EMIS coverage increased exponentially and the data gap has reduced significantly.

At the institutional level, most tertiary and universities do not possess sound data collection processes and the structure to support the components of a comprehensive information management system which comply with international standards and guidelines. There barely exist EMIS structure at the institutional level, no comparable indicators each has their own specific tool and data collection and processing instruments as well as standards of practice. Timeliness and punctuality in annual statistics has been a challenge no guidelines on frequency and release dates of statistics are set. The issue of coding should be sorted out for easy comparability of data as Universities in Africa have their codes for Universities etc., while other institutions have their own codes.

The main purpose of this Norms and standards is to have a set of criteria and measures for advocating best practice and benchmarking Universities in the African capable of being able to produce relevant, accurate, timely and comprehensive education statistics and information. This will assist Universities in sustaining a comprehensive and appropriate Education Management information systems in harmony with international and regional systems and practices. There are four thematic areas, namely: Policy and Legal Frameworks; Resource Availability and Utilization; Statistical Processes; and Education Information Reporting.



The goal is to strengthen African Higher Education systems by changing the role African universities in the area of Higher Education Management Information Systems (HEMIS). The sub sector will be revived using appropriate HEMIS Norms and Standards Assessment Framework to ascertain status quo around the four thematic areas above and identify recommendations for the way forward including effective partnership with WGHE and AAU to reduce the 'data blanks' in the sub sector.

Fundamental to this is to reposition universities in each country to drive HEMIS by addressing the perennial challenges i.e.; a) low capacity for HEMIS skills, b) production and sustaining the necessary infrastructure (databases & Apps) and c) reduce staff turnover by student-internship or apprenticeship schemes to create employment.

Professor Etienne Ehouan EHILE

Secretary General AAU



DEFINITION OF STATISTICAL TERMS

1. **Administrative Data**- The set of units and data derived from an administrative source.
2. **Administrative sources** – The organizational units within a country that are responsible for implementing an administrative regulation (or group of regulations), for which the corresponding register of units and the transactions are viewed as a certified source of information and statistical data.
3. **Aggregated data** – The result of transforming unit level data into quantitative measures for a set of characteristics of a population.
4. **Benchmark**- A recognized standard, or a reference point, that forms the basis for assessment or comparison.
5. **Data Dictionary** – Refers to centralized repository of information about data such as meaning, relationships to other data, origin, usage, and format standardized concepts, definitions and classifications used by Ministries in the production of their data.
6. **Data providers** – Refers to all bodies and agencies that produce statistics. These include education and training institutions, households, enterprises, administrations and other respondents.
7. **Coherence** - The degree of validity, accuracy, usability and integrity of data, successfully brought together with other data within a broad analytical framework and over time.
8. **Education and training institutions** – Refers to schools, colleges, universities, centres or any formal and non-formal education and training provider that occupies an institution and provides a recognized education programme.
9. **EMIS** – Refers to a System for collection, processing, analysis, publication, dissemination, and rendering of Information services for the Management of Educational resources and services.
10. **Guidelines** – Directions or principles used in the development, maintenance and application of rules. They may or may not be mandatory, but are provided as an aid to interpretation and use of rules.
11. **Imputation** – Refers to the process of identifying missing data, generally used for the correction of partial non-response from a census or a survey, to adjust or modify the data accordingly.
12. **Individuality** – A single person or institution.
13. **Learner** – Refers to any pupil or student or person enrolled in an education and training programme.
14. **Metadata** – Information on the underlying concepts, definitions, and classifications used, the methodology of data collection and processing, and indicators or measures of accuracy of the statistical information.



15. **Ministry of Education** - The singular term “Ministry of Education” is used synonymously with its plural form “Ministries of Education” to include all those government Ministries responsible for the various levels of education and training in a country.
16. **Protocols** - A set of guidelines or rules.
17. **Preliminary data** - Results that have not been verified sufficiently to be published.
18. **Scope**- Coverage or sphere of what is to be observed. It is the total membership or population of a defined set of people objects or events.
19. **Statistical authority** – Shall mean, at national level, the national or central statistical office (CSO, NSDS, or Statistical authority) and other statistical bodies in charge of producing and disseminating African statistics according to a statistical law.
20. **Statistical Value Chain** – Refers to the statistical process from the source of data to the final statistical output. For example, it concerns the collection of information in school records, the compilation of an annual census survey, the collection and verification at lower levels of governance (circuit, district, regional, provincial), the inputting of the data, the data cleaning and imputation and the generation of statistical tables and reports.
21. **Secondary data** – Refers to data collected by someone other than the user. Examples are data obtained from research, studies and surveys produced outside of the Ministry of Education.
22. **Special needs** – Refers to learners under difficult conditions that are vulnerable, marginalized and/or with disability.
23. **Structures** – Refers to various sub-units of the Ministry responsible for education administration by area of specialization and geographic distribution.
24. **Sub-Sectors** - Pre-primary education, primary education, secondary education, Technical and Vocational Education, Teachers' training education, Non-formal education, Higher and tertiary education.
25. **Validity** - Correctness and reasonableness of data - findings truly represent the phenomenon you are claiming to measure.
26. **Verification** - The process whereby data accuracy and inconsistencies are checked.



1. INTRODUCTION

A key challenge facing institutions in the African Region's is inability to report on its human resource development achievements and challenges is information gaps. 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.

This report presents benchmarking in the African Region Education sector, commissioned from Technical Consulting Group of Education Management Information System (EMIS) and Statistical as part of "Benchmarking to improve efficiency". The report presents a snapshot of current benchmarking activities and experiences in the Region Higher Education sectors and offers a benchmarking proposals to meeting educational institutions' needs in the Region, Africa and beyond.

The purpose of this benchmarking is to develop institutions' understanding of the conditions and standards for international competitive success in their chosen business missions, and to enable them to take informed decisions about the activities needed to further their strategic goals. The insights gained through this process must then be translated into effective management actions and change programmes, designed to move the institution forward in terms of the maturity framework described earlier.

This benchmarking framework is structured as follows:

- The key messages arising from the teams' consultations with selected institutions on their needs and experiences in international benchmarking.
- Summary of findings of available benchmarking sources.
- Proposals Framework for Higher Education management information systems benchmarking
- Conclusions and recommendations.

METHODOLOGY

The peer review methodology used involved the following:

- User consultation through face to face interviews and focused discussions;
- Questionnaire administration;
- Presentations;
- Review of documentation, instruments, policies, and reports;



Remit for the review

An initial Educational Management Information Systems (EMIS) Status manual on benchmarking activities and resources focused on individual member countries in improving production of education statistics within institutional operations for planning, financing and developments of education framework.

Particular areas of interest for the review were:

- The uses of international benchmarking in relation to academic performance and non-academic activities
- Approaches taken by policy and mission groups, and known activities by government bodies and agencies
- Examples of international benchmarking best practice in a small sample of universities with an assessment of impacts and benefits
- Review of available resources, including international university league tables
- Assessment of quality, accuracy and timeliness of the data

Based on this analysis this benchmarking framework propose a possible model or models for international benchmarking by the African Region's institutions - An assessment of the feasibility of implementing the proposed model and the possible restrictions and constraints – Recommendations for Higher Education and the Statistical Agencies sector more broadly, for developments that might optimize the use of international benchmarking to improve institutional performance.

Scope and approach to review

This benchmarking for Higher Education institutions can be interpreted in various widely differing ways:

- ❖ Comparisons of the overall international standing or ranking of institutions against data compilations in various international 'league tables'
- ❖ Data-based comparisons of international institutions operations and performance, including data collected by international of universities
- ❖ Process-based comparisons of institutional management approaches, intended to identify and share good practices with regard to recruitment and other aspects of internationalization
- ❖ Environmental and other issues-based comparisons of developments and approaches in different countries
- ❖ Market intelligence on patterns of demand and competitor information from different countries

Each of these interpretations of benchmarking are very different in kind, and in their potential relevance and usefulness for institutions. Benchmarking is not an end in itself, and is useful inasmuch as it can inform better strategic or managerial plans and decisions. It's was therefore felt it important to start the review with an understanding of the institutional planning needs that would potentially be served through benchmarking, and then to assess the available resources and their value in that context. The approach thus proceeded through:



Needs assessment: based on consultation with a selection of institutions, identification of the critical needs and uses of international benchmark information among Higher Education Statistics Agency (HESA)'s member institutions

Review of available resources

Desk research was conducted to identify and assess the available resources for benchmarking and assessment of gaps and unmet needs. The output of this stage is a conspectus of available international benchmarking resources.

