PISA

# Making Education Count for Development

## DATA COLLECTION AND AVAILABILITY IN SIX PISA FOR DEVELOPMENT COUNTRIES




Programme for International Student Assessment

OECD

PISA

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## DATA COLLECTION AND AVAILABILITY IN SIX PISA FOR DEVELOPMENT COUNTRIES

OECD
BETTER POLICIES FOR BETTER LIVES

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# Foreword

Since its launch in 2000, the Organisation for Economic Co-operation and Development (OECD)'s Programme for International Student Assessment (PISA) has become a rigorous and comprehensive international assessment of student learning outcomes, serving as a premier yardstick for evaluating the quality, equity and efficiency of school systems. Every three years PISA tests the knowledge and skills of 15-year-old students in three main subject areas of reading, mathematics and science but increasingly also cross-curricular skills, such as problem-solving and teamwork. Students representing more than 70 countries and economies that together make up over 80% of the world economy have participated in the assessment since its launch, including 44 middle-income countries, 27 of which are recipients of foreign aid.

In an effort to make PISA more accessible and relevant to a wider range of countries with lower performance expectations, the OECD has initiated the PISA for Development (PISA-D) project, which sets out to increase the resolution of the PISA tests at the lower end of the student performance distribution, to capture a wider range of social and economic contexts and to incorporate an assessment of out-of-school 15-year-olds. These enhancements will allow middle-income and low-income countries to participate in the PISA assessments most meaningfully and support global measures of reading and mathematical skills as part of the Education Sustainable Development Goal (SDG) agenda. Given that the PISA model of survey implementation can be scaled quickly, PISA has the potential to provide a global metric for measuring progress towards the SDG Education learning for all goal, targets and indicators.

The OECD has been a key partner of UNESCO's in developing the Education SDG framework and works closely with the UNESCO Institute of Statistics (UIS) in the development of indicators that will be used to measure progress towards SDG achievement. In turn, UNESCO, UIS and the World Bank are working as partners of the OECD in support of the PISA-D initiative. It was natural, therefore, that UIS was commissioned jointly by the World Bank and OECD to prepare this report that identifies the current status of system-level data collection and availability (quality and completeness) in six of the eight countries participating in PISA-D. The report identifies country-specific issues to be addressed by participating countries as part of the PISA-D project implementation given that system-level data will be used in the PISA-D analysis and country reports. The report also provides technically sound and viable options to pursue further in respect of addressing the challenges that are identified in each country. The report provides guidance and input for the work of the OECD, its contractors and the participating countries.

This report on the status of system level data in the PISA-D participating countries is a significant contribution to the project, the results of which will increase the understanding of how the achievement of better learning outcomes in a wider range of

countries is enabled and constrained by complex interactions between elements of the education systems, the contexts in which they are embedded, and the policy dynamics operating within those systems. This understanding will enable countries to monitor progress towards national improvement targets, to comparatively analyse factors associated with student outcomes and build institutional capacity for managing large-scale assessments and evidence-based policy-making. This is critically important for the achievement of the Education SDG that emphasises the quality, equity and measurement of learning outcomes for young children through to working adults.

One of the main challenges in pursuing the SDG Education agenda is to define global learning indicators that can be measured and tracked on a global scale over time. The OECD, UIS and the World Bank are working together and with other key practitioners, policy makers, researchers, representatives of governments, civil society organisations, funders, UN agencies, and other stakeholders committed to improving learning outcomes in all countries – particularly, middle-income and low-income countries. The PISA-D initiative is a key contribution to these efforts and this report is an embodiment of the three organisations' (OECD, UIS and World Bank) commitment to working together in support of the measurement and monitoring of learning outcomes in the context of the Education SDG.







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The UNESCO Institute for Statistics (UIS) is the United Nations Educational, Scientific and Cultural Organization's (UNESCO) statistical office and the United Nations depository for global statistics in the fields of education, science and technology, culture and communication. The UIS was established in 1999 and is based in Montreal, Canada. It was created to lead the UNESCO statistical programme and to develop and deliver the timely, accurate and policy-relevant statistics needed in today's increasingly complex and rapidly changing social, political and economic environments.

This report is the result of a collaborative effort benefiting from the work and commitment of several actors.

The UIS would like to express its gratitude to the PISA National Project Managers in Cambodia, Ecuador, Guatemala, Paraguay, Senegal and Zambia, for organising a series of meetings with the various teams contributing to the education system, and who actively participated in those meetings.

This assignment was made possible with the involvement of UIS staff and other contributors under the supervision of Albert Motivans, Head of the Education Indicator and Data Analysis (EIDA). Amelie Gagnon (EIDA) was responsible for its overall co-ordination and for leading the fact-finding visit to Senegal, along with Yacine Ndeye Fall. Alejandro Vera led the visits and collected and compiled the information for Ecuador, Guatemala, and Paraguay; and also helped draft the report. Monica Githaiga collected and compiled the information for Zambia and led the visit there. Said Voffal (EIDA) and UIS Regional Advisors Marc Bernal (sub-Saharan Africa), Juan Cruz Perusia (Latin America and the Caribbean), and Bertrand Tchatchoua (Asia) provided guidance throughout the project.

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# Abbreviations and acronyms

| | |
|---|---|
| Bac | *Baccalauréat*<br>(Baccalaureate) |
| CINE | *Clasificación Internacional Normalizada de la Educación*<br>(International Standard Classification of Education) |
| CSO | Central Statistical Office |
| DAGE | *Direction de l'administration générale et de l'équipement*<br>(Directorate of General Administration and Equipment) |
| DECE | *Dirección de Evaluación de la Calidad Educativa*<br>(Directorate of Assessment of Educational Quality) |
| DEMSG | *Direction de l'enseignement moyen et secondaire général*<br>(Directorate for lower and upper secondary general education) |
| DIGEDUCA | *Dirección General de Evaluación e Investigación Educativa*<br>(General Directorate of Assessment and Education Research) |
| DQAF | Data Quality Assessment Framework |
| DPRE | *Direction de la planification et de la réforme de l'éducation*<br>(Directorate of Planning and Education Reform) |
| DSPRV | *Direction de la solde, des pensions et rentes viageres*<br>(Directorate of Salaries, Pensions and Annuities) |
| ECLAC | Economic Commission for Latin America and the Caribbean |
| ECZ | Examinations Council of Zambia |
| EMIS | Education management information system |
| ENCOVI | *Encuesta Nacional de Condiciones de Vida*<br>(Living Standard Measurement Survey) |
| ENES | *Examen Nacional para la Educación Superior*<br>(National Examination for Higher Education) |
| Eurostat | Statistical Office of the European Union |

| | |
|---|---|
| GDP | Gross Domestic Product |
| IF-MIS | Integrated Financial Management Information System |
| IMF | International Monetary Fund |
| INEADE | *Institut National d'Etude et d'Action pour le Developpement de l'Education*<br>(National Study and Action Institute for Education Development) |
| INEVAL | *Instituto Nacional de Evaluación Educativa*<br>(National Institute for Education Assessment) |
| ISCED | International Standard Classification of Education |
| LIC | Low-income country |
| LLECE | *Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación*<br>(Latin American Laboratory for Assessment of the Quality of Education) |
| LOEI | *Ley Orgánica de Educación Intercultural*<br>(Organic Law of Intercultural Education) |
| MEN | *Ministère de l'Education National*<br>(Ministry of National Education) |
| MFPAA | *Ministère de la Formation professionnelle, de l'Apprentissage et de l'Artisanat*<br>(Ministry of Vocational Training, Apprenticeship and Crafts) |
| MIC | Middle-income country |
| MoE | Ministry of Education |
| NC | National Centre |
| NPM | National Project Manager |
| OECD | Organisation for Economic Co-operation and Development |
| PDF | Portable Document Format |
| PISA | Programme for International Student Assessment |
| PISA-D | Programme for International Student Assessment for Development |
| PPP | Purchasing Power Parity |
| SABER | Systems Approach for Better Education Results |

| | |
|---|---|
| SENESCYT | *Secretaría de Educación Superior, Ciencia, Tecnología e Innovación* (Secretariat of Higher Education, Science, Technology and Innovation) |
| SIS | Statistical Information Systems |
| SMS | Short message services |
| SNEPE | *Sistema Nacional de Evaluación del Proceso Educativo* (National Assessment System of Educational Process) |
| SWOT | Strengths, weakness, opportunities and threats |
| TEVETA | Technical Education, Vocational and Entrepreneurship Training Authority |
| TVET | Technical and Vocational Education and Training |
| UIS | The United Nations Educational, Scientific and Cultural Organization Institute of Statistics |
| UNESCO | The United Nations Educational, Scientific and Cultural Organization |
| UNPD | United Nations Population Division |
| UOE | UNESCO/OECD/Eurostat |
| USAC | *Universidad de San Carlos de Guatemala* (San Carlos University of Guatemala) |
| WEI | World Education Indicators |
| ZQA | Zambia Qualifications Authority |

# Executive summary

This report assesses the current state of data collection and availability, in terms of quality and completeness, at the level of the national education system in six countries that are participating in the Programme for International Student Assessment for Development (PISA-D): Cambodia, Ecuador, Guatemala, Paraguay, Senegal and Zambia.

The data and metadata involved in the assessment form part of the PISA system-level questionnaire, an OECD tool that collects data on contextual variables in educational systems in order to analyse and interpret the results of its international student assessment. The system-level questionnaire used in the most recent PISA implementation consists of ten worksheets that capture data on the structure of national programmes, national assessments and examinations, instruction time, teacher training and salaries, educational finance (including enrolment), national accounts and population data.

The report draws on evidence gathered during site visits in PISA-D participating countries. These visits took place between March and May 2015, and mainly consisted of meetings with National Project Managers (NPMs) and other officials responsible for managing areas covered by this assignment at the national level.

Overall, participating countries are able to report the requested data. The different information systems and legislative frameworks responsible for the relevant data within each country can be evaluated in most cases as advanced or emerging. That means quality data and metadata are generally available, or can be produced with some additional work. The results are presented in the report organised first by theme and then by country.

*Results by theme*

- All countries can provide information on the **structure of their education system**, as well as the theoretical entrance ages and duration of each International Standard Classification of Education (ISCED) level. Because this information is mapped to ISCED 2011, this facilitates comparisons between countries. The only exception is Guatemala, where the ISCED 2011 equivalence for the pre-primary level was not yet officially defined.

- Although there is no single approach to carrying out **national assessments and examinations at lower and upper secondary level** among the group of countries studied, all of them have solid institutions in charge of these assessments and examinations, most of them act as the PISA-D National Centre (NC), and they are able to provide the metadata properly.

- In Zambia, primary and secondary school students must sit competitive examinations at the end of the primary and secondary school cycles in order to gain successful entry into post-secondary institutions including tertiary and university institutions. There is not a high prevalence of **tertiary entrance examinations** within the group of participating countries. Only one country applies a universal examination (Ecuador) and a second one has an entrance examination for the main public university (Guatemala). Where information is produced, it is of good quality, and available to some extent.

- Information on **instruction time in public institutions** by grade (and therefore, by theoretical entrance age of the students) is available at the international level, showing the availability and quality of national frameworks, policies and implementation guidelines. There are frameworks and legislation in every country; the teams managing the curriculum receive clear guidelines, and are empowered to do their work. In Guatemala, however, there is no clear definition within the legislation of the duration of one class session in pre-primary and primary education.

- In general, data on **statutory teacher salaries** are available in participating countries, as well as data on the criteria for promotion. In some countries, human resources policies put teachers in the same category as civil servants, while in others there are specific regulations for teachers. Across all the countries teachers' working conditions tend to be clear and well known by all the actors. However, because many criteria come into play in determining teacher salaries, the information should be interpreted with caution. In Senegal, the fact that different ministries participate in the payment of teacher salaries leads to some difficulties in reporting data.

- **Pre-service teacher training, entry into the teaching profession and professional development** tend to be well-regulated in participating countries, meaning that they are in good condition to report the data. However, teacher training is an area undergoing change in terms of standards and policies. At least four countries (Ecuador, Guatemala, Zambia and Senegal) have recently modified or are currently reviewing the type of training required to enter the teaching profession and this could affect the relevant data collection. In Senegal, as described above, the participation of different ministries in the regulation of teacher issues leads to some difficulties in reporting data.

- Zambia upgraded its official minimum teaching requirements to a three-year diploma. However, the majority of the teaching stock for primary and junior secondary is still in the process of upgrading these requirements from a two to a three year diploma. Moreover, an attachment for a period of at least three months at institutions is required prior to official recognition in the profession.

- The **national accounts** table in the questionnaire focuses on gross domestic product (GDP), government expenditure, purchasing power parity (PPP) conversion factors, and population estimates. Data on GDP, government expenditure and population are key indicators of the national statistics system, and they are usually produced at the national level by central statistical offices or, in the case of GDP, by the central bank. PPP factors are usually produced by the

World Bank for all countries. In the case of Cambodia, the National Institute of Statistics' official website has some provisional data published up to 2012.

- The countries taking part in PISA-D are able to produce data on **education expenditure** for the public sector. Nonetheless, countries find it difficult to report data on private expenditure on education. Although some of them have experience of creating estimates for private expenditure, none of them has produced recent data for this source.

- All countries can report **enrolment** in public institutions, at least for primary and secondary level. For private enrolment, most countries are not able to distinguish between enrolment in government-dependant private institutions and independent private institutions. Cambodia seems unable to estimate the number of students participating in technical or vocational education at upper secondary level. In Senegal, even when data are produced, there is little co-ordination between the general education sector and the technical education sector.

*Results by country*

- The three participating Latin American countries are in a strong position to respond to the system-level questionnaire. **Ecuador** and **Paraguay** have solid information systems for all the topics covered by the questionnaire, and in both cases the NC is located at a high-level position in the government structure – in Ecuador, as an independent institution, and in Paraguay within the Ministry of Education. This facilitates the co-ordination needed to collect the data from different organisations and dependencies. One particular issue in Paraguay concerns the data on tertiary entrance examinations; these exams are stipulated by the legislation but not yet implemented.

- **Guatemala** has good availability and quality of the requested data, and the NC has provided a satisfactory level of co-ordination between the institutions that manage the different information systems. However, there are some specific issues relating to national legislation which need to be clarified by the country before completing the system-level questionnaire.

- The two African participating countries, **Senegal** and **Zambia**, have both made considerable efforts to improve their system-level data in recent years and have the capacities to complete the questionnaire.

- In **Zambia**, commencing in 2013, pre-primary schools have been attached to primary schools. The Ministry is continually making improvements to collect comprehensive data on all education sectors including statistics on pre-primary education.

- Finally, **Cambodia** is the only Asian participating country, and it was not visited for this assignment. The assessment presented in this report is therefore based on desk research. In general, the country is potentially in a good position to compile most of the data. It has already reported some of the requested data to international organisations such as the UIS, the World Bank and the United Nations Population Division (UNPD).

*Recommendations*

This report identifies a group of transversal challenges that should be addressed to improve data collection when PISA-D is carried out:

- Countries' difficulty in providing data on private expenditure on education is the most obvious challenge. The participating countries regularly report statistics on education expenditure to UIS through its education survey, but with limited coverage; none of them include private expenditure.

- Countries have made concerted efforts to upgrade national standards. In some cases, the pace of upgrading minimum teaching standards is taking place in a phased approach. For example, the prevalence of teaching certificates in Zambia is still common in spite of stipulated requirements for primary and junior secondary school teachers to hold a minimum of a teaching diploma. Similarly, the number of senior secondary school teachers that are upgrading their teaching diplomas to an ISCED 6 qualification is increasing consistently. Quantifying the teaching stock according to academic qualifications therefore requires closer scrutiny of official records.

- Several different institutions within each country are responsible for the various dimensions covered by the PISA questionnaire. It is therefore extremely important to ensure that the **PISA-D NC in each country communicates and co-ordinates with the institutions** responsible for reporting data to other international data collections. It will be important to avoid a situation where these institutions are reporting the same data but for different international data collections, using alternative criteria for reporting.

- Finally, it is worth considering ways to modify the system-level questionnaire to **avoid requesting data and metadata that are already available** at the international level, for example through regular UIS activities. This is particularly relevant for data that are collected regularly, such as the ISCED mapping, enrolment and expenditure on education.

