Samoa Education Data Quality Assessment Report

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Samoa Education Data Quality Assessment Report

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Acronyms

ACEO	Assistant Chief Executive Officer
AED	Assessment and Examinations Division
APTC	Australia Pacific Technical College
CEO	Chief Executive Officer
CDMD	Curriculum Design and Materials Division
CSD MESC	Corporate Services Division
DFAT	Department of Foreign Affairs and Trade (Australia)
DQAF	Data Quality Assessment Framework
ECE	Early Childhood Education
EMIS	Education Management Information System
ESAC	Education Sector Advisory Committee
ESCD MESC	Education Sector Coordination Division
ESP	Education Sector Plan
ESWG	Education Sector Working Group
GDDS	General Data Dissemination System
IMF	International Monetary Fund
ISCED	International Standard Classification of Education
MESC	Ministry of Education, Sport and Culture
NCECES	National Council of Early Childhood Education in Samoa
NGO	Non-Governmental Organisation
PIFS	Pacific Islands Forum Secretariat
PPRD MESC	Policy, Planning and Research Division
RPPD SOA	Research, Policy and Planning Division
PSET	Post-School Education and Training
SABER	Systems Approach for Better Education Results – World Bank
SBS	Samoa Bureau of Statistics
SDG	Sustainable Development Goals
SEMMIIS	Samoa Education Management Monitoring Integrated Information System
SEN	Student Enrolment Number
SNSAPF	Samoa National School Assessment Policy Framework
SPARS	Strategic Plans for Agriculture and Rural Statistics
SPC	Pacific Community
SOA	Samoa Qualification Authority
SSDS	Samoa Strategy for the Development of Statistics
SSLC	Samoa Secondary Leaving Certificate
TVET	Technical, Vocational Education and Training
UNESCO-UIS	UNESCO Institute of Statistics
USP	University of the South Pacific
WB	World Bank

Executive summary

This report summarizes the findings of the data quality assessment and provides recommendations for a way forward to develop Samoa's statistics of education. The data quality assessment focuses on the entire data production chain that leads to the production of official statistics of education and is sector-wide in the sense that it includes all actors involved with the production and dissemination of education statistics and for all levels of education (early childhood to post school education and training).

The production of education statistics in Samoa; large amount of data generated but lack of integration and of national standards to frame the production of education data and indicators

In general, there is a large amount of data that is generated in Samoa to manage the day to day running of various education activities by MESC, SQA and NUS. The staff encountered during the fact-finding mission were committed and interested in improving the statistical picture of Samoa's education system. At the centre of the findings lays the concern that the overall process (sector-wide delimitation of roles and responsibilities, development and adoption of national standards and methodologies) and the data infrastructure is not designed to efficiently produce the type of data and official statistics that would satisfy all reporting needs of Samoan officials, decision-makers or managers. Key findings of the data quality assessment are highlighted below.

- **1: Currently, there is no education sector-wide approach to reconcile all the data sources.** This would be needed to align methodologies and definitions and provide a complete, consistent, up-to-date and accurate picture of the Samoan education system. More precisely, there is no mechanism in place for the major producers of statistics namely, MESC PPRD, SQA RPPD, NUS, USP and SBS to collaborate on methodologies, programmes or quality issues. This is rather a missed opportunity as the education sector approach and its mechanism to monitor its strategic plan, as well as the establishment of the Statistics advisory board enacted in the Statistics Act, both have the potential to accommodate activities that would reinforce data producers' collaboration and awareness of users' priority needs. Elements of coordination (ESCD, ESAC etc.) are in place but need to be leveraged further for better effectiveness. In addition, the development of the education data production chain is too computer system oriented i.e. most resources and discussions are focused on IT development while there is a need for more investment in framing the overarching architecture for collecting, producing, analysing and disseminating education data.

- **2: User feedback and consultation is a critical missing element in the data production process**. Users of statistics inside and outside the government, including key education stakeholders, are not systematically consulted to better adjust production and programmes to respond to actual and emerging needs, and identify relevant priorities. Outputs, definitions and methodologies are often the result of an IT driven approach and with little consultation of stakeholders in the process. For example, the current ESMIS does not support the

Education Sector reporting needs (KPIs and MTEF) as much of the required data is located in databases managed by other Divisions.

- **3: SBS has too little of a role in the quality control and production of education statistics**. Household surveys and censuses are a great source of information for education statistics, and these sources shall become even more prominent with the adoption of the Sustainable Development Goals which emphasize equity at their core and for which household surveys and censuses are a key source of information given the wealth of background variables against which education indicators can be calculated. It was observed however that beyond annual exchanges of data between MESC, SQA, NUS and SBS, Samoa's Bureau of Statistics is not involved with the production of education statistics either through jointly developing methodologies for the calculation of education indicators, consulting MESC when calculating education indicators from household surveys and censuses or by ensuring that statistical best practices are observed in the education sector[1]. While MESC is the primary agency responsible for the collection, management and dissemination of education statistics in the school sub-sector and has the responsibility of the quality control mechanisms to ensure accurate data, a strategy/policy that promotes data sharing between MESC and SBS would be useful. It should be noted however that SBS does consult with MESC on education questions to be included in the national population census and/or household surveys

- **4: The dissemination of education data suffers from a number of shortcomings.** Samoa has an Annual Digest which contains a lot of information and already provides stakeholders with a good understanding of the situation in Samoa. There is however some room to improve the accessibility and serviceability of the data by improving the charts and tables for better readability, providing users with more metadata for easier understanding of the data published and also to make the data available in another format than .pdf for easier manipulation by all users. The quality of education statistics can be improved by providing charts and infographics by helping the user to visualize and understand the data. Metadata including definitions, classifications and standards can assist the user to better understand the published data. Dissemination is an issue if users cannot access education data, and/ or if the government does not make the data available to the public. A dissemination strategy should take into account the audience while making information available. For example, information that schools need may be different from what should be made available to a general public.

- **5: Currently each stakeholder is developing its own technical infrastructure in silo** without taking into consideration the needs at the national level for a sector-wide approach to education statistics. It results in a multiplicity of systems which are not able to talk to each other and do not converge towards a standard and robust reporting at the national level. Official statistics are already using, and more and more will use data regularly generated by computing facilities supporting administrative activities; concern was often expressed regarding the inadequate inter-connectedness of existing EMIS data systems serving

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[1] Recently SQA has been involved in consultations towards finalising the Census questionnaire, however, most of the comments/suggestions were not considered

management activities across the education sector, including reporting needs for 'education official statistics'. For example, MESC has several separate databases and data collection processes for collecting education data from schools.

- **6: Staff turnover is a major issue for the sustainability of the data production process**, including in the highest levels of the hierarchy. There is not much provision for continuity and sustainability when turnover happens. The production of statistics is evolving fast and staff need to be trained so that they are able to respond to the widening range of tasks to which they are confronted. In particular, analytical skills need to be developed further to foster the use of education data and statistics at the national level. Developing analytical skills is one issue that needs to be focused on to foster use of data, and staff turnover is another issue that needs to be considered especially if investments are made into training staff on EMIS practices and then they leave the organization.

Samoa has adopted in 2011 a strategy for the development of statistics; the Samoa Strategy for the Development of Statistics 2011-2021 (Government of Samoa & AusAID, 2012). The strategy prioritizes 1) the delivery of "relevant, quality priority statistics for users" and 2) the existence of an enabling environment for the production and delivery of statistics. The Education sector needs to be able to report on all national regional and international commitments, including the new PEDF and SDG Goal 4: *Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*, from now until 2030, the statistical capability of the sector has to be progressively reinforced.

In light of the current and upcoming national, regional and international needs this report recommends for Samoa to engage as early as possible in the development of an Education Data Quality Improvement Plan. In particular, the improvement plan should inform the development of the new education sector strategy. As a national plan may take some time to be designed and implemented, this should be coupled with activities to start overhauling Samoa's statistical capacity in education, engaging stakeholders around common objectives, training all staff involved with education statistics, developing quality assurance protocols and national standards and methodologies for the calculation and definitions of indicators. Starting these activities as early as possible is crucial to establish the enabling conditions for success of the Education Data Quality Improvement Plan.

The Data Quality Improvement Plan should:
- Build on and expand existing policies and coordination mechanisms and best practices already observed in the country
- Take a sector-wide approach and clearly define the scope that official statistics of education should cover, clearly identify stakeholders at all levels, and define their roles and responsibilities throughout the entire data production process
- Plan for IT/EMIS developments should build on existing systems and could just be an extension of projects that have been carried out so far.
- Organize the production and dissemination of standards and methodologies in education statistics
- Include a stakeholder engagement strategy to ensure involvement of all stakeholders and build a sense of ownership and responsibility for all stakeholders.

- Clearly define quality control processes and data validation mechanisms
- Consider the budgetary requirements before making any investments into EMIS systems, including clearly defined budget on EMIS infrastructure, maintenance, staffing, training, production and dissemination of information.

The following capacity-building activities should be included in sector agencies' overall human resource strategy to provide professional development for staff:
- Include sector-wide training around data processes and methodologies as well as analytical skills. This should include all education stakeholders from schools to the education sector agencies.
- Produce national guidelines for the production of education data and indicators, compiling all agreed methodologies, national statistical frameworks and national standard classifications, including metadata documentation for IT systems for data users following statistical best practices.
- Provide training in web design to improve the current dissemination of education data and statistics on MESC and SQA website.
- Support the production of a sector-wide annual education statistics publication incorporating data from NCECES, MESC and SQA. This could be an extension of what is already being produced by sector agencies, but focused on the monitoring of the Education Sector Plan.
- Develop automated extraction of tabular data to respond to recurring requests at the national, regional and international level.

Based on the current legal and institutional framework and building on activities that have or are in the process of being carried out the report recommends for national stakeholders to:

1. **Improve policy framework and institutional settings:**

   - Hon. Minister of Education Sports and Culture to propose to Cabinet that a member of the Statistics Advisory Board is chosen to represent Education, sector wide, and that an Education Statistics Coordination Committee (ESCC) is created in accordance with the 2015 Statistics Act.

   - Put the Education Statistics Coordination Committee in charge of developing the roadmap towards the adoption of the NSDES including appointment of the drafting committee, setting up broad guidelines and objectives for the NSDES and ensuring implementation. Ideally the Education Statistics Coordination Committee would be co-chaired by SBS, MESC and SQA.

   - The 2015 Statistics Act does not identify which agency reports education statistics about the Education sector. MESC PPRD and SQA RPPD with the support of the Education Sector Coordination Division and SBS Social & Environmental Statistics Division could be put jointly in charge of making international and regional reporting effective; MESC and SQA ensuring the availability in time of data routinely produced within the education sector, and SBS advising on the adequacy of statistical concepts and definition with those required.

- Initiate a stakeholder engagement strategy using the model developed by SPC in other Pacific countries. This will help provide a sense of unity and ownership among producers and users of education statistics.

- Define and enact the roles and responsibilities of each stakeholder involved with the process of producing official education statistics with a sector-wide perspective.

2. **Establish national standards and methodologies for the production of education statistics based on international standards**

- A robust sectoral statistical process relies on agreed standards and methodologies between national stakeholders. As a way forward to mobilize data producers and users around common national guidelines, it is proposed to review, expand and ensure the adoption and dissemination of the set of indicators and definitions that have been put in place by MESC PPRD and SQA RPPD. The document would form the national technical guidelines for education indicators, supported by the UNESCO Institute for Statistics and other DPs willing to support this exercise.

- Continue to revisit the terms of collaboration between SBS and the education sector to update action point 3.2 in the SSDS: The Education Sector agencies, working in partnership with SBS, to ensure the most useful set of indicators is widely and easily accessible. This shall include national education as well as data requirements for the regional education framework (PEDF) and the SDGs. An agreement to formalise this partnership will be a positive step to establish an effective mechanism for collaboration with SBS.

3. **Improve the main outputs of Samoa's education data production chain**

- MESC has already started work to improve the annual statistical digest produced by PPRD which is the main output of the data production chain. It will be important to continue these efforts and also to expand to other producers of statistical outputs such as SQA and SBS which produce respectively the PSET Statistical Bulletin and the Samoa Statistical Abstract.

- The UIS has started to train national staff to produce data visualizations and has responded to some requests for improving the communication of education data to the general public. It will be important to continue diversifying the type of outputs from the data production chain to build awareness around education statistics and increase data literacy in order to better use education data as a vehicle for discussion between national stakeholders.

4. **Continue improving the IT infrastructure for education data dissemination**

- Building on the recent upgrade of the MESC and SQA websites, it will be important to start developing an online, user-friendly dissemination platform for all statistics of education. An intermediary step would be to disseminate the tables and data presented in the annual digest in excel format to enable further use of the education data produced by MESC and SQA.

- For recurring requests and data queries at the national (ESP, digest etc.), regional (PEDF) and international (UIS/SDGs) level, it is important to develop as early as possible tools that will save time and resources for national staff to be able to concentrate on data quality and data analysis.

- Before embarking on a major redevelopment of the EMIS system there needs to be a feasibility study that details the costs of data integration. Major stakeholders producing education statistics should then start to develop their systems by including technical specifications that enable integration into a sector-wide approach.

5. **Improve human resources management and training**

- Training of all stakeholders involved with the collection and dissemination of education statistics is important to enhance current technical capacities. The regular training of staff involved with the production of education statistics helps mitigate the negative effects of staff turnover. Training in data analysis and reporting, data visualisation and on the calculation of education indicators has recently been conducted by UIS. Different training plans should be developed for different stakeholders, including schools to train school leaders in the use of data for improving education performance and for improving teaching and learning.

This training should be noted for MESC's overarching teacher training framework and provides a rationale for future support of teacher training programmes. The training would also be relevant for SQA which is working on the Record of Achievement whereby achievements of those taking National Competency Standards and Samoa Qualifications will be noted. Also in the pipeline is the registration of TVET trainers/lecturers (similar to the registrations of teachers) and their achievements (PD), qualifications, etc.

- Apply to the education sector some of the HR recommendation in the NSDS (these initially pertained to SBS); "Develop and implement a capability development plan for SBS and the wider statistical service, to include recruitment processes, induction, training programmes and further education." (Government of Samoa & AusAID, 2012 p31).

- Training of national staff in the analysis of national data sources such as household surveys and learning assessments (SPELL, SPECA, PILNA, and College National Examinations) should also be provided. These will be critical sources that shall be used in the future to inform on Samoa's education system and report for the Pacific Regional Education Framework and the Education 2030 agenda. It is recommended to explore the development of relevant and adapted online training resources as an optimal way to maintain and regularly update the skills of the national staff.

Both the findings and recommendations are aligned with some of the guiding principles stated in the SSDS. "It is necessary to keep in mind when developing official statistics that they should be developed as an information infrastructure that can be used broadly and effectively by various major entities, rather than solely being used for individual administrative objectives." (Government of Samoa & AusAID, 2012 p14).

Most recently, rules of official statistics in Samoa have also been enacted in the Statistics Act 2015 (Government of Samoa, 2015). The recommendations in this report are also well aligned with what is required of official statistics in the Statistics Act 2015. In particular, the Act aims to provide for "efficient and effective coordination, analysis and publication of official statistics, in accordance with best practices" and ensure "compliance with Samoa's international obligations in relation to statistics."

Deciding on a national strategic long term transformation of the Education sector data infrastructure is a process requiring directives, endorsement and support by the highest political authorities as well as contribution from all stakeholders.

The Ministry of Agriculture and Fisheries and the Samoa Bureau of Statistics have launched a similar exercise aiming at developing and adopting Strategic Plans for Agriculture and Rural Statistics (SPARS) for Samoa. Development partners, such as the UIS and SPC should provide technical assistance for the design of a strategy for the development of education statistics for Samoa.

1. Introduction

The Samoa Ministry of Education, Sports and Culture (MESC) accepted in August 2015 a joint offer by the Secretariat of the Pacific Community (SPC) and the UNESCO Institute for Statistics (UIS) to participate in a capacity building project to improve education data quality in Pacific countries, a project supported by the Australian Department of Foreign Affairs and Trade (DFAT) and UNESCO office in Apia. This project starts with an in-depth and education sector-wide assessment of the data production chain in Pacific countries using the Education Data Quality Assessment Framework (Ed-DQAF) tool. It was agreed that a joint UIS-SPC fact-finding mission would undertake a review of the quality of Samoa's education statistical system, expecting the resulting assessment would lead to development partners providing better support to Samoa in the various areas where needs have been identified.

