DRAFT
Regional Capacity Building Strategy for EMIS
IN THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

Prepared by ADEA Working Group on Education
Policy Support for the SADC Secretariat

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Association for the
Development
of Education
in Africa

ACRONYMS

ADEA	Association for the Development of Education in Africa
AIDS	Acquired Immune Deficiency Syndrome
AU	African Union
CSO	Central Statistics Office
DQAF	Diagnostic Quality Assessment Framework
DRC	The Democratic Republic of the Congo
ECCE	Early Childhood Care and Education
EFA	Education for All
EMIS	Education Management Information Systems
EPDC	Education Policy and Data Center
GDP	Gross Domestic Product
GIS	Geographic Information System
GMR	Global Monitoring Report
HE	Higher Education
HIV	Human Immuno-deficiency Virus
ICT	Information and Communication Technology
ISCED	International Standard Classification system of Education
LURITS	Learner Unit Record Information and Tracking System
MDGs	United Nations Millennium Development Goals
MIS	Management Information Systems
MoE	Ministry of Education
NEPAD	New Partnership for Africa's Development
NESIS	National Education Statistical Information Systems
NFE	Non Formal Education
NSO	National Statistics Office
OECD	Organization for Economic Cooperation and Development
OVCs	Orphans and Vulnerable Children
REC	Regional Economic Community
RISDP	Regional Indicative Strategic Plan
SACMEQ	Southern and Eastern Africa Consortium for the Monitoring of Education Quality
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
Stats SA	Statistics South Africa
TVET	Technical and Vocational Education and Training
UIS	UNESCO Institute for Statistics
UN	United Nations

UNDP   United Nations Development Programme

UNESCO   United Nations Educational, Scientific and Cultural Organization

WGEPS   Working Group on Education Policy Support

DEFINITION OF KEY TERMS

1. **ISCED:** International standard classification system of education produced by UNESCO in the early 1970's to serve as an instrument for 'assembling, compiling, and presenting statistics of education both within individual countries and internationally'.

2. Education sub-sectors: *[Source: UIS Global Education Digest 2007]*

    a. **Pre-primary Education:** (ISCED 0). Programmes at the initial stage of organised instruction, primarily designed to introduce very young children, usually from age 3, to a school-type environment, and provide a bridge between the home and a school. Upon completion of these programmes, children continue their education at ISCED 1 (primary education).

    b. **Primary Education:** (ISCED 1). Sometimes called elementary education and is normally between seven or eight years, from age 6/7. This level gives pupils a sound basic education in reading, writing and mathematics along with an elementary understanding of other subjects such as history, geography, natural science, social science, art, music and religious education.

    c. **Secondary Education:** (ISCED 2 and 3) Programme typically designed to complete the development of basic skills and knowledge which began at ISCED level 1. In many countries, the educational aim is to lay the foundation for lifelong learning and individual development. The programmes at this level are usually on a subject-oriented pattern, requiring specialised teachers for each subject area. The end of this level often coincides with the end of compulsory education.

    d. **Higher Education:** (ISCED level 5A). Largely theoretically based programmes (intended to provide sufficient qualifications for gaining entry to advanced research programmes and professions with high skill requirements). The second stage (ISCED level 6) comprises programmes devoted to advanced study and original research, and leading to the award of an advanced research qualification – these programmes are therefore devoted to advanced study and original research and are not based on course-work only.

    e. **Tertiary Education:** (ISCED level 5B). Based on programmes that are generally more practical, technical and/or occupationally specific. It is mainly designed for practical skills acquisition and know-how needed for employment in a particular occupation or trade or class of occupations or trade – and mainly targets the labour market.

    f. **Technical and Vocational Education & Training (TVET):** (ISCED level 5B) Education which is mainly designed to lead participants to acquire the practical skills, know-how and understanding necessary for employment in a particular occupation or trade (or class of occupations or trades). Successful completion of such programmes normally leads to a labour-market relevant vocational qualification recognised by the competent authorities (e.g. Ministry of Education, employers' associations, etc.) in the

country in which it is obtained.

g. **Non-Formal Education (NFE):** Refers to any organised and sustained educational activities that do not correspond exactly to formal education. Non-formal education may take place both within and outside educational institutions, and may cater for persons of all ages. Depending on country contexts, it may cover educational programmes to impart adult literacy, basic education for out-of-school children, life-skills, work-skills, and general culture. Non-formal education programmes do not necessarily follow the 'ladder' system, may have varying durations, and may or may not confer certification of the learning achieved.

h. **Special Needs Education:** Refers to educational interventions and other support designed to address special learning needs. This term has come to replace the older term 'special education', which referred mainly to the education of children with disabilities, usually in special schools or institutions. Moreover, the concept of 'children with special educational needs' now extends beyond those who have physical or other disabilities to cover also pupils who are failing in school for a wide variety of other reasons that are known to be likely to impede a child's optimal progress.

3. **Formal schooling** refers to successful attendance of Primary and Secondary or High School. The 12 years duration indicated in the questionnaire can vary depending on the country's education system.
4. **Institution** includes schools, training centres, polytechnics, colleges, and universities.
5. **Students or pupils** refer to learners being taught in institutions.
6. **Educators/Teachers** (or teaching staff): Persons employed full time or part time in an official capacity to guide and direct the learning experience of pupils and students, irrespective of their qualifications or the delivery mechanism, i.e. face-to-face and/or at a distance. This definition excludes educational personnel who have no active teaching duties (e.g. headmasters, headmistresses or principals who do not teach) and persons who work occasionally or in a voluntary capacity in educational institutions. A Trained teacher is one who has received the minimum organised teacher training (pre-service or in service) normally required for teaching at the relevant level.
7. **External financing** includes all aspects of funding that are outside government financing.
8. **Intranet** refers to an internal or private web presence while Internet refers to a public web presence.

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INTRODUCTION

The vision of an integrated, peaceful and prosperous Africa is predicated on the development of Africa's human resources. Well-functioning and sustainable national education and training systems are key tools in achieving this. Education is an important sector whose performance directly affects the quality and magnitude of Africa's development.

While African Member States have generally improved their statistical systems, many continue to face challenges in producing comprehensive and reliable quality statistical data in a regular and timely fashion and the education sector has not been spared either. Available data in some of the statistical reports is sometimes a number of years out of date and generally not systematically used to inform policy and strategy formulation, monitoring and evaluation and future planning at various levels.

The African Union's collective decision is to reverse this trend through its regional economic communities (RECs) and facilitate rigorous monitoring and evaluation of the education sector's performance using evidence-based information. The foundation for such information inevitably includes an effective Education Management Information Systems (EMIS) at continental, regional and national levels.

It is in pursuit of this goal that the Southern African Development Community (SADC) has developed this EMIS Capacity Building Strategy whose purpose is to put in place a comprehensive, harmonised, integrated and functional EMIS network in the region.

The Strategy comprises two main parts:

- the Strategic Framework (Part A) ; and

- the Programme of Action (Part B).

A. STRATEGIC FRAMEWORK

CHAPTER 1: BACKGROUND INFORMATION

1.1 About SADC

The Southern African Development Community (SADC) evolved as a legal entity in 1992 from the Southern African Development Coordination Conference (SADCC) – a loose alliance of nine majority-ruled States in Southern Africa formed in 1980 in Lusaka, Zambia.

SADC aims to spearhead unity and economic integration between and among its current 15 Member States with a population of about 238.8 million people[1] and which comprise Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe.

As an African regional economic community (REC), SADC envisions a common future that will ensure economic well-being, improved living standards and quality of life, freedom and social justice, peace and security for the peoples of Southern Africa. This shared vision is anchored on the peoples' common values, principles, and historical and cultural affinities.

Key among its objectives are to "promote self-sustaining development on the basis of collective self-reliance, and the inter-dependence of Member States, achieve complementarity between national and regional strategies and programmes, and promote and maximise productive employment and utilisation of resources of the region"[2].

Managed by a Secretariat located in Gaborone, Botswana, SADC's common agenda includes the promotion of sustainable and equitable economic growth and socio-economic development that will ensure poverty alleviation.

1.2 Vision

SADC's vision is that of a regional community with a common future that will ensure economic well being, improved living standards and quality of life, freedom and social justice, and peace and security of its people.

The above vision is the framework upon which the SADC Protocol on Education and Training – which promotes a regionally integrated education system in terms of access, equity, relevance and quality of education – is anchored. The aim of the protocol is to 'harmonise, standardise and make equivalent education and training systems across the region by 2020'. Achievement of this aim will invariably rely on the development of an effective EMIS network in SADC.

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[1] 2004 regional population estimate
[2] SADC website (www.sadc.int): last updated on 9th January 2009.

1.3 Mission statement

By identifying EMIS as one of its 9 priority areas, SADC seeks to 'improve the utilisation of current and relevant education data for planning, decision making and monitoring at national and regional levels through the development of a comprehensive, integrated, compatible and functional EMIS."[3]

Among the key strategic interventions for achieving this is the development of policies at national level, development and implementation of regional norms and standards, and building capacity of its Member States to be able to provide the necessary data and information for monitoring SADC's own Regional Implementation Plan on Education and Training as well as the AU Plan of Action for the Second Decade of Education for Africa (2006-2015).

1.4 Introduction to Focus of Strategy

SADC has developed this EMIS capacity building strategy, through the Association for the Development of Education in Africa (ADEA) Working Group on Education Policy Support (WGEPS), in response to a commitment by the SADC Ministers of Education and Training to "provide adequate resources and establish funding benchmarks for EMIS as a measure of their political will"[4].

The Strategy's development follows from a series of processes aimed at strengthening the regional EMIS institutions, departments and units to provide the necessary data and information for monitoring progress in SADC's education sector, in line with the SADC Implementation Plan on Education and Training (2007-2015), the New Partnership for Africa's Development (NEPAD), the African Union's Plan of Action for the Second Decade of Education for Africa (2006-2015), and international frameworks such as Education for All (EFA) and the United Nations Millennium Development Goals (MDGs).

The strategy has integrated elements and issues emanating from the outcomes of initiatives and country consultations that sought to determine the status of EMIS in the SADC region through a survey assessment carried out in 2008 involving 14 member states, develop EMIS norms and standards code of practice for benchmarking regional progress in EMIS and formulate a framework of indicators for monitoring the implementation of the SADC Plan on Education and Training. Two regional technical meetings, held between December 2008 and January 2009 in Gaborone and Pretoria respectively, reviewed the assessment report and initiated a discussion on norms and standards, in addition to identifying capacity gaps and areas of promising practices. This has led to the development and finalisation of this EMIS capacity building strategy.

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[3] SADC Implementation Plan on Education and Training (2007-2015).
[4] Outcome of Ministerial policy decisions in Lusaka, 2008

CHAPTER 2: CONCEPTUAL FRAMEWORK

2.1 The Policy Agenda on Monitoring and Evaluation

Key national sector plans and international policy agendas on development in education shape and enhance the drive for our governments to address statistical capacity and supply in their Ministries. The eight **Millennium Development Goals** – which range from halving extreme poverty to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015 – form a blueprint agreed to by all the world's countries and the entire world's leading development institutions.

Similarly, the **Education For All goals** dictate key statistical indicators that Ministries of Education need to monitor and assess progress on these targets.

Education For All Goals

- Expand early childhood care and education.
- Free and compulsory education of good quality by 2015.
- Promote the acquisition of life-skills by adolescents and youth.
- Expand adult literacy by 50 per cent by 2015.
- Eliminate gender disparities by 2005 and achieve gender equality in education by 2015.
- Enhance educational quality.

More recently, African countries have agreed to the **African Union's Second Decade of Education** which prioritises 7 areas of country action – one of which is developing capacity in Education Management Information systems and establishing an Observatory on education in Africa.

African Union's Second Decade of Education Plan of Action Priorities

- Culture and Gender
- Education Management Information Systems
- Teacher Development
- Higher Education
- Technical and Vocational Education
- Curriculum and learning materials
- Quality Management

There are also SADC's own regional policy frameworks such as the **SADC Regional Implementation Plan on Education and Training (2007-2015)** which has incorporated key priorities of the AU Plan of Action and guides and informs the implementation of EMIS activities in the SADC region. It lists the following nine priority areas of focus during this period:

SADC Regional Implementation of Education and Training Priorities

- Education Management Information Systems
- Quality Improvement and Management
- Higher Education
- Technical and Vocational Education
- Teacher Education
- Quality Assurance and Qualification Frameworks
- Curriculum Development, Teaching and Learning Materials
- Open and Distance leaning
- Gender, Culture, HIV and Aids and ICT – cross cutting areas

Countries' development agendas are also driven by their national frameworks that outline the plans for the different sectors.

SADC Ministries of Education, as do all regions and continents, need measures, statistical indicators, to monitor and evaluate their progress in implementing these various policy agendas to which they have committed themselves. The requirements of these policy frameworks inform the analysis of need of SADC Capacity Building in the area of EMIS and statistics.

2.2 The Role of EMIS

African governments, among other developing regions and development partners have committed themselves to management for development results. This "**results based management**" involves focusing on performance and outcomes. The results based management approach is data intensive and predicated on the notion that there is both the capacity to demand and effectively use statistics for policy analysis and design (statistical capacity) and the national capacity to produce better statistics on a sustained basis, on a scale and time frame relevant to policy makers (statistical supply). To conclude on this point, Education Management Information system (EMIS) is an essential tool for processing information for the management of education resources and services.[5]

"Whether we wish to…pursue macroeconomic convergence in the region, or assess progress in achieving the Millennium Development Goals, accurate, timely, useful data lie at the heart of all these efforts… Achieving the right policies requires the management of trade-offs informed by good statistics." Trevor Manuel, Minister of Finance (South Africa), 2007.

Hua and Herstein (2003)[6] define EMIS as an institutional service unit producing, managing, and disseminating educational data and information, usually within a national Ministry or Department of Education. The management functions of EMIS include collecting, storing, integrating, processing, organising, outputting, and marketing

[5] Tung, K. C. (1999). The Role of Statistics in Policy Review: Mid-production workshop on Education for All 2000 Assessment and Sub-regional meeting on NESIS. Nyanga, Zimbabwe.
[6] Hua. H and Herstein, J. (2003). Education Management Information System (EMIS): Integrated Data and Information Systems and Their Implications In Educational Management. A paper presented at the Annual Conference of Comparative and International Education Society, New Orleans, LA, USA.

educational data and statistics in a timely and reliable fashion. This requires sufficient qualified personnel in key EMIS positions; with the minimum number consisting of an EMIS manager, a statistician, a survey administrator, a programmer, a hardware and software maintenance expert, and some data capturers at the national level.