# Chapter 1

# Overview: Lessons for collecting international education data for PISA for Development

*This chapter summarises the main findings of the review of the current status of data collection and availability, at national education system level, in six PISA for Development (PISA-D) participating countries. The main findings indicate that: 1) participating countries are generally in a satisfactory condition, though uneven, for completing the PISA-D system-level questionnaire, and 2) they face cross-cutting challenges that are common to most countries, and which can be extrapolated to other middle-income and low-income countries. The chapter highlights data collection challenges, such as remodelling a country's data infrastructure to make sure that data is available in a single hub; and it identifies lessons learnt through the review, such as the need to consider modifications of the system-level questionnaire to avoid soliciting data and metadata that are already available at the international level.*

## Purpose of the report

The UIS was commissioned jointly by the OECD and the World Bank to assess the current status of data collection and availability, at national education system level, in six PISA-D participating countries. The UIS's role in this work was agreed with the other partners in the PISA-D project (as represented in the project's International Advisory Group), the OECD and the World Bank.

This report therefore responds to three key questions on the collection, availability and quality of system-level data and metadata for Cambodia, Ecuador, Guatemala, Paraguay, Senegal and Zambia:

1. What system-level metadata and data are currently available in PISA-D participating countries?

2. What is the current quality of system-level metadata and data?

3. What country-specific opportunities are there for capacity development in the PISA-D participating countries?

In addition to these questions, the report aims to provide technically sound and viable options for improving the international comparability of data, and to address the challenges identified in each country. This technical advice aims to: 1) ensure sound methodology and 2) minimise the burden on countries' respondents, in order to improve overall data quality and completeness.

Finally, this report aims to provide lessons learned – insights into common challenges for this group of countries; and to look forward, at potential challenges for other middle-income countries (MICs) and low-income countries (LICs) that may participate in PISA in the future.

## From PISA to PISA for Development

PISA is an international comparative study co-ordinated by the OECD, assessing 15-year-old students' proficiency levels in reading, mathematics and science every three years in countries around the world. The assessment focuses particularly on functional knowledge and skills that will allow students to actively participate in society (OECD and UIS, 2003).

PISA was launched in 1997 and its first assessment cycle was held in 2000. It included all 28 OECD member countries of the time, plus 4 non-OECD countries (Carvalho, 2009). Having surveyed all the OECD countries, PISA sought to expand its coverage to more non-OECD members. Thus, by 2003, it had covered 11 non-member countries as well as members, which by then had reached its current number of 34. This expansion to include non-OECD countries continued in the following cycles: 27 in 2006, 45 in 2009, 31 in 2012; and 47 non-OECD countries in the 2015 cycle.[1]

To respond to the growing interest generated by PISA's first cycle of assessments, in 2003 the OECD collaborated with UIS to publish a report, *Literacy Skills for the World of Tomorrow: Further Results from PISA 2000* (OECD and UIS, 2003) aimed at facilitating non-OECD countries' participation. According to Carvalho (2009), "this report argued

for a change in the political focus of the educational 'inputs' towards a focus on the learning 'outcomes', in an attempt to help these countries improve the quality of their students' schooling and better prepare them to enter into an adult life of rapid change and heavy interdependence on a global scale."

For a non-OECD country to participate, it must have sufficient technical knowledge to administer an international assessment test, and proof that it can cover all the participation costs. Countries must join two years before the start of the survey (Carvalho, 2009).

Some authors suggest that non-OECD countries choose to participate in PISA because they think it more relevant to be compared with OECD countries than with countries from a similar income group: comparing results would help emerging economies evaluate how far they are from the leading countries, and help them identify areas to improve in order to obtain similar results (Grek, 2009).

In 2013, the OECD and partners launched PISA-D, with the objective of identifying how PISA can best support evidence-based policy making in MICs and LICs, and contribute to the UN-led definition of global learning goals. PISA-D aims to increase MICs and LICs' use of PISA assessments for monitoring progress towards nationally set targets for improvement; for analysing factors associated with student learning outcomes, particularly for poor and marginalised populations; for institutional capacity building; and for tracking international educational targets in the post-2015 framework, which is being developed within the UN's thematic consultations. To do this, the OECD will use enhanced PISA survey instruments that are designed to be more relevant to MIC and LIC contexts, but which produce scores on the same scales as the main PISA assessment.[2]

Six countries are taking part in the PISA-D project cycle: Cambodia, Ecuador, Guatemala, Paraguay, Senegal and Zambia.

## Overview and lessons

This assessment has two main conclusions. First, participating countries are generally in a satisfactory condition, though uneven, for participating in the PISA-D system-level questionnaire. Second, they face cross-cutting challenges that are common to most countries, and which can be extrapolated to other MICs and LICs.

### General assessment

Despite the overall good assessment, not all the participating countries have the same ability to respond to the system-level questionnaire, just as they have different challenges in responding to the UIS questionnaires. Some countries seem to have a high level of data quality and availability, and data are managed in a fairly centralised fashion (Paraguay, for example); whereas others have an apparently decentralised way of managing the data collected (for instance Senegal). Generally, in the PISA-D countries, where data are managed centrally, they are managed better.

Generally speaking, the Latin American countries taking part in PISA-D are in a strong position to respond to the OECD system-level questionnaire. Cambodia, on its own, is potentially in good shape. Finally, Senegal faces particular challenges in terms of sectorial co-ordination.

But the context in which the international data collections operate in countries other than OECD or Statistical Office of the European Union (Eurostat) countries is very different. The relationship between national teams and international organisations is less institutionalised, and the submission of data (or its compliance to standards) is the result of teams' work plan priorities and time management, rather than a legislative obligation.

**Lessons for PISA-D and middle-income and low-income countries more generally**

There are cross-cutting challenges that are common to the six PISA-D participating countries, which could be extrapolated to other MICs and LICs.

The most obvious area for attention is countries' difficulty in providing data on **private expenditure on education**. This point is common in other MICs and LICs and could be a useful focus for technical collaboration. Statistics on education expenditure are regularly reported to UIS by countries through its education survey but coverage is limited – generally, MICs and LICs do not include private expenditure in their statistics.

Through its national integrated financial management information system, Zambia has a systematic process of documenting and tracking expenditure in public institutions, and in particular those under the Ministry. Although public expenditure data are made available in national annual statements, more complete coverage when reporting educational expenditure statistics to international organisations remains a challenge. Sector co-ordination wide between Ministries, including the collection of data from private institutions is a necessary component to improve the coverage of data reported to international organisations.

Another detected issue that affects dimensions of the system-level questionnaire is the fact that there are **discrepancies between policies and their implementation**. There seems to be a lack of control or disciplinary mechanisms in many countries to ensure that practice is kept up to national standards. For example, legislation in Paraguay calls for tertiary education entrance examinations, but there are none; in Senegal, some schools do not respect the intended instruction time, yet there is no consequence for their behaviour.

Finally, and perhaps the most difficult challenge to tackle, is **remodelling a country's data infrastructure** to make sure that data is available in a single hub.[3] In other words, countries need to develop a notion of a complete and comprehensive education information system, and promote co-ordination and co-operation between the different actors who are inevitably involved when covering so many different areas of the sector.

This assignment has helped to identify that the data requested by the various tables of the system-level questionnaire for PISA rely on **a number of different information systems** for each country; some of these systems are even outside the control of the Ministry of Education. In addition, with the exception of Paraguay, the institution acting as the PISA-D NC is not responsible for the country's education management information system; in general the NC is only in charge of the educational assessment system. Therefore, and given the fact that there are other international data collections in place, it is extremely important to ensure that the PISA-D NC communicates and works jointly with the institutions responsible for reporting data to other international organisations, such as the UIS. It will be important to avoid a situation where these institutions within

countries are reporting the same data but for different international data collections, using alternative criteria for reporting.

More generally speaking, it is worth considering **some modifications of the system-level questionnaire** to avoid soliciting data and metadata that are already available at the international level, for example through the regular UIS activities. It is particularly relevant in the case of data that is collected regularly, such as ISCED mapping, enrolment, and expenditure on education.

## Notes

1. Author's calculations.

2. Further information is available at www.oecd.org/pisa/aboutpisa/pisafordevelopment.htm.

3. For further information on this topic see *A Road Map for a Country-led Data Revolution* (PARIS21, 2015).

# References

Carvalho, L.M. (2009), "Production of OECD's 'Programme for International Student Assessment' PISA", KNOW and POL Project, www.knowandpol.eu/IMG/pdf/pisa.wp11.production-3.pdf.

Grek, S. (2009), "Governing by numbers: the PISA 'effect' in Europe", *Journal of Education Policy* 24/1, Routledge, Philadelphia, pp. 23-37.

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# Part I

# Education data collection and availability in Cambodia, Ecuador, Guatemala, Paraguay, Senegal and Zambia

# Chapter 2

# Making the PISA for Development system-level questionnaire easier to use

*This chapter describes the contextual variables of a country's education system that PISA uses to analyse and interpret the results of the student assessment. These variables are collected through a system-level questionnaire, and the chapter explains how the questionnaire has been adapted for use by PISA for Development (PISA-D) countries. It goes on to describe the nine worksheets of the questionnaire and the variables collected, and it presents suggestions on methodological issues and improving the data collection in each worksheet. The chapter concludes with the finding that most of the variables included in the system-level questionnaire have partial or total concordance with data that are included in current UIS data collection. Hence, to avoid duplicating efforts by PISA-D countries, parts of the questionnaire could be modified to avoid burdening countries with soliciting data that are already available at the international level.*

In order to analyse and interpret the results of the student assessment, the PISA team at the OECD uses contextual variables for each country's education system. These variables are collected through what is known as the "system-level questionnaire". The current system-level questionnaire, used in the most recent PISA assessment cycle, consists of ten worksheets referring to the structure of national programmes, national assessments and examinations, instruction time, teacher training and salaries, educational finance (including enrolment), national accounts and population data.

Not all countries participating in PISA complete this questionnaire; only those that are not already part of a joint data collection project led by UNESCO, the OECD and Eurostat, which collects the same information through annual surveys.

## Data collection tool

The system-level questionnaire is available in Microsoft Excel format. To adapt it for this assessment, it was reviewed and modified as follows:

- references to ISCED 1997 updated to ISCED 2011;
- references to specific school years or calendar years removed, to focus on the most recent year available;
- drop-down lists function improved, minimising risks of involuntary modifications;
- flexibility improved by translating it into French; and
- made more relevant to MICs and LICs by removing certain references, for instance to the euro zone.

## Variables examined in this study

This section describes the nine worksheets, or "tables", and variables collected by the system-level questionnaire, drawing on the OECD guidelines provided with the questionnaire. It also makes suggestions on methodological issues and improving the data collection in each category.

### *Questionnaire table 1: Education stratification or structure*

This worksheet is concerned with the structure of the country's education system – including pre-primary, primary, secondary and tertiary levels – and the choices available to students at each crossroad of their educational pathways, such as between a general or a vocational/technical orientation. The worksheet asks the age of pupils at first selection in the education system, that is, the age at which the first crossroad in the educational system occurs. It then asks countries to list the "school types or distinct educational programmes available to 15-year-old students in the modal grade", the programme orientation of each of these tracks, and the theoretical starting age and average duration in years of each ISCED level.

*Suggested improvements*

In order to make this data collection sturdier, it could be helpful to emphasise that the reference ages that are used in the questionnaire are in fact theoretical entry ages in grades. Because 15-year-old students can be enrolled in grade X if they enrol on time, or grade X+1 if they are in advance, or X-1 if they entered late or repeated a year in school, a focus on age (rather than on grades) can be misinterpreted. One suggestion is to make sure that NCs have a clear mapping of the theoretical ages and grade equivalents in their country, or perhaps always refer to age as "theoretical age".

The concept of "school types or distinct educational programmes available" could be better explained in the guidelines, as most struggled with the concept. For example, in a given country there could be general and vocational programmes for 15-year-old adolescents, and for any of these orientations it would be possible to find public and private institutions. It is not clear in the questionnaire how to report such a combination of programmes and type of institutions.

Moreover, the components A1 and D1 of the sheet ask for theoretical entry ages and duration for different ISCED levels, but uses the "all programmes" modality rather than collecting entry age and duration for two different orientations at secondary level. Yet entry ages and duration can be quite different between general and technical/vocational programmes.

Further, PISA makes a point of referring to assessing students "near the end of compulsory education", but the system-level questionnaire does not ask what age range is covered by legislation on compulsory attendance. It seems this would be the appropriate sheet to collect this type of information, although it is already available at UIS.

Finally, since the information on national programmes and their structure is already collected by UIS and available at the international level (as well as being vetted to ensure its quality), the information could be readily shared between the UIS and the OECD in order to minimise the burden on countries' respondents. In any case, the information collected in that section of the questionnaire should be verified in order to ensure it matches the UIS ISCED mapping.

***Questionnaire table 2-1: Assessments and examinations at lower and upper secondary level***

This sheet collects data on the existence and main purposes or uses of national examinations and other standardised examinations. The worksheet collects data on how exams are conceived and graded, as well as how results from these examinations are used and shared with other actors in the community.

*Suggested improvements*

A methodological issue with this worksheet is its assumption that there is only one type of examination per educational level (and orientation, if applicable), or, conversely, that all the examinations encompass the same characteristics throughout the questionnaire items.

In terms of layout, the worksheet lacks a "not applicable" option in the response for examinations, yet many countries have no examinations and rely instead on assessments.

Moreover, some rows are conceptually irrelevant – most of the questions in this sheet are conditional on previous responses. Another suggestion for making the questionnaire more flexible would be to add a comment section for lower secondary (and/or for orientation), as comments are often level-specific (and sometimes orientation-specific).

The information on lower secondary assessments and examinations are or will be available at the UIS, through its Assessment of Learning Outcomes catalogue and programme of activities; therefore this section could be modified in order to lighten the burden on responding countries.

***Questionnaire table 2-2: Tertiary entrance examinations***

This sheet, similar to the previous one, collects data on examinations (not administered by upper secondary schools) to gain access to tertiary education. The worksheet collects data on how the exams are conceived and graded, as well how their results are used and shared with other actors in the community. Additionally, it collects data on the influence of factors other than examinations used by tertiary institutions to determine access to the first stage of tertiary education. Lastly, it collects data on alternative routes to access tertiary education.

*Suggested improvements*

These examinations are usually programme-specific or specific to tertiary institutions, and therefore one shortcoming in this questionnaire sheet is that it works under the assumption that all entry exams evenly share the same characteristics, for similar programmes.

It is also not clear how to proceed when there is an entry exam for a specific institution or tertiary programme that does not apply to the rest of the system. Should it be included in the questionnaire? Does it depend on the coverage? How much coverage should be enough?

Similarly, it is not clear how to respond when there is one main entrance examination (for public universities, for example) alongside another entrance system for a specific group of institutions (such as private institutions, or particular programmes). Should both be included, or only the examination with the higher coverage?

***Questionnaire table 3: Instruction time in public institutions by age of student***

This questionnaire collects data on the amount of class sessions or teaching time dedicated to the intended curriculum (both compulsory and non-compulsory) in public institutions over a school year, for students aged 5 to 15. Respondents are asked to provide information on ISCED level by age, the duration of one class session in minutes by age, and the number of class sessions per year by age.

*Suggested improvements*

One issue with this sheet is that, like other references to age, its concept of "age" is vague. Making a reference to the "theoretical entry age to a grade" would be more appropriate, especially in this case, because the respondent will have to convert the age into grades.

Information on intended instruction time is already available through UIS instruction time activities (UIS questionnaire on intended instruction time in 2013 and 2014); therefore this section could be modified in order to lighten the burden on responding countries.

***Questionnaire table 4: Annual statutory teacher salaries***

This worksheet collects data on teacher compensation at the lower and upper secondary education levels: at the start of their teaching career, after 15 years, and at the top of the scale; the number of years needed to rise from minimum to maximum salary by level of education; and criteria for the base salary and additional payments in public institutions.

Data on annual statutory teachers' salaries are collected by the teacher's level of experience. The statutory gross salaries are full-time classroom teachers' scheduled gross annual salaries based on teaching qualifications and length of teaching experience for the school year for ISCED Levels 2 and 3 (lower and upper secondary) in public institutions.

*Suggested improvements*

One issue for this sheet is that it does not distinguish teachers' salaries by programme orientation, which can vary widely, especially at the ISCED 3 level.

Most of the information gathered by this worksheet is already collected by UIS – a global supplementary questionnaire for teachers has been included in the 2015 education survey – therefore this section could be modified in order to lighten the burden on responding countries.

***Questionnaire table 5: Requirements for pre-service teacher training, entry into the teaching profession and professional development***

This worksheet collects data on the duration of teacher training programmes, the ISCED classification of the final qualification, and the percentage of current teacher stock with this type of qualification. It also collects data on competitive examinations, teachers' credentials, teaching practice, teacher registration and continuing education requirements for teachers, for the reference school year.