The mission took place from September 28 to October 2, 2015 with the aim of providing a sector-wide review of quality issues in the production of education statistics in Samoa. The mission was a collaboration between national stakeholders involved with the production of education statistics, the UNESCO Institute for Statistics and the Secretariat of the Pacific Community. The team members met the Honourable Minister for Education, Sports and Culture; the Chief Executive Officer, Ministry of Education, Sports and Culture; the Deputy High Commissioner, Australian High Commission; the Chief Executive Officer (ACEO), Policy, Planning and Research Division, Ministry of Education, Sports and Culture, who had been designated as focal point for the mission; and several heads of division and staff at MESC, SQA, NUS, SPC, SBS, NCECES.

The DQAF methodology was initially developed by the International Monetary Fund in 2002 to assess the quality of economic data. From 2004 onward it was modified by the World Bank and UNESCO for use in the evaluation of education data, then successfully improved and implemented by the UNESCO Institute of Statistics in other parts of the world, notably Africa and Latin America, as the basis for national initiatives aiming at improving the monitoring of education. For the Pacific region, UIS and the main development partners have proposed to assist 15 Pacific countries[2] by undertaking in-depth assessments using full DQAF methodology in at least 6 of those countries selected based on national demand/priorities, country characteristics as well as consultation with regional partners (notably SPC, PIFS, the World Bank and DFAT) and by assisting other countries willing to conduct self and simplified rapid assessments focused on modules of the information chain that are under the remit of the EMIS team.

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2   Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau (Associate Member), Tonga, Tuvalu, Vanuatu.

2. DQAF Methodology

2.1 General

A data quality assessment mission is designed as a peer review of international good practices that assess whether production processes are properly controlled and managed for changes, and how close the actual statistical outputs are to international standards (as the best proxy to most users' needs). As a matter of principle, the good practices in the list[3] are to be viewed as permanent recommendations and together with the framework may be used by countries to conduct periodic self-evaluations to inform reports on the quality of education statistics sector-wide but also at sub-sector level. Many of the good practices assume that it is intended to have a documentation policy in place, based on the understanding that good quality management requires a monitoring mechanism, based on systematic documentation of arrangements, decisions, plans, implemented plans of actions, their results, etc.

2.2 Principles

The underlying principles used to create the quality framework for education statistics were:

- the fundamental principles of official statistics as adopted in 2014 by the UN General Assembly[4] how excellent organisations design, manage and improve processes, products and services to generate increasing value for customers and other stakeholders (EFQM)[5];

- that identifying, understanding and managing interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its objectives (ISO)[6];

- that a desired result is achieved more efficiently when activities and related resources are managed as a process (so as to improve consistent and predictable results) (ISO)[7];

- the international recommendations and standards (as the best proxy to most users' needs) regarding education and related statistics, mainly promoted by the UNESCO Institute for Statistics (UIS).

The SABER EMIS assessment tool is also based on the DQAF methodology and adheres to these principles.

2.3 Data Collection

The team members conducted interviews with major stakeholders and examined relevant documentation available on websites or otherwise provided. The quality of the documentation provided by the education agencies was assessed and the quality of the data was tested against internationally accepted standards and definitions. The team formulated recommendations regarding the enabling environment, the organisation and the dissemination of the sector-wide production of official education statistics. Following on from the review, it is assumed that the national authorities

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3   See appendices
4   Fundamental Principles of Official Statistics
5   European Foundation for Quality Management http://www.efqm.org/
6   International Organization for Standardization http://www.iso.org/iso/home.htm, Quality management principles
7   Ibidem

will devise and implement a plan targeting the permanent improvement of those practices assessed as not or partially observed.

2.4 Framework

The framework is organized in a cascading structure that progresses from the abstract/general to the more concrete/specific. The first-digit level defines the six dimensions. The first-digit level is sub-divided by sub-dimensions (two-digit level) and indicators (three-digit level). At the next level, practices, (numbered sequentially from 1 to 140) describe quality features that may be considered in assessing the indicator.[8]

The six dimensions as components of an overall general process of data production and use.

ENABLING ENVIRONMENT	DATA PRODUCTION	DATA USE and DISSEMINATION
0. Pre-requisites of quality	2. Methodological soundness	4. Serviceability
1. Professional ethics	3. Accuracy and reliability	5. Accessibility

Each practice, chosen amongst internationally accepted statistical practices, was to be examined to appreciate whether it is actually:

- *not observed*
- *largely not observed*: Significant departures and significant action has to be engaged to achieve observance
- *practice largely observed*: Some departures, but these are not seen as sufficient to raise doubts about the ability to observe it
- *observed*: Current practices generally in observance meet or achieve the objectives without any significant deficiencies

For each dimension, aggregation of observed evidences allows to rank the dimension observance using the same 1 to 4 scale.

The mission acknowledges that, for the purpose of this kind of quality review exercise, the use of such a framework of good practices is only optimum when the good practices involved have been explicitly set as objectives by those in charge of the activities under review. Nevertheless, this outsider view of current practices compared to internationally accepted good practices should help identify main area of improvement and the setting of objectives relevant to the national context as well as initiate periodic assessment and reporting on education statistics quality.

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8   See appendices

3. Context

3.1 Data Management in Samoa

The Samoa Bureau of Statistics is responsible for the collection and publication of official statistics in Samoa. The Statistics Act 2015 specifies the following functions for the Bureau: to independently publish official statistics without delay and to give effect to Samoa's international statistical obligations. This has important implications for the production of education statistics which are currently published by MESC and SQA.

The Act provides for the establishment of a Statistics Advisory Board to advise the Minister and Government Statistician with regard to various issues; the Board may appoint a committee to provide advice to the Board. The Act also clarifies the relationship between the Government Statistician and the Statistics functions of other State entities, such as MESC and SQA.

A Samoa Strategy for the Development of Statistics was elaborated for the 2011 - 2021 period. The key areas for the development of education statistics over the ten year period are:

- The Education Sector agencies, working in partnership with SBS, to ensure the most useful set of indicators is widely and easily accessible

- Develop a 5-yearly labour, education and skills survey integrated with administrative data

3.2 Education sector

The Samoa Education Sector Plan 2013-2018 defines the education sector as comprising all providers of education and training both formal and non-formal as well as all government agencies that have responsibility for policy, planning, funding and quality assurance. The sector covers four levels of education namely:

- Early Childhood Education (ECE);
- Primary schools;
- Secondary schools;
- Post School Education and Training (PSET), which includes Higher Education
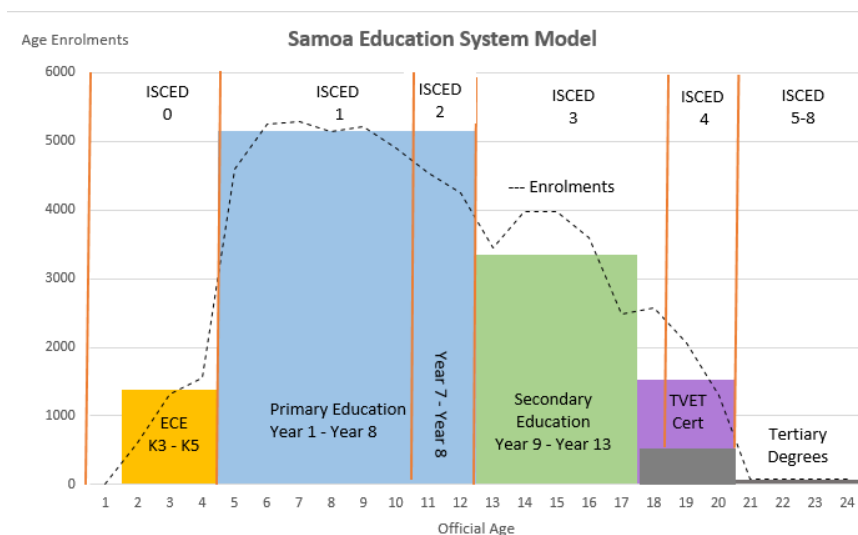
The Samoan education system is based on the following stages: non-compulsory early childhood education (ECE) for ages 3– and age 5 for children born between July – December; eight years of primary education for ages 5–12 (Years 1–8); five years of secondary education for ages 13–17 (Years 9–13); and post-school education and training (PSET).

Education is compulsory for children from age 5 until age 14 or until completion of Year 8. Secondary education is not compulsory, and is restricted to those students who pass a secondary entrance exam at the end of Year 8. There are also examinations at the end of Year 12 for the School Certificate and Year 13 for the Samoa Secondary Leaving Certificate (SSLC). Success in the SSLC is a requirement for enrolment in tertiary studies.

The Minister of Education, Sports and Culture has overall responsibility for the education sector; the Ministry of Education Sports and Culture (MESC) overseeing early childhood, primary and secondary education as well as the National University of Samoa (NUS) and Samoa Qualifications Authority (SQA) overseeing Post school education and training. The National Council of Early Childhood Education in Samoa (NCECES) is the government partner for ECE those centres are the responsibility of the private sector under the management of various non-government bodies.

National University of Samoa (NUS) is a body corporate with perpetual succession and a common seal. It is the responsibility of the University to ensure that the principles of academic freedom are preserved and enhanced (freedom to engage in research; to appoint and retain its own staff; to regulate the courses, and the subject-matter of courses, taught; to teach and assess students in the manner it considers best promotes learning).

The University of the South Pacific (USP), is jointly owned by the governments of Samoa and 11 other member countries: Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Solomon Islands, Tokelau, Tonga, Tuvalu, and Vanuatu. Under the current structure of USP (the Faculty of Business and Economics (FBE), the School of Agriculture and Food Technology (SAFT) is situated at the Alafua Campus in Samoa and currently has two (2) broad academic disciplines, namely: Applied Sciences and Agribusiness.

The Australia Pacific Technical College (APTC), an Australian Government initiative designed as a centre of training excellence for technical, vocational education and training (TVET) in the Pacific, has established agreements with NUS and offers programs and Australian qualifications from Certificate III to Diploma level in the automotive, manufacturing, construction, electrical, tourism, hospitality, education, management, and health and community services industry sectors. Generally, APTC actively participates and supports relevant local industry groups and associations.

**The Samoa Education Sector Plan (ESP July 2013 – June 2018)** sets 5 goals:

1. *Enhanced quality of education at all levels:* improved learning outcomes at all levels

2. *Enhanced educational access and opportunities at all levels*: at all levels, more students, including those with special needs, have access to quality educational opportunities in safe, climate-resistant learning environments.

3. *Enhanced relevance of education at all levels:* improved employability of school leavers as a result of education and training responding to national economic, social and cultural needs.

4. *Improved sector co-ordination of research, policy and planning development:* A co-

ordinated approach through effective partnerships with key stakeholders ensures newly developed and implemented policies contribute to improved quality across the education sector. Analysis of research findings, evaluations and monitoring evidence increasingly used to inform policy and planning across the sector.

5. *Established sustainable and efficient management of all education resources*: education resources are increasingly managed efficiently and sustainably across the sector

Sectoral Coordination of ESP activities are provided through:
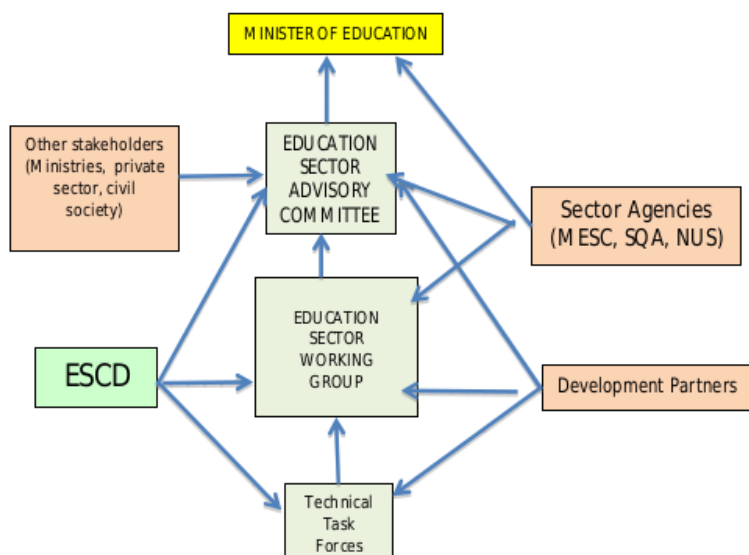
Figure 5: Organogram for ESP Coordination Structures

The Education Sector Coordination Division (ESCD) at MESC working directly with other Divisions in MESC, SQA and NUS and with Development Partners and other stakeholders, and through the following Committees;

- The Education Sector Advisory Committee (ESAC) comprising senior staff of the three agencies and other Ministries and Stakeholders and meeting quarterly to advise the Minister of Education, Sports and Culture on the strategic direction of the ESP; with representation from several stakeholder groups, that is at the same time small enough to be operational in preparing for and following up on the Annual Review deliberations and undertake key tasks in the annual strategic level supervision of the ESP;

- The Education Sector Working Group (ESWG) meeting on at least a monthly basis, to coordinate planning, financing, implementation, M&E and reporting to ESAC; is key to the day to day operation of the ESP;

- Informal Technical Task Forces in which a range of key stakeholders plan and monitor the progress of specific issues;

The Education Sector Working Group (ESWG) meets on a monthly basis to coordinate the planning, budgeting, monitoring and evaluation of the three agencies MESC, SQA and NUS, and to

provide information required for meetings of the Education Sector Advisory Committee (ESAC). Membership of the ESWG is as follows:

> Education Sector Coordinator (Chair)
> ACEO Policy, Planning and Research Division, MESC
> ACEO Corporate Services Division, MESC
> ACEO Research, Policy and Planning Division, SQA
> Deputy Vice Chancellor, NUS
> ACEO, Economic Planning and Policy Division, Ministry of Finance
> Development Partners Representatives

3.3 Education Data and Statistical System

The main producers of Education statistics for Samoa are:

- The Ministry of Education, Sport & Culture (MESC): Information analysis unit in Policy, Planning & Research Division – PPRD

- The Samoa Qualifications Authority (SQA): Research, Policy & Planning Division - RPPD

- The Samoa Bureau of Statistics (SBS): mainly the Social & Environmental Statistics Division,

- The National University of Samoa (NUS), The University of the South Pacific (USP), and The Australia Pacific Technical College (APTC) produce statistical information pertaining to their activities, information usually available in various reports and on demand and in SQA Statistical bulletins.

MESC conducts annual censuses of primary and secondary schools and SQA of Post-School Education and Training (PSET) providers.

Over the recent years, with external support (Government of Australia), SQA has conducted several research surveys:

- in 2016, national tracer survey of Post School Education and Training (PSET) graduates

- in 2014, the Survey of Technical and Vocational Education and Training (TVET) Graduates' Employers

- the 2013 tracer survey of Post School Education and Training (PSET) graduates in Technical and Vocational Education and Training (TVET)

Education related statistics are generally available in SBS surveys and census reports (Household Income and Expenditure survey, Demographic and Health Survey, Labour Force Survey, and Population and Agriculture censuses), as well as in Economic reports (i.e. Government Finance Statistics).

MESC has established an Education Management Information System (EMIS) within PPRD with support from the ICT and Media Division. SQA plans to enhance its Information Management System within the next two years (Corporate Plan 2015-2017). The Education sector plan 2013-2018 expects that an effective sector-wide EMIS is in place by 2018, federating sub-sector EMISs.

3.4 Education Management Information System (EMIS)

MESC Education Datasets

There is a wide range of education related datasets that are topic-specific currently operational in the Samoan Ministry of Education, Sport and Culture (MESC). This includes a custom developed Access database system known as MANUMEA for storing Annual School Census data, and is referred to as the Samoan EMIS equivalent. The education data environment is characterised as highly dispersed within the Ministry and silo-ed. MANUMEA resides in a data warehouse as one of five stand-alone modules. The other modules are payroll, staffing, training, finance. These modules are not linked with each other. In addition, there are Excel files with school and teacher information managed by MESC divisions that are kept separate from the data warehouse. The table below summarises the main MESC datasets.