INSTITUTIONS' EXPERIENCES, INTERESTS AND NEEDS

While almost all Universities and institutions have declared strategic commitments to growing internationalization, the scope of this commitment and the progress of related plans and performance vary greatly across the African Regional Sectors. While some institutions are focused simply on growing their student recruitment numbers, others are well advanced towards becoming fully international in all area of their operations. This impression was confirmed in our workshop held in Accra from 29-30 June 2017 with a number of institutions. Universities recognize that they are increasingly competing with both domestic and international rivals on all of these criteria, but appear to use comparisons with their competitors mainly as a basis for calibrating their own targets. We interviewed staff from a sample of Universities, representing a cross-section of institutional types, to understand their current priorities, activities and experiences of Management information systems benchmarking. We also held less structured discussions with a wider group of institutions who attended HEMIS benchmarking workshops.

Findings of available Benchmarking Framework

Overall, It is found that while most institutions collect and review comparative data on their institutional performance, few use them systematically in their planning or management processes, and those that do, do so in very specific areas, either detailed analyses of research performance or to assess the perceptions of their students. All the institutions that attended the workshop were keen to stress that, while benchmarking and statistics can be important, there has to be purpose to them. Thus 'changing the mindset' was the phrase used by one institution to make this point.

Overview of available benchmarking resources - Market data sources

There is a wealth of published data and analyses of comparisons across the Educational Management Information system, most of it published in the public domain along with some proprietary commercial products. This section presents a summary overview and commentary on the major sources, including some still in development.



TITLE/COVERAGE/COMPARISON	DESCRIPTION
AU&ADEA Outlook on Education report for COMEDAF	ADEA produced on behalf of AUC Department of Human Resources, Science and Technology (HRST) the Outlook on Education report for each REC for COMEDAF. These report cover the indicators for Gender and culture, EMIS, Teacher development, Higher and tertiary education, TVET, Curriculum development, teaching and learning materials, Quality management, Early childhood development and Cross cutting agendas-HIV and AIDS, Quality Assurance and Qualification Frameworks
UNESCO Institute for Statistics Indicators Coverage: Global (Country-wide) Comparison: Market data	UNESCO releases education statistics on a country-wide basis. Indicators include gross enrolment rate, distribution of students, percentage of female students, gross completion rate, Inbound and outbound mobility rate, Number of students in tertiary education per 10,000 inhabitants, and Percentage of tertiary graduates in education.
Global Higher Education Rankings Affordability & Accessibility in Comparative Perspective Coverage: 17 countries (Countrywide) Comparison: Market data	<p>Global Higher Education Rankings report studies the affordability and accessibility of higher education across the participating nations.</p> <p>Six indicators of affordability are reported on and these: - Education Costs as a % of Ability to Pay (ATP) - Total Costs as a % of ATP - Net Costs as a % of ATP - Net Cost After Tax Expenditure as a % of ATP - Out-of-Pocket Costs as a % of ATP - Out-of-pocket Costs After Tax Expenditures as a % of ATP Median income levels per country are used as a metric of ATP.</p> <p>The study uses four indicators of accessibility: - Participation rates - Attainment rates - The Educational Equity Index (EEI) - Gender Parity index</p>
Overview of available benchmarking resources - Market Intelligence Sources	
British Council Education Market Intelligence (EMI) Coverage: Global Comparison: Market intelligence	The British Council's Education Market Intelligence provides higher education statistics, information on universities, market profiling, country profiling, international student data, quarterly updates on developments, and other education market intelligence insights.
Higher Education International Unit Coverage: Global Comparison: Market Intelligence	<p>The UK International Unit (IEU) formed on 1 August 2010 by merging the UK HE International Unit and the UK HE Europe Unit is a central observatory of international and European issues and inform all higher education institutions and other stakeholders through its research, publications and websites and coordinates strategic engagement between UK and international stakeholders.</p> <p>In representing the sector as a whole, the IEU works closely with higher education institutions and organizations, including the British Council, UK Department for Business, Innovation and Skills, UK Joint International Unit, UKTI, Universities Scotland, the Scottish Government, Higher Education Wales and the Welsh Government.</p>
Academic Analytics business intelligence reports Coverage: US institutions Comparison: Market intelligence	Academic Analytics created the Faculty Scholarly Productivity Index which ranks doctoral programmes in the US. The index measures the scholarly productivity of faculties based on: - Publications - Citations - Financial - Honorary awards. Academic Analytics is now focusing on business intelligence for university administrators apart from the Faculty Scholarly Productivity Index.



Institutional Process Comparisons	
<p>Association of Common wealth universities (ACU) Benchmarking Programme Coverage: 16 universities from Australia, Canada, Hong Kong, New Zealand, the African continent, the United Kingdom and other parts of the Commonwealth Comparison: Institutional process comparisons</p>	<p>The Association of Commonwealth Universities maintains a higher education benchmarking programme through a series of collaborative reviews of selected business processes, through an annual round of focused reviews. Universities share information on their activities in the selected themes, regarding: - Approach - Application - Outcome</p> <p>Through these benchmarking exchanges, information about good practices are also identified and shared, using the structure and criteria of the European Quality Excellence Framework.</p>
Whole University Rankings	
<p>QS World Universities Ranking Coverage: Global (University rankings) Comparison: Whole university ranking</p>	<p>QS World university rankings is one of the leading global university rankings. It ranks universities on the basis of parameters such as: - Academic reputation - Citations - International students - International faculty - Employer review</p>
<p>Academic Ranking of World Universities (ARWU) Coverage: Global (University rankings) Comparison: Whole university ranking</p>	<p>ARWU ranks worldwide universities using objective indicators such as: - Number of alumni that won Nobel prizes and Field, Number of highly cited researchers selected by Thomson Scientific, Number of articles published in journals of Nature and Science - Number of articles indexed in Science Citation Index - Expanded and Social Sciences Citation Index - Per capita performance with respect to the size of an institution. It is considered as one of the most influential ranking of world universities.</p>
<p>CHE Excellence Rankings Coverage: European Institutions (University rankings) Comparison: Whole university ranking.</p>	<p>The Centre of Higher Education ranks a selected group of European institution in subjects such as biology, chemistry, mathematics, physics, political science, psychology and economics.</p> <p>The center also publishes 'CHE University Ranking' (for higher education institutions in German speaking countries) and 'CHE Research Ranking' (higher education institutions are analyzed using a range of metrics from which users can extract the comparisons most relevant to their own interests)</p>
<p>Webometrics Ranking of World Universities Coverage: Global (University rankings) Comparison: Whole university ranking</p>	<p>The Webometrics ranking measures the overall volume, visibility and impact of web pages published by universities such as referred papers, conference contributions, thesis, reports, digital libraries, databases as well as general information on the institution.</p> <p>Indicators used for the ranking methodology include: - Size or the number of pages recovered from search engines like Google, yahoo, Live Search and Exalead. - Visibility - Rich Files - Scholars</p>
<p>2016 World University Ranking Coverage: Global (University rankings) Comparison: Whole university ranking</p>	<p>The World Universities Ranking by High Impact Universities ranks the top 500 universities worldwide on the basis of the research impact of the universities measured by: - Research publications - Citations</p>



<p>SIR World Report Coverage: Global (University rankings) Comparison: Whole university ranking</p>	<p>SIR World Ranking identifies best research focused universities across the globe. The rankings are based on the research work carried out by universities and involves evaluation criteria such as: - Research performance - Publications in high quality journals - Citations</p>
<p>RatER Global University Ranking of World Universities Coverage: Global (University rankings) Comparison: Whole university ranking</p>	<p>The Global University Ranking is the first international study for RatER and ranks more than 400 well-known global universities. These universities are analyzed on the basis of attributes such as: - Academic performance - Research performance - Expertise of faculty - Availability of resources of the universities - Level of socially significant activities of the graduates of universities - Level of international activities of the universities.</p>
<p>The Performance Ranking of Scientific Papers for World Universities Coverage: Global (University rankings) Comparison: Whole university ranking</p>	<p>This annual report from Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT) ranks universities across the globe as per: - Research productivity (number of articles) - Research impact (number of citations) - Research excellence (number of highly cited papers, number of articles in high impact journals)</p>
<p>Times Higher Education Ranking Coverage: Global (University rankings 2016/2017) Comparison: Whole university ranking</p>	<p>Times Higher Education rankings are based on a selected set of parameters. Weight is given to each parameter and universities are scored on respective performance in each attribute. Overall weighted score is calculated to arrive at the final score for each university. It is one of the largest global surveys for higher education universities. Parameters used for the evaluation process are: - Learning environment - Research - Citations - Industry Income - International mix</p>

A STRATEGY-CONTINGENT APPROACH TO HEMIS BENCHMARKING

The strong thrust of this report, backed by the experiences of institutions is that benchmarking, whether based on domestic or international comparisons, is useful only inasmuch as it informs the relevant business decisions for improving strategic performance. It follows from this view that institutional approaches to benchmarking should be contingent on the current objectives, status and priorities of individual institutions. This suggests a four-stage, strategy-contingent benchmarking model, on the lines illustrated here and discussed below:

Where are we now?