*Suggested improvements*

Since the required data refers to ISCED levels and programmes, they should be mapped to the ISCED data that are already available at the UIS. Moreover, other items are included in UIS's regular data collection activities; this sheet could be reviewed in order to reduce the burden on participating countries.

***Questionnaire table 6: National accounts and population data***

This worksheet collects data on GDP in millions of local currency for the three most recent years, total population (in thousands), PPP for GDP (US Dollar=1)[1] in the most recent year available.

*Suggested improvements*

GDP values and population estimates are usually produced by national statistical offices. Most national statistical offices – in MICs and LICs at least – do not publish PPP values, so this item could be taken directly from the World Bank in order to lighten the burden on countries.

***Questionnaire table 7-1: Education expenditure***

This worksheet collects data on total current and capital expenditure by type of institution. It is a copy of parts of the UNESCO/OECD/Eurostat (UOE) finance questionnaire, which creates a number of issues, outlined below.

*Suggested improvements*

First, MICs and LICs are usually unable to provide the data in such a disaggregated fashion. Therefore at a minimum, this table could be based on UIS Questionnaire B on finance education rather than on the UOE finance questionnaire. Because countries already respond to the UIS questionnaire, this sheet could be modified in order to lighten the burden on respondents.

Second, and linked to the above, asking MICs and LICs to distinguish how expenditure is split between government-dependent and independent or private institutions is not realistic. It is generally challenging for MICs and LICs to supply information on financing institutions, including both public and private financing. It would be more realistic to ask about public spending only.

Regarding the breakdown between ISCED levels, sometimes countries are unable to disaggregate expenditure in lower and upper secondary education, but they can provide the data for the whole secondary education level. In order to facilitate the reporting and use of inclusion codes, it would be useful to have a column for secondary education (ISCED Levels 2 and 3).

Finally, as with the rest, these data are already collected by UIS (albeit slightly differently); therefore it would be more productive for PISA-D to use UIS data and encourage countries to continue to submit the UIS questionnaire rather than asking for the same data through a PISA-D questionnaire.

***Questionnaire table 7-2: Number of students***

This worksheet collects data on the number of full-time equivalent students at each ISCED level, by type of institution, with the specification that data should be aligned to the same 12-month period as the financial year, as reported in 7-1.

*Suggested improvements*

These items were part of the UIS questionnaire for many years, but were removed from the UIS questionnaire on education finance due to countries' lack of ability to provide enrolment data adjusted to finance data. Moreover, this adjustment is now simply done within the organisation, so the OECD could do the same: in order to make sure that enrolment data is mapped to the financial year (to calculate cost per pupil), the

questionnaire could simply collect enrolment data according to the school year, and the conversion could be made afterwards by the OECD.

In any case, this sheet should be considered a duplication of work, and can be removed in order to lighten the burden on country respondents.

## Duplication between the system-level questionnaire and UIS surveys

Throughout this section it has been observed that most of the variables included in the system-level questionnaire have partial or total concordance with data that are included in current UIS data collection. In order to avoid duplicating efforts by participating countries, this report particularly emphasises the recommendation to modify parts of the system-level questionnaire in order to avoid burdening countries with soliciting data and metadata that are already available at the international level.

Table 2.1 summarises the UIS activities that include similar data to the system-level questionnaire.

**Table 2.1 Duplication between the system-level questionnaire and UIS surveys**

| Number | Table on system-level questionnaire | Partially or fully comparable UIS sources | Periodicity |
|---|---|---|---|
| 1 | Education stratification | ISCED mappings | Globally implemented in 2014 and updated when needed |
| 2-1 | Assessments and examinations | Catalogue of Learning Outcomes | One round: 2014/15 |
| 2-2 | Tertiary entrance examinations | - | - |
| 3 | Number of class sessions per year | UIS questionnaire on intended instruction time | One round: 2013/14 |
| 4 | Annual teacher salaries | UIS supplementary questionnaire for teachers | One round: 2015 |
| 5 | Requirements for pre-service teacher training | Survey of teachers in East, South and West Asia | One round: 2015 |
| 6 | National accounts | Not in UIS but available at World Bank and UN Population Division | Annual |
| 7-1 | Education expenditure | UIS education survey | Annual |
| 7-2 | Number of students | UIS education survey | Annual |

## Notes

1. An economic theory that estimates the amount of adjustment needed on the exchange rate between countries in order for the exchange to be equivalent to each currency's purchasing power.

# Chapter 3

# Methodology and tools for international education surveys

*This chapter describes the methodology and tools used for international education surveys. The UIS developed an assessment tool better suited to the PISA for Development (PISA-D) context than the two frameworks generally used for the evaluation of countries' education management information systems: the System approach for Better Education Results Education Management Information System (SABER-EMIS) and the Data Quality Assessment Framework (DQAF). The modified tool draws from the SABER and DQAF evaluation and scorings systems, but is adapted to metadata and aggregated data when necessary. The tool includes a concise rubric that evaluates 1) the quality of data based on three major components – coverage, time sensitivity and ownership of information; and 2) availability of data, which assesses the data's transparency and openness via three types of user – internal users, external users and international organisations. For each component, the chapter details the status of the rubric at three levels of grading: latent, emerging and advanced.*

## Evaluation tools

In leading internationally comparable surveys, three major components are key: timeliness, accuracy and sustainability. Assuming that the information requested is relevant, this information needs to be 1) fresh enough to be significant at the time of use; 2) precise in its coverage, methodologies and quality; and 3) obtained by processes that are reproducible, regardless of staff movements or government politics.

Two frameworks generally acknowledged for their precise evaluation of countries' education management information systems are the Systems Approach for Better Education Results Education Management Information System (SABER-EMIS) and the Data Quality Assessment Framework (DQAF).

Both tools have advantages and limitations. One limitation they share is that they assess numeric data produced by an office in the country, rather than assessing an education system's underlying metadata, such as policies and incentives. These tools are described in more detail below.

### *SABER-EMIS in the PISA-D context*

SABER-EMIS was launched in 2011 by the World Bank's Human Development Network for stakeholders in education, to evaluate whether information gathered by a management system can be used effectively to improve the quality of education. The tool, which includes instruments for data collection and a rubric for scoring, benchmarking, and analysing results is designed to help countries monitor educational inputs, processes, and outcomes for the advancement of student learning at local, national, and international levels.

The SABER tool requires a dual-layer analysis. It first benchmarks 19 policy actions from 4 policy areas under 4 assessment descriptors (latent, emerging, established and advanced). Second, it projects the 19 actions onto a strengths, weakness, opportunities and threats (SWOT) quadrant.

Although extremely thorough, the complexity of this data-driven process would be extremely costly in terms of time, monetary and human resources. Moreover, in the context of this report, using the full SABER-EMIS matrix would go far beyond the assignment's terms of reference.

### *DQAF in the PISA-D context*

An efficient data assessment tool is critical for EMIS or educational statistical information systems to create and improve the quality of data for education stakeholders, in order to advance and plan education in regions where the tool is implemented.

The UNESCO Institute of Statistics (UIS) has developed an instrument called the Education Data Quality Assessment Framework (Ed-DQAF), based on a data quality assessment methodology created by the International Monetary Fund (IMF), to evaluate the quality of information produced about education.

The Ed-DQAF tool is thorough, but complex. It has a four-stage process: initiation, fact-finding, report production and improvement planning. Within these four stages there

is a meticulously detailed framework of quality data consisting of 6 dimensions, 22 sub-dimensions, an extensive list of indicators, and 140 practices that must be scored, ranging on a scale from 1: "practice not observed" to 4: "practice observed". The complete process includes this score along with five other key elements such as averages, questions, observations, and recommendations for low scorers.

The latest framework for the tool simplifies the assessment without undermining its quality. This rating matrix assesses six clear areas of data collection: 1) pre-requisites of quality; 2) integrity; 3) methodological soundness; 4) accuracy and reliability of data; 5) serviceability; and 6) availability. Each criteria are rated by indicating "yes" or "no", making any areas for improvement visually clear and concise.

Although comprehensive and thorough, this framework makes heavy demands on time, monetary and human resources, beyond what is needed for a quality data assessment in the context of PISA-D.

### *A modified assessment tool combining metadata and numeric data*

SABER-EMIS and DQAF both have limitations for the PISA-D context, given that the data at hand are in fact metadata on educational systems, and especially given that the purpose of the task is to generate an overall appreciation of a country's capacity to fill in a questionnaire, rather than doing an in-depth analysis of the data production mechanisms. Therefore, UIS has developed an assessment tool better suited to the PISA-D context. This practical matrix draws heavily from the SABER and DQAF evaluation and scorings systems, but adapts it to metadata and aggregated data when necessary.

The tool was concentrated into a concise rubric that evaluates the quality and availability of data, using similar descriptors, but fewer areas of benchmarking. While still able to handle the complexity of educational data, this revised matrix focuses on the importance of the quality and availability of PISA-D results, as the most relevant factors for this particular project.

For instance, the modified assessment tool reduces DQAF and SABER's four levels of grading, "latent", "emerging", "advanced" and "expert" to three, by dropping the "expert" grade. The main rationale was that the difference between advanced and expert is not significant enough to justify a country needing external support in order to achieve the next level; especially given the quality of and available opportunities for capacity building. Also, in most cases, only opportunities and experience make the difference between an advanced and expert grading.

### *Components of the quality matrix*

The assessment of data quality builds on three major components: coverage, time sensitivity, and ownership of information. Each component is described below with the characteristics of each grade.

1. Coverage: statistical units

This item assesses whether the data covered or information collected is comprehensive. It assesses whether any area of the educational system is left aside, for example whether enrolment data for both general programmes and technical programmes are taken into account; whether both private and public sectors are represented, and/or whether financial resources from all agencies and ministries are taken into account in addition to those of the Ministry of Education (MoE).

A "latent" grade for this item would reflect, for example, a situation where only general programmes in the public sector are covered, for primary and secondary. These are usually the areas easiest to capture in an educational system, and would mean the country has basic capacities. An "emerging" grade would describe a situation where the main aspects of the education system are covered, as well as the technical and professional programmes, in both public and private sector. These areas usually need more co-ordination because they are frequently implemented, managed and monitored by different ministries or agencies outside the MoE. Finally, an "advanced" grade would reflect that all the sectors of the relevant education system are covered.

2. Time sensitivity: periodicity of production

The production of reports and other outputs from the data warehouse are determined by cycles in the education system. Of course, this takes into account the fact that some items are expected to be produced at shorter intervals (for instance, enrolment information would be produced yearly), while other items would be only produced once in a while (such as legislation on intended instruction time).

A "latent" grade represents a system that is unable to produce information, data, or statistics periodically. Conversely, an "emerging" grade describes a system that does produce some information, data, or statistics periodically, but does not cover all components of the statistical units, as an advanced grade would reflect. An "advanced" system produces all the required information, data and statistics periodically (regardless of the frequency of the period).

3. Time sensitivity: timeliness

Timeliness is another important, related factor in the area of time sensitivity. The expectation in an effective education information system is that final documents, statistics and financial data are produced in a timely manner so that the information can be used to inform decision making and policies, in order to improve or maintain the system's performance.

As such, a "latent" grade means that the system does not produce information, data and statistics in a timely manner. An "emerging" grade evaluates the system as producing some information, data and statistics in a timely manner. Finally, an "advanced" grade shows that the system produces all the expected information, data and statistics in a timely manner.

4. Ownership of information: framework for action

Taking responsibility for the information available at the country level is essential in providing accurate, timely, and relevant data. The existence of a framework for action is

therefore key, and ensures that defining, collecting and managing information is an integral part of the educational system and the government.

A "latent" grade shows that there is no framework in place. An "emerging" grade would reflect that basic components of a framework – or informal mechanisms – are in place. Finally, an "advanced" grade in this category means that most elements of a framework are in place.

5. Ownership of information: team responsibilities

Finally, within a framework for action, it is paramount to clearly assign different responsibilities to designated institutions for collecting, processing, and disseminating educational information. Mechanisms for collaborating should also be defined.

Therefore, a "latent" grade indicates that specific teams are not identified. An "emerging" grade highlights that some specific teams are identified, but there are no platforms for collaboration. Finally, an "advanced" grade means that specific teams are identified and collaborative platforms are in place. This ought to be the most beneficial setup for making sure that data meet the highest standards of quality.

**Table 3.1 Data quality assessment**

| Quality assessment | | | | | |
|---|---|---|---|---|---|
| **Category** | **Coverage** | **Time sensitivity** | | **Ownership of information** | |
| **Sub-category** | **Statistical units** | **Periodicity of production** | **Timeliness** | **Framework for action** | **Team responsibility** |
| Description | The scope of statistics is broader than and not limited to a small number of indicators or to some sectors, e.g. for education: general programmes, public sector | The production of reports and other outputs from the data warehouse occur in accordance with cycles in the education system | Final documents, statistics and financial data are produced in a timely manner | Defining, collecting and managing information is an integral part of the educational system and the government | Responsibility for collecting, processing and disseminating educational information is given to a clearly designated institution |
| Latent | General programmes in the public sector are covered, for primary and secondary | The system neither produces information or data periodically | The system does not produce information, data and statistics in a timely manner | There is no framework in place | Specific teams are not identified |
| Emerging | The initial education system is also covered, as well as the technical and professional programmes, in both public and private sector | The system produces some information or data periodically | The system produces some information, data and statistics in a timely manner | Basic components of a framework or informal mechanisms are in place | Some specific teams are identified, but no platforms for collaboration |
| Advanced | All the sectors of the relevant system are covered (e.g. in education: including second chance programmes and literacy) | The system produces all information or data periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |

### *Components of the availability matrix*

The data availability assessments evaluate the data's transparency and openness via three types of user: internal users (government officials), external users (lay people), and international organisations.

1. Government officials: awareness

In order to evaluate whether government officers are aware of the available information, and how to access it through the institutional/organisational structure, we identified three levels of awareness. A "latent" grade, in this case, would mean that officials are more or less aware of the information available, and rely on personal connections to find it. Without an extended personal network, in other words, some officials would not be aware of the available information in the system. An "emerging" grade, on the contrary, would mean that officers are aware of some of the official channels through which one can access the information. Finally, an "advanced" grade means that regardless of the position of the official within the structure and their personal connections, information is organised in a coherent and accessible manner; for example through a specific office or data warehouse.

2. Government officials: data-driven culture

In addition to being aware of what information exists, government officials should be able to use it to design or adapt policies, fostering an information and data-driven culture where information and data are disseminated and used for policy making. A "latent" grade here means that there are no mechanisms to disseminate the documents or results in order to improve the system. An "emerging" grade would reflect that there are some mechanisms in place to ensure that documents or results are used in order to improve the system. Finally, an "advanced" grade indicates that there is a communication strategy to make sure that documents or results are disseminated and used in order to improve the system.

3. Outside users: openness and transparency

Students, researchers, journalists, or other members of civil society looking for official information should be able to access it. Their ability to access government data and information is often indicative of openness and transparency. This item looks at the way users outside the education ministry have access to the information, either online, or through public-access platforms (such as by phone or at a documentation centre, such as a library). A "latent" grade in that category means that information is available through personal contact. An "emerging" grade indicates that some information is publicly available, such as online or at a documentation centre, but is not circulating freely. Finally, an "advanced" grade means that all the relevant information is organised in a coherent manner and available in a single place (such as a website or information centre).

4. Global community: international organisations

The last category for assessing availability looks at how information has been shared with international organisations (including the UIS) through regular data collection activities. Like making data available to outside users, sharing information with the global community means being open and transparent, and being on the international stage allows for greater accountability. A "latent" grade indicates that no data have recently been shared with the UIS, UN or other international partners. An "emerging" grade shows

that some information in some areas is sent to the UIS or UN, with gaps in data and timeline. Finally, an "advanced" grade reflects a situation where relevant information is shared with the UIS or UN through regular activities, and then relayed to other partner agencies.