Main MESC datasets

Database and platform	Dataset and functionality	Dataset owner / principal inputs and outputs	Description of dataset	Comments
Education Management Information System (EMIS) on MS Access 2010	Staffer Module – Staffing and Recruitment & Selection processing	School Operations Division (SOD) School Personnel section enters data about schools' staffing needs (from annual estimated rolls); generates fortnightly staff returns for each school for payroll purposes Irregular maintenance of dataset Current data quality – very low	Records of estimated future rolls, schools' staffing needs, and teachers seeking posts	Staffing modelling tools no longer used; R&S features no longer used for appointing teachers; current data stored in Excel on individual staff members' PCs
Education Management Information System (EMIS) on MS Access 2010	Payroll Module – Payroll and Recruitment & Selection processing	Corporate Services Division (CSD) enters and processes appointment and payroll data. MESC's fortnightly payroll run is actioned by Ministry of Finance from outputs of this module Active maintenance of dataset Current data quality – high	Detailed records of teaching and non-teaching staff and all transactions that impact on their fortnightly salary payments, including leave, transfers, promotions, and allowances	Data for teachers comes from the School Personnel section of School Operations Division (SOD); data for non-teaching personnel comes from CSD; R&S features no longer used for appointing corporate staff
Education Management Information System (EMIS) on MS Access 2010	Training Module – Personnel Profiles and Training Activities	Teacher Development & Advisory Division (TDAD) enters data about professional development activities, and staff qualifications Active maintenance of dataset Current data quality – low	Records of teacher and non-teaching staff members' qualifications, subjects trained to teach and teaching, and PD training attended	Systemic source document flow problems within MESC means data quality in this dataset is poor
Education Management Information System (EMIS) on MS Access 2010	Surveyor Module – School performance tracking	School Operations Division (SOD) School Performance section used to record survey results in this module and generate reports for follow-up No maintenance of dataset Current data quality – very low	Records of results of annual evaluations of schools against Minimum Service Standards indicators	No longer used as software not updated to match changed survey instrument; data in the Surveyor module is not linked to the four other modules of EMIS; current data stored in Word and Excel on individual staff members' PCs

Education Management Information System (EMIS) on MS Access 2010	Manumea Module – School Census processing	Policy Planning & Research Division (PPRD), collects, enters and validates census data and compiles the annual Education Statistical Digest from it Active maintenance of dataset Current data quality – high[9]	Annual census data records allow users to select pre-defined queries and reports from menus with main sub-menus of schools, enrolments, teachers, classes	Data in the Manumea module is not linked to the four other modules of EMIS
Samoa Education Management Monitoring Integrated Information System (SEMMIIS) on MS Access 2010	Assessment module – Processing of results of SPELL1, SPELL2, SPECA, SSC and SSLC national examinations	Policy Planning & Research Division (PPRD) collects and enters school roll data; Assessment & Examinations Division (AED) enters correctness of every students' response to every exam question, from which individual, school, district and national reports of achievement are generated Active maintenance of dataset Current data quality – high	Assessment module is first module of what is envisaged as a replacement fully integrated EMIS, a conceptual model for which has already been prepared	Implemented in 2015; holds some assessment results from 2011 to 2014; some problems with data quality, completeness, timeliness of enrolment data from schools; standalone RUMM analysis software is used to generate assessment reports
Finance One (Financial Management Information System)	Procurement, accounts payable, accounts receivable, human resource, payroll and asset management modules	Corporate Services Division(CSD) Finance/ Accounts, Administration/ Payroll and Asset sections each maintain sub-sets of data from which they regularly generate financial documents and financial reports Active maintenance of dataset Current data quality – very high	Government of Samoa's centralised integrated Financial and Payroll/Human Resource Management Information System	Managed by the Ministry of Finance
ATLAS 2000 (no longer active)	Assessment results for national examinations (historical)	Assessment & Examinations Division (AED) can access archived data if needed No longer maintained Data quality – satisfactory	Annual datasets of assessment results in national examinations	Stand-alone database, developed by SPBEA; software owned and previously maintained from Fiji; no longer in use but holds records up to 2010

Source: Strategy for the Improvement of MESC Information Management: Situation Analysis December 2016

Data Processing and Production

The major data collection for the EMIS is the annual education census which takes place in mid-February each year. Schools receive the census form well in advance of the census date. Schools are given a very short period of less than a week to return the census questionnaire to MESC. The school principal needs to sign off the census forms as being accurate and completed before returning them to MESC.

Follow-ups are then undertaken by PPRD to ensure all census forms are collected before the end of processing, which is usually within three months of the census date. The returned forms are given a visual check for completeness and correctness; any missing or incorrect data are queried with the schools. The census forms are entered into the EMIS system which provides checks on totals and flags any totalling errors for the summary tables.

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[9] Note that in the recent statistics report there is no evidence to show that the quality of the data was verified and therefore the high quality of statistics cannot be substantiated.

Once all schools have returned (correct) forms, summary tables are produced through automated table generation by the EMIS system. This includes student enrolment tables by gender, age, and grade for both government and non-government schools. These tables form the bulk of the annual education statistics digest and are used to calculate key education indicators such as: the net and gross enrolment rates, apparent retention rates, and age participation rates.

After approval by MESC CEO the digest is then distributed internally to MESC divisions and externally to other government ministries and education agencies – such as MOF, NCECES, SQA, SBS, NUS and USP – as well as the Minister of Education and Parliament. The digest is also sent to each school as well as to non-government education authorities. The public are able to make requests for the publication or can access an e-copy on the MESC website.

SQA Education Datasets

The SQA collect individual record data from Post-School Education and Training providers (PSET), including more than 27 providers as well as from the two universities: The National University of Samoa and the Alafua campus of The University of the South Pacific. The Annual PSET Survey 2016 collects information on student enrolments and graduates, as was on teacher and lecturer qualifications. Annually the Research Policy and Planning Division publishes the SQA PSET Statistical bulletin. From 2015 Non-formal PSET education has been compiled and published in the bulletin.

In 2016, the Samoa Qualifications Authority (SQA) for the first time conducted the National PSET tracer survey focusing on all PSET graduates that have graduated in 2012, 2013 and 2014. Prior to 2016, a Survey of Technical and Vocational Education and Training (TVET) Graduates' was conducted in 2014 focusing only on TVET graduates that have graduates in 2011, 2010 and 2009. A Survey of Employers satisfaction was carried out to follow-up on the information provided by the graduates during the 2013 Survey of TVET Graduates. The purpose of the 2014 survey was to acquire information on employers' satisfaction of the skills and knowledge of the graduates' in the workplaces.

The table below summarises the main SQA datasets.

Dataset	Dataset owner / responsible team	Contents
PSET Survey of Formal Education	Research, Policy & Planning Division, SQA	Students: Gender, Date of Birth, Village, Disability, School Qualification, Programme of Study, Year Started, Mode of Study (FT/PT), Student Type (Domestic /International), Year Graduated, Re-enrolment Trainers/Lecturers: Gender, Designation, Mode of Training. Field of Teaching, Years of experience, Highest Technical Qualification, Highest Teaching/Training Qualification.
PSET Survey of Non-Formal Education	Research, Policy & Planning Division, SQA	Students: Gender, Date of Birth, Village, Disability, Completed Activity Trainers/Lecturers: Gender, Designation, Employer, Training Delivered, Highest Qualification
Graduate Tracer Study &	Research, Policy & Planning	Graduates: Qualification, Year of Graduation,

Survey of Employers' Satisfaction	Division, SQA	PSET provider, Employer, Employer Type, Industry, Occupation, Employment Date, Skills Assessment, Work Experience, Training Improvement, Employment Information

**Data Processing and Production**

For the Annual PSET Statistical Bulletin, the SQA sends a questionnaire in the form of a data collection form to all PSET providers each year to be completed for the full year enrolment at the end of the previous academic year. (For counting purposes the enrolments are counted as at 7 November). The questionnaires are to be returned by the 30 March each year. The data is entered into in Excel files for each year separately and stored on networked computers. As the survey is voluntary, limited checking on completeness is carried out and there is little follow-up of missing data. No adjustment is made for non-response in the compiled statistics. The Annual Statistical Bulletins are published by June the following year.

For the Tracer Study and Survey of Employers satisfaction, these are conducted every 3 years. SQA collates information from PSET providers on graduate for 3 years and puts together a survey team and send out to where the graduates are working and/or staying for interviews using a structured questionnaire. The information provided by graduates, assist with the survey of employers. Again, SQA puts together a survey team and visited employers for interviews using a structured questionnaire as well.

4. Key Findings

4.1 General

This section presents a summary of the findings regarding quality of Samoa's education statistics. The overall observance scaling of each dimension is presented in the following diagram and table:
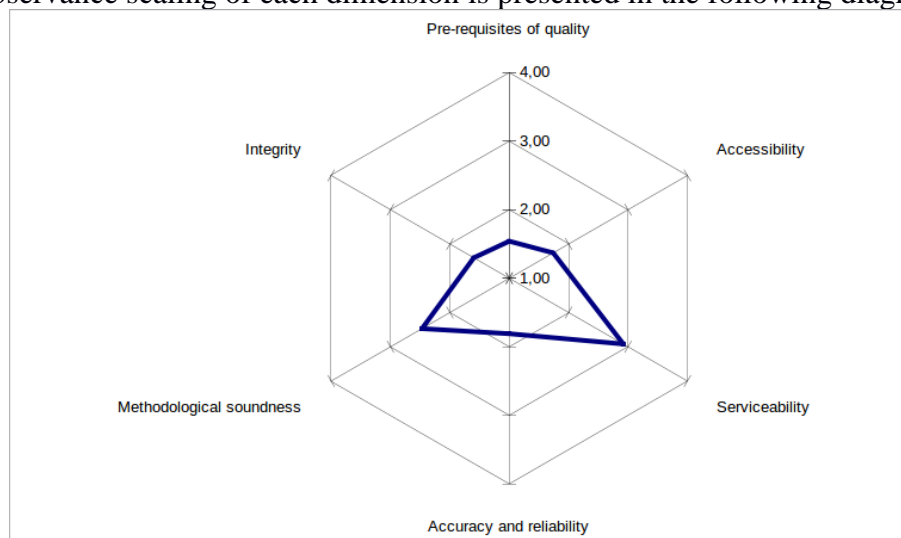
ENABLING ENVIRONMENT	1,57
Pre-requisites of quality 1,54	
Integrity 1,60	
DATA PRODUCTION	2,14
Methodological soundness 2,47	
Accuracy and reliability 1,81	
DATA USE and DISSEMINATION	2,33
Serviceability 2,92	
Accessibility 1,74	
OVERALL AVERAGE	**2,01**

Reaching the average score of 2 overall means the good practices used in the framework are largely not observed. The weakest component is the enabling environment reflecting the relatively low priority given to education statistics and the lack of commitment at the higher levels of government to improve information systems and use data for decision-making[10]. As a direct consequence the human, technical and financial resources are not commensurate to the ongoing programmes of work, resulting in low scores for the 2 dimensions Accuracy and reliability and Accessibility

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[10] The Samoa EMIS SABER country report found that the enabling environment for EMIS was emerging but not yet established (refer appendix for details)

In general, there is a large amount of data that is generated in Samoa to manage the day to day running of various education activities by MESC, SQA and NUS. The staff encountered were skilled and committed and all showed high level of interest towards improving the statistical picture of Samoa's education system.

At the centre of the findings lays the concern that the overall data infrastructure is not designed to produce the type of data and official statistics that would satisfy reporting needs of Samoan officials, decision-makers or managers[11]. Users of statistics inside or outside the government are not systematically consulted to better adjust production and programmes to respond to actual and emerging needs, and identify relevant priorities.

Moreover, while, as already reported, there is a large amount of education data that is being collected in the country, there is currently no education sector-wide approach to reconcile all the data sources, align methodologies and definitions and provide a complete, consistent, up-to-date and accurate picture of the Samoan education system[12]. However, the Education sector plan sets as an objective for 2018 the creation of an integrated Education Sector Management Information System (EMIS) and strengthening sub-sector EMIS capacity.[13]

More precisely, there is no mechanism in place for the three major producers of statistics namely, MESC PPSD, SQA RPPD and SBS to collaborate on methodologies, programmes or quality issues. This is rather a missed opportunity as the education sector approach and its mechanism to monitor its strategic plan as well as the establishment of the Statistics advisory board enacted in the Statistics Act, both have the potential to accommodate activities that would reinforce data producers' collaboration and awareness of users priority needs.

Despite the skills and commitment that were witnessed in the different institutions, it was often observed that each statistical unit is operating in silo and not necessarily benefiting from comparative advantages of other institutions operating in the country. Substantial scale savings could be done by pooling together resources and skills and favouring knowledge transfer between the various agencies.

No formally established process is in place to focus on and assure data quality at MESC[14], nor at SBS; however, SQA has expertise and experience in dealing with quality management and quality assurance that could be shared to set quality assured systems, procedures and plans, that would improve and maintain accuracy and reliability, timeliness, coherence, relevance, and accessibility of education data generally and more importantly of sectoral and national indicators and statistics.

Regarding all official statistics activities the public sector vision: "a professional and competent Public Administration that provides quality and coordinated service delivery to the people of Samoa in a cost effective, efficient and transparent manner", might be complemented along the lines of the specific principles of professional ethics and confidentiality of statistical data embedded into the

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[11] The Samoa EMIS SABER country report found that the data utilization for decision making was limited but was emerging (refer appendix for details)
[12] The Samoa EMIS SABER country report found that the soundness of the EMIS system was latest and not yet emerging (refer appendix for details)
[13] Education Sector Plan (July 2013 – June 2018) page 28 and 99
[14] Both the DQAF and Samoa EMIS SABER country report found that there were limited policies and implementation processes for managing the quality of data for EMIS (refer appendix for details)

2015 Statistics Act but that have not been extended yet to statistical activities of State entities.

Concern was often expressed regarding the inadequate inter-connectedness of existing EMIS data systems serving management activities across the education sector, including reporting needs for 'education official statistics'. Statistics are already using, and more and more will use data regularly generated by computing facilities supporting administrative activities. The coordination structure of the ongoing Education Sector Plan allows for the creation of "Informal Technical Task Forces" in which a range of key stakeholders plan and monitor the progress of specific issues; better computing and data infrastructures support to sector operational and strategic management needs is one of those specific issues.

When it comes to reporting to outside partners organisations, such as UIS, SPC or Pacific Islands Forum, to inform regional and international reporting, serious weaknesses were identified as existing data were not reported, including whole years not reported to UIS[15]. Data that is not conceptually consistent with international requirements risk being misleading when compared with other Pacific partner countries. Although the 2015 statistics Act provides for SBS "to give effect to Samoa's international statistical obligations", there is no identified arrangement specifying who reports what regarding education statistics about the Education sector. Education Sector Coordination Division and SBS Social & Environmental Statistics Division could be put jointly in charge of making international and regional reporting effective; Coordination division ensuring the availability in time of data routinely produced within the education sector, and Social division advising on the adequacy of statistical concepts and definition with those required.

4.2 Pre-requisites of quality:

Data quality is regulated by a framework of statistical laws, policies, standards and practices, and technical and human resources.

Legal and institutional environment.

The Education Act 2009 and SQA Act 2010 clearly designate MESC and SQA respectively as authorised agencies for collecting and processing data from schools and PSET providers, but there is no explicit or implicit provision for dissemination of official education statistics. Statistics Act 2015 provides that: The Bureau has the following specific functions:

        (c) to independently publish official statistics without delay;
        (h) to give effect to Samoa's international statistical obligations;

Although, MESC, SQA & NUS meet regularly as members of the ESWG, no arrangements are in place to ensure consistency of methods and results. There is no regular meeting with SBS to ensure proper understanding of data requirements or to avoid duplication of effort. It would be useful for a SBS representative to be a member of the Education Sector Working Group. MESC has commented an Education Sector Research and Policy Subcommittee has been established to support the Sector Coordination Division towards achieving improved sector coordination of research, policy and planning development.