2.3 Standards in EMIS Development

An EMIS system is only as good as its component parts. EMIS design, development and maintenance is a complex, challenging, labour intensive and expensive undertaking that requires a balanced emphasis on policy, processes, resources and reporting issues that also integrate the aspect of quality.

Thus, a good EMIS system is one that fully conforms to the following component criteria[7].

A. Policy and Legal Framework

- MANDATE FOR DATA COLLECTION: The Ministry of Education must have a clear legal mandate to collect information from all education and training institutions and bodies, both public and private, for educational statistical purposes.

- QUALITY COMMITMENT: The Ministry of Education commits itself to work and cooperate according to the norms fixed in the quality declaration of its national statistical systems and in other international statistical frameworks.

- STATISTICAL CONFIDENTIALITY: The Ministry of Education guarantees the privacy of data providers' individuality, the confidentiality of the information they provide and its use for statistical purposes only.

- REPORTING ACCOUNTABILITY: The Ministry of Education adheres to a policy of timely and accurate reporting to the statistical information requirements of national, regional, continental and international education frameworks.

- IMPARTIALITY AND OBJECTIVITY: The Ministry of Education must produce and disseminate education statistics respecting scientific independence and in an objective, professional and transparent manner in which all users are treated equitably.

- REGISTRATION OF INSTITUTIONS: All education and training institutions must be compelled to register with appropriate education Ministries if they are to operate as an education and training institution.

- REGISTRATION OF LEARNERS: All learners are required to present their birth certificate upon registration at any education and training institution.

B. Resources Availability and Utilisation

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[7] Details of the standards accompanying each criterion are contained in the **'EMIS Norms and Standards for SADC Ministries of Education'**. A document prepared by ADEA Working Group on Education Policy Support for the SADC Secretariat in March 2009 – found in Appendix 7.

- ADEQUATE RESOURCES: The Ministry of Education ensures that resources are commensurate with the statistical programmes, personnel, facilities, equipment, technology, training and financing of their education management information systems.

- COST EFFECTIVENESS: Resources must be effectively used.

C. Statistical processes

- SOUND METHODOLOGY AND APPROPRIATE STATISTICAL PROCEDURES: Sound methodology must underpin quality statistics. This requires appropriate statistical procedures throughout the entire statistical value chain.

- NON-EXCESSIVE BURDEN ON RESPONDENTS: The reporting burden should be proportionate to the needs of the users and should not be excessive for respondents. The Ministry of Education monitors the response burden and set targets for its reduction over time.

D. Education Information Reporting

- RELEVANCE: Education statistics must meet the needs of users.

- ACCURACY AND RELIABILITY: Education statistics must accurately and reliably portray reality.

- TIMELINESS AND PUNCTUALITY: Education statistics must be disseminated in a timely and punctual manner.

- COHERENCE, COMPARABILITY AND INTEGRATION: Education statistics should be consistent internally, over time, and comparable between regions and countries; it should be possible to combine and make joint use of related data from different sources

- 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

- COMPREHENSIVENESS: Education statistics and information report on all sectors of education and training.

Monitoring and Evaluation systems exist to assess what works and what does not work. Effective evaluation is based on good feedback. In an education system, a routine system evaluation must be put in place and evaluators must design sufficient indicators for this process as well-developed indicators assist in adjusting or re-adjusting the course of educational development and reform. For this reason, EMIS is a prerequisite for monitoring and evaluating activities of the sector.

GOOD PRACTICES IN EMIS

1. Focus on management and institutional issues (not IT)

'Most EMIS interventions – assessment, design, implementation – tend to focus on technical solutions created by technical teams, and tend to overlook the organizational processes and institutional incentives that drive information use.' Crouch, Mircea & Supanc, 1999

2. Focus on information usage (not production)

'Effective EMIS have specific users who demand specific data to inform decisions for which they are held accountable. . .Incentives in developing countries to use objective information tend to be weak. Other criteria (e.g. securing funding, rewarding supporters) may be more important in determining a manager or policymaker's success. Frequently, the absence of reliable data can be to the advantage of the potential user. In most cases, more information is collected than actually analyzed and applied toward decision making. EMIS reform should focus first only on information that directly informs priority decisions.. Crouch, Mircea & Supanc, 1999

3. Nurture a culture of data sharing, information use and organisational management

'The development of EMIS involves nurturing a new management culture more than establishing a data and information system. The process of data collection, integration, analysis, and dissemination is important, but even more critically, it is the culture of data sharing, information use, and organizational management that leads to the effectiveness of the EMIS development. It is important to remember that EMIS development is not IT development.' Hua and Herstein 2003

4. Focus on speed (not comprehensiveness)

'EMIS systems tend to be over-designed. Systems with the highest use and down- stream adaptation tend to be simple and modest in scope. Similarly, EMIS design tends to be burdened by unrealistic expectations about the degree of precision "required" without taking into account precision's high costs.'. Crouch, Mircea & Supanc, 1999

5. Evolution (not revolution)

'Effective systems tend to build-off of existing databases, taking advantage of current data collection routines. Maintaining familiarity while enhancing efficiency builds early wins for a more ambitious, long term effort.' Crouch, Mircea & Supanc, 1999

6. Follow sector priorities

'In summary, EMIS design and implementation needs to be informed by and responsive to Government ambitions for sector reform and planning processes and the status of policy and strategy development. . . Early EMIS implementation with a view to ongoing refinement, driven by sector priorities, allows for faster EMIS integration and trust building, rather than pre-implementation system perfection and delayed rollout.' Perry and Ratcliffe, 2003

Source: R. Ellison A Practical Guide to Working with EMIS, 2002

To develop an effective EMIS system that provides all-round information-based support and decision-making necessitates having effective tools. Technology, database tools, and technical skills are necessary ingredients in achieving this. However, an EMIS unit needs a

clear vision and must nurture a new management culture that goes beyond establishing a data and information system. The culture of data sharing, information use and organisational management must also be embraced by all. Ultimately, a national master plan on EMIS will ensure its sustainability.

2.4 Capacity building/development

Capacity building and capacity development are generally used interchangeably, although Eade (1997)[8] sees capacity building as "an approach to development, not something separate from it...a response to the multi-dimensional processes of change, not a set of discrete or pre-packaged technical interventions intended to bring about a pre-defined outcome..."

Therefore, when viewed holistically as a process that improves the ability of individuals, groups and organisations to perform their functions and achieve the desired results over time, capacity building or development becomes an internal growth and development process whose efforts should be results-oriented, in line with the modern paradigm of results based management.

The conceptual framework informing the SADC Capacity Building strategy was based on the premise that "one size does not fit all" and was based on the notion that countries could be classified into three levels of EMIS capability – Basic, Intermediate and Self Sustaining based on a UIS typology (See Appendix One for more details). The idea was to group countries into these three categories and target appropriate capacity building accordingly.

The concept of defining capacity development is however multi-lateral and countries engage in developing their own notions of how capacity should be assessed and delivered. The conceptual framework for capacity development thus evolved with country interventions.

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[8] Eade, D. (1997). "What is capacity-building?", in: Capacity-Building, An Approach to People-Centred Development, pp.23-49. Oxford: An Oxfam Publication.

CHAPTER 3: TRENDS IN EMIS DEVELOPMENT

3.1 EMIS development in Africa

There is general agreement that EMISs in many developing countries are poor. A large number of countries suffer from weak statistical capabilities and cannot supply adequate information to support policy and decision-making[9].The African continent is particularly challenged with the African Union's Plan of Action making a special attempt to address the "data blanks" of its reporting member states. With some exceptions, EMISs on the continent can be described as poor in terms of timeliness and data quality.

KEY CHALLENGES FACING THE USE OF STATISTICS IN MINISTRIES OF EDUCATION

Inadequate resources

It is necessary to institute a mechanism for sustained allocation of adequate resources (financial, human, equipment and infrastructure) for managing EMIS as this has a major impact on the quality of statistics.

Delayed data release

It takes over a year after the end of a school year to release information in one in two Anglophone African countries, according to the meta-data material posted for 13 countries on the IMF's General Data Dissemination System (GDDS) Bulletin Board. This is despite information generally being requested early in the school year. Such delays greatly reduce the value of the data to policy making and implementation.

Inaccurate data because of technical reasons

Data may be unreliable because the system is not made to work well enough technically. Final data are rarely adjusted to allow for schools that have not responded. This makes key figures such as total enrolment and enrolment rates unreliable and disrupts time-series.

Distorted data because of administrative data use

It is frequently stated that data are deliberately distorted where resource allocation to schools (or, sometimes, revenue collection from them) depends on the returns made.

Lack of user-friendly publications

The quality of the disseminated material is often lacking, with cumbersome abstracts designed for reference frequently being the only published outputs, despite some attempts to develop skills in preparing more targeted and easily-understood offerings. *Source: Ellison, 2005.*

Lack of analysis

Analysis is also often lacking: in particular analysis that draws on more than one source, where the information can be added together where data coverage is different and compared where it overlaps between exercises.

Lack of feedback to data providers

Data providers rarely see the fruits of their efforts in any form. This denies them of potentially useful comparative data and weakens their motivation to supply information in future. With the decentralisation that is taking place in many countries, information is required away from the centre to support sector management. *Source R. Ellson, 2004.*

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[9] UIS Medium Term Strategy 2002-2007.

Africa faces a major challenge to report on its human resource development achievements and challenges. Few Member States report comprehensively on all the required global education indicators. In some countries, separate Ministries manage sections of the education and training sector. Issues such as ineffectual government policy on information norms and standards, incomplete statistical coverage of sub-sectors, duplication and varying definitions affect the quality and availability of statistics. These issues are compounded when comparisons are made across countries.

In some cases, global bodies use their own projections in determining trends for the continent – a situation which may not accurately reflect reality. In view of this, Africa must find a sustainable intervention that ensures that it regularly produces its own data and information.

The African Union's Plan of Action for the Second Decade for Education in Africa argues that the continent must have its own harmonised, integrated and comprehensive databases that are comparable across countries. This is only possible through the creation of regionally and continentally integrated networks as appropriate indicators.

> The problem is not a lack of will on the part of the international community to contribute and improve the national statistical systems in Africa – the problem lies in the lack of coordination and harmonisation between international and national statistical systems, tools, methods as well as between the national systems of different countries. *Ben Kiregyera, International Statistical Consultant and Chairman of the Board of Directors, Uganda Bureau of Statistics on the RRSF 2006 (Inwent, 2007)*

The Plan of Action cites the effective management of education statistics and improved quality of education as cross-national in nature and requiring collaboration among Member states for efficient resolution. EMIS is one of its 7 priority areas and Africa expects to have "developed functional national EMIS, inter-connected to regional and continental EMIS networks... ". The Plan also involves the establishment of a pan-African Education Observatory to co-ordinate EMIS in Africa.

The Maputo declaration that followed the launch of the Second Decade's Plan of Action in September 2006, stressed the importance of "reinforcing the role of education for the promotion of regional and continental integration via the bilateral and regional networks" and "mobilising resources to strengthen [...] the education desks within the RECs through capacity building and strategic recruitments".

Implementing the Plan through the RECs' will enhance regional collaboration as the RECs are expected to develop and implement regional strategies for the integration of the Plan. The African Union has recognised SADC as a pioneer in implementing EMIS on the continent.

3.2 Current situation of EMIS development in the SADC region

Despite a lot of effort in recent years to improve the situation, a significant number of SADC countries do not have enough data to track changes on international indicators of education at pre-primary, secondary or adult literacy, for example.

SWOT Analysis for EMIS, 2008 *(figures in brackets indicate the number of reporting countries)*	
Strengths	**Weaknesses**
• Sound capabilities to utilise education indicators and data analysis (7) • Effective statistical management information system (MIS) in Primary and Secondary (11), Higher Education (9), TVET (8), and School Infrastructure (8). • Effective mechanism for monitoring timeliness of statistical reports and yearbook production (9). • Good models of national classification of educational services and programmes to meet international standards (8). • Effective strategy for publication release and dissemination within a year of countries' annual census (7).	• Limited provision of accurate, relevant and timely data for monitoring national and international development frameworks. • Inadequate statistical MIS on HIV and AIDS impact on education (13), NFE (9), ECCE (9). • Weak analytical indicator reports and linked MIS in Higher Education and TVET. • Ineffective integration of operational databases such as EMIS, Payroll Information, Financial Management, Examinations, and quality assurance – e.g. SACMEQ/PARSEC (10). • Inadequate career development strategies for EMIS staff (all). • Inadequate EMIS policy and standards (10). • Lack of reliable methodology for calculating missing data, projecting system growth and developing simulation models for assessing policy options ands costs in EMIS (9). • Poor MIS coverage of private institutions in the education and training sector. • Limited cost-efficient training models for data providers (8). • Low EMIS management capacity, especially at decentralised levels.
Opportunities	**Threats**
• SADC Ministers' commitment on EMIS (reflected in the policy decision made in Lusaka in 2008). • Increased development partner support (UNICEF, USAID, World Bank, AfDB, etc) to EMIS capacity building. • Enhanced partnerships between the SADC Secretariat and various stakeholders (ADEA, UNESCO, UIS) in implementing regional EMIS activities. • Combined focus on EMIS as a top priority by both the AU Plan of Action for the Second Decade and the SADC Regional Implementation Plan on Education and	• Low salaries of civil servants, including specialist EMIS staff. • Brain drain of qualified personnel in EMIS. • Lack of transparency in planning and management by senior decision makers. • Unsustainable resourcing for EMIS operations and capacity development. • Impact of HIV and AIDS on EMIS and education and training institutions. • Regional socio economic and political instability.

Training. • Positive perspectives for improving EMIS processes – e.g. high social demand for quality education, advancement in technology, and decentralised planning and management structures. • Enactment of effective EMIS policies and legal frameworks.	

In a number of countries, access to secondary, TVET, or tertiary education by disadvantaged groups, such as rural poor, cannot be measured. Moreover, the work of national EMIS units in Ministries is under appreciated and under valued. Many Ministries' EMIS systems are fragmented (only cover one or two sub-sectors) and are caught in a spiral of under-funding and under-performance. A lack of technical and institutional capacity, especially at the local level, is therefore a problem.