**Table 3.2 Data availability assessment**

| Availability assessment | | | | |
|---|---|---|---|---|
| **Category** | **Government officers** | | **Outside users** | **Global community** |
| **Sub-category** | **Awareness** | **Data-driven culture** | **Openness and transparency** | **International organisations** |
| Description | Officers are aware of available information, and know how to access it (i.e. institutional/organisational structure) | Information and data-driven culture: information and data are disseminated and used for policy making | Users outside the ministry have access to the information, either online, or through public-access platforms (phone, documentation centre, etc.) | Information has been shared with international organisations (e.g. the UIS) through regular data collection activities |
| Latent | Officers are more or less aware of the information available, and rely on personal connections to find it | There are no mechanisms to disseminate the documents or results in order to improve the system | Information is available through personal contact | No data have recently been shared with the UIS/UN or other international partners |
| Emerging | There are some official channels through which government officers can access the information | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | Some information is publicly available, online, at documentation centres, or in other ways | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Advanced | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, then relayed to other partner agencies |

## Data collection methodology

This report draws on evidence gathered during UIS site visits to PISA-D participating countries. These visits took place between March and May 2015, and mainly consisted of meetings with NPMs and other officials responsible for managing the areas covered by this assignment at the national level.

The UIS teams visiting the countries held meetings to exchange data with NPMs and other persons responsible for education data collection, carried out interviews and consultations with key stakeholders, usually over a three-day period to allow times of debriefing between UIS and the NPMs, as well as follow-up meetings between teams when needed.

Since there were challenges to Cambodia's participation in the project that had not been resolved during the period scheduled for country missions, UIS did not visit Cambodia, but rather carried out a desk assessment of the availability of data items contained in the system-level questionnaire. This meant that some facets of the matrix could not be evaluated; but on the other hand, the report highlighted that the information currently available in the UIS database covers most of the items collected by the system-level questionnaire.

# Chapter 4

# Assessing the readiness of six participating countries to report key education data

*This chapter is divided into two sections. The first section presents the assessment framework used to evaluate countries' capacities to participate in PISA for Development (PISA-D) by reporting against the project's system-level questionnaire – it looks at the results by questionnaire and reports i) the overall assessment of each country, ii) the quality and availability of information and data for each country, and iii) the challenges encountered. The second section presents a summary of the overall results by country, highlighting the strengths and weaknesses of each. The chapter shows that participating countries are generally in a good position to report the requested data. Quality data and metadata are generally available in all of the countries, or can be produced with some additional work. One challenge is that each country has a number of institutions responsible for the different dimensions covered by the questionnaire. However, in all cases, the institution responsible for PISA-D project management has shown a good level of communication with the relevant institutions and organisations.*

This section and the next present the results of the assessment framework, evaluating countries' capacities to participate in the Programme for International Student Assessment for Development (PISA-D) by reporting to its system-level questionnaire.

As an overall evaluation, participating countries are in a good position to report the requested data. The information systems and legislation frameworks within each country holding the data requested by the questionnaire can be evaluated in most cases as "advanced" or "emerging". This means that quality data and metadata are generally available, or can be produced with some additional work.

The fact that each country has a number of institutions responsible for the different dimensions covered by the questionnaire is an additional challenge. However, in all cases, the institution acting as the National Centre (NC) has shown a good level of communication with the relevant institutions and organisations.

Across this section the results are presented first by "table" in the questionnaire, and in the following section by country. This layout aims to highlight the strengths and weaknesses by theme and by country. The country-level assessments are also presented in a summary format. A full version of each country analysis, including the assessment tables, can be found in Chapters 6-10.

Table 4.1 summarises countries' capacities for reporting on each table of the system-level questionnaire, as a general overview.

**Table 4.1 Countries' capacities to respond to the system-level questionnaire**

| Table in questionnaire | | Latin America | | | Sub-Saharan Africa | | Asia |
|---|---|---|---|---|---|---|---|
| | | Ecuador | Guatemala | Paraguay | Senegal | Zambia | Cambodia |
| 1 | Education stratification | | | | | | |
| 2-1 | Assessments and examinations | | | | | | |
| 2-2 | Tertiary entrance examinations | | | | | n/a | n/a |
| 3 | Number of class sessions per year | | | | | | |
| 4 | Annual teacher salaries | | | | | | |
| 5 | Requirements for pre-service teacher training | | | | | | |
| 6 | National accounts | | | | | | |
| 7-1 | Education expenditure | | | | | | |
| 7-2 | Number of students | | | | | | |

Note: Dark blue: advanced grade; light blue: emerging grade; grey: latent grade; white: partially or not evaluated; n/a: not applicable. As explained in Chapter 3 (methodology and tools), the data collection system for this report was based on interviews with the NPM and other officials responsible for managing the areas covered by the questionnaire. The detail for each country can be consulted in Part II of this report.

## Assessments by questionnaire theme

### *Questionnaire table 1: Education stratification*

*Overall assessment*

All countries can provide information on the structure of their education system, as well as the theoretical entrance ages and duration of each ISCED level. Because this information is mapped to international standards, it facilitates comparisons between countries.

*Quality and availability of information and data*

Most of the information available in countries is reliable and available to all, from the government officer to international organisations such as the UNESCO Institute of Statistics (UIS). Generally, legislative information is accurate and recent in all countries, and has been assessed as providing a clear framework for action.

In Guatemala's particular case, the current Education Act dates from 1991 and the government has since produced other, supplementary pieces of legislation. The existence of these different regulations could allow different interpretations of some aspects of the education system. For example, the starting age for primary education and the duration of pre-primary level cycles were discussed during the visit, and it emerged that Guatemala's definition of the ISCED 2011 equivalence for pre-primary education is still pending.

*Challenges*

Education systems evolve over time, and therefore this assessment of countries' capacities is likely to change. For example, Senegal is in the process of completely reviewing its educational system in order to provide more technical and vocational opportunities to its students. It might, in this process, have to review the stratification information.

### *Questionnaire table 2-1: Assessments and examinations at lower and upper secondary level*

*Overall assessment*

Among the group of countries studied, there is no apparent common denominator in carrying out national assessments and examinations.

Cambodia, the only Asian country in the study, does carry out national assessments in lower secondary, in general programmes only. National exams are carried at both lower and upper secondary levels, again only in general programmes.

Two of the Latin American countries, Guatemala and Paraguay, do not have national examinations at the secondary level. Instead they carry out national assessments at lower secondary (in general programmes only, in the case of Guatemala) and upper secondary (all orientations in both countries). In Guatemala, the upper secondary assessment takes place annually, and the lower secondary assessment takes place every three years – both assessments are censuses. Ecuador conducts both national assessments at lower and upper

secondary levels, as well as national examinations at the upper secondary level only (for both general and technical/vocational orientations).

In sub-Saharan African, Senegal has no national assessment in secondary education – after a failed attempt in 2001-03, they decided to focus on their primary national assessment – but it does have national exams in all orientations of both lower and upper secondary education. These national exams function as a tertiary entrance exam, with the results used to filter students for the tertiary level.

In Zambia, national assessments are carried out at Grade 9 (the end of lower secondary education), and national examinations in the general streams of lower and upper secondary, at Grade 12 (the last grade of upper secondary). In 2015, there are plans to reintroduce national exams for technical programmes.

Despite these differences in the quantity and kind of test implemented, all countries have solid institutions in charge of the assessments and examinations at the secondary education level; most of them act as the PISA-D NC, and they are able to provide sufficient data for the system-level questionnaire.

*Quality and availability of information and data*

In general, the units in charge of managing the national assessments and examinations are working to clear institutional guidelines and well-defined frameworks. In terms of availability, most countries do have a specific web portal where an outside user can access results, reports, and secondary analysis. In fact, only one institution, Paraguay's *Sistema Nacional de Evaluación del Proceso Educativo* (National Assessment System of Educational Progress) (SNEPE) did not seem to have its own webpage working at the time of the visit; and one other, the Bac Office in Senegal, has its own website but it had some navigation difficulties and a two-year lag in publishing the results.

*Challenges*

Disseminating data – in this case, assessment and exam results – can be as important as collecting it. There seems to be an uneven approach across the participating countries. Some have a transparent and open approach in sharing results with as many people as possible, while others seem to prefer keeping the results to themselves.

A second challenge for some of the participating countries is to improve the timeliness of results dissemination. The differences observed between countries shows that there is room for improvement. While some countries are able to publish results within a month of the test date, others disseminate data more than a year later.

***Questionnaire table 2-2: Tertiary entrance examinations***

*Overall assessment*

There is not a high prevalence of tertiary entrance examinations in the PISA-D participating countries.

The only country with a universal entrance examination is Ecuador, where all students sit the exams to enrol in tertiary education. In Guatemala, only the students wishing to register at the public university (representing about 40% of total enrolment at that level) sit the exams.

In Cambodia, there is no tertiary entrance examination. The Grade 12 examination at the end of upper secondary is also used as an entry to higher education, but individual universities have an additional entrance exam to select students.

In Paraguay, there is no entry examination scheme, although legislation in Paraguay stipulates that there should be.

In Zambia, a competitive selection process to access tertiary institutions including universities follows national secondary school exit examinations administered by the national Examinations Council of Zambia (ECZ).

Senegal also has none; the end-of-upper secondary exam (*Baccalauréat*) is used as a benchmark for student entry to tertiary education, although the exams are not specifically designed for this purpose. However some criteria exist for each faculty which are used for entry selection and for scholarships. For example, in the faculties of medicine, the student must have 18 years and good marks in sciences, maths and physical chemistry. Some *grandes écoles* organise examinations.

*Quality and availability of information and data*

In those countries producing information, it is of good quality and available to some extent. Although government officials are aware of the information produced, and that it is disseminated to a variety of actors, it seems that some efforts are still needed in making public access easier and more dynamic. For example, in Ecuador, some aggregated data and summary reports are shared with external users, but more disaggregated data or detailed reports are not available. Ecuador has confirmed that it plans to make all the data available in the future.

Currently, there are no formal international data collections on tertiary entrance examinations; in many countries entrance requirements are specific to the institution or programme, rather than nationally standardised. As such, it might be difficult to collect information to use and compare in the international context. As noted in Chapter 6, Ecuador has a national standardised entrance examination for public universities called *Examen Nacional para la Educación Superior* (National Examination for Higher Education) (ENES).

*Challenges*

For tertiary entrance examinations the challenge seems to be a methodological one. How should exams be classified that are used for entry into tertiary education when they are designed, managed and carried out by secondary education boards and national examination councils (e.g. in Zambia)? And what about when the law stipulates that there should be tertiary entrance exams, but in practice none are implemented?

### *Questionnaire table 3: Instruction time in public institutions*

*Overall assessment*

Information on intended instruction time in public institutions by grade (and therefore, by theoretical entrance age of the students) is comprehensively available at the international level, demonstrating the availability and quality of national frameworks, policies and implementation guidelines.

Because the information collected is normative (i.e. related to a standard definition of instruction time and grade), there might be discrepancies between the intention and the practical implementation.

*Quality and availability of information and data*

All the countries have legislation and frameworks in place and the teams managing the curriculum receive clear guidelines and are empowered to do their work. Most of the curricula are also recent in the participating countries.

Because the curriculum is such a specific part of the education system, the teams responsible for developing it in the participating countries tend to be strong and effective. However, implementing the curriculum is more of a challenge in in some of the countries.

In Guatemala, as described above, different pieces of legislation regulate some aspects of the education system. This seems to affect how instruction time is defined in pre-primary and primary education. During the UIS's visit it was not possible to obtain a clear definition of the duration of one class session in these educational levels.

*Challenges*

Since pre-primary programmes are an area of growing interest, with well-known benefits for learning outcomes, many countries are revising these programmes as well as policies that specifically address pre-primary education. Special attention should be given to potential changes to that area, namely in intended instruction time.

### *Questionnaire table 4: Annual statutory teacher salaries*

*Overall assessment*

In general, data on statutory teacher salaries are well-defined in the participating countries, as well as the criteria for promotion. Under some human resources policies teachers are treated as civil servants and in others there are specific regulations for teachers. In any case, the legislation tends to be clear and well-known by all the actors.

However, since many criteria come into play in determining teachers' salaries, this information should be interpreted with caution. In some countries, salary increments are based on years of experience (Guatemala). In Senegal, increments are based on years of experience and on competition. In some countries, a teacher can go from the bottom to the top of the salary scale in 19 years; in others it can take some teachers 30 years (Ecuador).

All countries pay teachers' salaries on time, and teachers are represented by unions, which are pushing for government accountability and transparency in salary-setting.

*Quality and availability of information and data*

Although the different scales and criteria used to determine a teacher's position on the salary scale are usually clear and available to all types of users (from the national civil servant to the outside user and international organisations), there is still some validation to be done at the point of official data collection. In the past, UIS collected this information through World Education Indicators (WEI), and a typical issue noted by UIS was the mismatch between the prescribed duration from the bottom to the top of the scale, and the actual time it took teachers to reach the highest salaries.

Senegal is a good example. Various institutions are involved in the teachers' pay procedure, and it seems that there are some problems of co-ordination and communication. Also, there is a family allocation that can be added to the standard salary making data collection more complicated.

*Challenges*

In many countries, there are multiple sources of information for teacher salaries, although an official scale (including all the components requested in the system-level questionnaire) is publicly available through legislation or union publications. Because there are many types of teaching contracts and many different actors involved in setting the salaries, alternative measures could be used to complement the use of salary data, such as the average salary per teacher according to type of contract.

On the other hand, the lack of international data collection on teachers' salaries for these countries is an issue to be considered. With the exception of Paraguay, which has been part of the WEI data collection initiative for more than a decade, countries participating in PISA-D have not regularly reported data on teacher salaries to international organisations. Therefore this dimension needs special attention at the time of the PISA data collection to ensure that reported data are internationally comparable.

***Questionnaire table 5: Requirements for teacher training and professional development***

*Overall assessment*

Most of the data requested in table 5 is qualitative and based on normative information which is often linked to standards and legislation. Teacher training and professional development tend to be well regulated in the participating countries and the countries are therefore in a good position to report data on these activities.

However, teacher training is another area undergoing change in terms of standards and policies. At least two countries (Ecuador and Guatemala) have recently undergone a review process of training requirements for entering the teaching profession, and this affects the available data. Senegal, for instance, has completed an upgrade of the training required for primary teachers, and is now revising training for secondary teachers.

*Quality and availability of information and data*

The information on requirements for pre-service teacher training, entry into the teaching profession and teachers' professional development is quite robust and easily available. Although many units are involved in setting or implementing the standards, the information is of good quality and readily available.

*Challenges*

The main challenge in this area concerns the various reforms of the minimum training needed in order to teach at different levels in the participating countries. This information is expected to need revision (or at least validation) when the official data collection takes place for PISA 2015.

***Questionnaire table 6: National accounts***

*Overall assessment*

The national accounts worksheet in the system-level questionnaire focuses on GDP, PPP conversion factors, and population estimates. Data on GDP and population are key indicators for the national statistics system, and they are usually produced at the national level by the central statistical offices or, in the case of GDP, by the central bank.

In the PISA-D participating countries, PPP factors are not computed at the national level. The countries indicated that the main source of these PPP factors for GDP is the World Bank estimates.

*Quality and availability of information and data*

The countries' data on GDP are extremely timely and of good quality. The teams responsible for producing these estimates work towards specific objectives within clear frameworks. All countries follow international guidelines and frameworks for building national accounts with the exception, in some cases, of updating the base year at appropriate intervals.

Population estimates are available, in most cases, but their accuracy depends on the frequency of national censuses, which in some cases are quite old. For example, Ecuador and Zambia carried out a census in 2010 and its population estimates are now quite close to those used by the international community (produced by the UN Population Division); but the official results of the 2012 Senegalese census are not yet finalised. Similarly, in Paraguay, a population estimate revision using data from the 2012 population census had not been published at the time of the country visit. Guatemala has not implemented a population census in the 2010 round, so their population estimates are based on the population census of 2002.

*Challenges*

The freshness of GDP and population data is key in using these background data for secondary analysis. Over the next few months, national statistical offices and central banks might update their estimates, in which case countries should carry out a thorough revision (or validation) of these indicators.

### *Questionnaire table 7-1: Education expenditure*

*Overall assessment*

Countries taking part in PISA-D are able to produce data on education expenditure for the public sector. As a general rule, data on public expenditure is estimated from the national executed budget (actual figures). The ministry of education accesses the data on expenditure for the educational budget it manages, while the budget allocated to educational programmes outside the ministry of education (including national universities) is accessed through the ministry of finance. Nonetheless, countries face difficulties when having to report data on private education expenditure. Although some of them have experience of creating estimates for private expenditure, none of them has recent data for this source.

*Quality and availability of information and data*

Ecuador, Guatemala, and Paraguay have reliable finance data on public expenditure as UIS has been working with them for many years in order to ensure coverage and quality.

Cambodia is currently able to provide public data on expenditure only up to the financial year 2010, although some issues are being worked out with the country that should enable it to provide more up-to-date public data in the future. Senegal is currently participating in an UIS project aimed at improving the compilation and reporting of education finance data by using national education accounts, and should therefore be able to produce all the necessary data.