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[15] Some commentators suggest that there is a need to think beyond production of data to meet donor needs for statistics, and instead focus on production of data for use by the country to improve quality of education.

This recommendation also relates directly to the production and dissemination of education statistics which needs to be included in the TORS of the sub-committee

SQA and the Statistics Act provide for the confidentiality of data collected. However, there is no specific provision in the Education Act for ensuring the confidentiality of data collected and held by MESC, other than the general principles set by the Public Sector Act. It is only when SQA and SBS collect data that respondents are informed of their rights and obligations with regard to the provision of information, and they are informed that the information they provide will be used for statistical purposes only. Preventing disclosure of individual data is more a tradition in the public sector than a specific formal policy, and there is no evidence that specific steps are taken to secure the premises of the data producing agency and its computer systems to prevent unauthorized access to individual data. No problem was reported.

Under 2015 statistics Act, SBS has the legal authority to collect data required to compile education statistics; for SQA and MESC this legal authority is limited to school and PSET operations. The regulations provide penalties for non-compliance with reporting requirements (including misreporting), but these provisions are very rarely, if ever, put into effect. The Samoa School Fees Grants Scheme (SSFGS 2010) also mandates schools to provide data to the ministry

The SABER report notes that "no policies are in place that support the creation of an EMIS in Samoa; however, the Education Sector Plan (ESP 2013–18) commits to the creation of an integrated EMIS at all levels of the education system". MESC recognises that a sector-wide EMIS policy is yet to be developed and assistance will be needed to prepare a policy that provides for the mandate, roles and responsibilities for the production of education statistics within the education sector.

Regarding respondent burden, MESC and SQA provide some form of assistance to respondents in completing and submitting forms, as these respondents are registered institutions under their direct administrative control, even if some schools and PSET providers are private enterprises. Samoa being a relatively small country, information regarding data collection conducted by the three main structures circulates informally easily; none is empowered to authorise a new data collection. However, the Government Statistician may recommend some statistical activities «be performed in a particular way so as to be consistent with other statistical operations or best practice».

Resources

While the current level of resources does not jeopardize the ongoing operations, it remains true that an ambitious expansion of activities would require substantial increases in availability of skilled personnel[16], adequate material and equipment (computing, communication, transport, etc.) for compiling statistics and financial resources commensurate to the overall level of activity; and forward plans that allocate budgetary resources to future education statistics and data development. There is a critical need to upskill Ministry personnel to undertake development activities.

 It should be noted that in the financial year 2015-16 the developmental costs for sectoral

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[16] The Samoa SABER EMIS Country report 2015 comments that the EMIS team is currently a small unit with the Policy, Planning and Research division of MESC which would require expanded opportunities for training of both EMIS staff and data users (p. 7)

coordination of research and policy was estimated to be $1.5 million Tala and almost $1 million Tala for strengthening management capacity and monitoring and evaluation, including the development of an Education Management Information System (Samoa ESP, p50); all of which was not funded in the government recurrent budget[17].

The SABER report states that "No explicit budgetary figures are allocated toward EMIS operations, which threatens its long-term sustainability. EMIS funding is largely driven by support from donor organizations such as the Asian Development Bank and Department of Foreign Affairs and Trade. Since the core areas of EMIS (hardware and software) are funded through external sources, the government does not allocate any expenditure for maintenance and support". However MESC has commented that new servers are in place to improve the efficiency of data storage, management and dissemination.

Coverage of education statistics.

No structured and periodic process of consultation (e.g. users' advisory committee or working groups) takes place to review the usefulness of existing statistics and to identify emerging data requirements for users outside MESC and SQA[18]. However opportunities exist to review the usefulness of existing statistics and to identify emerging data requirements during ESWG, Education Sector Advisory Committee (ESAC) meetings and the November annual review, though there is no evidence that the review of actual education statistics programmes are on their agenda.

MESC has commented that a newly developed Sector-wide Research Strategy and Action Plan will be the first step towards enabling data sharing and the sector has procured a TA to conduct a Situational Analysis of the sector Information Management System. The data sharing strategy should include MoUs between education agencies in the sector. UIS has assisted consultation between education agencies and SBS on the requirements for data sharing agreements.

Establishing a sector-wide consultation process with key stakeholders to enable data needs for policy and planning purposes should results in an inventory of data needs. The annual MESC conference enables the sharing of data to key stakeholders i.e. development partners, relevant Ministries, principals, school committees and dissemination of data is also conducted through community meetings around the country. This recommendation also concerns

Statistical quality

There is no evidence that explicit and effective steps are taken to manage, monitor or plan for education data and statistics quality[19]. However the fact that the Samoan Government agreed that a joint UIS-SPC mission would undertake the present Data Quality Assessment of Samoa's education statistical system, shows the willingness the higher management has to raise quality awareness generally and to focus explicitly on improving operational management of data quality issues. There is recognition by the MESC PPRD and SQA RPPD that the quality of education statistics, in terms of scope, coverage, definition and classification, can be improved and enhanced. It should be note

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[17] The Samoa SABER EMIS report 2015 commented that no explicit budgetary figures are allocated toward EMIS operations (p6).
[18] This view is supported by the Samoa SABER EMIS country report 2015 which found that no policy stresses the importance of open access to EMIS data to all stakeholders and effective utilization of these data for decision making (p 6)
[19] The Samoa SABER EMIS report 2015 assessed the status of the quality of data produced by the EMIS as latent

that the re-establishment of School Inspectors in 2017 will assist relevant MESC Divisions with ensuring schools provide required relevant data for MESC to deliver efficient data collection and data validity.

4.3 Accessibility

This dimension is based on the principle that data and metadata should be presented in a clear and understandable way and should be easily available to users.

Presentation of education statistics

Targeting mainly a general public, statistical data released are routinely presented in texts, tables and graphs in MESC and SQA bulletins, with various degrees of aggregation and disaggregation by sub-components; generally they are easy to understand. However, texts only describe the data and no analysis is performed.

There is no information release preceding any bulletin release, no direct access to education statistics time series database, no pre-release calendar, and no structured information available on access to available data. There is no attempt to inform and release statistics simultaneously to all interested users[20].

According to the SABER report "the utilization of EMIS data by MESC is limited to allocation of school grants. The information collected from the school census information system provides the EMIS team with enrolment numbers in schools, which help them in determining amount of grants to be disbursed to schools".

Non-staff members may obtain specialized tabulations upon request, though there is no indication that micro-data are accessible from outside the organisations owning the data. Besides MESC, the Ministry of Health and Ministry of Finance request data for planning purposes. International organizations such as UIS request data outside of EMIS. No other education stakeholder uses EMIS data for their core operations.

The DQAF assessment found that Manumea database system is only accessible to few people at MESC. Only data on preschool, primary and secondary schools are available in the current Manumea system. No proper mechanism is in place to verify and validate the education statistics.

The SABER report notes that "schools and other stakeholders (e.g., parents, communities, and students) are not using any data to inform decision making. Schools do not maintain any data to monitor the performance of teachers and students in the classroom."

This should improve with the development on an integrated EMIS system which has been piloted to improve data utilization at all levels. "The EMIS Unit, with the support of ICT staff, has recently

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[20] The Samoa SABER EMIS report states that the annual statistics report "provides only an aggregate overview of the education system, which is not very useful for schools to inform their core operations. Schools need more micro-level information to inform instruction, improve student learning, and make school management decisions. Customizing the reports to school needs would be good start to encourage data utilization at the school leve" (p 10).

developed an integrated system within MESC that collects assessment data and is integrated with the SEN and teacher data (payroll, mentoring, and teacher qualifications). The next step would be to bring the census data into the system" (SABER Report). Since 2016, MESC has provided Individual Student examination reports to complement Secondary School reports. At Primary level, individual student assessment maps were provided for each subject.

This recommendation refers to the use of different forms of statistical outputs to disseminate statistical information. As well as publishing the statistical digest, it would also be useful to data users to produce final statistical tables in Excel format on the website. Also production of topic-specific factsheets and school profiles would enhance the usability of statistical data at national and school levels. UIS can assist with this activity.

Meta-data

The DQAF assessment found that metadata, including information on concepts, definitions, classification and other methodology, data sources, and statistical techniques are on development stage. The SABER Report found that there is no operational manual used to define and document EMIS concepts, data fields, indicators, and metadata. That is, the basic infrastructure exists to support EMIS but lacks any supporting documents that guide its structure.

For statistical publications only short glossaries and general information on the statistical operations are found in each statistical bulletin issue. There is no policy and organisation for users' assistance, both at MESC and SQA. It is suggested that metadata could be disseminated via the MESC website which has been recently been upgraded. MESC has indicated they would like assistance in the use of internet technologies to disseminate statistical information. Publishing data visualisations and info-graphics using a dashboard linked to the EMIS database could be explored.

MESC has commented that they have their own research guidelines in place, however there is also a need to develop data processing guidelines for the EMIS systems, including statistical methods and procedures that can be used by data users within the sector. MESC has indicated that assistance is needed with developing a comprehensive meta-data system, including metadata on statistical definitions and classifications used in statistical publications to data users.

4.4 Serviceability

Statistics with adequate periodicity and timeliness are consistent.

Periodicity and timeliness

MESC conducts, every year on the first week of March, a census of primary and secondary schools engaged in formal education. SQA by the end of each academic year collates data from all post-school education and training providers, including tertiary education provides by NUS and USP; non-formal education statistics are now collected annually. Data for early childhood education (ECE) is also collected annually, not through a census of schools, but during monitoring visits. Other data from a range of internal sources such as examination results and personnel information, are also collected on an annual basis. This is in accordance with the good practice of having a

periodicity of one year[21].

Annually, Year 4 and Year 6 students in Government schools sit the Samoa Primary Education Literacy Level (SPELL) tests 1 and 2 respectively as a measurement and diagnostic tool to allow literacy standards to be monitored and identify students who are at risk of achieving educational outcomes. Most non-Government schools also participate, but it is not compulsory. The Pacific Islands Literacy and Numeracy Assessment (PILNA) initiative was established by the Pacific Island Forum Ministers of Education and administrated its first survey in 2012 and a second at the end of 2015. Samoa takes part in both surveys, with the 2015 survey incorporating the annual SPELL assessment.

Annually MESC releases a paper version of a statistical bulletin within 3 to 4 months after the start of the school year but its electronic version is not immediately released[22]. Statistics presented relate to the current year well within the acceptable period of 6-12 months after the start of the year. However, since examination and assessment data are presented for the previous academic year, there may be an opportunity for a sector-wide publication to include both final enrolment and graduate data for the same academic year.

An SQA statistical bulletin is available on paper and electronically about 15 months after the close of the academic year under review. This is well outside the 6-12 months recommended period. SQA should aim at reducing this long delay, and also consider releasing a first bulletin covering mainly enrolment early in the academic year and an additional release at the end of the year to present graduates statistics; each bulletin presenting revisions that occurred after the previous release.

Since 2015, the annual MESC Statistical digest now provides more data and information pertaining to Early Childhood Education to Secondary Education. This has been in collaboration with the local UNESCO office to ensure clarity and easy reading. However there is a need within the sector for the production of a sector-wide publication on education statistics, including data from MESC and SQA annual digests. The sector-wide report should provide statistics for the KPIs of the education sector as specified in the education sector plan. The USP does not currently publish statistical bulletins, though does produces annual statistical reports for internal management use. In 2017 NUS released its first education statistics digest. The annual Sector-wide review is scheduled in the first Quarter of every Financial Year (September).

Consistency of released statistics

Final statistics presented in the MESC and SQA publications do not show obvious inconsistencies in datasets but some aspects need to be improved[23]. There is no indication that historical data were reconstructed for any changes in methodology, statistical techniques or in data collection instruments.

Also, there is no indication that some of the final data could be inconsistent or irreconcilable with

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[21] The Samoa SABER EMIS report 2015 found that the EMIS system produces data and statistics in a timely manner. "The whole process of data collection, processing, and dissemination takes approximately three to four months" (p10).
[22]   The MESC 2015 bulletin issue, although ready by July 2015, was not available on MESC website mid-April 2016.
[23] The DQAF assessment found there are different sets of country reports which include the education statistics. However, some published data or indicators are not consistent to each other. A process to verify and validate the data is required.

those obtained through other surveys and data sources[24]. However there have been published statistics showing inconsistencies between school enrolment datasets and population census data, e.g. the primary education net enrolment rate for 2016 is reported to be 104%[25]. No formal process is in place to mitigate any of such risks, such as conducting a peer review before publication.

4.5 Accuracy and reliability

This dimension of quality is based on the principle that data produced give an adequate picture of the reality of the education sector.

Source data

Both MESC and SQA run an annual administrative routine data collection exercises to gather information on structure of the educational system, students, teachers, and examinations; MESC at the start of the academic year (March to December) and SQA after the end of the year. However, there is no routine collection on Samoans studying abroad, either through distance learning or in educational institutions located in other countries, including USP campuses. The collection of comprehensive data on the PSET education sector remains a challenge, and there is recognition of the importance of producing statistics for students studying overseas, whether on scholarships or private sponsorship.

In addition, several divisions of MESC collect information at different moments during the school year and through different tools, not necessarily harmonized, while there is no explicit indication that those data are shared and used by the MESC to assess their accuracy.

For instance, two questionnaires are sent to schools in January by MESC about enrolment and individual information on students: School census and Student Enrolment number. Also, several divisions from MESC: Policy and planning, Assessment division, Teacher development and advisory support, School operations have their own data collection tools. Some divisions, such as Teacher division, collect data several times during visits to school and districts for instance. Some information are duplicated with those already collected by other divisions such as School operation Division or Policy and planning. There should be a better coordination amongst the divisions involved.

Overall the coverage seems satisfactory in terms of geographic levels, sex, age, status (government, private, mission). The maintenance of the school list looks adequate, mainly regarding formal institutions that must be registered with MESC[26] or SQA; SQA recently initiated collection from non-formal providers.

Overall reporting of age seems reliable, despite some difficulties for children not having birth certificates. Also, the Education Act indicates that "If a child's 5th birthday falls prior to or on the 1st day of June in a given school year, the child must be enrolled to commence school at the start of that school year"; as a consequence, few children aged 4 should be enrolled in year 1 of Primary

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[24] The DQAF assessment found there is no proper data verification process in place. MESC is not able to cross-check the data across geographical areas and sub-groups of education. MESC or SQA do not have access to both University databases to be able to cross-check the tertiary data themselves.

[25] MESC Statistics Digest 2015 part 2 [\page 7

26 The **Chief Executive Officer must keep and maintain a register of all schools that have been registered** under the provisions of this Education Act.

education; statistics shows none of them for 2013 but in 2014, 440 children age 5 were enrolled for Year 2 of primary education (and 1 in year 3, probably a data entry anomaly).

Statistics on Expenditures are not systematically collected for all sources of funds and types of expenditures[27].

Regarding quality of learning, a test (Samoa Primary Education Literacy Level - SPELL test) is taken by all year 4 and year 6 students in government schools. The majority of non-government schools also participate, but it is not compulsory. It provides an indication of the students whose learning outcomes are identified as being at risk so that they receive attention from teachers and Ministry in their literacy and numeracy programmes; subjects are English, Samoan and Numeracy.

In addition, in Samoa and other Pacific countries, a Pacific Islands Literacy and Numeracy Assessment (PILNA) was conducted in 2012 for the purpose of setting the regional baseline, as well as country positions for Literacy and Numeracy achievement of pupils who have completed four and six years of primary education. A similar exercise was done at the end of 2015. The instruments comprise Year 4 Writing, Year 4 Reading Comprehension, Year 6 Writing, Year 6 Reading Comprehension, Year 4 Numeracy, and Year 6 Numeracy as well as student questionnaires and instructions to teachers. The 2012 PILNA Samoa report was not available at the time the team was in Samoa. "*The PILNA was sufficiently aligned with Samoa's learning goals. Classroom lessons, textbooks, and learning resources cover content similar to, and slightly more advanced than, the content covered by PILNA*"[28].