What do we need to know?

What can we learn?

What information is available?

i. Where are we now?

Using the framework described above, institutions should undertake an honest assessment of the current status of their strategies and determine their priorities for moving to the next levels.

ii. What do we need to collect?

This analysis will identify any gaps in the information or sector intelligence available to the institution that might be addressed through a benchmarking exercise. For example, an institution with aspirations to improve its standing in international research rankings might wish to



understand the particular metrics and levels of performance in them that differentiate the institutions currently above them in the relevant tables.

iii. What information is available?

Having identified specific information needs through the first two stages, institutions should identify the most appropriate available resources. In many cases the relevant data will be more specific and more granular than that provided in general benchmarking resources or data comparisons, which is the reason that the more sophisticated users of benchmarking resources found greatest value in specialized proprietary sources such as i-graduate's international student barometer or Academic Analytics and similar research performance databases. It may well be that data being developed through national source data will be more useful than 'processed' cross-country comparisons. Subject to this comparison, identification and analysis of comparative data in institutions' particular areas of interest should serve to indicate their relative strengths and weaknesses against chosen comparators.

iv. Learning from other Benchmarking

In most instances, apparent differences and pointers towards differential performance do little more than highlight areas for further investigation. Differences in reported data or approaches between peer institutions may simply reflect differences in their respective contexts or history, which are not helpful in taking practical lessons from the comparisons. Nonetheless, even such constrained comparisons can be valuable in helping institutions to adopt an external perspective on their performance, as it may be seen by potential students, staff recruits or research funders. And a structured and results-oriented approach will usually give institutions a better understanding of their competitive position and the conditions for success, even if their routes to improvement will always be bespoke to their own history and ambitions.

This standard approach to institutional benchmarking should adopt approaches that identify the comparative information most relevant to their particular needs, internationalization strategies and the maturity of their operations. HE institutions in African Region should consider what competitor information and market intelligence is most relevant to their particular institutionalization goals and their next stages of international corporate developments. Institutions should then select the most appropriate benchmark components for their particular needs, and incorporate these into their planning and performance management systems.

v. Benefits of collaboration

While many institutions are understandably cautious about collaborative benchmarking activities, which they fear might require them to share sensitive proprietary information, they should perhaps consider making an exception for Africa engagement with some of the richer international initiatives being developed to provide more reliable and granular comparative information. While it would be prohibitively expensive and time-consuming for individual institutions to engage in the design and development of these initiatives, there may be benefits from a collaborative approach channeled through a single African representative, such as ADEA and AAU.

We recommend that detailed consideration should be given to the scope and potential benefits from collaborative sector engagement in new benchmarking resources, possibly channeled through ADEA or another national sector body.



PROPOSAL HIGHER EDUCATION MANAGEMENT INFORMATION SYSTEMS BENCHMARKING FRAMEWORK

The HEMIS Norms and Standards Code of Good Practice has four areas of focus:

- **Policy and Legal Frameworks;**
- **Resource Availability and Utilization;**
- **Statistical Processes; and**
- **Education Information Reporting**

The first two areas of focus – Policy and Legal frameworks, and Resource Availability and Utilization – are the prerequisites or fundamental conditions that impact on the environment in which HEMIS operates. It's important to ensure that the institutional and legal environment, the availability and use of human, financial and technological resources support a well-functioning HEMIS. The following two focus areas target the methodology and processes that need to be in place to produce quality statistics and information, in order to verify the appropriateness and timeliness of the products and outputs produced by the process. Each area has a set of Norms that Universities should commit to abide throughout the entire process of the production of education statistics. A set of Standards of Good Practice for each of the Norms provides a reference for reviewing the implementation of the code.

2. PURPOSE OF THE NORMS AND STANDARDS

The main purpose of the HEMIS 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 these Norms and Standards ensures universities will have sustainable, comprehensive and appropriate education management information systems in harmony with international and regional systems and practices.

This Norms and Standards Assessment Framework can be used for:

- Self-assessment by producers of education statistics.
- Advocacy tool in debates for ensuring that the necessary HEMIS resources and infrastructure are available to Universities responsible for HEMIS education and training.
- Reviews performed by AUC in assessing regional capacity in the development and coordination of education policies and their consistent reinforcement of/by HEMIS, as well as country compliance with the framework.
- AUC and REC accreditation for quality and acceptable statistics.



3. QUALITY OF STATISTICS

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; 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 of the International Monetary Fund (IMF) and the UNESCO Institute of Statistics (UIS).

The *relevance* of statistical information reflects the degree to which it meets the real needs of users. It is concerned with whether the available information sheds light on the issues of most importance to users.

The *accuracy* of statistical information is the degree to which the output correctly describes the phenomena it was designed to measure.

The *timeliness* of statistical information refers to the delay between the point to which the information pertains, and the date on which the information becomes available. It considers the regularity and punctuality of the release of information.

The *accessibility* of statistical information refers to the ease with which it can be obtained. The cost of the information may also be an aspect of accessibility for some users.

The *interpretability* of statistical information refers to the ease with which users can understand statistical information through the provision of metadata. This information normally includes the underlying concepts, definitions and classifications used the methodology of data collection and processing, and indicators or measures of the accuracy of the statistical information.

The *coherence* of statistical information reflects the degree to which it can be successfully brought together with other statistical information within a broad analytical framework and over time. The use of standard concepts, classifications and target populations promotes coherence, as does the use of common methodology across surveys.

Methodological soundness refers to the application of international, national or peer-agreed standards, guidelines, and practices to produce statistical outputs. Application of such standards fosters national and international comparability.

The *integrity* of statistical information refers to the values and related practices that maintain users' confidence in the Ministry producing statistics and ultimately in the statistical product.

These dimensions of "statistical quality" are overlapping and interrelated. Failure to comply with any one dimension will impair the usefulness of the information.



4. USING THE ASSESSMENT FRAMEWORK.

A key strategy in modern education management is the measuring that includes relevant and targeted planning to support decision-making and efficient investment in programmes. This also acts as an early warning measure of system dysfunction as well as benchmarks against which progress is assessed.

The assessment framework was developed in a manner that makes it possible for Universities self-assessment and peer ranking. Each of the 17 Norms includes 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).

Steps to follow in scoring country performance:

- Review the Norm and the associated Standard; and then assess which level (Level 4 to 1) closely approximates the Standard characterized by your EMIS systems.
- In the associated column, score a 4 for a system whose implementation of a standard is characterized by Level 4, similarly score a 3 for Level 3 etc.
- List evidence or provide justification for the scoring. Collect evidence if there is any for later review by the external Norms and Standards Assessment Team.
- The Standards are independent of each other making it possible for an EMIS system to be assessed as Quality Level 1 for one standard and to have Quality Level 3 for the next standard.
- An average score can be calculated for each Norm so as to give an indication of which areas need further improvement. Insert the average score on the Table in Annexure A (see page 31) - Average the score for each of the following focus areas:

- A. **Policy and Legal Framework.**
- B. **Resource Availability and Utilization**
- C. **Statistical Process**
- D. **Education Information Reporting**

The overall ranking of an EMIS system is obtained by averaging all the scores for all of the 100 standards. The overall country ranking of the EMIS system will be based as indicated on the table below. An overall assessment of greater than 3.3 indicates that this country has an HEMIS system which produces quality statistics. Similarly, an overall average score of between 2.6 and 3.3 classifies the country as having acceptable statistics. An average score below 2.6 indicates the country has questionable or poor statistics.