Data Gaps in SADC Member States: Statistical Coverage of sub-sectors in Education, 2006[10]

Status of Data coverage	Pre-primary Data	Primary Data	Secondary Data	Post Secondary Data	Tertiary Data	Education Finance Data
No data available	Angola, DRC, Malawi, Mozambique	Angola, DRC	Angola, DRC	Botswana, Zimbabwe	DRC, Zimbabwe	All are missing except, South Africa, and those indicated below
Missing data on key indicators	Angola, Namibia, Tanzania, South Africa	Malawi, South Africa, Zambia, Zimbabwe	Zimbabwe, Tanzania	Malawi	Angola, Botswana, Zambia	Angola, Botswana, Namibia, Zambia

3.3 Current Initiatives in EMIS in SADC Region

Regarding EMIS, the SADC Secretariat is partnering with several stakeholders to implement regional activities. UNESCO sub-regional offices of Harare and Windhoek, and the national office in Maputo, have a joint work plan for implementing the regional EMIS activities, with support from technical partners such as UNESCO Institute for Statistics (UIS) and the ADEA Working Group on Education Policy Support, under the NESIS programme (See Appendix 3 for further details on the Work Plan). Key elements of the joint work plan include the harmonisation of EMIS, development and implementation of the monitoring framework, facilitation of capacity building, and mainstreaming of quality assurance in the production of statistics and EMIS management.

The above collaboration has so far seen EMIS capacity building training being conducted in Malawi, Botswana, Zambia and Zimbabwe under UNESCO Harare's support. It has also led to two initiatives: piloting of the UIS-led Diagnostic Quality Assessment Framework in 7 SADC countries[11] – with a possible expansion to cover all SADC countries in the next phase – and the implementation of the SADC EMIS Initiative project facilitated and technically supported by ADEA WGEPS.

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[10] Reported in the UIS Global Education Digest, 2008
[11] Madagascar, Lesotho, South Africa, Tanzania, Zambia, Mozambique and Swaziland

Following the joint regional EMIS work plan developed in Gaborone in 2008, countries customised the UIS Diagnostic Quality Assessment Framework (DQAF) tool to suit Africa's needs. It is currently being used to pilot quality assessments in 7 SADC countries, led by the UIS, and will be later expanded to all SADC countries. The UIS is doing further EMIS work in SADC countries such as Tanzania, Seychelles and Madagascar. It is planning to establish regional advisor posts, to be located in all UNESCO cluster offices.

UNICEF and other development partners such as the European Union and USAID continue to support EMIS initiatives in the SADC region. For example, USAID is providing some financial and technical assistance for EMIS activities in Zambia. USAID's program in Tanzania, funded through the President's African Education Initiative, helps to improve school management, while in Namibia, it is supporting the improvement of the effectiveness of the country's education management system, and donated computer equipment to the Ministry of Education's EMIS to facilitate the collection, dissemination and verification of key information on Namibia's learners and schools.

SADC Ministers of Education and Training, at their meeting in Lusaka, Zambia in June 2008, made the following policy decisions regarding EMIS:

SADC Ministers Policy Decision on EMIS: Lusaka, Zambia

- Directed SADC Secretariat, working with UNESCO and ADEA, to recommend appropriate financial allocation for EMIS;

- Directed SADC Secretariat to establish Centre of Specialisation for EMIS within a period of one year;

- Directed the Secretariat to develop and harmonise statistical norms, standards and nomenclature for the SADC region;

- Urged Member States to develop policies that promote the development and effective utilisation of EMIS; and

- Encouraged Member State to finalise their national EMIS assessment needs.

Following the Ministers' decision and in line with the goals and strategic interventions in the EMIS priority area of SADC's Implementation Plan on Education and Training (which calls for the utilisation of current and relevant education data for planning, decision making and monitoring at national and regional levels through the development of comprehensive, integrated, compatible and functional EMIS), the SADC Secretariat contracted the ADEA WGEPS, through its NESIS programme, to manage its EMIS Initiative project.

3.4 SADC EMIS Assessment Report Findings

The following are highlights of the findings of an assessment report from the survey carried out in 2008 in 14 SADC Member States to determine the status of EMIS in the SADC region. Its findings are a major input into the process of developing a SADC regional capacity building strategy. Member states were presented this report and out of the

discussions and further refinements, a strategy was developed. The findings are reported according to the following themes:

Policy and Legal Environment

One of the biggest challenges facing effective EMIS in the SADC region is "data blanks" or incomplete statistical reporting. This is a problem of inadequate data coverage of both all education institutions (both public and private) and all sub-sectors in the education system. At the source of this problem is the inadequate existence of comprehensive EMIS policies that address the legal requirements of all education and training institutions to provide timely, accurate data.

In 60% of the SADC countries, an EMIS policy, together with the necessary regulatory framework, exists that mandates the Ministry of Education to manage the functions of EMIS. Central or National Statistical Offices are the overriding authority on EMIS management in a majority of those not having a specific policy in place. SADC countries report a close collaboration between their EMIS units and their national statistical bodies. All SADC countries have a national information and communication technology (ICT) policy.

Most SADC states are able to compel all their educational institutions by law to report on their education statistics periodically to the mandated authorities which are also compelled to make accessible and publicly disseminate current educational data and information. Despite the existence of these policies and regulations, enforcement is still a challenge in many instances, especially regarding non-reporting of statistical data by educational institutions. Measures to address such cases vary from country to country and include reminders, threats of sanctions and quoting relevant laws regarding non-reporting to the concerned institutions. There are still a significant, albeit a minority of SADC countries, which do not effectively register and regulate private education institutions, particularly at the school level. This creates problems in assessing the sector's delivery capacity and monitoring the implementation of national education policies.

SADC countries in most instances use their EMIS units to provide data for monitoring and evaluating the implementation of their provincial, national, continental and international plans and frameworks. The focus of EMIS in most SADC countries is on the sub-sectors of Pre-primary, Primary and Secondary education. Apart from a few[12], a significant number of countries report that they do not have EMIS in Higher and Tertiary education, TVET and NFE.

Structure and Systems Development

Another challenge facing effective EMIS systems in African Ministries of Education is that the education sector is often fragmented across a number of Ministries and similarly the EMIS is fragmented and incomplete. It is essential that there are functioning inter-sectoral mechanisms centrally coordinated by the Ministry's EMIS unit to ensure that data is integrated and comprehensive.

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[12] Mozambique, Namibia, South Africa, Tanzania and Zambia

The tendency is for SADC Ministries of Education to have the publicly identified data collection mandate for formal education except in the fields of Pre-primary and Non-Formal Education which often fall under different Ministries. For example, Early Childhood Development, which includes Pre-primary, falls under the Ministry of Women and Child Development in Malawi and the Ministry of the Women and Co-ordination of the Social Action in Mozambique.

Additionally, it is important that EMIS is anchored at the highest levels of decision-making if it is going to be responsive and able to address the needs of senior management in monitoring and evaluating policy implementation. In most SADC countries, EMIS units report to either the Permanent Secretary or the Planning Directorate/Commission and its sub-division in the Ministry of Education.

A feature of relevant and timely EMIS systems is that they are decentralised to lower levels of governance (districts, regions) so as support operational decision making on resource allocations and policy implementation. However, in SADC countries, EMIS is largely centralised at the national headquarters. Nevertheless, there is a shift as a number of countries[13] are moving towards decentralised systems.

Level of automation in the EMIS cycle reflects the level of sophistication of a country's EMIS system. It tends to improve timeliness and labour costs of data production. The profile across countries is variable but with a tendency of SADC countries to automate where they can afford it. Questionnaire distribution and filling are done manually in all except three SADC countries[14] that are using automated systems (such as web-based questionnaires). Data entry and analysis are, on average, both manual (especially at the district level) and, again in some of the more advanced countries, automated (using Optical Character Recognition for data entry). Publication and dissemination are increasingly moving towards automation in a majority of the SADC countries.

Coverage, Questionnaire Design, Distribution and Review

Coverage of all sub-sectors of education and training by education information systems is a key challenge for the SADC region. There is incomplete and variable coverage of education information systems in the region. All countries have standard annual censuses for Primary and Secondary education sub sectors. Ten of the 14 SADC countries have annual censuses for Pre-primary, Higher Education and TVET sub-sectors. Only seven countries have annual censuses for Tertiary education[15] and a different grouping of eight countries have annual censuses on Non-Formal Education[16]. This variable coverage means the region's understanding of its education and training sectors is incomplete.

Most Ministries gather data on the characteristics of their Education Institutions for all the sub-sectors. However, most countries do not obtain information on urban/rural dimensions and student home-background information – both of which support important policy issues on access. Most Ministries capture learner data on age, gender, grade, and whether the institutions are private or public, for all sub-sectors.

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[13] South Africa, Madagascar, Malawi, Mozambique, Namibia, Zambia, Angola and Zimbabwe
[14] Namibia and Tanzania
[15] These do not have annual censuses on Tertiary education- Lesotho, Madagascar, Mozambique, Swaziland, Tanzania and Zimbabwe
[16] Botswana, Madagascar, Malawi, Mauritius, Mozambique, Swaziland and Zambia

An exception is in Higher, TVET and NFE sub-sectors. In NFE for example, half of the countries[17] who report data in these areas do not capture data on age. There are also wide variations in the data that SADC countries capture on teachers, particularly around the level of qualifications. This creates a problem for improving the regional harmonisation on teachers. Increasingly, SADC countries are extending the scope of their statistics to capture information on disadvantaged pupils, in particular Orphans and Vulnerable Children (OVC).

Some eight countries[18] track statistics on OVC at the primary level. Some (Lesotho, Malawi, Namibia, Swaziland, Tanzania, Zambia and Zimbabwe) also capture OVC data for the Secondary education sub-sector. Lesotho, Namibia and Tanzania have extended this tracking of OVC to the Pre-primary sub-sector.

In most countries, there is little or no coverage of statistics on national languages, African and National History, and Mother tongue instruction – key priorities in the African Union Plan of Action.

Coverage of the financial data on education expenditure at the institutional level (schools, colleges, etc) remains inadequate and inconsistent. Lesotho, Namibia, South Africa, Tanzania and Zambia are among the most innovative in capturing finance data, for some sub-sectors, on Administrative units and Level of education.[19]

Inadequate collection of financial data is a major challenge for estimating the costs of education.

Close to 80% of the SADC countries review and update their questionnaires annually – exceptions are Angola, Botswana and Zimbabwe.

Data Processing Stages

Data collection is done once or twice a year for most countries, with an average turnaround time of 6 months from questionnaire distribution to publication. Data entry is usually centralised but as countries move towards greater autonomy at the lower levels of governance, it is becoming decentralised, particularly in the Primary and Secondary education sub-sectors. The majority of countries with decentralised units use a combination of modern ICT tools to transfer data to the centre. These include Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

Most countries have databases (such as for Financial Management, Payroll Information, Examinations, and SACMEQ) outside EMIS that are mostly not linked to the EMIS database. However, the trend is to increasingly integrate databases using common identifiers such as schools, teachers and pupils.

A key challenge facing many countries is maintaining a current and accurate master list of registered public and private institutions. Often, private institutions are not obliged to register with their appropriate Ministries of Education. On average, SADC countries report

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[17] Botswana, Lesotho, Malawi, Mauritius, Mozambique, Tanzania and Zambia
[18] Lesotho, Malawi, Mozambique, Namibia, Swaziland, Tanzania, Zambia and Zimbabwe
[19] Tanzania and Zambia have expanded their data coverage to Capital & Recurrent Expenditures, Public Sources, and Private Sources for the sub-sectors of Primary, Secondary and Higher Education. Tanzania's questionnaire also covers Tertiary, TVET and NFE.

a census questionnaire return rate of over 80% from their registered public and private education instructions for most sub-sectors. However, this rate is dependent on Ministries keeping an accurate and up to date register of all schools and other education institutions. Low return rates affect budgeting and planning, particularly for public schools. Most SADC countries do not calculate the missing statistics from non-returning schools, which affects their ability to accurately project their costs and manage their resources as well as monitor policy performance over time.

Resource Availability and Adequacy

Close to 60% of the SADC countries report that they do not have sufficient EMIS personnel to effectively perform EMIS functions[20]. More than half of SADC countries[21] report that they are under-supported with essential EMIS equipment, particularly at the district levels.

Most EMIS offices have a functional email system and have access to a functional office intranet and public Internet on a permanent basis – exceptions are Angola, Madagascar, Swaziland and Zimbabwe which still use dial-up systems and have no functional intranet for EMIS. Effective Internet is critical for communicating and disseminating education statistical information.

Nearly all the SADC countries have a functional website, with 8 countries (Angola, Lesotho, Madagascar, Mozambique, Namibia, South Africa, Tanzania and Zambia) publishing data on their websites.

Publication, Distribution and Utilisation

The level of publication production in the SADC region is relatively weak. Annual statistical abstracts are generally not produced in a timely manner with many countries' publication lagging behind by between 2-4 years. This affects effective planning, monitoring and evaluation of the education sector which depends on current indicator data. Self reliance in the production of education information reports is essential in the long term if a Ministry is going to have sustainable EMIS.

Over the 5 year-period (2002 – 2007), only half of the countries indicated that their Annual Statistical and Analytical Reports were produced entirely by Ministry Staff. Additionally, some countries[22] regularly produce Statistical Leaflets or Snapshots which further disseminate education statistics in a user friendly manner for the general public. Mauritius and South Africa are probably the most advanced in terms of producing analytical reports, case studies and statistical newsletters based on their EMIS data.

In some countries such as Namibia, Swaziland and Zimbabwe, there is a reliance on consultants or technical assistance to co-produce the annual statistical and analytical reports.

A critical feature of effective education information reporting is user feedback on the utility of the information. Over 80% of countries report that they record both user

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[20] Angola, Botswana, Malawi, Namibia, South Africa, Swaziland, Tanzania and Zimbabwe indicate that their Ministries of Education do not have enough staff members to perform EMIS functions.
[21] Angola, Botswana, DRC, Mauritius, Mozambique, South Africa and Zambia indicate sufficiency.
[22] Madagascar, Mauritius, Namibia, South Africa, Swaziland and Zambia

requests for data as well as their feedback on the usage. Countries that do not record such information include Lesotho, Mozambique, and Mauritius (records user feedback information only).

Financing of EMIS

In most countries, the government provides financial support for its annual census processing operations. The countries that rely on external financial aid include DRC, Malawi, Swaziland, Madagascar and Zimbabwe. There is also marked reliance on external support for purchasing EMIS equipment and software as well as for capacity building initiatives, except for Botswana, South Africa and Tanzania.

Benchmarking EMIS Capacity

The assessment survey focussed on specific capacity building areas and the SADC countries indicated areas in which they are strong and can share promising practices and experiences, as well as areas that need improvement through appropriate capacity building interventions.