Education Act and SQA Acts provide for information to be submitted on or before 31 March to MESC and 28 February to SQA:

> *MESC: The proprietor or principal of every registered school must provide the Minister or the approved organisation that approved the school's registration '"with a return in the form approved by the Minister on or before 31 March in each year'".*

> *SQA: Every formal Post School Education and Training (PSET) provider registered under this Act, must **on an annual basis and no later than the 28th day of February of each year; submit all information prescribed** by regulations throughout the previous year to the Authority.*

Assessment of source data

In terms of accuracy, the administrative data produced from schools are not systematically audited to check for accuracy; for example, in the 2014 MESC Statistical digest the number of pupils aged 5 enrolled in Years 3 and 4, and aged 6 enrolled in Year 4, were shown in a table with no explanatory comment inserted.

Currently few measures (like audit, inspections, training) are taken to improve accuracy of data held at institution level. There is a random check of school questionnaires by the School operations team, but this is conducted for the purpose of auditing school grants and the information is not fed back to

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[27] The Samoa SABER EMIS 2015 report supports that finding. It states "data coverage currently includes demographic and school-level information but lacks any assessment, payroll or finance data" (p7).

[28] Samoa EMIS, SABER country report 2015 (World Bank).

the Policy and planning EMIS unit. There is evidence that, in some cases, enrolment numbers have been inflated to qualify for school grants. With the re-introduction of school inspectors, this situation is likely to be remedied. However there is a need for stronger data validation mechanisms both at Ministry ((PPRD) and at the school level to identify errors or omissions closer to the data source.

This finding is supported by the SABER Report which notes that "procedures are limited to ensure data quality checks at the school and central levels. MESC officials conduct school inspections to verify the accuracy of data entered at the school level, but this is rather limited. At the central level, the EMIS team manually validates data to ensure there are no missing values, errors, and inconsistency of information."

From the perspective of missing data treatment, it was not clear if any systematic procedure is in place in various MESC data production units. However, the PPRD EMIS unit does check the returned census forms to ensure completion, and follows up with schools to ensure 100% response rates. The EMIS system also has automatic checks between totals of aggregated data to ensure consistency between tables.

The SQA regularly cross-check reported graduate numbers against Graduation Ceremony Programmes and Media releases, and follow-up missing data for previous years. However, no adjustments are made as some PSET providers are not able to respond due to data protection policies. The SQA tend not to publish adjusted figures, but work towards gaining the trust and confidence of providers to ensure the subsequent 'formal' release of the data for the statistical. bulletin.

Statistical techniques

Staff in charge of statistical operations and IT support, are confident that the data processing procedures are sound[29] and generally easy to implement due to the unsophisticated nature of the operations[30].For example, MESC use a set of automated outputs from the EMIS to produce standard tables for the education digest, though these are not documented. However, requests for data from non-EMIS sources, such as assessment data, provides some technical challenges in the processing of statistics. The SQA report that while the data systems are unsophisticated they are routinely able to process the data by provider type to ensure consistency with total enrolments at national and regional level.

The SABER Report supports this view: "With Microsoft Access software, basic tools exist to automatically convert data into charts and graphs, which are then used in the annual statistics reports. Any other basic statistical analysis (such as data tabulations) is done in Excel using Pivot tables. The EMIS team has to extract the data from the system and copy it into Excel to run statistics. Lack of automated systems makes this process cumbersome."

There are also seven taskforces which provide advice to the Sector Working Group on the relevant

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[29] However no operational manual is used to define and document EMIS concepts, data fields, indicators, and metadata. In addition, these concepts do not follow any regionally or nationally accepted guidelines or good practices (Samoa SABER EMIS report (2015: p 9).

[30] Examination of the 2016 EMIS data found that 100% of the schools had reported on the school census form. Data verification processes found that the data was consistent with previous year's data, though there was some variation ay schools level. The production of EMIS outputs were also examined and found to be of acceptable quality.

statistical and data needs. It is important that the sector taskforces work to improve the production and methodology of statistical data collections. An existing or new taskforce needs to be setup with the mandate to coordinate statistical collections within the sector.

Revisions of education statistics

Internally, preliminary results may be made available to staff and chief executive officers. There is no preliminary release of statistical data to the general public, and very few, if any, revision of statistics already published.

Archiving of source data and statistical results.

According to MESC IT staff, each of the main databases, not yet integrated as a system, is structured according to relational standards and sufficiently documented to respond to internal operational needs. However, no official documentation exists that informs how EMIS was constructed[31]. The source data and final statistics are archived on and stored on computer servers managed by the ICT team[32].

However, SQA does not store its data in a relational database, but as separate Excel files. Archiving of past data is not yet a current practise in SQA; due to privacy issues, data is not stored on the SQA server. Procedure manuals are still to be developed.

4.6 Methodological soundness

The methodological basis for the statistics follows internationally accepted standards, guidelines, or good practices.

Statistical concepts and definitions

Samoa does not have national standards for the production of education statistics and, until recently did not follow international standards for the production of education indicators. This is also noted by the SABER report that stated "concepts do not follow any regionally or nationally accepted guidelines or good practices".

However, some documentation on national concepts and definitions is available and covers MESC and SQA statistical activities[33] but there is no evidence for a systematic and well organized documentation system. Documentation primarily exists as support to data processing systems and to the drafting of statistical bulletins and digests. Each of the MESC and SQA annual statistical publications presents the definitions in use by the organisation[34].

Generally, the statistical definitions used seem to be consistent with internationally accepted definitions (UIS and OECD), though not all indicators produced by MESC are consistent with the international standards. For example, the MESC Education Statistics Digest defines the percentage

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[31] The Samoa SABER EMIS report (2015) states that the EMIS infrastructure lacks any supporting documents that guide is structure

[32] While EMIS data are regularly archived on servers, these do not include metadata (Samoa SABER EMIS report (2015: p 8).

[33] Recent technical assistance to MESC and SQA has resulted in improved documentation of data verification and technical guidelines for statistical indicators.

[34] Refer Education Statistical Digest 2015 Ministry of Education, Sports and Culture, Samoa n.p.
The Samoan Qualifications Authority PSET Statistical Bulletin 2015 pp 5-7

of students sitting the national exams is a measure of completion rates which is different from the international standard[35]. There is also evidence that the correct calculation has not always been applied, such as the net enrolment rate where data from the previous census has been used without adjustment. For example, the 2015 Education Statistics Digest reports without comment that the net enrolment rate for primary level remains high over the years, with a 4% increase recorded from 100% in 2014 to 104% in 2015.

Even if there is no clear evidence that this is the case within the whole of MESC or with SQA, the sector-wide coordination committee should consider reporting on these issues as early as possible.

Scope of education statistics

Formal education is the main scope for both organisations, SQA providing in addition some statistics on non-formal education providers (for the first time in the 2015 statistical digest edition). Neither MESC nor SQA present Education financial statistics.

SQA provides information on tertiary education, on a consistent basis with that of post-school non tertiary education, while providers of tertiary education (NUS, USP) accumulate a wealth of statistics on their own activities; these statistics and the conceptual framework in use are not readily available for the wider audience. No overlap were identified as only SQA releases statistics[36].

Overall formal (registered) educational institutions are satisfactorily covered; there is no indication that it is also true for non-formal education. There is no reference to distance learning which should be covered whenever an organising institution is based in Samoa. No case of duplication was mentioned.

The SABER report found that "data coverage currently includes demographic and school-level information but lacks any assessment, payroll, or finance data". To ensure that all information is available for reporting purposes, there is a need to integrate assessment, payroll and finance statistics into the EMIS for both MESC and SQA.

MESC has commented that a TA is in the process of developing a MESC system which will enable the linking of student achievement and teacher data. There is also a need for the integration of data on individual students (SEN) and teacher personnel data into a common database that can be used to produce education indicators for different sub-populations and components, such as disability, vulnerability etc.

Statistical classification and sectorization systems

A national classification of education field of studies exists and is applied:

- for the PSET Statistical Bulletins 2012 and 2013 the New Zealand Standard Classification of Education (NZSCE) was the reference document
- from PSET Statistical bulletin 2014 onwards, SQA Approved Classification of Fields of

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[35] UIS defines the completion rate as the percentage of a cohort of pupils enrolled in the first grade of primary education in a given school year who are expected to complete this level of education. The CCR is the product of the probability to reach the last grade and the probability to graduate from the last grade.
http://glossary.uis.unesco.org/glossary/en/term/2632/en.

[36] However NUS are planning to produce an education statistics digest which will overlap in scope with the SQA publication. USP also produce an annual statistics publication, but this is limited in distribution.

Study is in use.

- MESC uses a nomenclature of curriculum subjects to report statistics by government secondary schools by year of education. Samoa Secondary education includes ISCED level 2 lower secondary education to level 3 higher secondary education

- PSET programmes cannot be all classified according to ISCED levels (4 to 9).

- Vocational training is not separately identified; this term is used in a MESC graph presenting "Yr 12 School Certificate Vocational Subjects"; SQA combines Technical and Vocational Education and Training (TVET).

In close collaboration with SQA, UIS has prepared an ISCED 2011 mapping for Samoa which maps the Samoa Qualifications Framework to the ISCED levels of education[37].

Data recording practices

MESC and SQA record age of student or pupils according to different specific reference dates; MESC in the school year, by March, and SQA by the end of the year (7th of November).

MESC has two different questionnaires (School Census and Student Education Number SEN) sent to schools that include the information on the birth date and age. The school census indicates the reference period/date. However, some age issues exist. All children might not have birth registration and the age may be mis-reported by family members.

SQA defines "Graduates" as those who successfully complete an educational programme during the reference year of the data collection, which is the academic year spanning in Samoa from March to December. There is no indication that graduation related to an academic year occurs during the following calendar year.

There are no statistics on expenditure regularly produced within the education sector.

4.7 Integrity

The principle of objectivity in the collection, processing, and dissemination of statistics is firmly adhered to.

Principles of statistical policies and practices

The prime purpose of producing education data and statistics is to inform decision making processes within the education sector and to provide public information on the state of education. At government level, there is a demand for data on education to report to Cabinet, to regional and international institutions of which Samoa is a member. As a consequence, more official education statistics will be required, stressing the necessity to explicitly and firmly adhere to this objectivity principle and the professionalism, transparency and ethical values adopted in the Fundamental Principles of Official Statistics adopted in 2014 by the UN General Assembly[38].

Transparency of statistical policies and practices

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[37] This is supported by the Samoa SABER EMIS report (2015) which found that the structure of the education system is not classified according to the ISCED education level codes prescribed by UNESCO (p 9).
[38] Fundamental Principles of Official Statistics

The Statistics Act recognises implicitly the production of official statistics by SBS; nevertheless, the Government Statistician may make recommendations to a State entity in relation to the generation, collection, analysis, certification, or publication of statistics. SBS reproduces in its Statistics Abstract statistics produced by MESC and SQA; however, there is no acknowledgement or recognition of the official statistics produced in the MESC Statistical Digest or the SQA Statistics Bulletin.

Ethical standards

The part IV of the Public Service Act 2004 (values, principles and code of conduct) amounts to a public sector code of ethics guiding generally the behaviour of public civil servants. There is no evidence that there are departures from the main values required from staff in charge of producing education statistics.

5. Recommendations

5.1 General

The recommendations are aimed at responding to the findings of the DQA assessment and are presented according to the domains of the DQA framework: enabling framework; data production; data use and dissemination. The recommendations aim to improve:

- the policy/legal frameworks and technical capacity for producing sector-wide education statistics to better respond to international, regional and national official commitments in terms of statistical reporting;

- the quality of data and indicators necessary to monitor, evaluate and report on national policies; many of these are also those needed to report internationally;

- the dissemination and utilisation of education statistics through production of statistical products that meet the needs of various stakeholders.

5.2 Enabling Environment

1. Initiate stakeholder engagement strategy (MoU) to enhance data sharing and ownership among producers and providers of education data and statistics. A newly developed Sector-wide Research Strategy and Action Plan will be the first step towards enabling data sharing.

2. Holding of a first stakeholder meeting between producers of national education statistics and indicators and the community of users. The Sector has already conducted a Situational Analysis of the sector Information Management System.

3. Develop an EMIS policy that provides for the mandates, roles and responsibilities for the production of education sector statistics. A Sector-wide EMIS policy is yet to be developed and assistance will be needed.

4. Enhancing statistical production as distributed between MESC, SQA and NUS by improving capacity of each partner to deliver efficiently the relevant data under its authority. The re-establishment of School Inspectors in 2017 will assist relevant MESC Divisions with ensuring schools provide required relevant data for MESC to deliver efficient data collection and data validity

5. Establishing a sector-wide team in charge of the production and dissemination of Education statistics and indicators. An Education Sector Research and Policy Subcommittee is established to support the Sector Coordination Division towards achieving improved sector coordination of research, policy and planning development.

6. Integrating the production and dissemination of national education statistics and indicators into a central programme of work. For example, SSLC results are provided to NUS for their Foundation programme and other certificate courses (L1-4 as per SQA Framework).

5.3 Data Production

7.   Support the production and extension of MESC and SQA annual education digests incorporating data from early childhood education, primary and secondary schooling, and post school education and training into a sector-wide publication. Since 2015, the annual MESC Statistical digest provides more data and information pertaining to Early Childhood Education to Secondary Education. This has been in collaboration with the local UNESCO office to ensure clarity and easy reading.

8.   Automate extraction of tabular data and/or data files for both national and international reporting, such as required for education digests, independent verification reports, and UIS questionnaires. Secondary National examination results are automated via SEMMIIS for analysis and reporting purposes.

9.   Documentation of data collection methodologies and guiding principles for all stakeholders to have a common reference framework (such as an EMIS policy and procedures) to improve the sharing and quality of data within the sector. MESC now has its own Research Guidelines in place.

10. Integration of the school, student and teacher data for monitoring the SESP and SDG 4 indicators into existing data collection instruments, and developing a system which will enable the linking of student achievement and teacher data

11. Assisting agencies to produce comprehensive meta-data, including definitions and classifications, and making available to users both in the digests currently released and in standalone documents posted on MESC and SQA websites.

12. Planning and holding regular technical meetings in sector taskforces to improve collaboration on methodology and production activities for education statistics.

5.4 Data Use and Dissemination

13. Preparing and disseminating an annual sector-wide education statistics report and ensuring that this report is ready before the annual review of the Education Sector Plan. The annual Sector-wide review is scheduled in the first Quarter of every Financial Year (September).

14. Provide a sector-wide workshop and technical assistance with the content maintenance of education statistics on the MESC, SQA and SBS websites to enhance the direct access to EMIS information.

15. Train MESC, SQA and NUS officers, especially EMIS and M&E staff, in analytical and visualization skills to enhance the presentation of education statistics.

16. Improve dissemination of education statistics through various media, such as production of fact-sheets, brochures, school reports, Excel statistical tables, Individual Student examination reports, and individual student assessment maps for each subject.

5.5 Education Data Quality Improvement Plan

This report strongly recommends that an education data quality improvement plan is discussed, proposed and formally adopted as an education sector-wide initiative coherent with the Samoa Education Sector Strategy and the Samoa Strategy for the Development of Statistics.

The development of the plan should proceed by stages with reporting endorsed by the relevant decision making level. As a pre-requite, a proposed roadmap document showing the way forward should be prepared and agreed, i.e. what is expected, the ways and means to draft, adopt and disseminate the final strategy document.

An education data quality improvement task force should be set-up for the purpose of drafting the documents, and whose mandate and programme of work would be specified at the time the work-plan is drafted. The Education Statistics Advisory Committee (ESAC) could act as a steering committee supervising the whole process on behalf of the education sector.

MESC seeks assistance in developing a road map for putting together a data quality improvement plan. It is recognised by the sector that there is a need for sector wide data quality improvement planning as a requirement for the resourcing and implementation of activities to improve the quality of the education statistical system in Samoa. The roadmap provides guidance as to the steps needed to develop the plan, the improvement plan itself details the activities to be implemented, including a costed multi-year work plan, and a monitoring and evaluation framework. The improvement plan can either be a standalone document or be incorporated with the education sector plan. UIS is able to assist the ESWG taskforce to design and develop the data quality improvement plan.