Assessment	Range
Quality Statistics	3.4 to 4.0
Acceptable Statistics	2.6 to 3.3
Questionable Statistics	1.8 to 2.5
Poor Statistics	1 to 1.7

The Process of Engagement

The steps of engaging in this process are as follows:

1. The University writes a formal application to AAU and ADEA expressing their wish to benchmark this EMIS based on Norms and Standards Assessment framework. AAU and ADEA will formally respond outlining the steps and conditions for an assessment
2. The University creates an internal national Review Team which will undertake the assessments and produce an Assessment Report. This should not take more than two weeks.
3. The University make it self-assessment and share the report with AAU and ADEA
4. AAU and ADEA appoints an EMIS Norms and Standards Assessment Team (ENSAT). They will selected experts mainly from the universities supported with AAU, ADEA and Representative from REC and AUC to conduct the benchmarking exercise.
5. The ENSA Team independently assesses the EMIS system with the evidence provided by the national team.
6. The university's Team and the external Team engage in joint discussions and reach a consensus on the scoring of standards. In cases where the country assessment and the peer assessment differ significantly and no consensus on scoring is reached the two scores shall be averaged with the country score constituting 40% and the ENSA Team 60%.
7. The Peer Team develop the final assessment report with scores, findings and recommendations.
8. This is shared with the senior officials of the Ministry for their concurrence on measures for improved data quality.
9. The university's Team and the external Team will develop an Action Plan for the recommendations implementation. The proposed activities should be budgeted with operational time lines.
10. The publication of the assessment findings is subject to confidentiality agreements
11. A date for the next assessment is agreed upon.
12. The HEMIS system will have an overall ranking of Quality Level 4 or Quality Level 3. ADEA and AAU in collaboration with the Universities and with budget by Universities should support this exercise
13. A date for the next assessment is agreed upon.
14. The publication of the assessment findings is subject to confidentiality agreements.



5. LIMITATIONS OF THE ASSESSMENT FRAMEWORK

The information provided in this report can be used in analyzing national status of HE as well as institutional status of Universities, campuses in different colleges, schools and faculties. The data can also be helpful in analyzing the universities in terms of the numbers and the sizes of colleges, campuses, faculties, gender; student teacher ratio. Also correlation between different courses, enrolment, faculty, distribution of institutions and student-teacher enrolment ratio etc. can be checked. Data availability on time remained a limiting factor. Technology is another factor. Inability to follow academic calendar on the part of major Universities, inability to comply with schedules for admissions. Conducting examination and bringing out results has immense implications on many aspects including data availability on time. This limitation is low because with innovate technologies being deployed across the African Continent, a one stop shop for all students, finance and staff information need to be digitize instead of the manual statistical data books. That will mean a robust state of the art constant internet supply that will drive this digital agenda

6. THE HEMIS NORMS AND STANDARDS ASSESSMENT FRAMEWORK

In these Norms and Standards, the singular term “Ministry of Education” is used synonymously with its plural form “Ministries of Education” to include all those government Ministries responsible for the Higher and Tertiary levels of education and training in a country. To recap, These Norms and Standards apply to all levels of Higher and Tertiary education including Universities, Polytechnics and Colleges that offers degrees with the recognition that the Ministry managing the Higher and Tertiary Education level has the primary responsibility for coordinating education and training statistics for the sector. These norms and standards must be read and understood taking account of the definitions proposed in Section 5.

A. Policy and Legal Framework

Policy and legal frameworks governing higher and tertiary education statistics have a significant influence on the effectiveness and credibility of Ministries of Education to produce and disseminate education statistics. The relevant issues concern a mandate for data collection from all education and training of Higher and Tertiary institutions and bodies, clarity on roles and responsibilities, registration of students and institutions, commitment to quality, reporting accountability, statistical confidentiality, impartiality and objectivity. All University education statistical policy frameworks come under the umbrella of national statistical policy.

NORM 1. MANDATE FOR DATA COLLECTION FOR THE EDUCATION SECTOR

Ministries of Education/Universities/institutions 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.

HEMIS Norms & Standards Benchmarking Framework for African Region



Assessment Levels of the Quality of Statistics							
Components	Standards	Assessment Levels				Comments	
		Quality Statistics	Acceptable Statistics	Questionable Statistics	Poor Statistics		
		Level 4	Level 3	Level 2	Level 1	Score	
Legal mandate	1.1.1	Legal mandate to collect information for educational statistical purposes ¹ .	There is a legal instrument (law, order) on the collection of information, the production and the dissemination of education and training statistics.	There is policy to mandate the collection of information, the production and the dissemination of education and training statistics.	There are official documents (letter, decree) on the collection of information, the production and the dissemination of education and training statistics.	There are no legal instruments or policies or administrative documents on the collection, the production and the dissemination of education and training statistical information.	In 1985, the Provisional National Defence Council (PNDC) passed the Statistical Service Law 135 mandated the Ghana National Statistical Service the legal powers to Collect, compile, analyse, abstract and publish statistical information; Conduct statistical surveys and censuses in Ghana; Legal powers for the collection of information for statistical purposes; Penalty application to any one (individual / institution) refusing to cooperate with GSS in the performance of its functions.
	1.1.2	The application of the legal mandate	The legal mandate is applied to cover all higher and tertiary education and (+75%).	The legal mandate applied to cover between 50% and 75% of higher and tertiary education	The legal mandate applied to cover between 25% and 50% higher and tertiary education	The legal mandate applied to cover less than 25% of higher and tertiary education)	
	1.1.3	Legislation on the accessibility of basic administrative data for statistical purposes	The national legislation allows the Ministry of Education to fully access basic administrative data for statistical purposes.	The national legislation authorizes the Ministry of Education to partially access basic administrative data for statistical purposes.	Legislation is silent on the Ministry of Education accessing basic administrative data for statistical purposes.	There is no legislation in place allowing the Ministry of Education access to basic administrative data for statistical purposes.	

¹ STATISTICAL SERVICE LAW - 1985 (PNDC 135) <http://laws.ghanalegal.com/acts/id/560/statistical-service-law>. Assessed 13/10/17

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1.2.2	Timeliness of information sharing across education and training sectors, government agencies and the civil society.	MoU between Ministry of Education and the National Statistics Office.	Some little information sharing across education and training sub-sectors, government agencies and the civil society.	Timely sharing of information across education and training sub-sectors, government agencies and the civil society.	Timely sharing of information across education and training sub-sectors, government agencies and the civil society.	Timely sharing of information across education and training sub-sectors, government agencies and the civil society.	The sharing of information across education and training sub-sectors, government agencies and the civil society does not meet deadlines.	
1.2.3	MoU between Ministry of Education and the National Statistics Office.	There is a functional MoU between the statistical services of the Ministry of Education and the National Statistical Office on all statistical needs ³ .	There is simple collaboration between the Ministry of Education and the National Statistical Office that has not been formalized by an official document.	There is a semi-functional MoU between the National Statistical Office and the Ministry of Education.	There is a semi-functional MoU between the National Statistical Office and the Ministry of Education.	There is a semi-functional MoU between the statistical services of the Ministry of Education and the National Statistical Office on all statistical needs ³ .	There is no collaboration between the Ministry of Education and the National Statistical Office.	(MoU between the statistics department of the Ministry of Education and the National Statistical Office)
1.2.4	Mandate of the EMIS unit within the Ministry of Education and Training.	EMIS missions and attributions are clearly defined in the organic law of the Ministry of Education and Training.	EMIS missions are vaguely defined (imprecise) in the organic law of the Ministry of Education and Training.	EMIS missions and attributions are partially defined in the organic law of the Ministry of Education and Training.	EMIS missions and attributions are partially defined in the organic law of the Ministry of Education and Training.	EMIS missions are clearly defined in the organic law of the Ministry of Education and Training.	EMIS missions are not defined in the organic law of the Ministry of Education and Training.	
1.2.5	Existence of a Procedure Manual within EMIS structures	Procedure Manual Exist that clearly defines roles and responsibilities of education and training institutions and structures in the statistical value chain (conception of instruments, collection, compilation, distribution and sharing of educational information)	The Procedure Manual exists.	Procedure Manual Exist that clearly defines roles and responsibilities	Procedure Manual Exist that clearly defines roles and responsibilities	Procedure Manual Exist that clearly defines roles and responsibilities of education and training institutions and structures in the statistical value chain (conception of instruments, collection, compilation, distribution and sharing of educational information)	The Procedure Manual does not exist.	

³ The MoU can be with the Central Statistics Office or any other National Statistical Authority



									To be merged with 1.2.9
									The manual is not used in practice.
									The manual is rarely used in practice.
									The manual is often used in practice.
									The manual is widely used in practice.
									Use of the Procedure Manual.
									1.2.6
NORM AVERAGE									



NORM 2: QUALITY COMMITMENT

The Ministries of Education/Universities/Institution commit themselves to work and cooperate according to the norms fixed in the quality declaration of its national statistical systems and in other international statistical frameworks.