Among PISA-D countries, Paraguay is the only country that has reported private expenditure to the international community, for reference year 2010.

Zambia, in turn, has participated in the UIS "Questionnaire B" (on finance). However, some resulting indicators – such as the educational expenditures expressed as a percentage of GDP – show values that UIS considers unpublishable because they are incomplete and inaccurate. This also indicates difficulties at the national level in gathering the relevant data.

*Challenges*

The main challenge in the area of education finance is including private expenditure. UIS has been working recently with Senegal, Paraguay, Guatemala and Ecuador to improve international statistics reporting on education finance. It is important to continue this work in order for the countries to produce estimates for private expenditure.

Another difficult issue for participating countries is categorising public expenditure on private educational institutions as either "government-dependent" or "independent". It seems that countries are able to identify the private educational institutions that receive resources from the government, but it is hard to calculate the proportion of the resources within the institution budget that fall into either category.

### *Questionnaire table 7-2: Number of students*

*Overall assessment*

All countries can report enrolment in public institutions, at least for primary and secondary level. For private enrolment, as above, most countries are not able to distinguish enrolment between the categories of government-dependant private institutions and independent private institutions.

Also, Cambodia seems unable to estimate the number of students participating in technical or vocational education at upper secondary level.

*Quality and availability of information and data*

Where available, data are of good quality. Such data have been reported for many decades, and because of the working relationship between UIS and the participating countries, we can assess that the data presented in the country-specific system-level questionnaires reflect the current situation of the education system.

*Challenges*

Data points that are shown as unavailable in this assignment are indeed hardly available. UIS is committed to working with individual countries to make sure that enrolment is included in the international database, so it can be used in the PISA-D initiative.

## Cambodia

There was no site visit scheduled to Cambodia in the current assessment project framework. Instead, we carried out desk-based research in order to investigate Cambodia's capacities to fill in the system-level questionnaire, as well as to provide some insights on the quality and availability of data. Cambodia's assessment should therefore be considered partial. A fuller version of this country analysis, including the assessment tables, can be found in Chapter 5.

The institution in charge of implementing PISA-D is the Quality Assurance Department of the Ministry of Education, Youth and Sports.

Since most of the tables included in the system-level questionnaire relate to UIS surveys in which Cambodia participates, it is possible to make an overall assessment of data availability and quality. Cambodia has successfully provided data to UIS on education stratification (table 1; through the ISCED mapping), assessment and examination at lower and upper secondary level (table 2-2; through observing learning outcomes), instruction time in public institutions (table 3; through the global module on intended instruction time) and number of students (table 7-2; through the education survey).

### *Challenges*

Regarding statistics in the education expenditure table (7-1), these are regularly reported to UIS through its education survey, but coverage is limited since they do not include private expenditure. This area for improvement needs attention.

With respect to data on teachers for tables 4 and 5, UIS only includes some general data about educational programmes for teacher training. The current UIS education survey for 2015 includes a supplementary questionnaire on teachers, requesting data on salaries and other dimensions, but the results will only be available later this year (2016).

Data requested for the national accounts table (6) are managed by the National Institute for Statistics of Cambodia. The data's general availability and quality can be assessed as "emerging", based on data found on its official web page and international databases such as those run by the IMF, World Bank and the UNPD.

Data requested on tertiary entrance examinations (table 3) is not applicable in Cambodia.

The EMIS office is currently working with other Ministry of Education, Youth and Sports departments to develop a unified database. This will include data from EMIS, personnel and the finance department. As a result it will be much easier for Cambodia to extract and submit data. Until then, there seems to be a need for improved communication and/or collaboration.

## Ecuador

Ecuador is in a very good position to respond to the system-level questionnaire. Each data table or worksheet in the questionnaire has an institution assigned to it to collect and/or manage the requested information. Metadata are consistently based on well-known legislation (national law or administrative norms) while data are regularly based on advanced information systems. A full version of this country analysis, including the assessment tables, can be found in Chapter 6.

Ecuador's *Instituto Nacional de Evaluación Educativa* (National Institute for Education Assessment) (INEVAL), the PISA-D NC, is an independent public institution with a good reputation in the country and a high level of professionalism. It directly manages, or is closely involved in, some of the information systems used for data requested by the system-level questionnaire, such as the assessments and examination table (2-1) and the tertiary entrance examinations table (2-2). Data to complete the rest of the worksheets or tables rely on other organisations but the INEVAL has a good level of institutional communication with them.

Most of the data requested by the system-level questionnaire are managed by the Ministry of Education (MoE), where various offices produce data for tables 1, 3, 4, 5, 7-1 and 7-2. The main information system in place is managed by the Co-ordination of Planning Office, and includes data on education stratification, expenditure and enrolment. They produce this information regularly and report it to UIS within their international education statistics surveys framework. Data on curriculum, teacher salaries and training are managed by other offices within the MoE and are well documented by national legislation.

Data requested by the national accounts table (6), GDP estimates and population projections are key elements of the national statistics system and they are managed well by the Central Bank and the National Institute for Statistics respectively. They produce and publish this data regularly following international guidelines and recommendations.

### *Challenges*

Ecuador's most important identified weakness is the statistics coverage of educational expenditure. Although these data are regularly reported to UIS, the coverage is limited since they do not include private expenditure. This area for improvement needs attention.

Another key issue for Ecuador is that data on enrolment need to be aligned with the fiscal year; not only because the school year and the fiscal year are not aligned, but also because the country has two different school cycles. INEVAL and the MoE's Co-ordination of Planning office have worked on this issue in order to provide the correct data to the system-level questionnaire. It is important to require the country to produce the documentation of the technical criteria applied.

## Guatemala

Guatemala is in a good position to respond to the system-level questionnaire. Each data table in the questionnaire has an institution assigned to it to collect the requested information. Metadata are all based on well-known legislation (national law or administrative norms) while the data are regularly based on advanced information systems. A full version of this country analysis, including the assessment tables, can be found in Chapter 7.

The *Dirección General de Evaluación e Investigación Educativa* (General Directorate of Assessment and Education Research) (DIGEDUCA), the PISA-D NC, is a public institution belonging to the MoE. It was created with the aim of managing the national education assessment system and has shown a remarkable level of stability across the years, even in the context of institutional changes at the MoE. Due to its functions and responsibilities, DIGEDUCA manages the information systems for the data requested by the assessments and examination table (2-1) on the system-level questionnaire.

Other offices within the MoE are responsible for data requested by tables 1, 3, 4, 5, 7-1 and 7-2. However, since DIGEDUCA is part of the Ministry, communication between offices is fluent and there are formal information request procedures in place.

The main information system is managed by the Directorate of Planning, and includes data on education stratification, expenditure and enrolment. They produce this information regularly and report it to UIS within their international education statistics surveys frameworks. Data on the curriculum, teacher salaries and training are managed by other offices within the MoE.

As well as the MoE, data for tertiary entrance examination table (2-2) are managed by the San Carlos University of Guatemala. This is the only public university in the country and it accounts for approximately 40% of enrolment in tertiary education. It has a well-established entry system which includes a compulsory standardised entrance

examination. However, this system only applies to students enrolled at San Carlos, rather than the country's tertiary institutions in general.

Data requested by the national accounts table (6), GDP estimates and population projections are key elements of the national statistics system and they are managed well by the Central Bank and the National Institute for Statistics respectively. They produce and publish this data regularly following international guidelines and recommendations. However, it should be noted that Guatemala did not take part in the 2010 round of population censuses, which could affect the accuracy of the current population estimates and projections.

### *Challenges*

One identified weakness is the data on instruction time. Although there are offices in charge of regulating this topic within the education system, the related legislation is not specific enough on the duration of sessions for the different educational levels. An agreement is needed between the involved offices within the MoE to meet the requirements of the PISA-D questionnaire.

A second issue is the duration of pre-primary education according to ISCED levels of education. Guatemala's reporting on the ISCED 2011 mapping to UIS is still pending and, given the new international education levels framework, there are some inconsistencies in the starting age and duration of the pre-primary level between the criteria applied to the previous mapping (based on ISCED 1997) and the national legislation. The necessary new criteria have been provided by the national team in December 2015 and are being followed up with UIS.

A third issue is the data on educational expenditure; these are regularly reported to UIS through its education survey, but coverage is limited since they do not include private expenditure.

## Paraguay

Paraguay is in very good condition to respond to the system-level questionnaire. Each data table in the questionnaire has an institution assigned to it to collect and/or manage the requested information. In general, metadata are based on well-known legislation (national law or administrative norms) while statistical data are based on advanced information systems. A full version of this country analysis, including the assessment tables, can be found in Chapter 8.

The General Directorate of Educational Planning, the PISA-D NC, sits within the MoE and is the institution responsible for Paraguay's EMIS. That is an extra asset in terms of data reporting. Paraguay also participated in the World Education Indicators (WEI) project run by the UIS and the OECD from 1999 to 2013. Given that the PISA system-level questionnaire and the WEI survey share many dimensions and tables, Paraguay has valuable experience of reporting these common dimensions to international organisations.

The General Directorate of Educational Planning is also responsible for the SNEPE, the education sector's national assessment system. Due to its responsibilities, this institution manages the information systems for the data requested by worksheets or

tables 1, 2-1, 7-1 and 7-2 of the system-level questionnaire. Other offices within the MoE are responsible for data requested by tables 2-2, 3, 4 and 5. The communication between offices is fluent and there are formal information request procedures in place.

Data requested by the national accounts table (6), GDP estimates and population projections are well managed by the Central Bank and the General Directorate of Statistics, Surveys and Censuses respectively. They produce and publish these data regularly following international guidelines and recommendations. However, it should be noted that Paraguay does not have a legally regulated national statistics system, which could affect the co-ordination between statistical operations and the development of some information systems. For example, due to the lack of key basic economic statistics, the Central Bank does not implement the complete national accounts framework.

### *Challenges*

One identified weakness is data on educational expenditure: these are regularly reported to UIS through its education survey, but their coverage is currently limited since they do not include private expenditure. There are household surveys available in Paraguay to produce these estimates and the country needs develop this area.

A second topic is the lack of a centralised or unified entrance system to tertiary education. Although the Education Act calls for a centralised system, instead each educational institution manages its own entrance process. The criteria and related tools are therefore particular to each case. The only exception is the entry system to teacher training programmes.

A third issue currently affecting the education indicators based on population data is that there are inconsistencies between the data on enrolment from the MoE and the population data from the General Directorate for Statistics, Surveys and Censuses. The current enrolment rates for the different educational levels, particularly in pre-primary and primary education, are low; and these school participation values are not confirmed using other methods such as estimates from household surveys. Paraguay needs to follow up this issue.

## Senegal

Senegal is in a satisfactory condition to respond to the system-level questionnaire. The country has institutions responsible for producing and managing the information requested by the different tables of the questionnaire, and the metadata are in general based on well-known legislation (national law or administrative norms). A full version of this country analysis, including the assessment tables, can be found in Chapter 9.

The institution in charge of implementing PISA-D in Senegal is the *Institut National d'Etude et d'Action pour le Developpement de l'Education* (National Study and Action Institute for Education Development) (INEADE) within the *Ministère de l'Education National* (Ministry of National Education) (MEN). It is directly responsible for the data requested by table 3 (number of class sessions per year) and is closely involved in defining the data requested by table 1 (education stratification).

The structure of Senegal's education sector, and consequently its information systems, means that different ministries are responsible for different levels of education

or particular orientations. MEN is responsible for general education from ISCED Level 1 (primary) to ISCED 3 (secondary); the *Ministère de la Formation professionnelle, de l'Apprentissage et de l'Artisanat* (Ministry of Vocational Training, Apprenticeship and Crafts) (MFPAA) manages technical and vocational education; the Ministry of Higher Education and Research manages tertiary education; while the Ministry for Women, Families and Children manages pre-primary education.

Apart from these four ministries, data requested by the national accounts table (6), GDP estimates and population projections are managed by the National Agency for Statistics and Demography. It produces and publishes these data regularly following international guidelines and recommendations. Finally, data on annual teacher salaries (table 4) and education expenditure (table 7-1) are produced by the Ministry of Finance.

### *Challenges*

Given this structure, it is clearly a challenge to co-ordinate all the relevant institutions. One general point is that while the individual parts of the educational information system are working well, it would benefit the education system as a whole to make an effort to co-ordinate the parts; and to use the information for policy making.

Regarding the identified weaknesses, one issue is time sensitivity, and the availability of data on assessments and examinations at secondary level (the country does not have entrance examinations at tertiary level). Although assessments are in place with good coverage and a clear framework for action and responsibilities, there are some delays in publishing the results, and there seem to be problems accessing and using the data for both internal and external users.

There is a similar situation for data on instruction time in public institutions. Teaching time is clearly defined by the normative standards; some of it very recent, such as the 2014 legislation for pre-primary and lower secondary education. However, government officials and outside users alike have limited access to these data, and there are no clear mechanisms in place to ensure that the prescribed instruction time takes place in schools.

With regard to data on teacher salaries, the overall quality seems reliable – salaries are calculated with very specific grids and standardised budget posts, and data are produced and disseminated monthly. Although the units involved are separate and rarely communicate with each other, they have a clear mandate and framework for action, and clearly own the information and data.

Although information is available at national level, it is to mention the lack of up-to-date data on education expenditure submitted to UIS. This is an area for improvement that is currently supported by the UIS, in collaboration with the UNESCO International Institute for Education Planning; the results of this work should become available over the next few months.

Improved internal co-ordination between education data producers is required on the part of all the different actors involved in education, to consistently report statistics on education finance at both national and international levels, and to improve the coverage of currently available data. The MEN and MFPAA should find ways to publish their data jointly on the general education sector with the technical and vocational education and

training sector, as they have the same target population, and because there are many bridging programmes between these sectors. Guided by the difficulties the country is facing in producing data for HDI calculation, a co-ordination mechanism has been recently established between the Ministries involved. This will most probably give the lead to MEN in publishing data for all education sectors.

## Zambia

Zambia has acceptable capacities to produce the statistics requested through the system-level questionnaire that are either at an advanced or emerging stage. The country has established mechanisms for conducting high-stakes national examinations and national assessments, as well as implementing international student learning assessments. Legislative instruments are in place to guide the education system's implementation, to regulate its human resources, and to authorise the activities of various data-producing entities. A full version of this country analysis, including the assessment tables, can be found in Chapter 10.

The institution in charge of implementing PISA-D is the Examinations Council of Zambia (ECZ) of the Ministry of Education, Science, Vocational Training and Early Education. This institution is also responsible for the information system that produces the data requested by the assessments and examinations table (2-1) of the system-level questionnaire. With the exception of national accounts and tertiary entrance examinations tables (the latter is not applicable in Zambia), all the data requested by the questionnaire are managed by different institutions within the Ministry of Education, Science, Vocational Training and Early Education.

Data requested by the national accounts table (6), GDP estimates and population projections are managed by the Central Statistical Office (CSO) under the Ministry of Finance. The CSO generates estimates on GDP, population projections and other social and economic data regularly following international guidelines and recommendations.

### *Challenges*

One important identified weakness concerns the production of statistics on education expenditure, which are prepared by the Accounts Unit within the Ministry of Education, Science, Vocational Training and Early Education. The system used to produce these statistics does sufficiently not track expenditure in private institutions, and in fact only reports on education expenditure by institutions directly managed by the Ministry of Education, Science, Vocational Training and Early Education. Some private institutions receive funding from private entities at the local level but this information is not captured.

Improved internal co-ordination between education data producers will be required on the part of the Ministry of Education, Science, Vocational Training and Early Education to consistently report statistics on education finance at the international level, and to improve the coverage of centralised statistics on education expenditure.

Other government entities such as the Directorate of Standards and Curriculum maintain separate records on education expenditure, but these are not reflected either in the data collection. Better co-ordination is needed by the Ministry of Education, Science, Vocational Training and Early Education between private institutions, other directorates

and ministries that manage private institutions to improve the quality and coverage of centralised statistics on education expenditure, as well as statistics reported at the international level.

A second challenge is the coverage of education statistics in pre-primary education. The Directorate of Information and Planning within the Ministry of Education, Science, Vocational Training and Early Education conducts an annual school census covering all formally recognised education programmes. Coverage is acceptable, with over 90% of public and private institutions completing the annual census. However, pre-primary data are still not collected since most of the schools for this level of education are private. The Ministry of Education, Science, Vocational Training and Early Education is working to correct this following the shift of this portfolio to it from a different ministry.