The recommended successive stages are the following:

- An overall roadmap for the data quality improvement plan proposing a way forward for its development.

- A data quality improvement plan which identifies the statistical information to be delivered over the coming years and of the capacities needed for that purpose.

- A multi-annual work plan implementing the data quality improvement plan together with a monitoring and evaluation framework.

5. ANNEXES

Annexes

a. Reporting requirements in Samoa

National

Samoa Development Strategy
KEY OUTCOME 7: improved focus on access to education, training and learning outcomes

Progress Quality teaching and learning at all levels of education;

Increased number of quality assured providers, programs and internationally recognized qualifications;

100% of schools meeting the Minimum Service Standards (MSS) for Student Achievement;

Adequate number of qualified teachers graduating from NUS sustained;

Increase access to relevant educational and training opportunities at all levels;

Increased number of students with disabilities being main-streamed at all levels;

Integrated use of ICT in teaching and learning;

Strengthen linkages between education and training development to national goals;

Increased employability of graduates from PSET providers;

Integrated use of ICT in teaching and learning;

Improve coordination of planning and policy development at all levels;

Enhanced capacity for planning, research and policy development across the sector;

PSET knowledge management and information system developed and implemented;

Sector Coordination Mechanisms established;

Upgrade facilities and resources and sustain efficient management across the sector;

Improved service delivery in all sectors;

Improved facilities and resources across the sector;

Education sector strategy
1. Enhanced Quality of Education at All Levels

% of children categorized as At Risk in English and Samoan Literacy at Years 4 and 6, by gender [SPELL Results, Baseline 2012]

% of children categorized as At Risk in Numeracy at Year 4 and 6, by gender [SPELL Results, Baseline 2012]

Number of students passing Year 12 National Examinations in Maths and Science

Literacy levels (English and Samoan) at years 12 and 13 [Baseline 2010]

% of PSET students graduating with nationally internationally recognised qualifications

% of Samoan qualifications recognised nationally and internationally

2. Enhanced Educational Access and Opportunities at all Levels

Net enrolment rate for primary education by gender [MDG2]

% of children enrolling in year 1 who complete year 8, by gender [Primary completion rate MDG2]

Net enrolment rate for secondary education, by gender

Transition rate to secondary education, by gender [GPE]

Secondary Completion Rate, by gender [GPE]

Transition rate from secondary to PSET, by gender

Enrolment rate within formal PSET

3. Enhanced Relevance of Education and Training at all Levels

Parents of secondary school leavers' level of satisfaction with the relevance of their children's knowledge and skills to the national economic, social and cultural needs

Employers of school leavers' and PSET graduates level of satisfaction with the relevance of their knowledge and skills to the workforce

% of PSET graduates finding employment on exit

4. Improved sector Coordination of Research, Policy and Planning Development

5. Established Sustainable and Efficient Management of All Education Resources

Level of satisfaction of the Ministry of Finance with financial management, auditing and procurement in MESC, SQA and NUS

Level of satisfaction of senior management of MESC, SQA and DPs with the quality and effectiveness of monitoring and evaluation processes across the sector

Actual Expenditure Out-turn for the Sector as % of Budget: Recurrent SIG, Recurrent ESSP Projects

MESC strategic plan

Improve the percentage of government schools meeting the approved teacher student ratio from 77% in 2011 to 80% in 2015 for primary schools, and 58% in 2011 to 61% in 2015 for secondary schools

National overall retention rate from Year 1 to Year 8 to be improved from 82% in 2011 to 85% by the commencement of the 2015 school year

National overall transition rate from Year 8 to Year 9 to be improved from 87% in 2011 to 89% by the commencement of the 2015 school year

Gender Parity Index (GPI) for primary and secondary enrolment to be within the range of 1.03 to 0.97 or vice versa

Number of schools meeting MSS

Average scores of internal and external exams improved

Number of successfully qualified teachers

Number of teachers trained

All government teachers are registered

Number of high performing schools

Number of schools implementing the bilingual curriculum

Number of schools implementing Inclusive Education policy

Number of ECE centres implementing the ECE policy

Regional and International

Pacific Islands Forum

The Pacific Education Development Framework 2009-2015(PEDF) re:Pacific Education Development Framework (PEDF) 2009-2015 and PEDF monitoring and evaluation framework

Pacific Education Development Framework: monitoring and evaluation framework

Strategic Sectors (SSE)

SSE1: Early Childhood Care and Education (ECCE): Increase in capacity [teachers, plant & equipment] of X%. A X% increase in enrolment of which X% are vulnerable and disadvantaged children. Professionally assessed and validated programmes sensitive to local cultures and languages. Teaching & learning; resources & standards; salary and service conditions of teachers demonstrate improvement through qualitative assessment methodologies. National ECCE policies and planning frameworks are in place with clear roles & lines of responsibilities between government and coordinating cross-sectoral bodies.

SSE 2: Formal School Education (Primary and Secondary): Universal Basic Education (UBE) achieved as measured by The Global Monitoring Report. X% increase in girls' participation. No. of completed research studies into boys' performance. Participation from remote and disadvantaged communities is increased by X%. Published polices and frameworks generated by coordinating bodies at the national, regional and local levels. New revised curriculum published. Policies on language and culture in Formal Schooling published. X% of budgets allocated to infrastructure development announced.

SSE 3: Technical & Vocational Education and Training (TVET): X% increase in enrolments on skills development courses with demonstrable increases in participation of women, girls and marginalised communities. Professionally assessed and validated skills development programmes. Plans and policies published jointly by coordinating bodies.

SSE 4: Non-Formal Education (NFE): Publication of reviews on the provision of non-formal education with strategies to increase their number and participation rates.

SSE 5: Teacher Development; In-Service Education; Pre-Service Education Enhancing the status of the teaching profession. X% increase in the number of trained teachers. Reviews of the quality of education provision including assessments of school leadership and governance published.

SSE 6: Systems Governance & Administration: X% of country budgets allocated to education. Donors adopted sector-wide approaches to planning and aid commitment to the region. Reviews of education management and operational practice undertaken with proposals for better coordination and clear lines of responsibility.

Cross-Cutting Theme (CCT):

CCT 1: Language & Culture: Policies and plans on Pacific language and culture published.

CCT 2: Students with special educational needs & Inclusive education: Policies and plans on access to education for SEN students published.

CCT 3: Gender Equity: An X% increase of girls in secondary education. An X% increase of girls in TVET. Public information on the value of and to rights education for all published. Literacy levels in the population published with policies to address shortfalls. Policies to address the lagging educational performance of boys in primary and secondary education published. Alternative education delivery strategies to address inhibiting geographical access issues published.

CCT 4: Information & Communications Technology: Dialogue between Ministries, power

companies and suppliers of ICT equipment to address issues that inhibit ICT provision commences. Policies addressing issues of ICT in education written and published. X% increase in teaching and administrative staff who have competency in ICT. X% increase in the number of courses where ICT is a major component.

CCT 5: Education for Sustainable Development: Strategies on how education can contribute to awareness about the effects of climate change and challenges to ECO systems are formulated. Plans for the integration of ESD issues into curricula are written.

CCT 6: HIV & Aids: An assessment of the state of preparedness of schools to supportive of those affected by HIV/Aids including teachers and students is undertaken. An audit of the extent of inclusion of HIV and AIDS prevention into formal school curricula is completed HIV/ AIDS into education sector planning is main-streamed.

CCT 7: Youth: Existence of government structures at national level to coordinate youth activities is identified. Existence of alternative pathways for out of school youths or 'second chance' opportunities are identified. Existence of qualification systems that gives recognition to achievement through a range of assessment evidence reducing the rate of 'push outs' through examination failure are identified. Existing policy interventions targeting youth issues are identified. Establishment of TVET and NFE courses to address the needs of youth who have dropped out of formal education. Trained counsellors in schools are introduced. Opportunities for youths to have a voice in relevant development dialogue and decision-making are created.

CCT 8: Poverty: School grant formula changed to reflect high/extreme socio-economic disadvantage. School fees are not a barrier to access in basic education. Identification of education strategies to improve quality of education to the poor. Identify integrated cross sectoral approaches to address food security, health and housing issues. The findings of research, household surveys and studies on barriers to accessing education amongst the poor and isolated and marginalized groups are incorporated into policy. The effective contribution of education in development of National Poverty Reduction Strategies is identified.

SPC (SDD)
National Minimum Development Indicators (all are MDGs except indicator 9. Pupil Teacher Ratio)
Proportion of pupils starting grade 1 who reach last grade of primary
Gross enrolment rate - Primary school
Gross enrolment rate - Secondary school
Net enrolment ratio in primary education (%)
Literacy Rates of 15-24 year olds (%)
Ratio of girls to boys in primary education
Ratio of girls to boys in secondary education
Ratio of girls to boys in tertiary education
Pupil Teacher Ratio

UNESCO (UIS)
Each year the UNESCO Institute for Statistics (UIS) runs a Survey of Formal Education to provide internationally comparable data on key aspects of education systems, such as access, participation, progression and completion, as well as the associated human and financial

resources dedicated to them. The survey collects information on formal education programmes only classified by level of education as defined in the ISCED 2011 revision .

The following questionnaires comprise the Survey of Formal Education [39]:

UIS/E/A on students and teachers (ISCED 0-4);

UIS/E/B on educational expenditure; and

UIS/E/C on students and teachers (ISCED 5-8).

Sustainable Development Goal 4 Indicators
Work still in progress as at March 2016.

4.1.1. Proportion of children and young people:

(a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex

Sources and data collection: Various international assessments (e.g., PIRLS, PISA, TIMSS), regional learning assessments (e.g., LLECE, SACMEQ, PASEC), national and citizen-led learning assessments. While common scales are being developed, monitoring based on the results of individual studies will be necessary.

4.2.1: Proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being, by sex

Sources and data collection: One possible source is the Early Childhood Development Index from UNICEF's Multiple Indicator Cluster Surveys (MICS). In addition, there are several regional-and national-level assessments that are also being explored.

4.2.2: Participation rate in organized learning (one year before the official primary entry age), by sex

Sources and data collection: ?

4.3.1: Participation rate of youth and adults in formal and non-formal education and training in the last 12 months, by sex

Sources and data collection: Household surveys which collect retrospective data on the participation of young people and adults in education or training programmes in a specified period in the recent past (usually the last 12 months)

4.4.1: Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill

Sources and data collection: Household surveys which collect data on the use of selected ICT skills.

4.5.1: Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict-affected, as data become available) or all

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39 Questionnaires and manuals

education indicators on this list that can be disaggregated

Sources and data collection: The sources are the same as for the underlying indicators for this goal.

4.6.1: Percentage of population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex

Sources and data collection: This indicator is collected via skills' assessment surveys of the adult population.

4.7.1: Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment

4.a.1: Proportion of schools with access to :(a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; (g) basic handwashing facilities (as per the WASH indicator definitions)

Sources and data collection: Administrative data from schools and other providers of education or training.

4.b.1: Volume of official development assistance flows for scholarships by sector and type of study

Sources and data collection: Data are compiled by the Development Assistance Committee (DAC) of the Organisation for Economic Co-operation and development from returns submitted by its member countries and other aid providers.

4.c.1: Percentage of teachers in: (a) pre-primary; (b)primary;(c) lower secondary; and (d) upper secondary education who have received at least the minimum organized teacher training (i.e. pedagogical training) pre-service or in -service required for teaching at the relevant level in a given country

Sources and data collection: Administrative data from schools and other organized learning centres.

b. Producers of education statistics

MESC

At MESC, the Information analysis unit within Policy Planning and Research Division (PPRD) is in charge of 'Managing the collection, collation, analysis and presentation of data to management and educational stakeholders'; and for that purpose to:

- Provide data support to strategic planning and management decision making;
- Produce and present analytical reports to inform research and policy development;
- Provide data to ensure proper allocation of resources to schools;
- Conduct the **annual school census**;
- Develop and produce the **MESC annual statistical digest**;
- Update school profiles;
- Update the student education number (SEN) register;

- Provide data for efficient planning and utilization of resources and effective performance monitoring;
- Produce the annual school term calendar;
- Assist with the development of the MESC annual report

Manumea, the Ministry's school census information system (an embryonic EMIS system) is managed and maintain with support from the ICT and Media Division. See also October 2015 World Bank SABER Samoa EMIS report.

Information required from schools

The 2009 Education Act provides that:

(7) An application for enrolment of a child as a student at a school must include any information the Chief Executive Officer may require relating to:

(a) the child's identity;

(b) the child's age;

(c) the identity of the person who is enrolling the child;

(d) the child's place of residence; and

(e) any other matter in respect of enrolment at any school.

(8) The Chief Executive Officer may specify a form of application for enrolment under this section to be used in Ministry schools and village schools.

11. Schools to keep rolls - The principal of every school must ensure that a roll is kept containing **the name and address of every student enrolled at the school and any other information that the Chief Executive Officer specifies by Notice in writing.** 12. Schools to keep attendance registers – The principal of every school must ensure that an attendance register is kept which records for every school day the attendance or absence of every student enrolled at the school and any other information that the Chief Executive Officer specifies by Notice in writing.

27. Requirement for registration-(1) A person or organisation must not operate a private school or mission school unless the Chief Executive Officer has registered the school under this Part.

33. Register of private schools and mission schools-(1) The **Chief Executive Officer must keep and maintain a register of all schools that have been registered** under the provisions of this Act.

34. Returns by proprietors of registered schools-

(1) The proprietor or principal of every registered school must provide the Minister or the approved organisation that approved the school's registration **with a return in the form approved by the Minister on or before 31 March in each year**.

(2) A proprietor or principal of a registered school must not wilfully make any false entry in a return under this section.

Production and dissemination of statistics at MESC

The annual school census, held on the first week of March, collects information from government, village, private and mission primary and secondary schools. The information is stored in the Manumea database system.

Data for Early Childhood Education (ECE) is collected from monitoring visits conducted by the Ministry. This information is stored separately.

Other Data are collected from a range of internal sources such as examination results and personnel information.

The main dissemination channel for statistics produced by MESC is the annual Statistical digest (re: Education statistical bulletin 2016) that presents a set of definitions used. Data are available on demand to Information analysis unit. Statistics are also provided to regional and international institutions (see i.e. National Minimum Development Indicator Database Secretary of the South Pacific and Samoa profile UNESCO Institute of Statistics).

SQA

The Authority has power to carry out research activities it considers relevant for the performance of its functions. The Research, Policy & Planning Division is in charge of carrying out research and of information analysis and dissemination and produces the annual Post School Education and Training Statistical Bulletin. The Corporate services division develops, implements, monitors, and reviews an Information Management Systems (IMS) call EduNet that enables:

- PSET providers to better manage student records.
- PSET providers, using a standard electronic format to provide data that is critical to PSET sector coordination. This includes data on programmes and components offered and detailed data on learner achievements.
- The SQA to effectively manage the following: provider registration; programme accreditation; provider quality audit; provider and national qualifications on the Samoa Qualifications Framework; and sectoral planning and performance monitoring.
- Individuals and organisations to access information on PSET in Samoa via the SQA website.

Information required from PSET providers

SQA Act 2010 provides that:

30. Authority to obtain information-

(1) Subject to subsection (2), every person or provider shall provide information to the Authority relating to a person or provider where the Authority so directs by giving notice in writing.

(2) The powers conferred by subsection (1) of this section may be exercised only where the obtaining of the information or documents is necessary for the purposes of the performance of the functions of the Authority.

(3) Despite anything in this Act, every formal Post School Education and Training (PSET) provider registered under this Act, must on an annual basis and no later than the 28th day of February of each year; submit all information prescribed by regulations throughout the previous year to the Authority.

(4) Any person who obtains any information for the Authority under this provision shall take every reasonable step to ensure that such information is kept in such manner to ensure that the contents of the information are kept confidential and used only for the purposes of performing the functions of the Authority.

(5) Any person or provider who contravenes the provisions of this section commits an offence and shall be liable to a fine not exceeding 100 penalty units and 10 penalty units, for each day that the offence continues.

31. Power to approve forms - The Authority may approve, amend, or replace the form for any application, certificate, licence, notice, agreement or any other document required under this Act.