Identified Areas of strength

- Effective statistical management information systems (MIS) in Primary and Secondary Education (Angola, DRC, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe);

- Effective statistical Management Information Systems (MIS) in Higher Education (Angola, DRC, Madagascar, Mauritius, Mozambique, Namibia, South Africa, Tanzania and Zambia);

- Effective mechanism for monitoring timeliness of statistical reports and yearbook production (DRC, Lesotho, Madagascar, Mauritius, Mozambique, Namibia, South Africa, Tanzania and Zambia);

- Good models of national classification of educational services and programmes to meet international standards [e.g. ISCED] (Angola, Botswana, Madagascar, Mauritius, Mozambique, Namibia, South Africa and Zambia);

- Sound capabilities to utilise education indicators and data analysis(Angola, DRC, Madagascar, Mozambique, Namibia, South Africa and Zambia);

- Effective MIS on TVET and school infrastructure (Angola, DRC, Madagascar, Mauritius, Mozambique, South Africa, Tanzania and Zambia);

- Effective MIS on school infrastructure (Angola, Botswana, Malawi, Mozambique, Namibia, South Africa, Tanzania and Zambia); and

- Effective publication release and dissemination strategy (Madagascar, Malawi, Mauritius, Namibia, South Africa, Tanzania and Zambia).

Identified Areas of weakness

- Inadequate statistical MIS on HIV and AIDS impact in education (Angola, Botswana DRC, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, Swaziland, and Zambia);

- Ineffective integration of databases such as EMIS, Payroll Information, Financial Management, Examinations, and SACMEQ (Angola, Botswana, DRC, Lesotho, Madagascar, Mozambique, Namibia, South Africa, Tanzania and Zambia);

- Inadequate career development strategies for EMIS staff; (Botswana, DRC, Lesotho, Madagascar, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe);

- Inadequate statistical MIS on EMIS policy and standards (Botswana, DRC, Lesotho, Madagascar, Malawi, Mauritius, Namibia, Swaziland, Tanzania and Zambia);

- Inadequate statistical MIS on Non-Formal Education (Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe);

- Inadequate statistical MIS on Early Childhood, Care and Education (DRC, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Swaziland, Tanzania and Zambia);

- Need reliable methodology and model for projection and simulation (Botswana, Lesotho, Madagascar, Mauritius, Namibia, South Africa, Swaziland, Tanzania and Zambia); and

- Need cost-efficient training model for data source providers (Angola, DRC, Lesotho, Madagascar, Mozambique, Namibia, Tanzania and Zimbabwe).

Identified challenges and key Priority areas

Each country selected five key EMIS areas for capacity building, from a list of 23 in the assessment questionnaire, using a 5 point scale where Priority 1 is the topmost priority and Priority 5 the last priority. The table below shows the countries that selected the EMIS capacity building areas listed under Priority 1:

Country	Priority 1 EMIS Capacity Building Areas
Swaziland, Zimbabwe	Having an adequate Career Development Strategy for Statistical Office Staff
Lesotho	Having a strong MIS on Higher Education.
Namibia	Having a reliable methodology for data reconciliation using secondary sources such as household, demographic and poverty sample surveys.
South Africa	Having a strong school records management system.
Angola	Strong strategy for mobilising resources for statistical services.
Tanzania,	Having an effective EMIS policy and standards.

Botswana	
DRC	Building EMIS capacity.
Zambia	Having an effective model for web design, web publication and data dissemination.
Madagascar	Having an efficient strategy for tracking non-response to surveys.
Malawi	Having a functional school-mapping and Geographic Information System (GIS).

Countries and the capacity building areas they selected under Priority 2:

Country	Priority 2 EMIS Capacity Building Areas
Mozambique	Having a strong MIS on Early Childhood Care and Education.
Madagascar	Having a strong MIS on School Governance.
Malawi	Having a strong MIS on Primary Education.
Namibia	Having a strong MIS on Non-Formal Education.
Lesotho	Developing best practice models for the decentralisation of information systems.
Mauritius	Developing a reliable methodology and model for projection and simulation.
Swaziland	Having a reliable methodology for data reconciliation using secondary sources such as household, demographic and poverty sample surveys.
Angola, Botswana	Reliable methodology for imputing missing data.
Zimbabwe	Building EMIS capacity.
Tanzania	Having an adequate career development strategy for statistical office staff.
Zambia	Developing a functional school-mapping and Geographic Information System (GIS).

Countries and the capacity building areas they selected under Priority 3:

Country	Priority 3 EMIS Capacity Building Areas
Angola, Mozambique	Instituting a cost-efficient training model for data sources providers.
Madagascar	Developing an effective MIS on Quality management
Malawi, Botswana	Having an effective MIS on HIV & AIDS impact in education
Lesotho	Providing a reliable methodology and model for projection and simulation
Tanzania, Zambia	Developing a reliable methodology for data reconciliation using secondary sources such as household, demographic and poverty sample surveys.
Angola	Putting in place an effective publication release and dissemination strategy
DRC, Zimbabwe	Developing an effective model for web design, web publication and data dissemination.
South Africa	Having an efficient model for providing feedback to data providers
Namibia	Providing a functional mechanism for new indicator development and

	effective data revision policy
Mauritius, Swaziland	Putting in place a functional school-mapping and Geographic Information System (GIS).

Countries and the capacity building areas they selected under Priority 4 and 5:

Country	Priority 4 and 5 EMIS Capacity Building Areas
Lesotho, Madagascar and Mozambique	1. Instituting a cost-efficient training model for data sources providers.
Mozambique	2. Putting in place an effective MIS on Education Finance and Expenditures, as well as Quality management.
Malawi and Zambia	3. Strong MIS on Early Childhood Care and Education.
Lesotho and Botswana	4. Developing a reliable methodology for data reconciliation using secondary sources such as household, demographic and poverty sample surveys.
Angola and Zimbabwe	5. Providing a sound methodology for data collection and error tracking procedures.
Tanzania and DRC	6. Having a functional mechanism for new indicator development and effective data revision policy
DRC and Botswana	7. Putting in place a functional school-mapping and Geographic Information System (GIS).
Tanzania and Swaziland	8. Having models of best practice in the decentralisation of information systems.
Namibia	9. Developing a reliable methodology for imputing missing data.
Zimbabwe and Zambia	10. Having an effective school records management system.
Namibia and South Africa	11. Putting in place a strong strategy for mobilising resources for statistical services.
Mauritius and Mozambique	12. Developing effective EMIS policy and standards.
Madagascar and Mauritius	13. Building adequate capacity in EMIS.
South Africa	14. Providing an adequate career development strategy for statistical office staff.

3.5 Categorisation of EMIS Needs for Capacity Building by Countries

A responsive EMIS development strategy requires a categorisation of the national EMIS systems. A number of processes were used to evolve the capacity building aspect of the SADC EMIS strategy. In the country EMIS Assessment survey countries were asked to identify their top five priority needs in EMIS capacity development. From the assessment report, it is clear that a one-size-fits-all prescription will not adequately address the challenges identified by the SADC countries. It requires both common as well as specific intervention measures and at various levels.

At a workshop held in Gaborone, Botswana in 2008, countries reviewed the UIS typology on EMIS needs: (1) *Basic* means that EMIS units still need to put in place the basic EMIS infrastructure like policies, 2) *Intermediate* means that the EMIS units are functional, but

require improvement in processes and databases, 3) The last category, *self-sustaining*, refers to programmes aimed at making functional EMIS units excel. Based on their understanding, experiences and challenges, countries added other areas of coverage, resulting in the expanded typology (see Appendix 1).

From the modified typology, countries used six indices and their sub-aspects, taken from the structure of the EMIS assessment report, and peer rated the level of their EMIS capabilities on each sub-aspect, according to a three-point scale where 1 represents a basic EMIS system, and 2 and 3 represent intermediate and self-sustaining EMIS systems respectively. The following is a summary of how countries rated themselves in terms of their EMIS capacity needs (see Appendix 2 for the detailed rating).

Peer Review Ranking of EMIS (2008).

FUNCTIONALITY INDICES (See appendix for further details)	ANGOLA	BOTSWANA	DRC	LESOTHO	MALAWI	MADAGASCAR	MAURITIUS	MOZAMBIQUE	NAMIBIA	SWAZILAND	SOUTH AFRICA	TANZANIA	ZAMBIA	ZIMBABWE
Policy and Legal Infrastructure	2.5	2.5	2.3	2.8	2.0	2.0	2.3	2.8	2.8	1.5	3.0	1.8	2.8	1.8
Structure and Systems	2.5	2.3	1.8	2.0	2.0	2.8	2.5	2.5	2.3	1.8	3.0	2.5	2.0	2.3
Questionnaire design, coverage and review	1.3	1.5	1.3	2.1	2.6	1.7	1.6	1.3	3.3	1.7	2.9	2.0	2.1	2.1
EMIS Operations	1.6	2.0	1.9	1.9	1.9	1.6	2.6	1.7	2.9	1.7	2.7	1.9	2.3	1.8
Resource availability and adequacy	1.3	2.3	1.3	1.3	2.0	3.0	2.3	2.0	2.3	1.7	2.7	2.7	2.0	1.3
Publication, distribution and utilisation	1.0	1.2	1.5	1.0	2.8	1.5	1.8	1.5	2.0	1.5	2.5	2.5	2.8	2.0
TOTAL	10.2	11.8	10.1	11.1	13.3	12.6	13.1	11.8	15.6	9.9	16.8	13.4	14.0	11.3

From the table:

- Swaziland, Zimbabwe and Tanzania rated themselves as having Basic capacity in terms of the existence of EMIS policies and legal infrastructure, its coverage of all sub-sectors of education, its mandate to compel institutions to report, and the international comparability of indicators. Namibia, South Africa and Zambia rate themselves as advanced in terms of their policy and legal structures supporting effective EMIS.

- The Democratic Republic of Congo and Swaziland gave themselves a basic rating in terms of lacking the necessary institutional environment and structures which support EMIS. This indicates that in these countries, there is a low level of automation of data entry and analysis process, and weak collaboration between EMIS and their central statistical agency.

- Large groups of countries rated themselves as basic in the remaining four areas.

    o Seven countries (Angola, Botswana, DRC, Madagascar, Mauritius, Mozambique and Swaziland) ranked themselves as having basic competencies in being able to provide complete statistical coverage of the all the various sub-sector, having standardised data collection instruments and mechanisms for assessing and reviewing data needs of users.

    o Nine countries ranked themselves low in terms of having effective EMIS operations. This includes carrying out planned surveys, integration of databases, existence of updated masterlists of all education institutions for the various sub-sectors and the use of basic statistical methodologies to increase data integrity. Botswana, Mauritius, Namibia, South Africa and Zambia ranked themselves high in this area.

    o Five countries (Angola, DRC, Lesotho, Swaziland and Zimbabwe) rated themselves as having Basic capabilities in terms of resourcing of their EMIS units. The resourcing index looks at the availability of adequately qualified EMIS personnel, availability and appropriateness of the IT equipment and whether they have functional email systems.

    o Eight countries (Angola, Botswana, DRC, Lesotho, Madagascar, Mauritius, Mozambique and Swaziland) have challenges with the annual production of statistical and education information publications, the dissemination and utilisation of EMIS products.

Based on the EMIS Assessment Report and the self ranking by countries on the above mentioned criteria, the SADC countries can be categorised as follows:

BASIC EMIS SYSTEMS	INTERMEDIATE EMIS SYSTEMS	SELF-SUSTAINING EMIS SYSTEMS
Angola, DRC, Lesotho, Swaziland, Zimbabwe	Botswana, Malawi, Madagascar, Mauritius, Mozambique, Tanzania	Namibia, South Africa, Zambia

EMIS areas of capacity building incorporated in the strategy follows from the categorisation. The Regional Capacity Building Strategy recognises these groupings as having particular needs. Intervention strategies are therefore customised to the generic needs of these specific groupings.

Other cross-cutting areas that countries raised in the EMIS Assessment Workshop (December 2008) and have been incorporated into the Regional EMIS Strategy are as follows:

- Improvement of the underdeveloped EMIS sub-sectors – such as Early Childhood Care and Education (ECCE), Higher Education (HE), Non-Formal Education (NFE) and Technical and Vocational education and Training (TVET).

- Promotion of integration of EMIS databases to other databases.

- Improved collaboration between national central statistical services and EMIS units.

- Improvement of data quality – the extension of the DQAF project to all SADC countries.

- Improved utilisation of EMIS data for planning and accountability.

- Exploration of collection of learner-level information (such as the South African Learner Unit Records Information Tracking System).

CHAPTER 4: MANAGEMENT, RESOURCES AND MONITORING

4.1 Management and Coordination

All the stakeholders involved in the implementation of this Strategy (SADC, Member States, national institutions, development partners, individuals) have different direct and indirect management and coordination roles. The stakeholders may offer advice, technical assistance and material or financial resources. The foregoing is an explanation of some direct roles of certain key players.

SADC Secretariat

The SADC Secretariat will oversee the overall execution of the Strategy on behalf of the SADC Ministers of Education and Training who will provide the necessary policy direction on key issues of its implementation. The Secretariat will do this through its technical sub-committee on EMIS, established in 2008.

Member States

Existing or new national committees or sub-committees on EMIS are expected to act as focal points between the Member States and the SADC Secretariat, in managing the implementation of the Strategy at the national level.

Partnerships

Collaboration and partnerships shall be at institutional, technical and political levels. The SADC Secretariat or its EMIS technical sub-committee expects to liaise with the Ministries of Education, various teaching, training institutions and research institutions, technical partners such as ADEA, UIS, UNESCO and SACMEQ, as well as identified key development partners.

4.2 Resource mobilisation and Sustainability

The SADC Capacity Building Strategy will be used to mobilise resources and technical expertise to address the defined needs. Both external and internal sources will be tapped; the former can entail provision of financial resources, technical expertise, training, information, political negotiation, and facilitation of the capacity development processes.

The overall implementation cost for the duration of the Strategy is **USD 3,145,000** (see summary budget table under Part B: Programme of Action).

The Strategy requires sustained financial, human and material resource provision, if its implementation is to succeed. It is anticipated that there will be a political and financial commitment made by the SADC Ministers of Education and Training to provide resources for EMIS.

Additionally, the SADC Secretariat as the chief oversight body must look at other sources such as joint financing of some of the activities with selected development partners and UN organisations.

4.3 Monitoring and Evaluation

The Strategy's implementation progress will be monitored and evaluated through set benchmarks, in terms of the degree of completion of each of the outlined activities as compared to the indicators specified in the activities schedule matrix.

Quarterly and annual activity and financial progress reports from the SADC technical sub-committee on EMIS and mission, training and conference reports will form part of the monitoring methodology.