Assessment Levels of the Quality of Statistics								
Components	Standards	Quality Statistics			Questionable Statistics	Poor Statistics	Score	Comments
		Level 4	Level 3	Level 2				
Policy and Procedures to ensure quality statistics.	2.1.1	Existence of a policy framework clearly specifying the procedures to be undertaken by the Ministry of Education/Universities/Institution to promote and ensure quality in the statistical value chain, taking into account national and international quality standards.	Existence of a framework clearly specifying the procedures to be undertaken by the Ministry of Education/Universities/Institution to promote and ensure quality in the statistical value chain, however not taking into account national and international quality standards.	Existence of a framework but do not clearly specify the procedures to be undertaken by the Ministry of Education/Universities/Institution	There is no framework to guide the Ministry /Universities/Institution on how to promote and ensure quality.			
	2.1.2	Processes to monitor and ensure data quality.	Processes are in place (verification, validation, etc.) to monitor and ensure the quality of the data collection, processing, and dissemination of statistics. These processes are fully adhered to. ⁴	Processes are in place (verification, validation, etc.) to monitor and ensure the quality of data collection, processing, and dissemination of statistics. These processes are often adhered.	There are no processes (Verification, validation, etc.) To monitor and ensure the quality of data collection, processing, and dissemination of statistics. Though random checks could be made from time to time.	There is no outlined process (verification, validation, etc.) to monitor quality of data collection, processing, and dissemination of statistics. There is no quality control at all.		
NORM AVERAGE								

⁴ Results are compared to those from other surveys and there are checks to ensure statistical data is consistent over time.



NORM 3: STATISTICAL CONFIDENTIALITY

The Ministry of Education/Universities/Institutions guarantees the privacy of data providers' identification, the confidentiality of the information they provide and its use for statistical purposes only.



Assessment Levels of the Quality of Statistics							
Components	Standards	Assessment Levels of the Quality of Statistics				Score	Comments
		Quality Statistics	Acceptable Statistics	Questionable Statistics	Poor Statistics		
		Level 4	Level 3	Level 2	Level 1		
Statistical Confidentiality	3.1.1 Policy outlining measures to safeguard individual data confidentiality and usage, exclusively for statistical purposes.	Existence of a policy document that ensures that individual data confidentiality and usage for statistical purposes only. ⁵ Statistical confidentiality is strictly adhered to by adequate measures put in	Existence of a policy document that ensures that individual data confidentiality and usage for statistical purposes only. Statistical Confidentiality is often adhered to through checks to ensure only aggregated data is made publicly available.	Existence of a policy document that ensures that individual data confidentiality and usage for statistical purposes only. Control checks verifying confidentiality are very limited.	Individual data confidentiality is not Mentioned anywhere in the policy document.		
	3.1.2 Protocols for external users accessing data.	Existence of necessary protocols which apply all the time to external users accessing statistical data for statistical purposes.	Existence of necessary protocols which apply often to external users accessing statistical data for statistical purposes.	No protocols in place that apply to external users accessing statistical data. Though some efforts are made to safeguard individual data confidentiality.	No protocols in place that apply to external users accessing statistical data. No efforts are made to safeguard the confidentiality of individual data.		
NORM AVERAGE							

⁵ 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.



NORM 4: ACCOUNTABILITY TERMS OF THE PRODUCTION AND PUBLICATION OF STATISTICAL REPORTS

The Ministries of Education/Universities/Institution adhere to a policy of timely and accurate production and publication, to the statistical information requirements of national, regional, continental and international education frameworks.



Assessment Levels of the Quality of Statistics							
Components	Standards	Assessment Levels				Score	Comments
		Quality Statistics Level 4	Acceptable Statistics Level 3	Questionable Statistics Level 2	Poor Statistics Level 1		
Statistical reports	4.1.1 Obligation to produce and publish analytical reports on the performance of the education and training sector annually.	The Ministry's/Institution's has an obligation to produce reports on the situation of the education and training sector in accordance with the education law or policy.	The Ministry's/Institution obligation to produce and publish reports is indicated in the document on EMIS the Norms and Standards.	The Ministry's/Institution obligation to produce and publish reports is indicated in an administrative document.	The Ministry/Universities/Institution is not obliged to produce or publish analytical reports.		
	4.1.2 Timely production and publication of statistical reports.	Production and publication of statistical reports within a maximum 12 months from the start of data collection.	Statistical reports are produced and published regularly. However, the reports are not published within 12 months of the start of data collection.	Statistical reports are produced but not published.	Statistical reports are not produced.		
NORM AVERAGE							



NORM 5: IMPARTIALITY AND OBJECTIVITY

The Ministries of Education/Universities/Institution must produce and disseminate education statistics respecting scientific independence and in an objective, professional and transparent manner in which all users are treated equitably.



Assessment Levels of the Quality of Statistics								
Components	Standards	Quality Statistics			Questionable Statistics	Poor Statistics	Score	Comments
		Level 4	Level 3	Level 2				
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 guided by statistical considerations.	The compilation of statistics is largely based on statistical consideration but there is a minimal degree of external interference.	The compilation of statistics is largely based on statistical consideration but there is considerable degree of external interference.	The compilation of statistics is largely influenced by other external forces and disregards statistical and scientific considerations. Results are either suppressed or/and manipulated.		
	5.1.2	Corrections of errors Data revisions and/or updates are published.	Errors discovered in published statistics are corrected and publicized at the earliest possible date using different forms of appropriate media without errors	In most instances errors discovered in published statistics are corrected and publicized within a reasonable timeframe.	Errors discovered in published statistics are corrected but the corrections and revisions are rarely or not publicized.	Errors in statistics are not corrected and revisions and/or updates of data are not published.		
	5.1.3	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.	Information on the methods and procedures used by the Ministry is often disseminated.	Information on the methods and procedures used by the Ministry is only made available to the public upon request.	Information on methods and procedures used by the Ministry is not available to the public.		
	5.1.4	The release of statistics is made in an impartial and objective manner.	All statistical releases and statements made in the media are objective and nonpartisan.	All statistical releases and statements are made in the media	Statistics are made in an impartial and objective manner.	Statistical releases and statements made in the media tend to be biased and partisan.		



NORM 6: REGISTRATION OF INSTITUTIONS

All higher education and training institutions must be compelled to register with appropriate education Ministries if they are to operate as an education and training institution.



Assessment Levels of the Quality of Statistics								
Components	Standards	Quality Statistics			Poor Statistics		Score	Comments
		Level 4	Level 3	Level 2	Level 1			
Registration of Institutions.	6.1.1	All public and private Higher education institutions are registered with Ministries of Education or relevant government authority.	More than 90% of institutions are registered with a unique number	Between 80% and 90% of institutions are registered under a unique number.	Between 50% and 80% of institutions are registered under a unique number.	Less than 50% of institutions are registered /under a unique number.		
	6.1.2	Ministries of Education have an up to date directory, updated yearly, of all higher education and training institutions.	The appropriate education Ministry has a directory of all Higher education and training institutions (public and private) which is thoroughly updated on a yearly basis.	The appropriate education Ministry has a directory of higher education and training institutions (public as well as private), but it is only partially updated every year.		The appropriate Ministry has a directory of higher education and training institutions (public as well as private), but it is not updated annually.		
NORM AVERAGE								



NORM 7: REGISTRATION OF LEARNERS

All learners are required to present their birth certificate/records in any given year at any higher education and training institution.



Assessment Levels of the Quality of Statistics									
Components	Standards	Quality Statistics		Acceptable Statistics		Questionable Statistics	Poor Statistics	Score	Comments
		Level 4	Level 3	Level 2	Level 1				
Availability of data by age	7.1.1 Learners of all higher education and training institutions group learners according to age, with information provided by birth certificates	The Ministry collects accurate and comprehensive age by grade education statistics for all institutions. ⁷	The Ministry collects comprehensive age by Grade education statistics for all institutions but these include some estimates on age data.	The Ministry reports age by grade education statistics for most institutions, some of which may be estimates.	The Ministry does not collect age by grade education statistics for institutions.				
NORM AVERAGE									

⁷ Enrolment by age is collected and published.



B. Resources Availability and Utilisation

Adequate resources and their effective use in managing an education management information system has a major impact on the quality of education statistics.

NORM 8: ADEQUATE RESOURCES

Ministries of Education/universities/institutions ensure that material, human and financial resources (both in terms of quantity and quality) are commensurate with the statistical programmes.