37. Regulations-The Head of State, acting on the advice of Cabinet, may from time to time, make such regulations as are necessary or convenient for the purpose of carrying out or giving full effect to the provisions of this Act:

> ....
> prescribing lists or types of information required to be provided by providers on an annual basis;
>
> ....

Production and dissemination of statistics at SQA
Annually, with Corporate Service Division support, Research Policy and Planning Division collates data necessary to publish the SQA PSET Statistical bulletin. Re: PSET Statistical bulletin 2015. SQA uses definitions derived or adopted from the SQA QA Policies and the Organisation for Economic Co-operation for Development (OECD) Glossary.

In 2016, the Samoa Qualifications Authority (SQA) conducted a national tracer survey of Post School Education and Training (PSET) graduates. In 2014 SQA conducted the Survey of Technical and Vocational Education and Training (TVET) Graduates' Employers to follow-up on the information provided by the graduates during the 2013 Post School Education and Training (PSET) Tracer Survey on 2009, 2010, and 2011 TVET Graduates (referred to as the '2013 tracer study').

NUS, USP, APTC...
The National University of Samoa, the University of the South Pacific and the Australia-Pacific Technical College as registered PSET formal providers with SQA, supply information required by SQA about their PSET activities in Samoa; the related statistics are presented annually in the PSET Statistical bulletin.

USP and APTC produce statistical information for their entire regional activities for all their students and campuses; generally the statistical data are presented in their reporting documentation. re:

- USP Statistics 2011
- APTC Annual Report and Plan 2014-2015

SBS
As part of its Statistical Abstract, Samoa Bureau of Statistics reproduces statistics already published

by MESC and by SQA; they relate to the production of education services; (re) publication by SBS is an implicit recognition of these data being 'official'.

Education status within the entire population is a theme of analysis in nearly all households censuses and surveys (Population census, Household Income and Expenditure Survey, Demographic and Health survey, Labour force survey, Agriculture survey, ...). Below are the table of content of chapters related to education in the main SBS recent surveys and census reports.

2011 Population census report

2011 Socio-Economic Atlas

2012 Labour Force Survey

2012 School to Work Transition Survey

Chapter 3   Educational Attainment

Table 3.1: Educational attainment of out-of-school youth by current activity status

Table 3.2.1: Educational attainment of youth's mother

Table 3.2.2: Educational attainment of youth's father

Table 3.3: Level of education of out-of-school respondent in comparison to parents

Table 3.4: Share of early school leavers and reason for leaving school

2014 Demographic and Health Survey

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c. Definitions in use

MESC 2014 Statistical bulletin

1. Apparent Retention Rate: compares the number of students in a given year with the size of the cohort. For example, the apparent retention rate of Years 9-12 for 2014 is calculated as the number of students in Year 12 in 2014 divided by the number of students in Year 9 in 2011.

2. Completion Rates: the percentage of students sitting the national exams is a measure of completion rates, e.g. percentage of students sitting the Year 8 exam is a measure of how many students starting Year 8 actually complete Year 8.

3. Drop-out Rate: the percentage of students who neither progress from one level to the next nor repeat the same level.

4. Pri-Sec (Primary-Secondary): a school that provides both primary and secondary levels, e.g. Paul V1 College has Year 7 & 8 levels. It should be noted that Robert Louis Stevenson School is counted as two schools because of their physical locations.

5. SPELL Test: a test taken by all year 4 and year 6 students in Government schools. Most Non-Government schools also participate, but it is not compulsory. It provides an indication of the students whose learning outcomes are identified as being at risk so that they receive attention from teachers in their reading and numeracy programmes.

6. Student Teacher: Ratio is calculated as the number of students at a school divided by the total number of teachers (including Principals) at the school. Data is from Annual School Census.

7. Transition Rate: is the percentage of students who complete one level and move on to the immediate/next level. For example, the transitional rate into Post-Secondary studies is the number of students who commenced post-secondary education in 2014 (Institute of Higher Education, Institute of Technology) as a percentage of the students who were in Year 13 in 2013.

8. Promotion Rate: is the proportion of students who have successfully completed a Year Level and proceeded to the next Year Level the following year.

9. Net Enrolment Rate: is the enrolment in a particular education level of the official school age-group expressed as a percentage of the corresponding population. This rate can be calculated by education level, e.g. primary or secondary.

10. Gross Enrolment Rate: is the total enrolment for a particular education level (primary or secondary), regardless of age, expressed as a percentage of the eligible official school-age population of that particular educational level in a given school year.

11. SPECA: focuses on measuring competencies and readiness of students in future performance.

12. Beginner: the student will take time to learn, need special training and exposure in different levels of skills needed.

13. Proficient: the student requires attending classes, courses and study to learn various areas of skills.

14. Advance: the student can easily learn when guided through trainings or teachings. He/She is recommended to take courses or tracks that require various areas of skills.

SQA 2014 Statistical bulletin

Definitions (derived/adopted from the SQA QA Policies and the Organisation for Economic Co-operation for Development (OECD) Glossary):

1. Age - Refers to age of students (enrolments, graduates) as at 7th November 2013.
2. Domestic Student - Refers to permanent residents of Samoa enrolled in a study programme.
3. Drop-outs - Refer to students who neither graduated in 2013 nor re-enrolled under the same programme in 2014.
4. Enrolment - Persons enrolled and/or registered in a programme of education.
5. Formal Provider - An organization is deemed to be 'formal' if it falls into one or more of the following categories:
   - Provides an education and training programme that leads to a qualification registered on the SQF;
   - Receives or applies for funding from Government or from any other donor through the Government for education and training programmes designed to meet the requirements of qualifications;
   - Uses or wishes to use a protected term in the name of the organization or in the names of any of the courses, programmes or qualifications that it provides;
   - Enrols foreign students for a period of more than two months, in the aggregate, in a calendar year in any of the education and training programmes it provides;
   - Is a Samoa-based organization providing programmes or courses in Samoa through cross-border arrangements with a foreign-based provider using any arrangements such as double or joint degree, twinning or franchising, and articulation;
   - Is an organization based in a foreign country that wishes to provide education and training programmes in Samoa.
6. Full-time Student - At the tertiary level, an individual is considered full-time if he/she is taking a course-load/educational programme considered to require at least 75 per cent of a full-time commitment of time and resources. Additionally, it is expected that the student has remained in the programme for the entire academic year.
7. Gender - Female or Male
8. Graduates - Graduates are those who successfully complete an educational programme during the reference year of the data collection.
9. International Student - Refers to students who are not permanent residents (irrespective of citizenship) of Samoa that have migrated to Samoa for the singular purpose of studying and are enrolled in a study programme.
10. Lecturers/Trainers - Refer to persons employed in an official capacity for the purpose of guiding and directing learning experiences of students, irrespective of his/her qualification or the delivery mechanism, i.e. whether face to face and/or at distance. The definition excludes educational personnel who have no active teaching duties (e.g. Principals who do not teach and administration staff).
11. Mode of Study - Refers to the study load of the student, whether full-time or part-time.
12. Non Award – refers to parts of a programme or courses students enrol in without the intention of acquiring a qualification.

13.   Part-time Student - Refers to an individual whose study load is less than that of a full-time student and who consequently will require a longer period of time to complete an equivalent educational programme.

14.   Programme - Means a coherent set of courses, modules, paper or units designed to meet the requirements of a qualification.

15.   Provider - Means an organization or person that intends to offer or is offering Post School Education and Training (PSET) in Samoa.

16.   Post School Education and Training - Refers to all the learning that occurs outside of the formal early childhood education, primary and secondary education school system. It includes tertiary level education at university, pre and in service professional education, technical and vocational education, theological and providers of religious instruction, apprenticeship, non-formal and on the job training.

17.   Qualification - Means a formal certification that a person has successfully achieved all learning outcomes and/or competencies relevant to identified individual, professional, workplace or community needs.

18.   Student - Persons enrolled and/or registered in a programme of education.

d. Methodological annex:

DQAF Good practices for the review of Education statistics.
0- Pre-requisites of quality

Data quality is regulated by a framework of statistical laws, policies, standards and practices, and technical and human resources. This framework cannot exist in a vacuum. Pre-requisites of quality, as one of the dimensions of data quality, do not comprise a qualitative dimension, but refer to the evaluation and understanding of the institutional context in which the statistical processes exist and which is essential to the other dimensions. This dimension presents the integrated nature in which available statistical laws, as well as essential human and technical resources, impact on other quality dimensions.

0.1 Legal and institutional environment

0.1.1 The responsibility for collecting, processing, and disseminating statistics is clearly specified

1. A law, such as a statistical law, or other formal provision (e.g. inter-agency protocol or executive decree, or Education ACT) assigns primary responsibility to an agency (or agencies) and provides the authority to the agency (or agencies) for the collection, processing, and dissemination of the education statistical data.

2. Institutional arrangements are consistent with the above assignment of responsibility (e.g. other existing institutional Act's (including an existing Statistical ACT) that designates responsibilities to line ministries concerned with education statistics data).

0.1.2 Data sharing and coordination among agencies producing data are adequate

3. Arrangements or procedures are in place to ensure the efficient and timely flow of data between agencies (e.g. service level agreements to provide secondary sources of data, service level agreements between different levels of government responsible for data collection and reporting).

4. Arrangements are in place to ensure consistency of methods and results (e.g. service level agreements with education statistics data providers, available data producing standards).

5. Contacts (e.g. regular meetings and/or workshops) are maintained with other data producing agencies to ensure proper understanding of data requirements, to avoid duplication of effort, and to take into account respondent burden.

0.1.3 Respondents' data are to be kept confidential and used for statistical purposes only
The confidentiality of individual respondent's data is guaranteed and that guarantee is widely known

6. In collecting data, whether using administrative data or surveys, a law or other formal provision clearly states that individual responses are to be treated as confidential, and shall not be disclosed or used for other than statistical purposes unless disclosure is agreed to in writing by the respondent.

7. In collecting data, respondents are informed of their rights and obligations with regard to the provision of information, and they are informed that the information they provide will be used for statistical purposes only.

Procedures are in place to prevent disclosure of individual data

8. Access to individual data is restricted to authorized staff who require the information in the performance of their duties.

9. Steps are taken to secure the premises of the data producing agency and its computer systems to prevent unauthorized access to individual data.

0.1.4 Statistical reporting is ensured through legal mandate and/or measures to encourage response
A law or other formal provisions are adequate to mandate reporting of information to compile statistics

10. Data-producing agencies have the legal authority to collect data required to compile the statistical data.

11. If reporting is mandatory, there are penalties for non-compliance with reporting requirements

(including misreporting), even if such provisions rarely need to be employed.

Data producing agencies consider carefully respondent burden

12. Data producing agencies provide assistance to respondents in completing and submitting forms (e.g. by providing a point of contact), in order to raise awareness of the importance of good quality statistics and creating goodwill.

0.2 Resources: Resources are commensurate with needs of statistical programs

0.2.1 Staff, financial, and computing resources are commensurate with statistical programs of the agency

Staff resources for compiling statistics are adequate to perform required tasks

13. Overall, the number of staff is adequate to perform the required tasks.
14. The qualifications, skills and experience of the staff are adequate. They are provided formal and on-the job training in statistics and related subjects.
15. Efforts are made to ensure the retention at any point of time of a core contingent of skilled staff (e.g. successive planning is taken into account).

Computing resources for compiling statistics are adequate to perform required tasks

16. Overall, sufficient resources are allocated and best efforts are made to exploit the full potential of modern computing technology for compiling and disseminating the statistical data.
17. Software utilized for compiling and analyzing data is adequate, continually updated, and well adapted to perform existing and emerging tasks.
18. Hardware is adequately provided to ensure efficient processing of data and management of the databases and adequately protected, including through provision of emergency back-up systems for retrieval of statistical series and updates in the event of natural disasters, accidents, and other unusual events.

Financial resources for compiling statistics are adequate to perform required tasks

19. Overall, financial resources for compiling data are adequate to perform required tasks and commensurate with the overall resource availability for the agency.
20. There are forward plans that allocate budgetary resources to future statistical development based upon identified statistical needs for compiling data.
21. Physical facilities (office building, furniture and equipment) and other resources (transportation arrangements) are adequate to perform required tasks.

0.2.2 Measures to ensure efficient use of resources are implemented

22. Managers in the data-producing agency promote a policy vision and a direction that is shared with the staff (through meetings, quality group sessions, circulation of information, etc.).
23. Management takes steps to develop and release the full potential of the staff.
24. Periodic reviews of working processes are undertaken to ensure that they improve.

0.3 Relevance: Education Statistics cover relevant information

25. Data users are consulted and/or kept informed on specific aspects of the current data (e.g. usefulness in terms of detail, periodicity and timeliness).
26. A structured and periodic process of consultation (e.g users' advisory committee or working groups) takes place to review the usefulness of existing statistics and to identify emerging data requirements.

0.4 Quality awareness: Quality is a cornerstone of statistical work

0.4.1 Processes are in place to focus on quality

There is recognition in the organization that quality is a cornerstone of statistical work

27. High level management is sensitive to all dimensions of data quality, and promote a shared concern for quality; managers in the data producing agencies are accountable for the overall quality of data produced by the agency (e.g. integrity, methodological soundness, accuracy and reliability, timeliness, coherence, relevance, and accessibility).

1- Professional ethics

The principle of objectivity in the collection, processing, and dissemination of statistics is firmly adhered to. This dimension captures the notion that statistical systems should be based on adherence to the principle of objectivity in the collection, compilation, and dissemination of statistics. The dimension encompasses institutional arrangements that ensure professionalism in statistical policies and practices, transparency, and ethical standards.

1.1 Professionalism: Statistical policies and practices are guided by professional principles.

1.1.1 Statistics are compiled on an impartial basis.

The terms and conditions under which statistics are produced guarantee the professional independence of the data producing agency.

34 A law or other formal provision addresses the need for the professional independence of the data producing agency (umbrella agency and Education data producing agency) and prohibits interference from others including other government agencies, in the compilation and or dissemination of statistical information.

35 If there is no law or formal provision to support professional independence, traditions or cultures of professionalism are clearly recognized as essential to the credibility of statistical results (e.g. others including other government agencies, understand the importance or non interference.

Professionalism is actively promoted and supported within the data producing agency.

36 Formal (using internal and external experts) and on the job training in the methodology and compilation methods is provided.

37 Professionalism is promoted in the workplace (e.g. the publication of methodological papers, by encouraging participation in organizing lectures, conferences, and meetings with other professional groups, etc.).

1.1.2 Choices of sources and statistical techniques are informed solely by statistical considerations.

38 The choice of data collection instruments, statistical techniques (e.g. processing and validation techniques) is based solely on statistical considerations.

1.1.3 The appropriate statistical entity is entitled to comment on erroneous interpretation and misuse of statistics.

The data producing agency comments when its statistics are misinterpreted or misused.

39 The data-producing agency seeks to build trust in its work by commenting publicly on erroneous interpretations or misuse of the statistical data in the media and in other fora.

40 The data-producing agency seeks to prevent misinterpretation or misuse of statistics by providing explanatory materials and briefings (e.g. to the press), and by following closely the press and other media (e.g. by means of a clipping service).

1.2 Transparency: Statistical policies and practices are transparent.

1.2.1 The terms and conditions under which statistics are collected, processed, and disseminated are available to the public.

41 Agencies publications and/or Websites reproduce material about the terms and conditions under which official statistics are compiled and disseminated (e.g. the statistical law, the fundamental principles of official statistics, mission statements, and codes of conduct under which official statistics are compiled and disseminated).

1.2.2 Internal governmental access to statistics prior to their release is publicly identified.

42 The public is made aware that the approval processes for the publication of the statistical data rests entirely with the data-producing agency e.g. data are approved by the signing authority prior to release.

1.2.3 Products of statistical agencies/units are clearly identified as such.

43 Data released to the public are clearly identified as the data producing agency's product (e.g. by name, logo, and insignia).