Reports from the EMIS status surveys and the quality of contribution to the national and regional plans as well as the international frameworks such as the EFA GMRs and the UIS Global Education Digest are some of the other indicators that will also point to the progress of the Strategy's implementation.

Finally, there shall be a mid-term review at the end of 2012 to ascertain the degree to which the set targets have been met and if adjustments are necessary. A final evaluation will then be undertaken at the expiry of the Strategy in 2015, to determine the overall success in developing a successful EMIS network in the SADC region.

B. PROGRAMME OF ACTION (2010 – 2015)

CHAPTER 5: GOAL, OBJECTIVES AND EXPECTED OUTCOMES

5.1 Overall Goal

To improve the availability and utilisation of current, accurate and relevant education and training data and information to ensure systematic planning, monitoring and evaluation of the education sector in the SADC region.

5.2 Objective

To improve the utilisation of current and relevant education data for planning, decision making and monitoring at the national and regional levels through the development of a comprehensive, integrated, compatible and functional EMIS networks.

5.3 Expected outcome

Improved systematic and sector wide planning, monitoring and management of the education and training sector.

CHAPTER 6: IMPLEMENTATION PLAN

6.1 Strategic priority areas and Expected Results

Below are the identified strategic priority areas, and the corresponding expected results.

Strategic Priority Area	Expected Result
1. Ensuring a comprehensive EMIS policy and legal infrastructure.	Effective policy and legal framework for EMIS.
2. Making sure that EMIS units are properly structured and anchored: properly located, have well-defined business processes and appropriately decentralised and automated.	Adequately structured and institutionalised EMIS units in Ministries of Education.
3. Improvement of the underdeveloped sub-sector of EMIS such as ECCE, NFE and TVET.	A strong EMIS covering all sub-sectors and all levels of education.
4. Increasing resourcing of EMIS units.	Well-resourced EMIS units.
5. Promotion of integration between EMIS databases and other databases, and collaboration between the central statistical services and EMIS units.	Integrated EMIS and other databases, and enhanced collaboration and consultation between EMIS units and CSOs/NSOs.
6. Improvement of questionnaires to ensure the coverage of information on education financing, HIV & AIDS, OVCs, rurality, mother-tongue/ official language usage, nutrition, environment, private and public schooling, GIS systems and school records.	Comprehensive standard EMIS questionnaires covering all sub-sectors and all areas.
7. Improvement of EMIS operations.	Improved EMIS operations.
8. Data quality improvement – extension of the DQAF project to all SADC countries	Provision of indicator data and information of good quality.
9. Utilisation of EMIS data for planning and accountability.	Sound planning and management informed by statistical considerations.
10. Increasing publications, distribution and data and information utilisation.	Increased use of published reports in decision making.
11. Collection of learner level information.	Available learner level information.

The Plan that follows comprises a list of activities to be implemented during the six-year period of the Strategy. It also gives a list of participating countries for each activity, the performance indicators and their means of verification, partners involved, and a budget breakdown.

6.2 Schedule of Activities (2010-2015)

<u>**Overall Goal:**</u> **To improve the availability and utilisation of current and relevant education data for planning, decision making and monitoring at the national and regional levels of SADC through the development of comprehensive, integrated, compatible and functional EMIS networks.**

Priority Area	Main activities	Participating countries	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Performance indicators	Means of verification	Partners	Budget (USD)
1. Policy and legal infrastructure:	**Objective: To have effective EMIS policies and legal frameworks which significantly influence the effectiveness and credibility of Ministries of Education to produce and disseminate education statistics.**											
	1.1 Advocate for effective EMIS policies and legal frameworks with senior decision makers.	All SADC countries	■	■	■	■	■	■	• Enhanced policy dialogue on Ministry of Education's mandates. • Integration into National Statistical Development Strategies.	• Dissemination of SADC EMIS Norms and Standards to all countries • SADC Ministers endorse the SADC EMIS Code of Practice.	Development Partners (UNESCO,)	50,000
	1.2 Assess national, EMIS capacities against SADC EMIS Norms and Standards Code of Practice.	All SADC countries		■	■	■			• Number of SADC countries with comprehensive policies or regulations on EMIS that take into account provisions outlined in the SADC EMIS Norms and Standards document. • Timely and accurate reporting on national and international frameworks • % number of registered education institutions. • Commitment to quality frameworks.	• Assessment reports.	SADC Member States ADEA	50,000
	1.3 Provide country-	Angola	■	■	■	■	■	■	• Comprehensive	• Mission and	UNESCO,	60,000

Priority Area	Main activities	Participating countries	Time frame Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Performance indicators	Means of verification	Partners	Budget (USD)
	specific technical assistance on EMIS policy development and review.	DRC Lesotho Madagascar Mozambique Namibia Tanzania Swaziland Zimbabwe							reporting of primary, secondary, and tertiary sectors. Improvements in other sectors. • Improved reporting on private education.	workshop reports. • Registration of private schools (updated masterlist).	ADEA, UIS	
2. Statistical Processes and Methodologies	<td colspan="11">**Objective:** **To improve the credibility of education statistics through well-managed and efficient statistical processes that fully observe SADC's Protocol on Education, other international standards, guidelines and good practices in the EMIS cycle.**</td>
	2.1 Training in sound methodologies and appropriate procedures in EMIS operations.	All SADC countries							• Dissemination of best practice models and strategies for improving EMIS. • At least 98% response rate from education institutions on national census surveys. • At least 50% of SADC countries have a Data Master Plan on producing their annual census. • Functional mechanism for new indicator development and effective data revision policy in place.	• Workshop report • Copies of models and strategies for improving EMIS found in SADC countries • All countries have standardised data collection instruments for Basic education and tertiary. • All countries have Data Master Plans	UIS, ADEA, UNESCO	150,000
	2.2 To develop/harmonise sound methodology for error tracking procedures.	All SADC countries							• Appropriate EMIS error tracking procedures functioning in 7 countries.	• Assessment	UIS, ADEA, Pole de Dakar	20,000
	2.3 Developing a reliable methodology for inputting missing data, for data reconciliation using secondary sources and producing	All SADC countries							• All countries report 100% coverage. • UIS reports less variance between international and national data. • All countries have	• All SADC countries trained in these methodologies • Workshop reports. • National	UIS, ADEA, Stats SA	150,000

Regional EMIS Capacity Building Strategy - SADC

Priority Area	Main activities	Participating countries	Time frame						Performance indicators	Means of verification	Partners	Budget (USD)
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6				
	projection and simulation models.		X	X	X	X	X	X	developed a simulation model using projected data.	statistics. • UIS reports.		
	2.4 Sharing of countries' promising practices in standardising EMIS systems in various sub-sectors.	All SADC countries.	X	X	X				• Standardised systems for all sub-sectors. • School record management systems standardised in 50% of countries.	• EMIS pilot evaluation and workshop reports.	UIS, ADEA, Stats SA	100,000
	2.5 Developing technical skills in database management – with specialist attention to database integration.	Angola Botswana DRC Lesotho Madagascar Mozambique Namibia South Africa Zambia	X	X	X	X			• Improved database systems • At least 50% of countries have linked their annual school database with one or more other databases.	• Workshop reports, country database integration plans and progress reports.	Member States, ADEA	100,000
	2.6 Policy dialogue on best practices for appropriate EMIS structures and operating systems – covering institutional anchoring, staffing, cross –sectoral mechanisms of data collection and reporting, and sharing best practice in decentralised operational systems.	Angola DRC Madagascar Malawi Mauritius Mozambique Lesotho Namibia Swaziland Tanzania Zambia	X	X	X	X	X	X	• EMIS units are close to senior decision makers and report to the Planning Directorate or Permanent Secretary: At least 90% of countries have cross-sectoral structures involving other Ministries with the Ministry of Education. • A 20% increase in the number of countries that have decentralised their operations to lower levels.	• Organigrams showing clear structures of EMIS units within MoE. • Reports on current SADC practices processes and structures. • Sub-national EMIS reports (internal) on operations	Member States, ADEA	100,000
	2.7 Enhance collaboration between Ministries of Education and central and national statistical offices (CSO/NSOs).	Madagascar Malawi Mauritius DRC Zambia Lesotho Namibia	X	X	X	X	X	X	• Reduction in conflicting indicator data in education statistical reports from CSO/NSO and MoE. • EMIS in Ministries of	• Increased frequency in the production of annual education statistical abstracts.	Paris 21, UNECA	30,000

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Priority Area	Main activities	Participating countries	Time frame						Performance indicators	Means of verification	Partners	Budget (USD)
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6				
		Swaziland Angola Tanzania Mozambique	■	■	■	■	■	■	Education fully integrated into National Development Statistical Strategies of CSOs/NSOs • Mechanisms for inter-sectoral collaboration in place. • Use of household survey data to supplement EMIS data.	• Scheduled reporting of educational indicator data to continental and international frameworks. • Number of quality annual abstracts produced and disseminated.		
3. Sub-sector EMIS developments	**Objective: To improve EMIS in the under-developed sub-sectors and areas.**											
	3.1 Piloting promising practices in ECD MIS development.	DRC Lesotho Madagascar Malawi Mozambique Namibia South Africa Swaziland Zambia		■	■				• All sub-sectors have developed MIS for the different education sub-sectors and EMIS areas. • Increased availability of education statistical data from the under-developed sub-sectors, in annual statistical reports and other reporting frameworks.	• Workshop and pilot reports, copies of standard questionnaires for the sub-sectors. • Number of complete questionnaires for all sub-sectors. • Annual and other country statistical reports. • National Regional, continental and international framework reports	ADEA, UNESCO/ UIS, Existing bodies in Member States – for the specific areas, e.g. Stats SA, Council of Ministers (TVET).	60,000
	3.2 Piloting promising practices in NFE MIS development.	Lesotho Madagascar Malawi Mauritius Mozambique South Africa Swaziland Zambia Zimbabwe		■	■	■						60,000
	3.3 Piloting promising practices in Higher Education MIS development.	Lesotho Namibia Swaziland	■									120,000
	3.4 Piloting promising practices in Tertiary education MIS development.	DRC Lesotho Namibia		■	■							50,000

Priority Area	Main activities	Participating countries	Time frame						Performance indicators	Means of verification	Partners	Budget (USD)
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6				
	3.5 Piloting promising practices in TVET MIS development.	Lesotho		▓	▓							60,000
	3.6 Piloting promising practices in MIS development for monitoring HIV and AIDS impact on education.	All SADC countries		▓	▓							90,000
	3.7 Piloting promising practices in Teacher Education MIS development.	DRC Lesotho Madagascar Namibia South Africa		▓	▓							45,000
	3.8 Piloting promising practices in Education Personnel MIS development.	DRC Lesotho Madagascar South Africa Tanzania Zambia Zimbabwe		▓	▓							60,000
	3.9 Piloting promising practices in Examinations MIS development.	Angola DRC Lesotho Madagascar Mozambique Swaziland		▓	▓							40,000
	3.10 Piloting promising practices in Education Finance and Expenditures MIS development.	DRC Lesotho Mozambique Namibia South Africa Swaziland Zambia			▓	▓						40,000
	3.11 Piloting promising practices in developing a MIS for Textbook and Teaching-Learning Materials ordering.	Angola DRC Lesotho South Africa Zambia			▓	▓						40,000

Priority Area	Main activities	Participating countries	Time frame						Performance indicators	Means of verification	Partners	Budget (USD)
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6				
	3.12 Piloting promising practices in Culture MIS development.	Angola DRC Lesotho Madagascar Mozambique Namibia South Africa Zambia									UNESCO, UIS	60,000
	3.13 Developing IS for managing Nutrition Environment.	Angola DRC Lesotho Madagascar Mozambique Namibia South Africa									UNICEF	50,000
	3.14 Developing MIS for School Governance and Infrastructure	Zambia DRC Lesotho Madagascar Mozambique										40,000
	3.15 Sharing of best practice in learner-level databases – e.g. South Africa's LURITS.	All SADC countries							• The survey instruments collect learner-level data. • Countries updated on the LURITS development process.	• Copies of survey instrument. • Reports circulated to SADC countries on progress of LURITS development.	South Africa	80,000
4. Data Quality Improvem ent and Coverage.	**Objective:** To produce, publish and disseminate education statistics according to quality standards – in terms of the pre-requisites (legal and institutional environment, resources and quality awareness) and the eight dimensions of quality (relevance, accuracy, timeliness, accessibility, coherence, methodological soundness, and integrity).											
	4.1 Advocacy on quality commitments as declared in National Development Statistical Strategies and other regional, continental and	All SADC countries							• Legislative frameworks available that promote and ensure adherence to quality in the statistical value chain. • Processes for monitoring Quality in	• Copies of legislative frameworks. • Quality monitoring reports. • Review reports.	UNECA, ADEA, Stats SA	60,000

Priority Area	Main activities	Participating countries	Time frame						Performance indicators	Means of verification	Partners	Budget (USD)
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6				
	international quality frameworks.								place. • Mechanisms are in place to regularly review quality standards in Ministries of Education.			
	4.2 Advocacy, training and technical support in Managing School Records	All SADC countries							• Strong School Records Management system. • Standardised School Records Systems	• Copies of complete templates, training manuals supporting the standardized School Record Management systems	South Africa	100,000
	4.3 Initiate projects and share promising practices in School Mapping using GIS.	Malawi Mauritius Mozambique Namibia Swaziland Tanzania Zambia Zimbabwe							• Functional mapping and GIS systems	• Copies of complete questionnaires from schools.	Member States, ADEA	60,000
	4.4 Piloting DQAF in all SADC countries	All SADC countries							• DQAF piloted in all SADC countries. • Certified quality	• DQAF pilot assessment reports • Data quality audit reports.	SADC, UIS, Member States, ADEA, Stats SA, Pole de Dakar	60,000
	4.5 Technical assistance and knowledge sharing on promising practices in Quality Assurance of EMIS processes.	Angola Botswana DRC Lesotho Madagascar Mozambique Namibia Swaziland Tanzania							• Increased school census response rate. • Efficient strategy in place for tracking non-response • Strategy in place for calculating missing school census data. • Increased comparability of data and indicators at	• Audit reports on non-reporting by institutions. • Copies of current masterlists of all education institutions available at national and sub-national levels. • Country data	SACMEQ, UIS, Member States, ADEA, Stats SA, Pole de Dakar	50,000