HEMIS Norms & Standards Benchmarking Framework for African Region



Assessment Levels of the Quality of Statistics								
Components	Standards	Quality Statistics	Acceptable Statistics	Questionable Statistics	Poor Statistics		Score	Comments
					Level 1	Level 2		
Finance	Allocation of appropriate budget	Level 4 There is a Ministries of Education/universities/institutions budget for the production of statistics, covering 90% of the funding requirements of HEMIS activities. 10% from the institutions of statistics, covering 100	Level 3 The Ministries of Education/universities/institutions budget for the production of education statistics is sufficient to cover most of the HEMIS census and is received within a reasonable timeframe.	Level 2 There is a budget for the production of statistics, which is cost shared with other partners. (< 50 and > 20 %) from partners but which is not adequate.	Level 1 There is no State budget for the production of statistics, which is largely funded by partners (at least 80%).			Data collection methods determine costs. What is the threshold for the efficiency and quality statistics?? Some budget is allocated to cover all your needs. We need a threshold estimate. We need a survey of countries – get best practice to get the % in the interim we can suggest a range of percentage for each Assessment level. For Level 4 there should be 90% of resources should be available from state resources for HEMIS.
		Level 4 All key HEMIS positions are filled by sufficient qualified personnel in with HEMIS specialists, education statisticians, system analysts, programmers, education planners, and data capturers.	Level 3 Over 80% of the key HEMIS positions are staffed with qualified personnel. At a minimum there is a statistician, a programmer, and an HEMIS Coordinator.	Level 2 More than 60% of key posts are filled by qualified staff, including at least one statistician.	Level 1 Less than 60% of key posts are filled by qualified staff and some functions are outsourced to external partners.			
Personnel	There are sufficient qualified personnel in key HEMIS positions.	8.1.2						



There are neither training programs nor strategy in place.	Ministries of Education/Universities/institutions do not have a strategy in place to retain scarce specialist HEMIS skills.	
There is a plan in place but there is no training taking place.	Ministries of Education/Universities/institutions have a strategy in place to retain scarce specialist HEMIS skills but no implementation	Relevant EMIS personnel do not participate in annual conferences and working groups (production, forums, publication...) at the regional and international level.
There is a plan and strategy in place and there is training taking place in most sub sectors.	Ministries of Education/Universities/institutions make use of a motivational strategy to retain scarce specialist HEMIS skills, which is partially implemented.	Relevant EMIS personnel participate occasionally in annual conferences and working groups (production, forums, publication...) at the regional and international level.
The Ministries of Education/Universities/institutions promotes and implements regular professional development and upgrading through training programmes and onsite technical assistance to ensure progress and continuity of EMIS work. Officers sufficiently trained to manipulate and analyse their local databases. 16	Ministries of Education/Universities/institutions make use of a motivational strategy to retain scarce specialist HEMIS skills, which is fully implemented.	Relevant EMIS personnel annually participate in all conferences and working groups (production, forums, publication...) at the regional and international level.
The existence and implementation of professional development strategy ⁸ in place for HEMIS staff.	Existence and implementation of a strategy to retain scarce specialist HEMIS skills	Participation and interaction with international networks of EMIS experts.
8.1.3	8.1.4	8.1.5

⁸ Internal and external training programs



Equipment	8.1.6	Sufficient availability of adequate information technology equipment and communication tools and other necessities.	HEMIS unit has access to quality ICT equipment in adequate number	The HEMIS staff has access to adequate ICT tools and equipment, but only in key posts.	EMIS unit has when the need arise. EMIS unit has inadequate access to quality ICT tools and equipment, particularly in key posts.	HEMIS unit has no ICT equipment		
NORM AVERAGE								



NORM 9: COST EFFECTIVENESS

Resources must be effectively and efficiently used.



Assessment Levels of the Quality of Statistics								
Components	Standards	Assessment Levels				Score	Comments	
		Quality Statistics	Acceptable Statistics	Questionable Statistics	Poor Statistics			
		Level 4	Level 3	Level 2	Level 1			
Monitoring of resource utilization.	Existence and implementation on on of internal and external mechanisms for the monitoring of EMIS resource utilization	Ministries of Education/universities/institutions have fully implemented internal and external mechanisms in place to monitor the use of EMIS resources.	Ministries of Education/universities/institutions have partially implemented internal and external mechanisms in place to monitor the use of EMIS resources.	Ministries of Education/universities/institutions have implemented internal and external mechanisms in place to monitor the use of EMIS resources.	Ministries of Education/universities/institutions do not have any internal and external mechanisms in place to monitor the use of EMIS resources.			
Technology	Utilization of ICT.	ICTs are optimized for all operations in the statistical value chain. ⁹	ICTs are optimized for essential operations in the statistical value chain.	ICTs are not optimized for essential operations in the statistical value chain.	ICTs are not used productively.			
EMIS Human Resources Management	Utilization of HEMIS staff	HEMIS staff are fully used in line with their job descriptions.	HEMIS staff used in line with their job descriptions.	HEMIS staff does not fully satisfy the requirements of their positions.	HEMIS personnel are not used in line with their job descriptions.			
Finance	Utilization of HEMIS Funds	Funds allocated to HEMIS are used specifically for HEMIS activities and absorption capacity is optimal.	Funds allocated to HEMIS are used specifically for HEMIS activities but absorption capacity is limited.	Funds allocated to HEMIS are used minimally for HEMIS activities but absorption capacity is limited.	Funds allocated to HEMIS are diverted to other programmes.			
NORM AVERAGE								

⁹ Some processes are automated. The productivity potential of ICTs being optimized for data collection, processing and dissemination. Active use of website, CDs, e-mails etc.



C. Statistical Processes

Specific international standards, guidelines and good practices must be fully observed in the process used by Ministries /universities/institutions to organize, collect, process and disseminate official statistics. The credibility of the statistics has been 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.

NORM 10: SOUND METHODOLOGY AND APPROPRIATE STATISTICAL PROCEDURES

Sound methodology must underpin quality statistics. This requires appropriate statistical procedures throughout the entire statistical value chain.



Assessment Levels of the Quality of Statistics						
Components	Standards	Quality of Statistics			Score	Comments
		Quality Statistics Level 4	Acceptable Statistics Level 3	Questionable Statistics Level 2		
Data processing and publication of educational statistics	10.1.1	Methodologies and tools follows international /national standards or peer agreed standards.	Methodology tools used which includes a data collection and processing methodology; monitoring of the statistical chain, definitions of terms and concepts are documented;	A standard tool for data collection, processing; and necessary user and technical manuals are available.	Tools for data collection, processing are used in some areas of the statistical value chain	Tools for data collection and processing are not in place.
	10.1.2	Testing of tools	Data collection tools, data entry forms and database structures are tested before use.	Data collection tools, data entry forms and database structures are, most of the time (but not always), tested before being used.	Testing may occur but changes are seldom incorporated.	Data collection tools, data entry forms and database structures are not tested before use.
	10.1.3	Verification processes	Data verification processes are systematically implemented at every stage of the statistical value chain.	Data verification processes are systematically implemented at most stages of the statistical value chain.	Data verification processes are implemented occasionally, at most stages of the statistical value chain.	Data verification processes are not implemented at different stages of the statistical value chain.
Specialized survey methodology	10.2.1	Data designs	Survey designs, sample selections and weights follow standard methodology and are properly documented.	Data designs and sample selections are used but there is no proper documentation.	Data designs, sample selections are occasionally used but there is no documentation.	No Data designs or sample selections used.



	10.3.4	Source of population statistics ¹²	The latest survey or census population estimates and projections obtained from the Statistical authority (CSO/NSO) are used to calculate education indicators.	The latest population figures and age breakdown, sometimes obtained from Statistical authority	The latest population figures and age breakdown, sometimes obtained from Statistical authority (CSO/NSO) and other times from international sources outside of Statistical authority.	Population estimates are obtained from unauthorized sources.		
NORM AVERAGE								

¹² This is to make sure that there is one source of population statistics—Central Statistics Office.



NORM 11: NON-EXCESSIVE BURDEN ON RESPONDENTS

The reporting burden should be proportionate to the needs of the users and should not be excessive for respondents. Ministries of Education/Universities/Institutions monitor the response burden and set targets for its reduction.

HEMIS Norms & Standards Benchmarking Framework for African Region



Assessment Levels of the Quality of Statistics								
Components	Standards	Quality Statistics			Poor Statistics		Score	Comments
		Level 4	Level 3	Level 2	Level 1			
Essential minimum	11.1.1	Core information validation, review and publication needs.	The range and detail of education statistics demands is limited to what is essential.	The range and detail of education statistics collected exceeds their demand the essential data required by for analysis.	The range and detail of education statistics collected Exceed the basic essentials are relevant to the broader scope	Education statistical surveys are overloaded with detail or do not address the minimum needs of users exceed but are not relevant.		
	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.	Responding to questionnaires is spread as widely as possible over survey populations through appropriate sampling techniques	Responding to questionnaires is spread through sampling techniques	No sampling is done other than census.		Debate focused on level 1
	11.1.3	Collaboration on education data collection	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.	Most of the time, EMIS monitors all internal educational surveys. The EMIS unit collaborates with all producers of education surveys.	Sometimes EMIS monitors educational surveys.	EMIS does not monitor other education surveys except education surveys by the Ministry.		Problem is that this might be the function of the national bureau of statistics - However, countries agreed that this is the role of EMIS in education. It should be coordinated by EMIS. We must ensure that EMIS is in the loop of all surveys even those coordinated by the NSO.
NORM AVERAGE								



D. Education Information Reporting

Published and disseminated education statistics must meet users' needs and comply with international quality standards in order to serve the needs of African Universities, Institutions, Governments, Research institutions, Business concerns and the Public generally. 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.