Another notable topic is that nationally produced education indicators regularly published by the Directorate of Planning and Information, based on primary school-age population, depict a number of school-aged children at the national and sub-national levels that exceeds the target population in those areas. Given that these annual indicators are produced using the recent 2010 census and resulting projections, data producers should consider reviewing the quality of both sources of data to resolve the concerns around indicators that rely on age-specific data.

The Ministry of Education, Science, Vocational Training and Early Education should also consider the more timely publication of examination and assessment results on online government platforms, and timely dissemination of annual education statistics bulletins in the public domain.

Highlights on student's performance (national Grade 12 only) at the sub-national level, and by sex are published on the ECZ and in the Ministry of Education, Science, Vocational Training and Early Education website. Students have the option to send short message services (SMS) texts to the ECZ to obtain examination results, or obtain results directly from the schools. However, detailed examination and assessment reports are accessible to the public in hard copy at the ECZ headquarters

As Zambia prepares for the consecutive phases of the PISA-D surveys, the NPM has suggested developing and carrying out contextual questionnaires, with support needed in particular to conduct Strand C of PISA-D (on out-of-school 15-year-olds), and in carrying out household surveys. Zambia has made internal commitments with resident development partners to secure funding to meet the expected costs of PISA-D.

# Part II

# Detailed country results

# Chapter 5

# Cambodia and the PISA for Development system-level questionnaire

*This chapter provides a detailed assessment of the current state of data collection and availability, in terms of quality and completeness, at the level of the national education system in Cambodia. Cambodia successfully provided data to UIS on education stratification, assessment and examination at lower and upper secondary levels, instruction time in public institutions, and number of students; but challenges included providing data on education expenditure, teacher salaries and teacher training, and national accounts. Data requested on tertiary entrance examinations is not applicable in Cambodia.*

## Cambodia assessment results

There were no UIS site visits scheduled to this country. Nonetheless, we carried out a desk-based review in order to fill in the system-level questionnaire and provide some insights into the quality and availability of data.

The institution responsible for implementing PISA-D in Cambodia is the Quality Assurance Department at the Ministry of Education, Youth and Sports. It acts as the PISA-D NC and is the respondent for the system-level questionnaire. Due to the structure of this questionnaire and the variety of topics covered, the data are obtained from different sources (see Table 5.1).

**Table 5.1 Cambodia's data providers for the system-level questionnaire**

| Number | Table | Data provider |
|---|---|---|
| 1 | Education stratification | For general programmes: Ministry of Education, Youth and Sports<br>For technical and vocational programmes: Technical and Vocational Education and Training (TVET) Department, Ministry of Labour and Vocational Training |
| 2-1 | Assessments and examinations | Education Quality Assurance Department<br>Examination Office of the General Secondary Education Department (Ministry of Education) |
| 2-2 | Tertiary entrance examinations | Not applicable |
| 3 | Number of class sessions per year | Department of Planning |
| 4 | Annual teacher salaries | Personnel Department (Ministry of Education)<br>Department of Finance (Ministry of Education) |
| 5 | Requirements for pre-service teacher training | Teachers Department (Ministry of Education)<br>Personnel Department (Ministry of Education) |
| 6 | National accounts | National Institute of Statistics of Cambodia |
| 7-1 | Education expenditure | Department of Finance, (Ministry of Education) |
| 7-2 | Number of students | Department of Planning (Ministry of Education) |

### *Questionnaire table 1: Stratification*

Two ministries are responsible for maintaining the structure of the education system: the Ministry of Education, Youth and Sports for general programmes, and the Technical and Vocational Education and Training (TVET) Department, at the Ministry of Labour and Vocational Training, for technical programmes.

**Table 5.2 Quality assessment: Stratification**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country |

**Table 5.3 Availability assessment: Stratification**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country |

### *Questionnaire table 2.1: Assessments and examinations at lower and upper secondary level*

The Education Quality Assurance Department at the Ministry of Education, Youth and Sports manages assessments at the lower secondary level, while the Examination Office at the General Secondary Education Department (attached to the Ministry of Education, Youth and Sports) is in charge of examinations at upper secondary level.

The Education Quality Assurance Department responded to the UIS questionnaires for the Observatory of Learning Outcomes programme.[1]

**Table 5.4 Quality assessment: Secondary-level assessments and examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country |

**Table 5.5 Availability assessment: Secondary-level assessments and examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country |

### *Questionnaire table 2.2: Tertiary entrance examinations*

There are no standardised tertiary entrance examinations in Cambodia.

**Table 5.6 Quality assessment: Tertiary entrance examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Characteristics | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Justification | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |

**Table 5.7 Availability assessment: Tertiary entrance examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Not applicable | Not applicable | Not applicable | Not applicable |
| Characteristics | Not applicable | Not applicable | Not applicable | Not applicable |
| Justification | Not applicable | Not applicable | Not applicable | Not applicable |

### *Questionnaire table 3: Instruction time in public institutions by age of student*

The Department of Planning of the Ministry of Education, Youth and Sports has responded to the UIS questionnaire on instruction time for the school year 2012.

**Table 5.8 Quality assessment: Instruction time in public institutions by age of student**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country |

**Table 5.9 Availability assessment: Instruction time in public institutions by age of student**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country | This item is evaluated as advanced, based on the UIS relationship with the country |

### *Questionnaire table 4: Annual teacher salaries (statutory) by level of education and number of years and level of teaching experience*

UIS data collection on teacher salaries is starting in Cambodia in 2015, so the first results will come later this year.

At the national level, the unit in charge of teacher salaries are the Personnel Department and the Department of Finance at the Ministry of Education, Youth and Sports. The Personnel Department keeps data on teachers and their grades and salaries, and the Department of Finance decides the salary scales.

Since UIS and the Cambodia NPM could not meet, this section has not been evaluated.

**Table 5.10 Quality assessment: Annual teacher salaries (statutory)**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Not evaluated | Not evaluated | Not evaluated | Not evaluated | Not evaluated |
| Characteristics | Not evaluated | Not evaluated | Not evaluated | Not evaluated | Not evaluated |
| Justification | Not evaluated | Not evaluated | Not evaluated | Not evaluated | Not evaluated |

**Table 5.11 Availability assessment: Annual teacher salaries (statutory)**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Not evaluated | Not evaluated | Not evaluated | Not evaluated |
| Characteristics | Not evaluated | Not evaluated | Not evaluated | Not evaluated |
| Justification | Not evaluated | Not evaluated | Not evaluated | Not evaluated |

### *Questionnaire table 5: Teacher training and professional development requirements*

UIS data collection on teacher training is starting in Cambodia in 2015, so the first results will come later this year. Two units of the Ministry of Education, Youth and Sports are in charge of setting and applying the standards – the Teachers Department and the Personnel Department.

All pedagogical trainings for teachers at pre-primary to lower secondary level last for two years. These are ISCED 4 programmes and students can enter after upper secondary. Almost all teachers have this pedagogical training; only older teachers might not. In addition, there is a vocational course for teachers who have low ISCED levels, spanning several years and taking three months per year.

The partial information available at UIS has been deemed of relatively good quality and availability. Nevertheless, since UIS has not visited the country for the project, this section has been only partially evaluated.

**Table 5.12 Quality assessment: Teacher training and professional development requirements**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Emerging | Emerging | Emerging | Emerging |
| Characteristics | The initial education system, general primary and secondary, is covered, and technical and professional programmes in both public and private sectors | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | Basic components of a framework or informal mechanisms are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | Further to UIS partial evaluation of teacher training, it seems that this item can be graded as emerging | Further to UIS partial evaluation of teacher training, it seems that this item can be graded as emerging | Further to UIS partial evaluation of teacher training, it seems that this item can be graded as emerging | Further to UIS partial evaluation of teacher training, it seems that this item can be graded as emerging | Further to UIS partial evaluation of teacher training, it seems that this item can be graded as emerging |

**Table 5.13 Availability assessment: Teacher training and professional development requirements**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Emerging | Emerging | Emerging | Emerging |
| Characteristics | There are some official channels through which national officers can access the information | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Further to UIS partial evaluation of teacher training, it seems that this item can be graded as emerging | Further to UIS partial evaluation of teacher training, it seems that this item can be graded as emerging | Further to UIS partial evaluation of teacher training, it seems that this item can be graded as emerging | Further to UIS partial evaluation of teacher training, it seems that this item can be graded as emerging |

### *Questionnaire table 6: National accounts*

The National Institute of Statistics of Cambodia is responsible for producing national accounts data. Some provisional data is published up until 2012 on its website.[2]

**Table 5.14 Quality assessment: National accounts**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Emerging | Emerging | Emerging | Emerging |
| Characteristics | The initial education system is covered, general primary and secondary, and technical and professional programmes in both public and private sectors | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | Basic components of a framework or informal mechanisms are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | Some information could be assessed; UIS relies on World Bank, IMF and UNPD data | Some information could be assessed; UIS relies on World Bank, IMF and UNPD data | Some information could be assessed; UIS relies on World Bank, IMF and UNPD data | Some information could be assessed; UIS relies on World Bank, IMF and UNPD data | Some information could be assessed; UIS relies on World Bank, IMF and UNPD data |

**Table 5.15 Availability assessment: National accounts**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Emerging | Emerging | Emerging | Emerging |
| Characteristics | There are some official channels through which national officers can access the information | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Some information could be assessed; UIS relies on World Bank, IMF and UNPD data | Some information could be assessed; UIS relies on World Bank, IMF and UNPD data | Some information could be assessed; UIS relies on World Bank, IMF and UNPD data | Some information could be assessed; UIS relies on World Bank, IMF and UNPD data |

### *Questionnaire table 7-1: Education expenditure by type of institution and level of education*

The Department of Finance of the Ministry of Education, Youth and Sports is in charge of producing these data. Currently, it reports public expenditure by source and destination, not by nature or type of institution as requested in the system-level questionnaire.

**Table 5.16 Quality assessment: Education expenditure by type of institution and level of education**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Emerging | Emerging | Emerging | Emerging |
| Characteristics | The initial education system, general primary and secondary, is covered, and technical and professional programmes in both public and private sectors | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | Basic components of a framework or informal mechanisms are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | The country is able to report expenditure by source and destination, not by nature or type of institution | The country is able to report expenditure by source and destination, not by nature or type of institution | The country is able to report expenditure by source and destination, not by nature or type of institution | The country is able to report expenditure by source and destination, not by nature or type of institution | The country is able to report expenditure by source and destination, not by nature or type of institution |

**Table 5.17 Availability assessment: Education expenditure by type of institution and level of education**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Emerging | Emerging | Emerging | Latent |
| Characteristics | There are some official channels through which national officers can access the information | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | No data has recently been shared with the UIS/UN and other international partners |
| Justification | Country is able to report expenditure by source and destination, not by nature or type of institution | Country is able to report expenditure by source and destination, not by nature or type of institution | Country is able to report expenditure by source and destination, not by nature or type of institution | Country is able to report expenditure by source and destination, not by nature or type of institution. Latest data sent in 2010 |

### *Questionnaire table 7-2: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance*

The Department of Planning at the Ministry of Education, Youth and Sports is in charge of producing general programme information; and the TVET Department at the Ministry of Labour and Vocational Training is responsible for the same in its area. Unfortunately, it seems that there are some communication difficulties between the two, resulting in misclassification and under-representation of TVET data in the international database.

**Table 5.18 Quality assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Advanced | Advanced | Advanced | Advanced |
| Characteristics | The initial education system is covered, general primary and secondary, and technical and professional programmes in both public and private sectors | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | There seems to be issues with the classification of TVET programmes | Based on the UIS relationship with the country, this item is evaluated as advanced | Based on the UIS relationship with the country, this item is evaluated as advanced | Based on the UIS relationship with the country, this item is evaluated as advanced | Based on the UIS relationship with the country, this item is evaluated as advanced |

**Table 5.19 Availability assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Emerging | Emerging |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Based on the UIS relationship with the country, this item is evaluated as advanced | Based on the UIS relationship with the country, this item is evaluated as advanced | Only some information is available online | Information on TVET is missing or misclassified |

# Notes

1. For more information see www.uis.unesco.org/Education/Pages/learning-outcomes.aspx and www.uis.unesco.org/Education/Documents/catalogue-learning-outcomes-questionnaire.xlsm

2. See www.nis.gov.kh/nis/NA/NA2012.html.

# Chapter 6

# Ecuador and the PISA for Development system-level questionnaire

*This chapter provides a detailed assessment of the current state of data collection and availability, in terms of quality and completeness, at the level of the national education system in Ecuador. It shows that Ecuador is in a very good position to respond to the system-level questionnaire: each data table or worksheet in the questionnaire has an institution assigned to it to collect and/or manage the requested information; and metadata are consistently based on well-known legislation (national law or administrative norms) while data are regularly based on advanced information systems. Challenges include statistics coverage of educational expenditure and aligning data on enrolment with the fiscal year, especially as the country has two different school cycles.*

## Ecuador assessment results

UIS visited Ecuador during the week of 6 April 2015.

The institution responsible for implementing PISA-D in Ecuador is the *Instituto Nacional de Evaluación Educativa* (National Institute for Education Assessment) (INEVAL). It acts as the PISA-D NC and is the respondent for the system-level questionnaire. Due to the structure of this questionnaire and the variety of topics covered, INEVAL obtains data from different sources (see Table 6.1).

**Table 6.1 Ecuador's data providers for the system-level questionnaire**

| Number | Table | Data provider |
|---|---|---|
| 1 | Education stratification | Co-ordination of Planning (Ministry of Education) |
| 2-1 | Assessments and examinations | INEVAL |
| 2-2 | Tertiary entrance examinations | INEVAL and Secretary of Higher Education |
| 3 | Number of class sessions per year | Curriculum Office (Ministry of Education) |
| 4 | Annual teacher salaries | Office of Teachers' Professional Development (Ministry of Education) |
| 5 | Requirements for pre-service teacher training | Office of Teachers' Professional Development (Ministry of Education) |
| 6 | National accounts | Central Bank (GDP) and National Institute for Statistics (Population) |
| 7-1 | Education expenditure | Co-ordination of Planning (Ministry of Education) |
| 7-2 | Number of students | Co-ordination of Planning (Ministry of Education) |

### *Questionnaire table 1: Stratification*

Ecuador's education system is regulated by the *Ley Orgánica de Educación Intercultural* (Organic Law of Intercultural Education) (LOEI), which was approved in 2011.[1]

There is no selection scheme within the education system to guide students into different streams. ISCED Levels 0, 1 and 2 are based on general education programmes, while ISCED Level 3 has two orientations: general (*Bachillerato Unificado*) and vocational (*Bachillerato Técnico*).[2]

Students can select their orientation at the age of 15, when they normally start the upper secondary education. The orientations share a common core curriculum and both allow their graduates to continue to any tertiary education programme.

In terms of how Ecuador's education system relates to ISCED levels (known by Spanish speakers as CINE, or *Clasificación Internacional Normalizada de la Educación*), the first grade of basic education (for five-year-olds) equates to ISCED 02, while ISCED Level 1 starts with the second year of basic education (for six-year-olds) and lasts for six years.

Ecuador's education system has two school cycles, each with a different calendar: one for the Coastal region and one for the Highland and amazon region – the former runs

from May to February and the latter from September to July. The reference date for age is the beginning of each cycle.

**Table 6.2 Quality assessment: Stratification**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education – including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The law defines clearly the organisation of the education system and the characteristics of each stream | Although there is no expected periodicity for updating the education law, there have been recent updates to the legal framework | As a national law, it has followed a regulated process for publication | All ministries involved have a clear framework for action | All ministries involved have a clear mandate and responsibilities |

**Table 6.3 Availability assessment: Stratification**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Education law and the organisation of the education system are well understood by all the officials | Education law and all the related documents and regulations are systematically disseminated across the system | All legal documents regarding the education system, including education law, are available on the website of the Ministry of Education. This website also has a description of the different education levels and programmes | The structure of the education system is reported to UIS through the ISCED mapping, which was updated in 2014 |

### *Questionnaire table 2.1: Assessments and examinations at lower and upper secondary level*

INEVAL is the institution in charge of assessing education for non-tertiary levels in Ecuador. It carries out an assessment study at the lower secondary level, *Ser Estudiante*,[3] and an examination for the last grade of secondary school, *Ser Bachiller*.

The *Ser Estudiante* assessment for lower secondary education takes place at Grade 10, the last grade of ISCED 2. It is applied to a sample of students and it does not have direct consequences for students, teachers or schools.