Priority Area	Main activities	Participating countries	Time frame						Performance indicators	Means of verification	Partners	Budget (USD)
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6				
									regional, continental and international levels.	quality assurance plans. • Number of fully completed questionnaires. • Copies of current masterlists of all education institutions. • Regional, continental and international frameworks such as SADC Report on Education and Training, Pole de Dakar publications, EFA Global Monitoring Report, UIS Global Education Digest.		
5. Resource availability, adequacy and utilisation	**Objective: To put in place strategies that ensure availability of adequate resources and their effective use in managing EMIS.**											
	5.1 Advocacy on adequate resource allocation for EMIS.	All SADC countries							• Resource allocations commensurate with programmes, staff, facilities, equipment, technology, training and financing of EMIS systems.	• Number of high-level policy dialogue forums held. • Financial reports.	SADC, ADEA	60,000
	5.2 Training on resource mobilisation strategies and effective use of resources.	All SADC countries							• Resource mobilisation strategies developed. • EMIS budgets reflected in national education budgets.	• Reports on number of training workshops held and number of trained staff. • Number of strategies developed.	SADC, Member States, ADEA	150,000

Priority Area	Main activities	Participating countries	Time frame						Performance indicators	Means of verification	Partners	Budget (USD)
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6				
	5.3 Advocacy around EMIS staff retention	All SADC countries	■	■	■	■	■	■	• Research conducted on EMIS staff retention. • Strategy in place to attract and retain specialist staff in areas of scarce skills. • Ministry of Education promotes regular professional development and upgrading through training. • Sufficient personnel recruited in key EMIS positions. • Frequency of engagements in high-level international EMIS network forums.	• Research paper looking at the demand and supply of EMIS staff. • Number of graduates in the relevant academic disciplines recruited for EMIS posts. • Number of EMIS personnel participating in international networks of EMIS experts	SADC, Member States, ADEA	60,000
	5.4 Support regional Centres in the provision of accredited EMIS training and advocate for Teacher Training colleges to include basic EMIS training in their curricula	All SADC countries	■	■	■	■	■	■	• A SADC centre specialising in EMIS is established. • Appropriate curricula for EMIS in pre-service (school record systems and annual census, etc) and higher education institutions are developed and available.	• No of graduates per country • No. of regional institutions offering EMIS training to government personnel..	ADEA, Universities, Pole de Dakar, SAIDE	300,000
	5.5 Training in budgeting and finance for education planners and finance officers	All SADC countries	■	■	■				• Greater coverage of financial statistics on education exhibited. • Promising practice models of school financing shared.	• Reports on number of training workshops and number of staff trained.	ADEA, UIS, Pole De Dakar, INWENT, Wits University	90,000
	5.6 Training on the development of	All SADC countries	■	■	■				• Improved analysis of education sector.	• Training reports showing numbers	ADEA, UIS,Pole	90,000

Priority Area	Main activities	Participating countries	Time frame Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Performance indicators	Means of verification	Partners	Budget (USD)
	education sector analyses.	(exclude Malawi, South Africa)	■	■	■					• trained. • Analysis reports.	De Dakar, INWENT, Wits University	
6. Education information reporting	Objective: To publish and disseminate education statistics that comply with national, regional and international quality standards as well as serving the needs of African institutions, governments, research institutions, business concerns and the public in general.											
	6.1 Information sharing and training on effective mechanisms for monitoring the timelines of the production of annual education statistical reports.	All SADC countries			■	■			• Annual education statistical reports and other related reports regularly produced and distributed.	• Copies of education statistical reports produced and distributed. • Training reports.	Member States, ADEA	80,000
	6.2 Development of effective publication release and dissemination strategy.	Angola DRC Mozambique			■	■			• Timely publication and dissemination of education statistical reports.	• Copies of education statistical reports published and disseminated.	Member States, ADEA	20,000
	6.3 Support for the development of media understanding of education statistics.	All SADC countries			■	■	■	■	• Journalists and editors trained on how to report statistics. • Increased and effective reporting of education statistics by the media.	• Workshop report showing number of journalists and editors trained. • Number of media articles featuring use of education statistics.	Member States, ADEA	60,000
	6.4 Capacity building and advocacy strategies for the utilisation of information by stakeholders.	All SADC countries			■	■	■	■	• The importance of data and information highlighted in high level meetings and events such as World Statistics Day.	• Event agendas/ programmes and reports.	Member States, ADEA	80,000
	6.5 Development of effective strategies for user consultation	DRC Lesotho Madagascar Namibia South Africa			■	■	■	■	• Analysis of user trends. • Incorporating new areas of information use into survey instruments and education statistical reports.	• Analysis reports. • Copies of survey instruments and reports.	Member States, ADEA	30,000

Priority Area	Main activities	Participating countries	Time frame						Performance indicators	Means of verification	Partners	Budget (USD)
			Yr1	Yr2	Yr3	Yr4	Yr5	Yr6				
	6.6 Developing effective models for web development, web publication and online data dissemination.	Angola DRC Madagascar Namibia Swaziland Tanzania Zimbabwe Zambia							• Models developed.	• Reports from EMIS units.	Member States, ADEA	40,000
	6.7 Development of efficient models for providing feedbacks to data providers.	Angola Botswana Lesotho Madagascar Mozambique Tanzania							• Feedback (leaflets, snapshots) provided to education institutions.	• Number of copies of leaflets and snapshots sent, and education institutions that received the leaflets and snapshots	Member States, ADEA	50,000

CHAPTER 7: BUDGET SUMMARY

Priority Area	Budget per year (USD)						Total (USD)
	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	
1. Policy and legal infrastructure	45,000	45,000	20,000	20,000	20,000	10,000	**160,000**
2. Statistical Processes and Methodologies	150,000	150,000	150,000	150,000	25,000	25,000	**650,000**
3. Sub-sector EMIS development	150,000	150,000	150,000	150,000	150,000	145,000	**895,000**
4. Data Quality Improvement	55,000	55,000	55,000	55,000	55,000	55,000	**330,000**
5. Resource availability and adequacy	125,000	125,000	125,000	125,000	125,000	125,000	**750,000**
6. Education Information Reporting	60,000	60,000	60,000	60,000	60,000	60,000	**360,000**
Yearly totals (USD)	**585,000**	**585,000**	**560,000**	**560,000**	**435,000**	**420,000**	**3,145,000**

The budget figures have been calculated based on previous expenditures of activities that are close to the ones outlined under the priority areas listed in the summary and schedule (2010-2015). Quantification of the financial requirements has considered the following:

- Number of participating Member States – therefore number of staff

- Location and type of activity

- Training and learning material – preparation, production and translation

- Resource personnel

- Transport, accommodation, event package and per diem

C. CONCLUSION

A comprehensive, harmonised and integrated EMIS is a pre-requisite to achieving the SADC region's goal in education as stated in its implementation plan on education and training. SADC will also be able to meet its obligations as a REC to provide the necessary indicator data and information to the African Union for monitoring progress in the continent's education sector as espoused in the AU action plan. This regional capacity building strategy aims to provide such an EMIS for SADC.

Its successful implementation depends on the level of support and commitment of all stakeholders involved, and pre-supposes a stable political environment, timely availability of financial, human and material resources as well as an effective monitoring and evaluation system.

D. APPENDIX

Appendix 1: Expansion of UIS Typology of EMIS capacity

BASIC EMIS SYSTEMS	INTERMEDIATE SYSTEMS	SELF SUSTAINING SYSTEMS
Poor statistical infrastructure	Highly centralised statistical infrastructure with some decentralisation to lower levels (e.g. provinces, regions, districts) with basic data channels in place	Extensive and stable statistical infrastructure at head office and lower levels that functions relatively effectively.
Little government commitment to and/or use of data	Some government commitment to and/or use of data	High government commitment to and/or use of data
Significant gaps in national statistics, even at Basic Education levels (primary, secondary, pre-primary)	Annual statistics on Basic Education are regularly collected (primary and secondary levels) with some significant gaps in other sub-sectors (pre-primary, tertiary, technical and vocational education, non-formal)	Reasonable statistical coverage of most education sub-sectors.
Data is fragmented across Ministries and there is a lack of efficient collaboration among data producers. Data needs of users are sometimes considered.	Data fragmented across Ministries and lack of efficient collaboration among data producers. Within subsectors data needs of users are reviewed and taken into consideration by EMIS	Good links between users and producers of data. Data needs of users are regularly reviewed.
Problems with obtaining annual statistics on all Basic Education schools (public and private)	Problems with the coverage of all schools persist.	There is good census coverage of all education institutions (public and private)
The relevance of the data collected to policy, planning and budgeting is not clear. Data is often not timely or accurate enough.	Data relevance and responsiveness problems persist.	EMIS data is critical to policy, planning and budgeting processes at all levels of the Ministry. Complex data demands are made. Problems with timeliness and relevance persist.
A less immediate need for internationally comparable data for national policy.	There is interest in cross-national benchmarks and comparisons.	International comparison is widely used.

Appendix 2: Detailed Country Rating Matrix

Areas of functionality	Botswana	Mauritius	Mozambique	Lesotho	Angola	DRC	Malawi	Madagascar	Namibia	South Africa	Swaziland	Zambia	Zimbabwe	Tanzania
Policy and Legal Infrastructure														
Existence, comprehensiveness and implementation of EMIS policy	1	2	3	2	3	2	2	3	3	3	1	2	2	2
Institutions compelled to report on statistics	3	2	3	3	3	2	2	1	2	3	3	3	2	3
The policy covers all sub-sectors: pre-prim, prim, sec, HE, TVET and private institutions	3	3	3	3	3	3	2	3	3	3	1	3	2	1
International comparability of the data indicators	3	2	2	3	1	2	2	1	3	3	1	3	1	1
	2.5	**2.3**	**2.8**	**2.8**	**2.5**	**2.3**	**2.0**	**2.0**	**2.8**	**3.0**	**1.5**	**2.8**	**1.8**	**1.8**
Structure and Systems														
EMIS reports to the Planning Directorate or the PM: Level 1 or 2 of the Administration	3	3	3	3	3	3	2	3	2	3	2	3	2	3
EMIS function is decentralized-roles defined and operations carried out by levels below national.	1	3	2	2	2	1	2	3	2	3	1	2	2	2
Data entry and analysis processes are automated.	2	1	2	2	2	1	1	2	2	3	2	2	2	2
There is articulation and collaboration between EMIS and the central statistical agency	3	3	3	1	3	2	3	3	3	3	2	1	3	3
	2.3	**2.5**	**2.5**	**2.0**	**2.5**	**1.8**	**2.0**	**2.8**	**2.3**	**3.0**	**1.8**	**2.0**	**2.3**	**2.5**
Questionnaire design, coverage and review														
The country has standard survey instruments for all sub-sectors	3	3	2	3	3	3	2	3	3	3	2	3	2	3
The survey instrument covers poverty: rurality of institutions	1	3	1	2	1	1	2	2	2	3	2	2	2	1
The survey instrument covers student home background	1	1	1	1	1	1	1	1	1	3	1	1	2	1

Areas of functionality	Botswana	Mauritius	Mozambique	Lesotho	Angola	DRC	Malawi	Madagascar	Namibia	South Africa	Swaziland	Zambia	Zimbabwe	Tanzania
The survey instrument collects information on OVCs.	1	1	2	3	1	1	1	1	3	3	2	3	2	2
The survey instrument collect information on mother-tongue/official languages and African and national history	1	1	1	1	1	1	1	1	3	3	1	1	2	2
The survey instrument collect financial information from both public and private institutions	1	1	1	2	1	1	2	1	2	2	1	2	2	2
The survey instruments collect learner-level data	3	1	1	3	1	1	9	3	9	3	3	3	3	3
	1.5	**1.6**	**1.3**	**2.1**	**1.3**	**1.3**	**2.6**	**1.7**	**3.3**	**2.9**	**1.7**	**2.1**	**2.1**	**2.0**
EMIS Operations														
Annual consistent census data collection in all the sub-sectors	3	3	2	2	2	3	3	3	2	3	2	2	2	2
Existence and integration of complementary database: financial, personnel, exams, infrastructure, etc	2	1	1	1	1	1	1	2	2	2	2	1	1	2
Support to sample surveys	2	3	2	3	2	1	1	3	1	3	3	3	1	1
Existence of an up to date masterlist of all institutions	2	3	2	2	2	2	2	1	3	3	2	2	3	2
Integration of all sub-sectors (pre-primary, primary, secondary, TVET, Higher Education, NFE) into a linked database	2	3	2	2	2	3	2	1	3	2	1	1	1	2
Response rate on census questionnaires	2	3	3	2	2	2	2	1	1	3	2	3	3	3
A strategy in place to calculate missing census data for calculations for budgeting and planning	3	3	1	3	1	3	1	1	9	2	1	3	2	1
Feedback (leaflets, snapshots) provided to institutions.	1	2	1	1	1	1	3	1	2	3	1	3	2	1
Audits carried out to ascertain data quality	1	2	1	1	1	1	2	1	3	3	1	3	1	3
	2.0	**2.6**	**1.7**	**1.9**	**1.6**	**1.9**	**1.9**	**1.6**	**2.9**	**2.7**	**1.7**	**2.3**	**1.8**	**1.9**
Resource availability and adequacy														
Adequate staffing in line with audited requirements and in terms of numbers and competencies.	2	2	1	1	1	2	1	3	2	2	1	1	1	2

Areas of functionality	Botswana	Mauritius	Mozambique	Lesotho	Angola	DRC	Malawi	Madagascar	Namibia	South Africa	Swaziland	Zambia	Zimbabwe	Tanzania
Adequate equipment in line with audited requirements	2	2	2	1	1	1	3	3	2	3	2	3	1	3
Functioning e-mail and website	3	3	3	2	2	1	2	3	3	3	2	2	2	3
	2.3	**2.3**	**2.0**	**1.3**	**1.3**	**1.3**	**2.0**	**3.0**	**2.3**	**2.7**	**1.7**	**2.0**	**1.3**	**2.7**
Publication, distribution and utilization														
Indicators-based analytic reports produced regularly (at least annually) at national and sub-national levels	2	1	2	1	1	2	3	1	2	2	1	3	2	3
Data analysis and reporting at national and sub-national levels - published in the same year collected	1	2	2	1	1	2	3	3	2	2	2	3	2	3
User requests are monitored and fed back into the systems design and operations	1	1	1	1	1	1	2	1	2	3	1	3	3	2
External funding and capacity relied on to purchase equipment and services	1	3	1	1	1	1	3	1	2	3	2	2	1	2
	1.2	**1.8**	**1.5**	**1**	**1**	**1.5**	**2.8**	**1.5**	**2**	**2.5**	**1.5**	**2.8**	**2**	**2.5**

Appendix 3: UNESCO/SADC Joint Work Plan (Supported by UIS and ADEA WGEPS)

Key areas	Activities
Harmonisation of EMIS	• Facilitating assessments of current status in Member States to inform the development of regional EMIS strategy • Facilitate EMIS policy development and harmonisation • Facilitation of EMIS norms and minimum standards
Development and implementation of monitoring framework	• Agreement on common definitions of indicators • Agreement on indicators to be used at regional level • Development of system for collection of information and data from countries • Development of Regional Education and Training Database
Facilitation of capacity building	• Training • Exchange of experiences and expertise • Materials development.
Mainstreaming quality assurance in statistics and EMIS management	• Piloting assessment of quality in 7 SADC countries using the DQAF tool • Expanding coverage to all SADC countries. • Integrating quality assurance methods and procedures.