NORM 12: RELEVANCE

Education statistics must meet the needs of users.



Assessment Levels of the Quality of Statistics											
Components	Standards	Acceptable Statistics			Poor Statistics		Score	Comments			
		Quality Statistics	Level 3	Level 2	Level 1						
User needs	12.1.1 User identification of data.	Level 4	Key users ¹⁴ of data have been identified with their most recent contact details. Existence of a comprehensive and updated list or inventory.	Level 3	Key users have been identified with some of the contact details not up to date. The most recent update was conducted more than two years ago. This is not the updated list.	Level 2	Attempts have been made to create a user list. Some user data and their contacts are known, but no proper list exists. The list is incomplete or not regularly updated.	Level 1	No attempt has been made to create a user list.		
		Level 4	Processes are in place to regularly consult users regarding their needs, evaluate the relevance and practical utility of existing statistics in meeting their needs, and advise on their emerging needs and priorities. ¹⁵	Level 3	Processes are in place but users are sometimes not consulted. Institutional processes are in place but users are only consulted in some cases.	Level 2	Processes are in place but consultations are on an ad hoc ¹³ basis. There are no institutional processes in place.	Level 1	No consultations or processes on user needs in place.		
		Level 4	Identified needs are addressed in more than 95% of cases	Level 3	Identified needs are addressed in 80% to 94% of cases	Level 2	Identified needs are addressed in 50% to 79% of cases	Level 1	Identified needs are addressed in less than 50% of cases		
	12.1.2 Consultation processes with data users										
	12.1.3 Addressing of needs expressed by users in data collection processes										

¹³ Ad hoc means driven by user request

¹⁴ Data needs for school record keeping through to district, regional performance reporting and Head Office needs of various directorates are taken into consideration.

¹⁵ Availability of dissemination, briefing, distribution of outputs etc.



NORM 13: ACCURACY AND RELIABILITY

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.



Assessment Levels of the Quality of Statistics							
Components	Standards	Assessment Levels of the Quality of Statistics				Score	Comments
		Quality Statistics	Acceptable Statistics	Questionable Statistics	Poor Statistics		
		Level 4	Level 3	Level 2	Level 1		
13.1.1 Assessment of coverage of data collection in comparison to the target population	Coverage of census of higher education and tertiary institutions	There is a comprehensive and updated list of higher education and tertiary institutions, which is used to determine the size of the target population. All public and private higher education and tertiary institutions are listed and updated annually	There is a complete list of public higher education and tertiary institutions which has been updated within the year. The list of private higher education and tertiary institutions is less reliable as updating is more difficult.	There is an incomplete national list of public and private higher education and tertiary institutions which was last updated over a year ago. Comparisons are made with the size of the previous year's population.	There is an incomplete national list of higher education and tertiary institutions which is updated irregularly on an ad hoc basis.		
13.2.1 Assessment of response rates to the census	Response rate to census of higher education and tertiary institutions	There is a response rate of over 95% from both private and public institutions in returning their census questionnaires. Response rates and the assumptions on missing institutions are clearly	There is 80-94% response rate from public and private institutions in returning their questionnaires. Response rates are sometimes reported.	There are between 50 - 79 % of institutions responding to the census questionnaire. Response rates are not published with the statistical reports.	There are fewer than 50% of institutions responding to the census questionnaire. Response rates are not reported annually.		
13.2.2 Assessment of coverage of data collection in comparison to the target population	Coverage of census of higher education and tertiary institutions	There is a comprehensive and updated list of higher education and tertiary institutions, which is used to determine the size of the target population. All public and private higher education and tertiary institutions are listed and updated annually	There is a complete list of public higher education and tertiary institutions which has been updated within the year. The list of private higher education and tertiary institutions is less reliable as updating is more difficult.	There is an incomplete national list of public and private higher education and tertiary institutions which was last updated over a year ago. Comparisons are made with the size of the previous year's population.	There is an incomplete national list of higher education and tertiary institutions which is updated irregularly on an ad hoc basis.		



Non sampling errors	13.3.1	All non-sampling errors are calculated e.g. ¹⁷	There are no non-sampling errors.	There are minimal non-sampling errors.	There are numerous non-sampling errors.	Data unusable.		
Sampling Errors	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	Measures of sampling errors are published for the main variables. Measures of other variables are not available even on request	Measures of sampling errors are available on request for the main variables only	Measures of sampling errors are not calculated		
Triangulation of Data	13.3.3	Data consistency.	Annual Higher Education Census data is regularly compared with other sources of data - Household Survey data and other data sources.	This occasionally happens when you identify a possible error.	This seldom happens.	This never happens.		
NORM AVERAGE								

¹⁷ Eg. Poor responses to survey questionnaires either deliberately or due to lack of comprehension or poor conceptualization by the surveyors.



NORM 14: TIMELINESS AND PUNCTUALITY

Education statistics must be disseminated in a timely and punctual manner.



Assessment Levels of the Quality of Statistics								
Components	Standards	Quality Statistics			Questionable Statistics	Poor Statistics	Score	Comments
		Level 4	Level 3	Level 2				
Publication of statistics	14.1.1	An annual statistical report is published.	Annual statistical report is published during the academic year of collection.	Annual statistical report is published within 2 years.	Annual statistical report is published in more than 2 years.	Annual statistical report is not published at all.		
	14.2.1	Guidelines on the 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.	Guidelines on frequency exists but are only adhered to in some instances, with some release dates unspecified or missed.	Though guidelines on frequency and release dates are in place, they are often disregarded.	No guidelines exist for the frequency of release and release dates. Most of these decisions are left at the discretion of the relevant Directorate/department head.		
Punctuality of release	14.3.1	The public is informed of delays in the dissemination schedule.	The public is informed of any disruption to the dissemination schedule. Explanations are given and a new date is set.	The public is Occasionally notified in advance of delays in the dissemination schedule.	Notification of delays is rare.	There is no clarity in terms of release dates and no justification is provided for delays with data publication.		
	14.3.2	Preliminary data is disseminated in accordance with the set time frame.	Guidelines for the release of statistical data are in place. Quality preliminary data is disseminated in accordance with the recommended time frame.	Guidelines for the release of statistical data are in place. Preliminary data is disseminated but the suggested time frame is not adhered to.	No guidelines in place for the release of preliminary data. Adhoc preliminary data can be made available on request.	Preliminary statistics are not made available to users.		
NORM AVERAGE								



NORM 15: COHERENCE, CONSISTENCY, COMPARABILITY AND INTERPRETABILITY

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.



Assessment Levels of the Quality of Statistics							
Components	Standards	Assessment Levels				Score	Comments
		Quality Statistics Level 4	Acceptable Statistics Level 3	Questionable Statistics Level 2	Poor Statistics Level 1		
Coherence and consistency of data	15.1.1 Statistics are compiled on the basis of fixed common standards.	Statistics are always compiled on the basis of common standards. Information on statistical procedures and data dictionary are available.	Statistics are mostly compiled on the basis of common standards.	Statistics are occasionally compiled on the basis of common standards.	No consideration is given to the compilation of statistics on the basis of common standards		
	15.1.2 Statistics are consistent over time.	Statistics are always consistent and follow the same principles and procedures.	The consistency of the statistics is verified often in comparison with base statistics, including missing data. There are minimal errors and errors are published.	The consistency of the statistics is sometimes verified. Errors are identified, comparing longitudinal base data (over several years).	The consistency of the statistics is rarely verified and published.		
	15.1.3 Statistics are coherent over time.	Statistics are coherent over a maximum of five years.	Statistics for the year in progress are comparable to the statistics for the previous year in most cases. The statistics are coherent.	Statistics for the year in progress are compared to the statistics for the previous year in few cases to verify coherence. Coherence is acceptable.	Statistics for the year in progress are hardly compared to the statistics for the previous year to verify coherence. Notary discrepancies are identified.		