The *Ser Bachiller* examination is for all students in the last grade of upper secondary education. It is carried out twice a year, once for each of Ecuador's school cycles. The examination was implemented for the first time in 2013 for a sample of students. In 2014, it became a census with a direct impact on the student certificate of secondary education.

The Ministry of Education (MoE) and INEVAL divide assessment and examination responsibilities between them. The MoE defines the standards for each subject and INEVAL assesses the students based on those standards. Ultimately, the MoE is responsible for certifying the completion of secondary education, and at present the results of INEVAL's *Ser Bachiller* test represent 10% of the final mark. That means it is mandatory, but not binding. Establishing the *Ser Bachiller* examination is expected to take place gradually, so this percentage will be higher in the medium term.

Students take the test via an electronic application, so they get the results immediately. Then all the information is processed by INEVAL and the aggregated results are published within a period no longer than a month. This data can be accessed through the test web page.[4]

**Table 6.4 Quality assessment: Secondary-level assessments and examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The examination for upper secondary covers all types of programmes and is applied as a census | The examination is a requisite for the certificate at upper secondary level, so it is aligned with the school year | The exam is taken electronically, so results for students are immediate. Aggregated data are disseminated within a period no longer than a month | There is a formal framework for the different phases of the examination process | INEVAL is an independent institution in charge of implementing assessments and examinations at secondary education level |

**Table 6.5 Availability assessment: Secondary-level assessments and examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | All relevant officers are aware of the information | Data are disseminated properly to different actors within the education system | There is a specific website for the examination providing a good level of information | INEVAL has shared institutional information on their assessments with international organisations such as UNESCO Santiago (LLECE) and the UIS |

Note: LLECE is UNESCO's Latin American Laboratory for Assessment of the Quality of Education (*Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación*).

### *Questionnaire table 2.2: Tertiary entrance examinations*

There is a standardised entrance examination for tertiary education in Ecuador. It is managed by the *Secretaría de Educación Superior, Ciencia, Tecnología e Innovación* (Secretariat of Higher Education, Science, Technology and Innovation) (SENESCYT) and INEVAL provides technical inputs. The examination is called the *Examen Nacional para la Educación Superior* (National Examination for Higher Education) (ENES) and it takes place twice a year, usually during the last month of each school cycle. Ecuador reports that the ENES and the *Ser Bachiller* test are scheduled to merge and the end of 2016 in order to produce one single examination that will be part of the final grade of secondary education and a standardised entrance examination for public universities.

ENES is mandatory for entry to public tertiary institutions and it is optional for private institutions. However, the entrance system for tertiary education is regulated by LOES, which defines whether an entrance exam is required for any tertiary educational programme. This means that private institutions that are not associated with ENES need to provide an alternative entrance examination. ENES is part of a broader system of admissions managed by SENESCYT.[5]

Students take the ENES exam and, at the same time, apply for different educational programmes for specific tertiary education institutions. They can choose three alternatives in order of preference. Students are then selected for each programme and institution depending on their ENES results. This process takes place twice a year, since tertiary educational programmes start every semester.

**Table 6.6 Quality assessment: Tertiary entrance examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The tertiary entrance examination (ENES) can be taken by any student in the last year of the upper secondary level regardless of the education programme he/she is enrolled in | ENES has taken place twice a year since 2012 | The main products of ENES are student results and its impact on tertiary education entrance. This information is available each semester before the start of tertiary education programmes | ENES is a key element of the national system of admission (SNNA) and is clearly defined and regulated by education law | Education law clearly defines the institution responsible for the SNNA. Within the SNNA, the institutions involved in implementing ENES are defined by internal regulations |

**Table 6.7 Availability assessment: Tertiary entrance examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Emerging | Not applicable |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | Some information is publicly available, either online, at a documentation centre, or in other ways | Not applicable |
| Justification | The Secretary of Higher Education is responsible for the SNNA and its information system. All actors involved in the system are aware of the information and know how to access to it | The information is disseminated to all actors according to their needs: students informed of results, and tertiary education institutions given lists of selected students | Some aggregated data and summary reports are shared with external users | Not applicable. There are no known international data collections to this effect |

### *Questionnaire table 3: Instruction time in public institutions by age of student*

Instruction time in Ecuador for ISCED/CINE Levels 0-3 is regulated by the official curriculum, which is defined by the MoE. The curriculum is revised every three years and a recently approved version (June 2014) is being implemented. However, the new curriculum changes the content rather than instruction time.[6]

The duration of a class session in Ecuador for all levels and ages covered by table 3 of the system-level questionnaire is 40 minutes. In all cases, the annual instruction time is defined as 8 periods of 40 minutes a day, 200 days a year.

Compulsory attendance for each stage is as follows:

- Pre-primary (5-year-olds): all compulsory
- Primary and lower secondary (6- to 14-year-olds): all compulsory
- Upper secondary (15- to 17-year-olds): compulsory and non-compulsory

**Table 6.8 Quality assessment: Instruction time in public institutions by age of student**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. in education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The official curriculum is defined at national level for all educational institutions of the ISCED levels included in the questionnaire | The curriculum is updated every three years but it is independent of the school cycle | Once the curriculum is defined, it is published through official channels | The development of the curriculum follows an official process | Responsibilities within the MoE for developing the official curriculum are clearly defined |

**Table 6.9 Availability assessment: instruction time in public institutions by age of student**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | The official curriculum for different educational levels is well known by all the relevant actors in the education sector | The official curriculum is disseminated to the education system through official channels | There are publications with the official curriculum as well as information on the MoE website | Similar information to that requested by the system-level questionnaire was reported to UIS in 2014 |

### *Questionnaire table 4. Annual teacher salaries (statutory) by level of education and number of years and level of teaching experience*

In public educational institutions, teachers' salaries are matched to general civil servant salaries. On this scale, a new teacher enters the profession at category G. Once in service, there is a clear criterion for promotion based on service training and experience. However, the two highest categories, A and B, require a master level degree (ISCED 7).

The LOEI also defines a supplementary payment based on performance. This is currently based on a 2012 teacher performance assessment. The MoE is examining new criteria for this supplementary payment.

For data on teachers, the MoE uses two databases: a teacher payroll and a register for teachers. At present, the register is in the final phase of implementation and has data for 90% of the teachers.

**Table 6.10 Quality assessment: Annual teacher salaries (statutory)**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | National government is in charge of teacher training regulation and salaries, and it applies to all teachers. The information system for salaries also has full coverage | Teacher salaries are defined annually information on payments is produced monthly | The information is produced in a timely manner | There is a clear framework for defining, collecting and managing this information | Responsibility for teacher training, teacher salaries and related information system is clearly defined by the MoE |

**Table 6.11 Availability assessment: Annual teacher salaries (statutory)**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Emerging |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Officers are aware of the information on training or the criteria for teachers' salaries and they know how to access this data | There are regular reports regarding teacher and salary data. The MoE even produces weekly reports | The criteria for setting teacher salaries is defined by the legislation and disseminated through official websites. Statistics on teachers are included in official reports | Data on teachers and trained teachers are usually reported to various international organisations (for instance, the UIS). The information on teacher salaries was not part of regular UIS activities for Ecuador before 2015 |

### *Questionnaire table 5: Teacher training and professional development requirements*

In 2011, the LOEI modified the teaching career structure, including training, requirements for entry and professional development. The Education Act and its related regulations define a complete framework of action.[7]

Basic teacher training is an ISCED Level 6 programme, a bachelor degree. Currently, there are some teachers who graduated from lower programmes, but this is a temporary situation. Any new teacher needs to have ISCED Level 6.

As noted above, for data on teachers, the MoE uses two databases: a teacher payroll and a register for teachers. At present, the register is in the final phase of implementation and has data for 90% of the teachers.[8]

**Table 6.12 Quality assessment: Teacher training and professional development requirements**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | National government is in charge of teacher training regulation and salaries, and it applies to all teachers. The information system for salaries also has full coverage | The definition of teacher salaries is annual and the information of payments is produced monthly | The information is produced in a timely manner | There is a clear framework for defining, collecting and managing this information | The responsibility for teachers training, teacher salaries and the related information system is clearly defined within the MoE |

**Table 6.13 Availability assessment: Teacher training and professional development requirements**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Officers are aware of the information of training or the criteria for teachers' salaries and they know how to access this data | There are regular reports regarding teacher and salary data. The MoE even produces weekly reports | The criteria for setting teacher salaries is defined by the legislation and disseminated through official websites. Statistics on teachers are included in official reports | Data on teachers and trained teachers are usually reported to different international organisations (for instance, the UIS) |

### *Questionnaire table 6: National accounts*

The *Banco Central del Ecuador* (Central Bank of Ecuador) is responsible for producing GDP estimates, while the *Instituto Nacional de Estadística y Censos* (National Institute of Statistics and Censuses) is responsible for population projections.

Current GDP estimates are based on the year 2007. The base year is changed approximately every ten years, and the Central Bank is considering using 2013 as the new base year. The Central Bank follows international standards for their statistics, particularly the norms defined by the IMF, which periodically receives macroeconomic data from Ecuador.

Population projections are based on the national population census of 2010. The estimates for 2010-2020 were published in 2012. The estimation model and its assumptions are periodically reviewed, but until now the estimates have not changed. The

National Institute for Statistics had technical assistance from the Economic Commission for Latin America and the Caribbean (ECLAC) to produce the estimates.

Data on purchasing power parity (PPP) factors are not produced by the country, but must be taken from the World Bank database.

**Table 6.14 Quality assessment: National accounts**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the economy and the total population are covered | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | Data on GDP are produced within the framework of the National Account System. Population projections are based on the National Population Census | Data on GDP are produced every trimester. Population projections are adjusted when a change in the assumptions model is verified | Data on GDP are produced in a timely manner based on international recommendations. Population projections are produced for a period of 10 years | The National Account System and population data are key elements of the National Statistics System | The Central Bank is responsible for the National Account System and the National Institute for Statistics is responsible for population data. This is defined by national legislation |

**Table 6.15 Availability assessment: National accounts**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the World Bank/IMF/UNPD through regular activities, and then relayed to other partner agencies |
| Justification | Information on GDP and population is well known by all the relevant officers | There is an organised dissemination system for data on GDP. Data on population are shared through official channels by the National Institute for Statistics | Data on GDP and population are available on the respective websites | Data on GDP are regularly reported to IMF and the World Bank. Population estimates are regularly reported to ECLAC |

### *Questionnaire table 7-1: Education expenditure by type of institution and level of education*

Data on educational expenditure is produced annually by the MoE and reported to UIS through the Questionnaire B of the Survey of Formal Education. The office in charge of this report is the Co-ordination of Planning.

This data has been produced regularly since 2011. However, it covers only government expenditure on education. Estimates of private expenditure on education have not been reported to UIS since 2000. For data on government expenditure, it does

not include local governments, but local government expenditure as a percentage of total government expenditure seems to be low.

Another limitation affecting data on expenditure is that while the MoE's education management information system (EMIS) is able to identify the private educational institutions that receive funds from government sources (*fiscomisionales*), it cannot separate them by percentage of subsidy. That means they could not provide data for independent and dependent private institutions.

Currently, the MoE uses estimates for the 2013 fiscal year, and they are preparing data for 2014.

**Table 6.16 Quality assessment: Education expenditure by type of institution and level of education**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Advanced | Advanced | Emerging | Emerging |
| Characteristics | The initial education system is covered, as well as the technical and professional programmes, in both public and private sector | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Basic components of a framework or informal mechanisms are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | Information on education expenditure is limited to the central government expenditure on education, including the expenditure from international sources which is transferred to the government | Data on educational expenditure produced annually by the MoE since 2011 | Information is mainly produced for the UIS education survey. However, the schedule of this survey is not aligned to the calendar of the country's academic year and the use of data for national needs is therefore less than optimal | There is a conceptual framework for developing statistics on education finance that the country uses. However, it is not well documented, nor are the related procedures | The MoE has led the development of statistics on education finance, although this responsibility is not formally defined |

**Table 6.17 Availability assessment: Education expenditure by type of institution and level of education**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Latent | Latent | Latent | Advanced |
| Characteristics | Officers are more or less aware of the information available, and rely on personal connections to find it | There are no mechanisms to disseminate the documents or results, in order to improve the system | Information is available through personal contact | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Officers are aware of some key indicators that are produced and disseminated. However, there is not an official report on education finance or a specific data warehouse | Although the MoE produces data on education finance, these data are not regularly included in the information system and publications | The data are not disseminated to outside users | Data on education finance are regularly reported to the UIS |

### *Questionnaire table 7-2: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance*

Data on enrolment are also managed by the Co-ordination of Planning office at the MoE. It is part of the EMIS and its process fully meets general quality criteria. Coverage is also good for the ISCED levels included in table 7-2 of the system-level questionnaire. However, the limitation mentioned above – the separation of independent and dependent private institutions – also affects data on enrolment.

The main challenge for this table is the alignment between the school cycle and the fiscal year. As mentioned above, Ecuador has two school cycles, which both overlap with two fiscal years. The MoE does not have a methodology to align them, since they habitually report statistics by school cycle. In other cases they use the number of students at the end of each school cycle to report statistics of a specific year (for instance in the UIS education survey). Ecuador has subsequently reported that the MoE and the INEVAL has agreed on a methodology.

This topic was discussed during the UIS visit, and the MoE decided to work on the criteria in partnership with INEVAL, responsible for the system-level questionnaire, based on the OECD's methodological recommendations.

**Table 6.18 Quality assessment: number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The MoE information system covers all the relevant education programmes | The cycle of the MoE information system is aligned with the school year | The data are produced and disseminated in a timely manner | There is a framework in place for the MoE information system | Responsibilities for the different stages of the information system are clearly defined within the MoE |

**Table 6.19 Availability assessment: number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Most officers are aware of the information available and how to access it | Data produced by the information system of the MoE are a key element for policy making | Data are shared periodically in publications and through the MoE website | Data are shared with UIS (education survey) |

## Notes

1. The full legislation for Ecuador's education system can be found at http://educacion.gob.ec/documentos-legales-y-normativos.
2. For more information, see http://educacion.gob.ec/oferta-educativa.
3. *Ser Estudiante* is also carried out at lower grades (grades 4 and 7), www.evaluacion.gob.ec/ser-estudiante/.
4. See www.ineval.gob.ec/index.php/ser-bachiller.
5. See www.snna.gob.ec.
6. The current curriculum is available at http://educacion.gob.ec/documentos-pedagogicos.
7. For more details see http://educacion.gob.ec/category/formacion-docente-i/.
8. See http://educacion.gob.ec/category/formacion-docente-i/.

# Chapter 7

# Guatemala and the PISA for Development system-level questionnaire

*This chapter provides a detailed assessment of the current state of data collection and availability, in terms of quality and completeness, at the level of the national education system in Guatemala. It shows that Guatemala is in a good position to respond to the system-level questionnaire: each data table in the questionnaire has an institution assigned to it to collect the requested information; and metadata are all based on well-known legislation (national law or administrative norms) while the data are regularly based on advanced information systems. Challenges include providing data on instruction time, on the duration of pre-primary education according to ISCED levels of education, and on educational expenditure.*

## Guatemala assessment results

UIS visited Guatemala during the week of 20 April 2015.

The institution in charge of implementing PISA-D in Guatemala is the *Dirección General de Evaluación e Investigación Educativa* (General Directorate of Assessment and Education Research) (DIGEDUCA) of the Ministry of Education (MoE). It acts as the PISA-D NC and is the respondent for the system-level questionnaire. Due to the structure of the questionnaire and the variety of topics covered, DIGEDUCA obtains the data from different sources (see Table 7.1).

**Table 7.1 Guatemala's data providers for the system-level questionnaire**

| Number | Table | Data provider |
|---|---|---|
| 1 | Education stratification | Directorate of Planning (DIPLAN, Ministry of Education) |
| 2-1 | Assessments and examinations | Directorate of Assessment and Education Research (DIGEDUCA, Ministry of Education) |
| 2-2 | Tertiary entrance examinations | San Carlos University |
| 3 | Number of class sessions per year | Directorate of Curriculum and Directorate of Education Quality Management (DIGECADE, Ministry of Education) |
| 4 | Annual teacher salaries | Directorate of Human Resources (DIREH, Ministry of Education) |
| 5 | Requirement's for pre-service teacher training | Directorate of Education Quality Management (DIGECADE, Ministry of Education) |
| 6 | National accounts | Central Bank (GDP) and National Institute for Statistics (INE) (Population) |
| 7-1 | Education expenditure | DIPLAN (Ministry of Education) |
| 7-2 | Number of students | DIPLAN (Ministry of Education) |

### *Questionnaire table 1: Stratification*

The organisation of Guatemala's education system is regulated by the 1991 National Law of Education.[1]

The education system has no selection scheme for students to be guided into different streams. ISCED Levels 0, 1 and 2 are based on general education programmes while ISCED Level 3, *Ciclo Diversificado*, has two orientations: general and vocational. Students can select an orientation at the age of 16, when they normally start upper secondary education. The orientations share a common core curriculum and both allow their graduates to continue to any tertiary education programme.