44 The data-producing agency requests attribution when its statistics are used or reproduced.

(referencing the source, quoting)

1.2.4 Advance notice is given of major changes in methodology, source data, and statistical techniques.

45 Advance notice is given when major changes in methodology, sources, and statistical techniques are introduced.

1.3 Ethical standards: Policies and practices are guided by ethical standards.

1.3.1 Guidelines for staff behaviour are in place and are well known to the staff.

A clear set of ethical standards has been prepared.

46 There are clear guidelines outlining correct staff behaviour when the agency and its staff is confronted with potential conflict of interest situations (e.g. with respect to avoiding delayed data release in order to get a fee).

47 There are clear guidelines that make the connection between ethics and staff work (e.g. with respect to guarding against misuse and misrepresentation of statistics).

Staff are made aware of the ethical standards.

48 Agencies management acknowledges its status as role model and is vigilant in following the guidelines.

49 New staff members are made aware of the guidelines when they join the organization.

50 Staff members are reminded periodically of the guidelines.

2- Methodological soundness

The methodological basis for the statistics follows internationally accepted standards, guidelines, or good practices. This dimension covers the idea that the methodological basis for the production of statistics should be sound and that this can be attained by following internationally accepted standards, guidelines, or good practices. This dimension is necessarily dataset-specific, reflecting different methodologies for different datasets.

2.1 Concepts and definitions: Concepts and definitions used are in accord with standard statistical frameworks.

2.1.1 The overall structure in terms of concepts and definitions follows internationally accepted standards , guidelines, or good practices.

The concepts and definitions follow internationally accepted standards, guidelines, or good practices.

51 Documentation on national concepts and definitions is available. It covers all major aspects of the dataset.

52 Concepts and definitions follow those used by the UIS, namely the definitions in the UIS/UOE manuals (full-time/part-time enrolment and teachers, private/public, etc.).

53 Deviations from the above concepts and definitions are kept under review.

54 Concepts and definitions used for this dataset are consistent with those used in other national datasets. Deviations are well reasoned.

2.2 Scope: The scope is in accord with internationally accepted standards, guidelines, or good practices.

2.2.1 The scope of the dataset is broadly consistent with internationally accepted standards, guidelines, or good practices.

The scope of the dataset is consistent with the needs to contribute to a sector wide system of education statistics. Scope of this dataset complements other datasets in the system of sector wide education statistics.

55 All relevant educational institutions and programmes are covered. - formal and non-formal

56 Relevant geographical boundaries are used.

57 The dataset does not introduce redundancies, i.e. its scope does not overlap with other datasets.

2.3 Classification/sectorization: Classification and sectorization systems are in accord with national and internationally accepted standards, guidelines, or good practices.

2.3.1 Classification/sectorization systems used are broadly consistent with internationally accepted standards, guidelines, or good practices.

The classification of statistics complies with internationally accepted standards, guidelines, or good practices such as:

58 A national classification of education levels and programmes exist and is applied in this survey. The implementation of the national classification is harmonized with other datasets.

59 An agreed UIS ISCED mapping exists and the team responsible of the dataset is aware of the most recent version of the countries UIS ISCED mapping.

60 Classifications are in accordance with those included in ISCED (e.g. levels of education, field of study, literacy, vocational, technical, and student achievement according to the International Standard Classification of Education (ISCED 2011).

61 A national classification of public and private education exists and allows reporting according to UIS definitions.

2.4 Basis for recording: Data are recorded according to internationally accepted standards, guidelines, or good practices.

2.4.1 Recording system follows internationally accepted standards, guidelines, or good practices.

62 The age of students is recorded according to a specific reference period/date.

63 Graduates' data are attributed to academic year in which the graduates are enrolled.

64 Expenditure data refer to actual expenditure.

3- Accuracy and reliability

This dimension of quality is based on the principle that data produced give an adequate picture of the reality of the education sector. Therefore, this dimension is specific for each data set and reflects the specificity of its sources and treatments. The elements of this dimension cover:

- source data

- statistical techniques

- assessment and validation of source data

- assessment and validation of intermediate data and statistical outputs.

3.1 Source data available provide an adequate basis to compile statistics.

3.1.1 Source data are collected from comprehensive data collection programs that take into account country-specific conditions.

Statistics on enrolment and education resources collected through a regular administrative school census program.

65 An annual administrative routine data collection exercise gathers information on structure of the educational system, students, teachers, and examinations.

66 Coverage is comprehensive in terms of geographic areas (local, regional, central).

67 Coverage is comprehensive in terms of relevant sub-groups of units of collection (e.g. male and female students and teachers, public and private schools, trained and untrained teachers, full-time and part-time students and teachers).

68 School list maintenance procedures are adequate (duplicates, confusion in naming, robustness of administrative code, other noticed discrepancies).

69 The reporting of age data is reliable.

Statistics on Expenditures are collected for all sources of funds and types of expenditure and by level of education.

70 Public (government) data from the levels of government (central, regional, local).

71 Private sources of funds: households and others.

72 International sources of funds from public multilateral organisations for development aid to education including local and foreign NGO's.

Statistics on the quality of learning outcomes collected through assessments of student achievement.

73 There is a regular programme assessment of student achievement, at one or more ages/or levels of education or one or more areas of learning.

74 Assessments include background questionnaires of students and school administrators (principals), for the purpose of being able to study the relationships between family, socio-economic, and school factors contributing to learning outcomes.

3.1.2 Source data reasonably approximate the definitions, scope, classifications, and time of recording required.

75 Source data reasonably approximate the definitions, scope, classifications, and time of recording required.

76 Estimates for school age populations are reasonably up-to-date.

3.1.3 Source data are timely. Data collection system provides for the timely receipt of source data and detailed data.

77 Respondents are made aware of the deadlines set for reporting data.

78 The data producing agencies employ rigorous follow-up procedures to ensure the timely receipt of respondents data.

3.2 Assessment of source data: Source data are regularly assessed and validated.

Accuracy of information is routinely assessed.

79 Administrative and survey data are audited to check the accuracy of source data (e.g., inspection of field collections, random post-enumeration checks).

80 Information is compiled on coverage, sampling errors (where applicable), non-response errors (e.g., non response rates for various socio-economic groups), and the percentage of missing and/or imputed data by methods of imputation.

Appropriate measures are taken to validate data sources.

81 Measures (like audit, inspections, training) are taken to improve accuracy.

82 Data are compared with data from earlier years, to examine reasonableness of year-to-year changes and trends.

Considerations relating to administrative data, the use of school registers is promoted and the accuracy of school registers is periodically assessed:

83 The use of school registers is promoted and the accuracy of school registers is periodically assessed.

84 Students dropping out are removed from the register or identified as no longer enrolled.

85 Students moving or changing schools are removed from the register or identified as no longer enrolled.

86 The register includes all students currently enrolled.

A register of all schools exists and it is well maintained

87 A register of all schools exist

88 It is used to register responding or non responding schools.

89 Public and private schools are clearly identified.

3.3 Statistical technique : Statistical techniques employed conform to sound statistical procedures, and are documented.

3.3.1 Data compilation employs sound statistical techniques to deal with data sources.

Data procedures are sound.

90 Data compilation procedures minimize processing errors such as tabulation errors (=type of data, range etc.) and errors report generation.

91 The data collection instruments are designed in a way that makes them easy to complete and

appropriate for computer processing, and they have also been pilot-tested with a sample of respondents.

92 If respondents fail to submit data due to a lack of resources, appropriate adjustments are made (missing data treatment).

93 Procedures are documented and updated as needed.

3.3.2 Other statistical procedures (e.g., data adjustments and transformations, and statistical analysis) employ sound statistical techniques.

94 Estimation and analysis employ sound statistical techniques (e.g. imputation, data adjustment).

95 Education statistics indicators are computed in accordance with the concepts outlined in Dimension 2.

96 Procedures are documented and updated as needed.

3.4 Assessment and validation of intermediate data as well as statistical outputs are regularly assessed and validated.

97 Data are compared with data from earlier years, to examine reasonableness of year-to-year changes and trends.

98 Data from different sources but measuring the same or closely related phenomena are compared against each other. Results are checked against demographic data, and other survey/census results.

99 Systematic processes are in place to monitor errors and omissions, and address data problems.

3.5 Archiving of source data and statistical results.

The database is structured according to relational standards.

100 Referential integrity is applied.

101 Nomenclatures are systematically used.

102 The database allows to store all information in the questionnaire.

The database is well documented.

103 A documentation material is available.

104 The name of the list of values (lov) tables are standardised.

105 Naming of variables is harmonized.

4- Serviceability

Statistics with adequate periodicity and timeliness are consistent. The quality dimension of serviceability looks at the extent to which statistics are useful for planning or policy purposes. It refers, mainly, to periodicity and timeliness, and consistency. Data is timely when it is current or up-to-date as defined by the owner of the data. Data must be on time and available when it is required, otherwise the credibility of the information system diminishes. Given that data is actually accurate, it looks at the extent to which they reflect a reality either of the moment or of the past.

4.1 Periodicity and timeliness: Periodicity and timeliness follow internationally accepted dissemination standards.

4.1.1 Periodicity follows dissemination standards.

106 The administrative school census is conducted at least once a year.

107 Learning achievement surveys are regularly conducted according to a periodicity responding to the country monitoring needs.

108 Education finance statistics are published annually.

4.1.2 Timeliness follows dissemination standards.

109 Final statistics derived from the administrative school census are disseminated within 6 - 12 months after the start of the school year.

110 The finance statistics are disseminated within 6 - 12 months of the end of the financial year.

4.2 Consistency: Released statistics are consistent within a dataset and over time, and with

other major datasets.

4.2.1 Final statistics are consistent within a dataset.

111 Accounting identities between aggregates: enrolments, repeaters, drop-outs, financial and demographic data are observed.

4.2.2 Final statistics are consistent or reconcilable over a reasonable period of time.

112 Consistent time data are available for an adequate period of time (at least five years).

113 When changes in methodology, statistical techniques or in data collection instruments are introduced, historical data are reconstructed as far back as reasonably possible.

4.2.3 Final statistics are consistent or reconcilable with those obtained through other surveys and data sources.

114 Education statistics are reasonably reconcilable with data from other sources including cross-checking across geographical areas and sub-goups of education.

4.3 Revision policy and practice: Data revisions follow a regular and publicized procedure.

115 Revisions follow a regular and transparent schedule.

116 Preliminary and/or revised data are clearly identified.

117 If studies / analyses of revisions are conducted there are made public.

5- Accessibility

Data and metadata are easily available and there is adequate client (user) support. This dimension is based on the principle that data and metadata should be presented in a clear and understandable way and should be easily available to users. Metadata should also be relevant and regularly updated. In addition, assistance to users should be available, efficient and performed in a reasonable time frame.

5.1 Data accessibility: Statistics are presented in a clear and understandable manner, forms of dissemination are adequate, and statistics are made available on an impartial basis.

5.1.1 Statistics data are presented in a way that facilitates proper interpretation and meaningful comparisons (e.g. layout and clarity of text, tables, and charts).

118 Education data are published in a clear manner, charts and tables are disseminated with the data to facilitate the analysis.

119 Analysis of current period estimates is available.

120 Depending on intended audience and purposes, data of different degree of aggregation (e.g. school region), sub-components (e.g. by gender, by level of education, by age, private and public, full-time and part-time) and additional data (e.g. demographic, socio-economic, geographic information) are routinely made available (not only ad-hoc answers).

5.1.2 Dissemination media and formats are adequate.

121 Data are first released via an information release, which is then followed by a more comprehensive publication.

122 More comprehensive publication follow information release(e.g. annual education statistical yearbook can be made available and disseminated).

123 Recently released data and longer time data can be accessed through an electronic database validated by the data producing agencies.

5.1.3 Statistics are released on a pre-announced schedule and made available to all users at the same time.

124 The statistical data is released according to a pre-announced schedule.

125 The statistical data is released simultaneously to all interested users on the date and or time specified in the pre-announced schedule.

126 The public is informed of the statistics being released and of the procedures to access them (e.g. Internet publications).

5.1.4 Statistics not routinely disseminated are made available upon request.

127 Not routinely disseminated (but non-confidential) specialized tabulations (e.g., sub-aggregates

of units of analysis) are made available upon request.

128 Non-confidential micro-data files (e.g., with information permitting the identification of individual respondents removed) are available to permit analytical use by researchers and other users.

129 The public is informed of the not routinely disseminated and non-confidential data being available.

5.2 Metadata accessibility: Up-to-date and pertinent metadata are made available.

5.2.1 Documentation on concepts, scope, classifications, basis of recording, data sources, and statistical methodologies and techniques is available, and differences from internationally accepted standards, guidelines, or good practices are annotated.

The metadata for the statistical data provides users with an adequate information about what the data mean and about the methodology used to collect and process them.

130 Metadata, including information on concepts, definitions, classification and other methodology, data sources, and statistical techniques are prepared.

131 The metadata is disseminated in a manner that facilitates its access (e.g., websites, statistical publications) and its availability is well publicized (e.g. in catalogues).

132 The General Data Dissemination System (GDDS) includes regularly reviewed and updated summary methodologies and other related metadata related to the different education statistics sub-sectors.

The metadata also provides information on:

133 Metadata provide information on elements that could affect the quality of the data and their interpretation (e.g. biases, response rates, etc.).

134 Deviations from internationally accepted standards, guidelines, or good practices are well documented in the metadata.

5.2.2 Levels of detail are adapted to the needs of the intended audience.

135 A brochure has been prepared to inform general users about the statistical data.

136 A brochure to inform analysts and other users of statistical data is available and updated regularly.

5.3 Assistance with the users: Prompt and knowledgeable support service is available.

137 Prompt and knowledgeable service and support are available to users of statistics. All statistical releases identify specific individuals who may be contacted by mail, telephone, facsimile, or by email.

138 Assistance to users is monitored.

139 Users are informed about schedules for data requests (days when EMIS responds to users).

140 Requests for extra queries are monitored;

e. Samoa Education Management Information Systems: SABER Country Report 2015

Key Policy Areas Status

1. Enabling Environment

The Education Sector Plan (2013–18) lays the groundwork for the establishment of EMIS as the government's core management information system responsible for timely collection, processing, and dissemination of data. However, an overarching EMIS policy and budget are needed to support the continuity of operations and ensure their long-term sustainability.

2. System Soundness

EMIS in Samoa is a simplified system based on a Microsoft Access application. It captures basic demographic data on schools and teachers, including information on infrastructural facilities in schools; however, assessment, payroll, and relevant non-education data are not integrated. Paper-based annual census forms are used to collect data from schools, which are manually entered into the EMIS system. Limited quality assurance reviews are conducted to ensure adequate speed, responsiveness, and sound functioning of the system.

3. Quality Data

Education statistics is linked with the overall education strategy of ensuring sustainable and efficient management of education resources. The entire process of data collection, processing, and dissemination takes about three to four months. Although school inspections are conducted by MESC officials to verify the quality of source data, these are ad hoc and limited. No data manual is used to guide data definitions, layouts, indicators, aggregates, data fields and metadata.

4. Utilization for Decision Making

MESC is the primary stakeholder that uses EMIS data, but this is limited to allocation of school grants. Schools, principals, teachers, and parents are not using data for their core operations. Although the government sends a feedback report to the schools in the form of the annual statistics handbook, this is not useful in informing instruction, improving student learning, and making school management decisions.

f. National Strategy for Development of Education Statistics

Table of Contents

Executive Summary

g. List of persons met and DQAF team members

Persons met

Honourable Mr. Magele Mauiliu Magele	Minister for Education, Sports and Culture
Mr. Matafeo Falana'ipupu Tanielu Dan Aiafi	Chief Executive Officer, Ministry of Education, Sports and Culture
Ms. Ma'ina Maaola Field *(focal point for the mission)*	Assistant Chief Executive Officer (ACEO), Policy, Planning and Research Division, Ministry of Education, Sports and Culture
Heads of division and staff Ms. Rosemary McKay	MESC, SQA, NUS, SPC, SBS, NCECES Deputy High Commissioner, Australian High Commission

Team members

Mr. Scott Pontifex	SPC
Ms. Fabiola Bibi,	SPC
Mr. Patrick Montjourides	UIS
Mr. Bertrand Tchatchoua	UIS
Mr. Gérard Chenais	consultant.

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