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.	Statistics from different sources can and are, in some cases, compared.	Statistics from different sources can be compared, but with great difficulty as it is seldom done.	Only statistics on administrative entities can be compared. Databases are stand alone and have little or no links.		
Comparison with other systems	15.3.1	Statistics are compared with other statistical systems.	Comparisons are made with household surveys when necessary. 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.	National statistics are occasionally compared with other national surveys and involved in international and regional comparisons	National statistics are rarely compared with other statistical systems.	National statistics are not compared with other statistical systems.		
Interpretability	15.4.1	One set of data to allow for robust interpretation.	Five years' data is available for robust interpretation.	Three years' data is available for robust interpretation.	Two years' data is available for robust interpretation.	Lack of available data makes robust interpretation difficult.		
NORM AVERAGE								



NORM 16: ACCESSIBILITY AND CLARITY

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.



Assessment Levels of the Quality of Statistics						
Components	Standards	Assessment Levels			Score	Comments
		Quality Statistics Level 4	Acceptable Statistics Level 3	Questionable Statistics Level 2		
Clarity of education statistics	16.1.1 The statistics are presented in a clear and understandable manner.	Statistics are analyzed and presented in a form that facilitates proper interpretation and meaningful comparisons.	Statistics are clearly presented but with limited analysis.	Statistics are clearly presented but without analysis.	Statistics lack clarity and are not analyzed.	
	16.2.1 Annual Statistical reports disseminated utilizing various methods.	Dissemination services use modern information and communication technology and traditional hard copy.	Statistical reports are distributed using modern technology mainly with hardcopy reports in limited numbers.	Limited distribution using modern information and communication technologies and hardcopy reports.	Statistical report not disseminated.	
Disseminate on	16.2.2 Regular dissemination strategy in place.	The Ministry establishes an information desk to cater for users and customizes its dissemination of annual publications to meet the needs of different target groups.	Most of the time there is an arrangement to provide information to users but the dissemination is seldom customized to their needs.	There is no established arrangement to provide information to users. However, it is common to cooperate and provide information.	There is no arrangement to provide information other than distribution of annual statistical reports.	
	16.2.3 Users are informed about the statistical processes and outputs.	Users are kept informed through provision of metadata on the statistical processes and the quality of statistical outputs.	Users are sometimes informed through provision of metadata on the methodology of statistical processes and the quality of statistical outputs.	Users are rarely informed through provision of metadata on the methodology of statistical processes and the quality of statistical outputs.	Users are not informed about the statistical processes and statistical outputs.	



		Lower levels of government structures do not receive annual summary statistics	No training on analytical reporting is provided.	No metadata is documented and no explanation is available.				
		Lower levels of government structures receive annual summary statistics some times.	Ad hoc training on analytical reporting is provided to some levels.	No formal documentation of meta-data exists but this can be explained verbally by EMIS personnel.				
		Lower levels of government structures receive annual summary statistics most of the times.	Annual training on analytical reporting is provided to all central and lower level EMIS personnel.	An acceptable level of documentation of metadata exists. But documentation is incomplete.				
		Lower levels of government structures always receive official or published annual summary statistics (both actual and indicator statistics) appropriate to their area.	Annual training on analytical reporting is provided to all EMIS personnel at all levels.	Documentation of meta-data exists on the database. This documentation includes a data dictionary and information on how the statistics are collected, produced and stored.				
16.2.4	Analytical reports provided to lower structures.	Regular training given for EMIS personnel at lower levels on analytical reporting.	Documentation of meta-data exists. ¹⁸					
16.2.5								
16.3.1								
Metadata								
NORM AVERAGE								

¹⁸ Metadata is a description of your statistics and the methodological procedures being followed.



NORM 17: COMPREHENSIVENESS

Education statistics and information are published on all sectors of education and training.



Assessment Levels of the Quality of Statistics						
Components	Standards	Assessment Levels			Score	Comments
		Quality Statistics Level 4	Acceptable Statistics Level 3	Questionable Statistics Level 2		
Comprehensive statistics	17.1.1 There are statistics on quality indicators in the annual statistical reports.	Statistics within higher education and training institutions that impact on the quality of education are reported annually.	The annual statistics report(s) include some statistics on quality ¹⁹ .	The annual statistical reports include hardly any statistics on quality.		
	17.1.2 Statistics are split by gender.	Gender is disaggregated across all levels of higher education	Distinctions are made by gender in most levels of higher education but not all.	Gender Disaggregation occurs only in few levels of higher education.	No gender disaggregation is found	
Statistics on students with special educational needs	Statistics on students with special needs are integrated with other education statistics.	Statistics on students with special needs are collected exclusively in all higher education subsectors. These are reported in annual statistical publications.	Statistics on students with special educational needs are collected for some higher educational institutions and published in annual statistical reports.	Statistics on special educational needs are rarely collected and published in annual statistical reports.	Statistics on students with special educational needs are not collected and published.	
NORM AVERAGE						

¹⁹ For e.g. completion rate, promotion rate, repetition rate, dropout rates, pass rate, teacher:pupil ratio, textbook:pupil ratio disaggregated by gender.



CONCLUSION

Developing and harmonizing effective statistical Norms and standards for the African Region in creating a sustainable and efficient Higher Education MIS is a challenge that requires great attention from African countries and Higher Education institutions. MIS decision-makers' perception of EMIS relevance is an important aspect of supporting its development initiatives and enhancing collaboration with HE partners.

This benchmarking framework recommends that the effective and efficient EMIS should be user-friendly and accessible to all stakeholders. This means the framework is able to guide in producing authentic data and information that meets stakeholders' demands. It is the role of EMIS to influence Higher Education and partners' utilization of its outputs and promote an institutional culture which values information sharing and use of scientific evidence for educational planning, management and decision-making processes. It is expected that policy makers and other stakeholders will use these Benchmarking tool and suggestions to improve EMIS development strategies and enhance stakeholders' partnership in matters pertaining to strengthening EMIS functions, particularly in low-resource contexts.



ANNEXURE A: SCORING MATRIX

Country.....

Date of Assessment.....

Please Tick where appropriate

Focus area Policy and legal framework Norm average

Focus Area A. Policy And Legal Framework	Norm Average Score
Norm 1. Mandate For Data Collection	
Norm 2: Quality Commitment	
Norm 3: Statistical Confidentiality	
Norm 4: Reporting Accountability	
Norm 5: Impartiality And Objectivity	
Norm 6: Registration Of Institutions	
Norm 7: Registration Of Learners	
Focus Area Average	

Focus Area B. Resources Availability And Utilisation	Norm Average Score
Norm 8: Adequate Resources	
Norm 9: Cost Effectiveness	
Focus Areas Average	

Focus Area C. Statistical Processes	Norm Average Score
Norm 10: Sound Methodology And Appropriate Statistical Procedures	
Norm 11: Non-Excessive Burden On Respondents	
Focus Area Average	



Focus Area D. Education Information Reporting	Norm Average Score
Norm 12: Relevance	
Norm 13: Accuracy And Reliability	
Norm 14: Timeliness And Punctuality	
Norm 15: Coherence, Comparability And Integration	
Norm 16: Accessibility And Clarity	
Norm 17: Comprehensiveness	
Focus Area Average	

External Peer Team Assessment

Country evaluation

Other

Overall Average of all Standards

Add each score per standard and divide by 84 (total number of standards)

Overall Score	
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ANNEXURE B: EXTERNAL PEER RATING TEAM AND COUNTRY SCORING MATRIX

The Ministry of Education and Peer Review Team engage in joint discussions and reach a consensus on ranking. In cases where the country assessment and the peer assessment differ significantly and no consensus on scoring is reached the two scores shall be averaged with the country score constituting 45% and the Peer Review Team 60%.

Focus Area A. Policy And Legal Framework	Country Score	Peer Review Team Score	Average Score
Norm 1. Mandate For Data Collection			
Norm 2: Quality Commitment			
Norm 3: Statistical Confidentiality			
Norm 4: Reporting Accountability			
Norm 5: Impartiality And Objectivity			
Norm 6: Registration Of Institutions			
Norm 7: Registration Of Learners			
Focus Area Average			

Focus Area B. Resources Availability And Utilisation	Country Score	Peer Review Team Score	Average Score
Norm 8: Adequate Resources			
Norm 9: Cost Effectiveness			
Focus Areas Average			

Focus Area C. Statistical Processes	Country Score	Peer Review Team Score	Average Score
Norm 10: Sound Methodology And Appropriate Statistical Procedures			
Norm 11: Non-Excessive Burden On Respondents			
Focus Area Average			

HEMIS Norms & Standards Benchmarking Framework for African Region



Focus Area D. Education Information Reporting	Country Score	Peer Review Team Score	Average Score
Norm 12: Relevance			
Norm 13: Accuracy And Reliability			
Norm 14: Timeliness And Punctuality			
Norm 15: Coherence, Comparability And Integration			
Norm 16: Accessibility And Clarity			
Norm 17: Comprehensiveness			
Focus Area Average			



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