Appendix 4: Strategic Areas of Focus - Detailed

EMIS FUNCTIONALITY INDICES
1. Policy and legal infrastructure

a. Existence, comprehensiveness and implementation of EMIS policy
    b. Institutions compelled to report on statistics
    c. The policy covers all sub-sectors: pre-primary, primary, secondary, HE, TVET and private institutions
    d. International comparability of the data indicators

2. Structure and Systems

a. EMIS reports to the Planning Directorate or the Permanent Secretary: Level 1 or 2 of the Administration
    b. EMIS function is decentralised – roles defined and operations carried out by levels below national.
    c. Data entry and analysis processes are automated.
    d. There is collaboration between EMIS and the central statistical agency

3. Questionnaire design, coverage and review

a. The country has standard survey instruments for all sub-sectors
    b. The survey instrument collects information on:
        i. poverty: rurality of institutions
        ii. student home background
        iii. orphans and vulnerable children (OVCs)
        iv. mother-tongue/official languages and African and national history
    c. The survey instrument collect financial information from both public and private institutions
    d. The survey instruments collect learner-level data

4. EMIS Operations

a. Annual consistent census data collection in all the sub-sectors
    b. Existence and integration of complementary database: financial, personnel, exams, infrastructure, etc
    c. Support to sample surveys
    d. Existence of an up to date masterlist of all institutions
    e. Integration of all sub-sectors (pre-primary, primary, secondary, TVET, Higher Education, NFE) into a linked database
    f. Response rate on census questionnaires
    g. A strategy in place to calculate missing census data for calculations for budgeting and planning
    h. Feedback (leaflets, snapshots) provided to institutions.
    i. Audits carried out to ascertain data quality

5. Resource availability and adequacy

a. Adequate staffing in line with audited requirements and in terms of numbers and competencies.
    b. Adequate equipment in line with audited requirements
    c. Functioning e-mail and website

6. Publication, distribution and utilisation

a. Indicators-based analytic reports produced regularly (at least annually) at national and sub-national levels
    b. Data analysis and reporting at national and sub-national levels - published in the same year collected
    c. User requests are monitored and fed back into the systems design and operations
    d. External funding and capacity relied on to purchase equipment and services

Appendix 5: Strategic Areas of Focus – Timeframes and Country involvement

The framework below presents key development issues captured in eleven broad areas. The table outlines broad timeframes for the identified areas of interventions, and also lists the countries that indicated a need to participate in each area of intervention.

Area of Intervention/ Objective	Priority/Timeframe			Countries Involved
	Short term (6m – 1yrs)	Med- term (1-3 yrs)	L- term (4yrs and longer)	
Policy & legal infrastructure 1. Ensuring that all countries have comprehensive EMIS policy and legal infrastructure.	■			Swaziland, Lesotho, Tanzania, DRC, Namibia, Zimbabwe
Structure and systems 2. Making sure that all EMIS units are properly configured: properly located, have well-defined business processes and appropriately decentralised and automated.	■	■		Madagascar, Malawi, Mauritius, DRC, Zambia, Lesotho, Namibia, Swaziland
Sub-sector coverage 3. Improvement of the underdeveloped sub-sector of EMIS such as ECD, NFE and TVET.		■		Angola, Malawi, Mauritius, DRC, Zimbabwe, Lesotho, Namibia, Swaziland, Mozambique, South Africa, Tanzania, Zambia
Resource availability and sustainability 4. Increasing resourcing of EMIS units.	■	■		All member states
Database integration 5. Promotion of integration between EMIS database and other databases and collaboration between central statistical services and EMIS units.		■		Angola, Madagascar, Malawi, Mauritius, DRC, Zimbabwe, Lesotho, Namibia, Swaziland, Mozambique
Questionnaire design, coverage and review 6. Improvement of questionnaires to ensure the coverage of information on education financing, HIV and AIDS, OVCs, rurality, mother-tongue/ official language usage, nutrition, environment, private and public schooling, GIS systems and school records.	■			All member states
Review of EMIS operations 7. Improvement of EMIS operations.		■		All member States

Area of Intervention/ Objective	Priority/Timeframe			Countries Involved
	Short term (6m – 1yrs)	Med- term (1-3 yrs)	L- term (4yrs and longer)	
Data quality improvement 8. Data quality improvement- extension of the DQAF project to all SADC countries.	███████	███████		All member states
Use of data and information 9. Utilisation of EMIS data and information for planning and accountability.				All member states
Publication, distribution and utilisation 10. Increasing publications, distribution and use of EMIS data and information.		███████	███████	All member states
Learner-level data 11. Collection of learner level information.			███████	All member states

Appendix 6: Existing country initiatives and proposed activities

The table below shows ongoing national EMIS activities together with the related intervention strategies. It is evident from the table that most of the countries require assistance in regard to intermediate and self-sustaining development interventions.

MAIN & SUB-PRIORITY AREAS	EXISTING EMIS INITIATIVES	PROPOSED INTERVENTION STRATEGIES
1. Policy and Legal Infrastructure		**Basic Programme**
• Policy and Legal Framework • Institutions compelled to report on statistics. • The policy covers all sub-sectors: pre-prim, prim, sec, HE, TVET and private institutions. • International comparability of the data indicators.	• Swaziland: Planning on doing Policy • Lesotho: Nothing planned for EMIS but overall education policy • Tanzania: Nothing planned • DRC: Development of a sectoral strategy for education sector includes EMIS but no policy document related to EMIS • Namibia: Need integration • Zimbabwe: We have a policy but need a policy to allow facilitation of national data collected with international benchmarks.	• Sharing of existing EMIS Policy documents from region and abroad • Advocacy at next SADC Ministers Meeting • Include it as a norm and standard (to have EMIS Policy)endorsed by SADC Ministers • Country specific technical assistance
2. Structure and systems		**Basic Programme**
• EMIS Unit close to senior decision makers and reports to the Planning Directorate or the PS: Level 1 or 2 of the administration. • EMIS function is decentralised – roles defined and operations carried out by levels below national. • Data entry and analysis processes are automated.	• Madagascar: looking at technical assistance on questionnaire scanning; emergency action plan – a govt policy framework which coordinates the production of indicators. • National Statistical development strategy which covers organization, resourcing, etc. Ongoing project.	• Share models of decentralisation from school administration systems, district level systems, etc. with all SADC countries • Share or Pilot promising practices in automation, learner unit record information and tracking system, • Network and advocacy: 1) encourage internal articulation between players (CSO, NSO), 2) sign MOUs and service level agreements on specific projects for collaboration. Formalize their quality role.
3. Database integration		**Excellence Programme**
Database fragmentation among sub-sectors and between EMIS units and the NSOs/CSOs.	South Africa is in the process of defining articulation and data improvement	• Workshop to share experiences of good

MAIN & SUB-PRIORITY AREAS	EXISTING EMIS INITIATIVES	PROPOSED INTERVENTION STRATEGIES	
	frameworks	practice.	
		• Plan to promote integration and articulation in countries that are ready.	
		• Implementation	
4. Improvement of underdeveloped sub-sector systems			**Basic Programme**
• ECCE, NFE, TVET, Education Finance & Expenditure, HIV & AIDS impact, Culture and Nutrition, Environment • Functional mapping and GIS systems • Strong School Records Management system			
5. Questionnaire design, coverage and review			**Basic Programme**
• The country has standard survey, data entry and database for all sub-sectors. • The survey instruments cover poverty: rurality of institutions and student home background. • The survey instruments collect information on OVCs, mother-tongue/official languages and African and national history. • The survey instruments collect financial information from both public and private institutions.		• Workshop to discuss the standardization of instrumentation and protocols. • Will be covered by SADC norms and standards initiative	
6. Learner Level Databases			**Excellence Programme**
The survey instruments collect learner-level data.	South Africa in the process of rolling out LURITS	• Workshop to share the concept and implementation plan. • Recording of lesson regarding learner data basis, including site visits.	
7. EMIS operations			**Basic Programme**
• Planned frequency of data collection. • Existence and integration of complementary databases: financial, personnel, examinations, infrastructure, etc. • Existence of a current master list of all institutions	a. Tanzania: Is currently integrating all its databases. b. School Record Management Technical Working Group in 4 SADC countries.	• Workshop to review promising practices in EMIS operations. • Integration of databases training • School record management advocacy	
8. Data Quality Improvement			**Excellence Programme**
• Response census rate • Strategy for calculating missing census data • Feedback (leaflets, snapshots) provided to institutions.	• DQAF pilot in 6 SADC countries • SACMEQ studies on SADC countries • School Record Management initiatives in	• DQAF pilot be extended to all SADC countries • Knowledge sharing on promising practice.	

MAIN & SUB-PRIORITY AREAS	EXISTING EMIS INITIATIVES	PROPOSED INTERVENTION STRATEGIES
• Audits carried out to ascertain data quality.	some SADC countries.	Technical assistance
9. Resource availability and adequacy		**Basic Programme**
• Adequate staffing in line with audited requirements and in terms of numbers and competencies. • Adequate equipment in line with audited requirements. • Functioning email and website	• SADC Wits course in Policy, Planning and Finance – e-learning course • Stats SA course for statisticians	• SADC norms and standards initiative • Advocacy around EMIS staff retention to SADC Ministers – a study to look at comprehensive strategy - the demand and supply of EMIS staff (bursaries, exceptions to current civil service salaries) – a career path for EMIS staff. • Expand SADC Wits course to other SADC governments • Integration of EMIS, school record management in teacher training curriculum
10. Publication, distribution and utilisation		**Basic Programme**
• Indicators-based analytical reports produced regularly (annually) at national level • Data analysis and reporting is done internally • User requests are monitored and fed back into the systems design and operations. • Internal funding and capacity relied on to purchase equipment and services.		• Information sharing and training in publications and communications • Indicators guidelines to monitor SADC plan of action • Utilization of information by stakeholders through capacity building and advocacy strategies. • Analysis on user request trends
11. Utilisation of EMIS data for planning & accountability		**Excellence Programme**
Analysis of trends in user-requests, feedback		Development of strategies and models for improved and widespread usage of EMIS data.

EMIS NORMS AND STANDARDS

FOR THE SADC MINISTRIES OF EDUCATION

The Education Statistics Code of Practice is based on 17 Norms and their Standards. Ministries of Education in the SADC region commit themselves to adhering to the Norms and Standards fixed in this code, covering the policy and legal frameworks, resource availability and utilisation, statistical processes and education information reports. A set of standards of good practice for each of the Norms provides a reference for reviewing the implementation of the code.

Preface

(to be written by SADC)

Preface

Content

1. Introduction

Effective country capacities in Education Management Information Systems (EMIS) is one of the priority areas in SADC's Regional Education and Training Implementation Plan and the African Union's Plan of Action for the Second Decade. Building EMIS in the region is also a key priority of the joint planning collaboration between UNESCO and SADC.

African Ministries of Education in the region face a number of challenges with regard to their education statistics. There is a policy and institutional gap in terms of the legal mandate to compel compliance of education and training institutions to supply accurate and comprehensive information. There is an information gap in terms of relevant statistics for planning, budgeting and monitoring purposes. There is a quality gap in terms of common standards, including concepts, definitions, and methodologies. There is a capacity gap in terms of both human resources and infrastructure. In the light of these, SADC Ministers of Education in July 2008 directed SADC Secretariat to develop and harmonise statistical norms and standards for the region in order address the challenge of benchmarking capacities and evaluating progress towards effective information management systems.

SADC invited the ADEA Working Group on Education Policy Support (WGEPS) to facilitate this work with member countries An initial draft document was circulated to all countries and key countries, selected for their regionality and expertise, convened in a workshop in Johannesburg, South Africa in February 2009 to further obtain agreement on appropriate norms and standards for EMIS. Zambia, Madagascar, South Africa, Malawi, Zimbabwe participated in this workshop. Namibia, Swaziland and Mozambique were unable to attend and sent apologies. In addition, SADC Secretariat invited external experts such as the UNESCO Institute of Statistics, the African Union Human Resources, Science and Technology Division and Statistics South Africa.

A number of resources where drawn upon in developing these norms and standards. These include the European Code of Practice, Principles Governing International Statistical Activities, Guidelines on Professional Ethics in Statistics (Finland), Ethics and Statistics (Norway), National Statistics Code of Practice (UK) among others. The South African Statistical Quality Assessment Framework and UNESCO's Diagnosis Quality Assessment Framework were core documents in the development of these norms. These proposed EMIS Norms and Standards are informed by the norms and standards for general statistics.

The Code has four areas of focus:
   A. Policy and Legal Frameworks,
   B. Resource Availability and Utilisation
   C. Statistical Processes
   D. Education Information Reporting

The first two areas of focus – Policy and Legal frameworks, and Resource Availability and Utilisation – are the prerequisites or fundamental conditions that impact on the environment in which EMIS operates. Here is the issue of ensuring that the institutional and legal environment, and the availability and use of human, financial and technological resources supports a well functioning EMIS. The second two areas of focus look at the methodology and processes that need to be in place to produce quality statistics and information, as well as the appropriateness and timeliness of the products and outputs produced by the process.

Each area has a set of Norms that commit Ministries to an expected position or way of doing things. 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 Code of Practice on EMIS Norms and Standards is to have a set of criteria and measures for advocating best practice and benchmarking countries capabilities in being able to produce relevant, accurate, timely and comprehensive education statistics and information. Adopting this Code of Practice ensures countries will have sustainable, comprehensive and appropriate education management information systems in harmony with international and regional systems and practices.

This code of practice on Norms and Standards can be used for:
- Self assessment by producers of education statistics.
- Advocacy tool in debates for ensuring adequate EMIS resourcing and infrastructure for appropriate Ministries of Education.
- Reviews performed by SADC in assessing regional capacity in EMIS and country compliance with the code.

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 of quality, namely, relevance, accuracy, timeliness, accessibility, interpretability, coherence, methodological soundness and integrity. Five of these eight quality dimensions are also covered in the Data Quality Assessment Framework of the International Monetary Fund (IMF) and the UNESCO Institute of Statistics.

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 frequency and punctuality of release.

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 undertand 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 quality are overlapping and interrelated. Failure to comply with any one dimension will impair the usefulness of the information.

4. EMIS Norms and Standards

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 various levels of education and training in a country. These Norms apply to all levels of education including Early Childhood Education, Primary, Secondary, Tertiary, Non-Formal and Technical and Vocational Education with the recognition that the Ministry managing the Basic Education level has the primary responsibility for co-ordinating education and training statistics for the sector. These Norms and Standards need to be read and understood in terms specified in the section 5 on Definitions.

A. Policy and Legal Framework

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

NORM 1: MANDATE FOR DATA COLLECTION
The Ministry of Education must have a clear legal mandate to collect information from all education and training institutions and bodies, both public and private, for educational statistical purposes.

Standards

i.   The mandate to collect information for the production and dissemination of official education statistics is specified in law/policy or regulation.
ii. The Ministry is allowed by national legislation to use administrative records for statistical purposes.
iii. The Ministry may compel responses to statistical education census and surveys in education institutions. Failure to respond to such requests has consequences for education institutions.
iv. The Ministry of Education establishes a strategy to process data through a centrally coordinating EMIS structure that articulates across other sub-sectors within the Ministry and liaises with other Ministries for the purposes of integrating data. Measures are in place to ensure that there is information sharing, and efficient and timely flow of data from government agencies
v.   The Ministry must collaborate with its national statistical office on all information related to their needs.
vi. The Ministry has clearly spelt out the roles and responsibilities of education institutions and structures in the collection, compilation, distribution and sharing of educational information with users. These exist as administrative guidelines and are widely used in practice.

NORM 2: QUALITY COMMITMENT
The Ministry of Education commits itself to work and cooperate according to the norms fixed in the quality declaration of its national statistical systems and in other international statistical frameworks.

Standards

i. Legislative frameworks specify processes Ministries will use to promote and ensure quality in the statistical value chain (data collection, processing, and dissemination of statistics) taking into account national and acceptable international quality standards.
ii. Processes are in place to monitor and ensure the quality of the data collection, processing, and dissemination of statistics. These include processes of information verification and validation.
iii. The Ministry must adopt or develop standards of quality of education statistics drawn from national statistical systems.
iv. Mechanisms are in place to regularly review the standards of quality that are specified by the Ministry.

NORM 3: STATISTICAL CONFIDENTIALITY
The Ministry of Education guarantees the privacy of data providers' individuality, the confidentiality of the information they provide and its use for statistical purposes only.

Standards

i. Physical, technological and responsibility provisions are in place to protect the security and integrity of statistical data, databases and other data storage media.
ii. Necessary protocols apply to external users accessing statistical data.

NORM 4: REPORTING ACCOUNTABILITY
The Ministry of Education adheres to a policy of timely and accurate reporting to the statistical information requirements of national, regional, continental and international education frameworks.

Standards

i. Annual reports on statistics on all education and training institutions are produced and disseminated accurately and on time.
ii. The Ministry has an obligation to report on all information related to its education policies.
iii. Member countries supply education statistics to SADC, the African Union, and other international agencies as per protocol agreements in place.

NORM 5: IMPARTIALITY AND OBJECTIVITY
The Ministry of Education must produce and disseminate education statistics respecting scientific independence and in an objective, professional and transparent manner in which all users are treated equitably.

Standards

i. Statistics are compiled on a scientific basis determined by statistical considerations
ii. Errors discovered in published statistics are corrected at the earliest possible date and publicised
iii. When data is revised and updated with new information these are publicised.
iv. Information on the methods and procedures used by the Ministry are publicly available
v. Statistical release dates and times are pre-announced

vi. Statistical releases and statements made in press conference are objective and non-partisan

vii. Conditions under which policy-makers, specifically government, may have access to data before its release are published and available for public scrutiny.

NORM 6: REGISTRATION OF INSTITUTIONS
All education and training institutions must be compelled to register with appropriate education Ministries if they are to operate as an education and training institution.

Standards

i. All public and private education and training institutions have a registration number unique to their Ministry of Education and Training.

ii. The appropriate education Ministry has a directory or listing of all education and training institutions (public and private) which is updated on a yearly basis.

NORM 7: REGISTRATION OF LEARNERS
All learners are required to present their birth certificate upon registration at any education and training institution.

Standards

i. The Ministry reports accurate and comprehensive age by grade education statistics.

ii. In the instance where there is no national system of universal registration of births, the Ministry must advocate this to be a practice with the appropriate Ministry.

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
The Ministry of Education ensures that resources are commensurate with the statistical programmes, personnel, facilities, equipment, technology, training and financing of their education management information systems.

Standards

i. The Ministry of Education allocates a ring-fenced[23] percentage of its national education budget for the production of accurate, relevant and timely statistics to support budgeting, planning and monitoring of policy implementation.

ii. There are sufficient qualified personnel in key EMIS positions; with the minimum number comprising of an EMIS manager, a statistician, a survey administrator, a programmer, a hardware and software maintenance expert, and some data capturers at the national level.

iii. There is delegated responsibility for co-ordinating EMIS at lower levels of governance where ever applicable

iv. All staff employed in an EMIS unit has access to quality information technology equipment with modern communication tools of adequate processing capacity.

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[23] Secured funding that cannot be moved to other budget lines

v. The Ministry promotes regular professional development and upgrading through training programs to ensure progress and continuity of EMIS work.
vi. Graduates in the relevant academic disciplines are recruited for EMIS posts.
vii. There is a strategy in place to attract and retain specialist staff in areas of scarce skills.
viii. EMIS personnel participate in an international network of EMIS experts in order to learn from the best and to improve their expertise.

NORM 9: COST EFFECTIVENESS
Resources must be effectively used.
Standards

i. Internal and external mechanisms monitor the use of resources.
ii. Routine clerical operations (e.g. data capture, coding and validation) are automated to the extent possible.
iii. The productivity potential of information and communications technology is being optimised for data collection, processing and dissemination.
iv. Proactive efforts are being made to improve the statistical potential of administrative records and avoid costly direct surveys.

C. Statistical processes

SADC's Protocol on Education and other international standards, guidelines and good practices must be fully observed in the process used by Ministries to organise, collect, process and disseminate official statistics. The credibility of the statistics is enhanced by a reputation for good management and efficiency on statistical production process. 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.

Standards

i. The overall methodological framework of the Ministry of Education follows international standards, guidelines and good practices[24].
ii. Survey designs, sample selections and weights follow standard methodology of good practice. They are regularly reviewed, revised or updated as required.
iii. There is a standard data collection instrument for each sector (e.g. pre-primary education, general education, technical and vocational education, teachers' training education, non-formal education, examination data, higher education) and this produces the cross-cutting core data for the Ministry.
iv. Data collection instruments are systematically piloted and tested prior to the data collection. Data entry and database structures are piloted and tested.

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[24] These include the questionnaire design, sample methods, sample frame design, the creation of a master list of all institutions, updating of this list, piloting of questionnaires, standardized collection methods, data cleaning and imputation, and data interpretation and analysis.

v. There are standardized record systems covering records on learners, educators, equipment, facilities, finance and materials. These are aligned with the information needs of annual census surveys on all levels of education institutions.

vi. There are standardised data collection procedures (distribution, collection and timing) throughout the entire statistical value chain.

vii. Procedures are in place to ensure that standard concepts, definitions and classifications are consistently applied throughout the Ministry of Education's production of statistics.

viii. Data verification processes are built into the statistical value chain.

ix. Field operations, data entry and coding are routinely monitored and revised as required.

x. Appropriate editing and imputation systems are used and regularly reviewed, revised or updated as required. Revisions follow standards, well established and transparent procedures.

xi. The latest survey or census population estimate obtained from the National Statistics Office must be used to calculate education indicators.

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. The Ministry of Education monitors the response burden and set targets for its reduction over time.

Standards

i. The range and detail of education statistics demands is limited to what is absolutely necessary.

ii. The burden of responding to questionnaires is spread as widely as possible over survey populations through appropriate sampling techniques.

iii. Best estimates and approximations are accepted when exact details are not readily available.

iv. Administrative sources and secondary data are used whenever possible to avoid duplicating requests for information.

v. Data sharing within the Ministries is generalised in order to avoid multiplication of surveys.

vi. The Ministry's EMIS unit is the coordinating and registering body of education surveys. This ensures that they arbitrate the quantity, quality and standards of surveys undertaken in education and training institutions.

D. Education Information Reporting

Published and disseminated education statistics must meet users' needs. Education statistics need to comply with international quality standards and serve the need of African institutions, governments, research institutions, business concerns and the public generally. The important issues concern the extent to which the statistics are relevant, accurate and reliable, timely, coherent, comprehensive, comparable, over time, across regions and countries and readily accessible by users.

NORM 12: RELEVANCE
Education statistics must meet the needs of users.

Standards

i. Processes are in place to regularly consult users, monitor the relevance and practical utility of existing statistics in meeting their needs, and advise on their emerging needs and priorities.
ii. Priority needs are being met and reflected in the EMIS work plan.
iii. User satisfaction feedback is undertaken yearly and their changing needs captured and incorporated in education statistical publications regularly produced and disseminated.
iv. Special user satisfaction surveys be undertaken yearly and their changing needs captured and incorporated in education statistical publications regularly produced and disseminated.
v. Analysis of indicators must in annual statistical publications must meet the needs of education policy imperatives

NORM 13: ACCURACY AND RELIABILITY
Education statistics must accurately and reliably portray reality.

Standards

i. Source data, intermediate results and statistical outputs are assessed, validated and verified.
ii. Sampling errors and non-sampling errors are measured and systematically documented according to international frameworks of quality components[25].
iii. Studies and analyses of revision are carried out routinely and used to inform statistical processes.

NORM 14: TIMELINESS AND PUNCTUALITY
Education statistics must be disseminated in a timely and punctual manner.

Standards

i. Current education statistics on all education and training institutions are published in an annual report for general dissemination within a year of their collection.
ii. Periodicity of education statistics takes into account user requirements as much as possible
iii. Any divergence from the dissemination time schedule is publicised in advance, explained and a new release date set.
iv. Quality preliminary data should be disseminated in accordance to set time frames for decision-making purposes.

NORM 15: COHERENCE, COMPARABILITY AND INTEGRATION
Education statistics should be consistent internally, over time, and comparable between regions and countries; it should be possible to combine and make joint use of related data from different sources

Standards

i. Statistics are internally coherent and consistent (e.g. arithmetic and accounting identities observed).
ii. Statistics are coherent or reconcilable over a minimum of five years.
iii. Statistics are compatible with other government databases (such as central and other government ministries) through unique identifiers.

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[25] International frameworks such as those of the IMF, Statistics South Africa's SASQAF or UNESCO Institute of Statistic's DQAF

    iv. Statistics are compiled on the basis of common standards with respect to scope, definitions, units and official national classifications in the different surveys and sources.
    v. Statistics from different surveys and sources are compared and reconciled.
    vi. Cross national comparability of the data is ensured through periodical exchanges between the African statistical system[26] and other statistical systems; methodological studies are carried out in close cooperation between the Member States and the UNESCO Institute for Statistics.
    vii. A meta-data policy must exist which includes a data dictionary and information on how the statistics are collected, produced and stored.

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

Standards

    i. Statistics are presented in a form that facilitates proper interpretation and meaningful comparisons of at least two years of summary data.
    ii. Dissemination services use modern information and communication technology and **traditional hard copy**.
    iii. Decentralised structures of government receive official or published annual summary statistics (both actual and indicator statistics) appropriate to their area.
    iv. Custom designed analyses are provided when feasible and are made public.
    v. Access to micro data can be allowed for research purposes. This access is subject to strict protocols
    vi. Metadata are documented according to standardised metadata systems.
    vii. There is a strategy in place to promote the use of educational information.
    viii. The Ministry establishes an information desk to cater for users and regular dissemination of annual publications to an updated distribution list.
    ix. Users are kept informed through provision of metadata on the methodology of statistical processes and the quality of statistical outputs.
    x. There is a strategy in place to collect feedback from users and producers of the information, in particular those institutions who are involved in the collection, compilation and reporting of educational information.

NORM 17: COMPREHENSIVENESS
Education statistics and information report on all sectors of education and training.

Standards

    i. Statistics must be collected and reported on all sectors of society engaged in education and training.
    ii. Statistics within education and training institutions that impact on the quality of education is reported annually.
    iii. Statistics on learners with special needs is integrated into all national surveys and censuses. These are reported in annual statistical publications.
    iv. Distinctions are made between rural and urban characteristics[27] of learners and institutions.

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[26] African Charter of Statistics
[27] As defined by national statistical offices.

5. Definitions

Administrative sources – refers to data and statistics generated internally by government.

Data Dictionary – refers to a reference book on the standardized concepts, definitions and classifications used by the Ministry in the production of its education statistics.

Data providers – refers to all bodies and agencies that produce statistics. These include education and training institutions, households, enterprises, administrations and other respondents.

DQAF – The Data Quality Assessment Framework; hereinafter referred to as 'the DQAF' shall mean the framework of assessing data quality produced by the UNESCO Institute of Statistics.

Education and training institutions – refers to schools, colleges, universities, centres or any formal education and training provider that occupies an institution and provides a recognised education programme.

EMIS – refers to a **S**ystem for collection, processing, analysis, publication, dissemination, and rendering of **I**nformation services for the **M**anagement of **E**ducational resources and services.

Imputation – refers to the process of identifying missing data from a census survey and taking steps to adjust or modify the data accordingly.

Individuality – a person or institution's name.

Learner – refers to any pupil or student or person enrolled in an education and training programme.

Metadata – is 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.

Statistical authority – shall mean, at national level, the national or central statistical office (CSO or NSO) and other statistical bodies in charge of producing and disseminating African statistics.

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.

Secondary data – refers to data obtained from research, studies and surveys produced outside of the Ministry of Education.

Special needs – refers to learners under difficult conditions that are vulnerable, marginalised and/or with disability.

Structures – refers to various sub-units of the Ministry responsible for education administration by area of specialisation and geographic distribution.

6. References

1. Statistics South Africa. (2008). South African Quality Assessment Framework (SASQAF). First Edition. National Statistical System. Republic of South Africa.

2. UNESCO Institute for Statistics. (2008). Data Quality Assessment Framework (DQAF), Unpublished.

3. European Statistics Code of Practice

4. Principles Governing International Statistical Activities

5. Statistics Finland: Guidelines of Professional Ethics.

6. Statistics Norway: Ethics and Statistics.

7. Statistics UK: National Statistics Code of Practice.