The school year runs from January to October. One weakness detected in this arrangement is that there is no clear reference date for age in order to report enrolment data by age. The legislation (*Reglamento de evaluación de los aprendizajes* – 2010) establishes that children who start primary education have to be at least 6.5 years old at the beginning of the school year. However, the enrolment process is open until 31 March, so other administrative procedures take this date for the age (for example, statistics on enrolment).

In terms of how Guatemala's education system equates to ISCED levels, Guatemala's report to UIS of its official mapping to ISCED 2011 was still pending at the

time of the visit. One important issue to define for the mapping is the duration of pre-primary education. In the previous ISCED mapping (1997 version) pre-primary education started at the age of five and lasted two years. However, some regulations in the country define a pre-primary level starting at the age of four and lasting three years. Given the new scheme proposed by ISCED 2011, the country needs to define if the grade for four-year-old children belongs to ISCED 01 or ISCED 02.

**Table 7.2 Quality assessment: Stratification**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Emerging | Advanced | Advanced | Advanced |
| Characteristics | The initial formal education system is covered, as well as the technical and professional programmes, in both public and private sectors | The system produces some data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The Education Act defines the organisation of the education system and the characteristics of each stream. However, the duration of ISCED 02 has not yet been officially defined, in order to determine how the national education system equates to ISCED levels | The Education Act is over 20 years old and has been complemented by several pieces of legislation from central government and the MoE | As national law, it has followed a regulated process for publication. The related legislation is also published by the MoE | All ministries involved have a clear framework for action | All ministries involved have a clear mandate and responsibilities |

**Table 7.3 Availability assessment: Stratification**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Emerging | Emerging | Advanced | Emerging |
| Characteristics | There are some official channels through which national officers can access the information | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | The Education Act and the organisation of the education system are well known by all officials. However, some issues, such as the ISCED 02 example above or the reference date for ages, are affected by different norms; this could make it difficult to understand the regulations properly | The Education Act and all the related documents and regulations are disseminated within the system. However, the existence of so much legislation could make it difficult to be aware of all the different aspects of the education system | All legal documents on the education system, including the Education Act, are available on the MoE website. This website also has information and documents for each education level | The structure of the education system is reported regularly to UIS through the ISCED mapping. The latest update (2011 ISCED version) is still pending |

### *Questionnaire table 2.1: Assessments and examinations at lower and upper secondary level*

The institution responsible for assessing non-tertiary level education in Guatemala is DIGEDUCA. It manages different assessment studies at all educational levels. For secondary education the assessments take place in the last grade of each cycle. They are called *Tercero Básico* in lower secondary and *Graduandos* in upper secondary.

The *Tercero Básico* assessment for lower secondary education is implemented in Grade 3 (or Grade 9 counting from the beginning of primary education). It is applied every three years to all students in Grade 3. The first version of this assessment was carried out in 2006 and the most recent version in 2013. It has no direct consequences for students, teachers or schools.

The *Graduandos* assessment is carried out in the last years of upper secondary, which can be Grade 2 or 3 (Grade 11 or 12 counting from primary education). It is applied every year as a census; i.e. to all students in the target grades. The assessment was implemented for the first time in 2004 as a voluntary test, and from 2005 became mandatory for all students (both general education, and technical and vocational education and training – TVET – share a common curriculum). The test is an administrative requisite for certifying secondary education, but the assessment result has no impact on student certification.

Both tests take place during the second semester and the results are published before the end of the school year. Its main purpose is to provide a diagnosis of the education system in order to improve its quality, and the results are used for pedagogical orientation.[2]

**Table 7.4 Quality assessment: Secondary-level assessments and examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | Secondary education in Guatemala use assessments but not examinations. The assessments for lower and upper secondary cover all types of programmes and are applied as a census | The assessments are applied in the last grade of each level during the second semester of the school year | Results are disseminated approximately three months after implementation. Since the main objective of the assessments is a diagnosis for quality improvements, the dissemination is timely | There is a formal framework for the different phases of the examination process | DIGEDUCA was created within the MoE in order to implement national assessments in non-tertiary education |

**Table 7.5 Availability assessment: Secondary-level assessments and examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | All relevant officers are aware of the information | Data is disseminated properly to different actors within the education system | The DIGEDUCA web page has all the related information and publications of the assessments | DIGEDUCA have shared institutional information on their assessments with international organisations, such as LLECE and the UIS |

Note: LLECE is UNESCO's Latin American Laboratory for Assessment of the Quality of Education (*Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación*).

### *Questionnaire table 2.2: Tertiary entrance examinations*

The tertiary education system in Guatemala is composed of a single public educational institution, the *Universidad de San Carlos de Guatemala* (USAC), and a group of 13 private universities. USAC has approximately 40% of all tertiary education enrolment. There is a regulated entry system for USAC programmes that includes a compulsory standardised entrance examination. Each private university has its own criteria and entry system.

The USAC entry system is called the Assignation and Grading System and has four stages: 1) a vocational guidance test; 2) a standardised test for general subjects; 3) a test on specific subjects related to the selected field of study; and 4) a remedial programme for students who have failed the test. The whole system is managed directly by USAC.

The test takes place between June and August. Students from the last grade of upper secondary (or who have already certified at this level) are allowed to take the test; they have four dates or opportunities before going to the remedial programme. Tertiary education programmes start every year in January.

Students apply to a specific education programme and take the test. If they pass the test with results above a minimum score, which is defined every year (for general and specific tests), they are admitted to the selected education programme. There are no other selection criteria.

**Table 7.6 Quality assessment: Tertiary entrance examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Advanced | Advanced | Advanced | Advanced |
| Characteristics | The initial education system, primary and secondary, is covered, and technical and professional programmes in both public and private sectors | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | There is a regulated tertiary entrance examination for the San Carlos University, the only public university in Guatemala, which covers a high percentage of tertiary enrolment. Private educational institutions have their own entry system | The different stages of the entry system are applied every year and they are aligned with the cycle of the education system | The main product of the entry system is student results. This information is available each year before the beginning of tertiary education programmes | There is a formal procedure with different stages for entering tertiary education; all the elements of the entry system are clearly defined | Norms set by San Carlos University regulate the entry system and define responsibilities within it |

**Table 7.7 Availability assessment: Tertiary entrance examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Emerging | Not applicable |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | Some information is publicly available, either online, at a documentation centre, or in other ways | Not applicable |
| Justification | All the actors involved in the system (students, tertiary education programmes, etc.) are aware of the information and how to access to it | The information is disseminated to all involved actors according to their needs: students are informed of results and these are related to entrance qualifications for tertiary education programmes within San Carlos University | The only data shared by the web page are student results, which can be accessed individually by students | Not applicable. There are no known international data collections to this effect |

### *Questionnaire table 3: Instruction time in public institutions by age of student*

Instruction time in Guatemala for ISCED/CINE Levels 0-2 (which covers the age range in this table of the system-level questionnaire) is regulated by different pieces of legislation, including the national curriculum, the duration of the school year and schools' daily time schedule. Data on duration of the class session and the annual number of sessions can be estimated from these documents, but in some cases the legislation shows some inconsistencies.

The latest version of the curriculum is from 2005 for pre-primary and primary education and 2009 for lower secondary education. There is no prescribed periodicity to revise the curriculum. For these educational levels the entire curriculum is compulsory.[3]

The prescribed duration of the school year in Guatemala is 180 days. The duration of class sessions is not clearly defined for all educational levels. In lower secondary education the national curriculum establishes a class session of 40 minutes and a scheme of 40 classes per week. For pre-primary and primary education the national curriculum does not include this kind of definition.

The PISA-D NPM has committed to work with all the involved institutions in the MoE in order to get an official estimate for these variables.

**Table 7.8 Quality assessment: Instruction time in public institutions by age of student**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The official curriculum is defined at national level for all educational institutions of the ISCED levels included in the questionnaire. The duration of class sessions is not clearly defined for all educational levels | The curriculum is recent. The curriculum is not defined by any particular school cycle, and there is no prescribed process for updating the curriculum in Guatemala | Once the curriculum is defined, it is published through official channels | Specific teams have responsibility for developing the curriculum | There is clear definition of responsibilities within the MoE for developing the official curriculum |

**Table 7.9 Availability assessment: instruction time in public institutions by age of student**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Emerging | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | The official curriculum for different educational levels is well known by all the relevant actors in the education sector | The official curriculum is disseminated to the education system through official channels. However, there are some difficulties in implementing the curriculum and some lack of regulation for specific issues (for example, allocation of time by subject in primary education) | There are publications of the official curriculum as well as information on the MoE website | For data on instruction time, Guatemala has reported similar information to that requested by the system-level questionnaire to UIS in 2014 |

### *Questionnaire table 4: Annual teacher salaries (statutory) by level of education, number of years and level of teaching experience*

Teachers' salaries are regulated nationally by the MoE and the Ministry of Finance. The current legislation establishing the framework for the teaching profession dates from 1961. It defines six categories for salaries, from A to F.

Teachers enter the profession at the lowest category, A. Then the only criterion for reaching the next category is experience, or years of service. After every four years of service a teacher can access the following category. That means that a teacher reaches the highest category after 20 years of service. The annual salary includes two extra months and a bonus for holidays. There is no other supplementary payment.

Every year, the government (Ministry of Finance) publishes a document regulating the salaries for each category at different educational levels. In secondary education, teachers are usually hired for a specific number of weekly class sessions. Data for the system-level questionnaire, in table 4, apply to a secondary education teacher who works full time.

All this regulation applies to teachers working on public educational institutions or teachers who work for private institutions subsidised by the central government. Salaries for teachers working in the non-subsidised private institutions are not regulated.[4]

**Table 7.10 Quality assessment: Annual teacher salaries (statutory)**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | National government is in charge of regulating teacher salaries for public educational institutions. This regulation is not mandatory for private educational institutions | The Ministry of Finance publishes the information on teacher salaries every year | The information is produced in a timely manner | There is a clear framework for defining, collecting and managing this information | Responsibility for teacher salaries is clearly defined within the MoE and the Ministry of Finance |

**Table 7.11 Availability assessment: annual teacher salaries (statutory)**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Emerging |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Officers are aware of the information and criteria for teachers' salaries and they know how to access this data | There are regular reports on teachers and salary data | The criterion for defining teacher salaries is defined by the legislation and is available on official websites | Data on teachers and trained teachers are usually reported to different international organisations (e.g. the UIS). The information on teacher salaries was not part of regular UIS activities for Guatemala before 2015 |

### *Questionnaire table 5: Teacher training and professional development requirements*

The pre-service training system for primary education teachers has been modified recently in Guatemala. Until 2012, teachers for primary level were trained in secondary schools called *Escuelas Normales*. That meant that the teacher training programme came under ISCED Level 3.

In 2013, a tertiary programme for training primary education teachers was implemented. It is a three-year programme at ISCED Level 5 and managed by universities. Guatemala is currently in a state of transition, since the last cohort of teachers trained in secondary schools finished their programmes in 2014, and the first cohort of teachers trained in universities will finish their programmes in 2015.

For pre-primary education, teachers are still trained at *Escuelas Normales*, while the pre-service training programme for secondary education teachers was always a three-year tertiary programme.

For data on teachers the MoE uses two databases: a teacher payroll and a register of teachers by school. The first one is managed by the Directorate of Human Resources and does not cover teachers of non-subsidised private institutions. The second is managed by the Directorate of Planning and is built through the education management information system (EMIS) data collection.

**Table 7.12 Quality assessment: Teacher training and professional development requirements**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | National government is in charge of regulating teacher training and teacher service. It applies to all teachers | The different stages of initial training for teacher as well as the entry procedure for trained teachers are regulated by national legislation and is aligned with the school cycle | The information is produced in a timely manner | There is a clear framework for defining, collecting and managing this information | The responsibility for teacher training is clearly defined within the MoE |

**Table 7.13 Availability assessment: Teacher training and professional development requirements**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Officials are aware of the information on training and they know how to access this data | The information on programmes for teacher training and the requirements and process to access the teacher career is periodically disseminated | This data is defined by legislation and disseminated through official websites | Data on teachers and teacher training are usually reported to different international organisations (for instance, the UIS) |

### *Questionnaire table 6: National accounts*

The *Banco de Guatemala* (Central Bank of Guatemala) is responsibile for producing GDP estimates while the *Instituto Nacional de Estadística Guatemala* (National Institute for Statistics) is responsible for population projections.

Current GDP estimates are based on the year 2001. The Central Bank follows international standards for producing their statistics, particularly the norms defined by the IMF. However, this is the first time they have updated the base year – until 2007, the GDP data were based on the year 1958.

Population projections are based on the national population census of 2002. The estimates for 2002-10 were published in 2003 and they were updated later up to 2020. However, data published on the official website only reaches the year 2014. There have been no changes to the estimation model or their assumptions.

Guatemala did not implement a population census in the 2010 round, so the country is not following international recommendations of periodicity (ten years for a population census). The same situation is observed with revising estimates, which is recommended every five years. However, technical assistance from the Economic Commission for Latin America and the Caribbean (ECLAC) is scheduled for 2015 with the aim of revising the estimates. The National Institute for Statistics also periodically sends population data to ECLAC.

Data on purchasing power parity (PPP) factors are not produced by the country, but should be taken from the World Bank database.[5]

**Table 7.14 Quality assessment: National accounts**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Emerging | Emerging | Advanced | Advanced |
| Characteristics | All the sectors of the economy are covered and population data for the whole country | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | Data on GDP are produced in the framework of the National Account System. Population projections are based on a national population census | Data on GDP are produced every trimester. Population projections were produced until 2020. In both cases, the international recommended periodicity for updating the data or related methodology is not strictly followed | Data on GDP are produced in a timely manner based on international recommendations. The national population census was carried out in 2002 but the country missed the 2010 round. Population projections are based on the 2002 census | The National Account System and population data are key elements of the National Statistics System | The Central Bank is responsible for the National Account System and the National Institute for Statistics is responsible for population data |

**Table 7.15 Availability assessment: National accounts**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the World Bank/IMF/UNPD through regular activities, and then relayed to other partner agencies |
| Justification | Information on GDP and population is well known by all the relevant officials | There is an organised dissemination system for data on GDP. Data on population are shared through official channels by the National Institute for Statistics | Data on GDP and population are available in the respective websites | Data on GDP are regularly reported to IMF and the World Bank. Estimates for population are regularly reported to ECLAC |

### *Questionnaire table 7-1: Education expenditure by type of institution and level of education*

Data on educational expenditure are produced annually by the MoE and reported to UIS through Questionnaire B of the Survey of Formal Education. The office in charge of this report is the Directorate of Planning.

These data have been produced regularly since 2006. However, they currently only cover government expenditure on education. Estimates of private expenditure on education were only reported to UIS for the years 2006-08.

Private expenditure on education can be estimated using the Guatemalan *Encuesta Nacional de Condiciones de Vida* (Living Standard Measurement Survey) (ENCOVI), a household survey managed by the National Institute for Statistics. The most recent database to be disseminated was from ENCOVI 2011 and the database from ENCOVI 2014 is expected to be published this year. The National Institute for Statistics has recently produced estimates for private expenditure on education for the year 2011, and the MoE will work with them in order to analyse the potential to align this estimate with the UIS framework.

**Table 7.16 Quality assessment: Education expenditure by type of institution and level of education**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Advanced | Advanced | Emerging | Emerging |
| Characteristics | The initial education system, general primary and secondary, is covered, and technical and professional programmes in both public and private sectors | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | The basic components of a framework or informal mechanisms are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | Data on expenditure on education are limited to the public source | The MoE Planning Office has produced data on educational expenditure annually since 2006 | The information is produced mainly for reporting on the UIS education survey, and some indicators from UIS are used to update the national system of educational indicators. However, the UIS survey schedule may not be timely enough in terms of using the data for national needs | There is a conceptual framework for developing statistics on education finance that is followed by the country. However, it is not well documented, nor are the related procedures | The MoE Planning Office leads the development of statistics on education finance but this responsibility is not formally defined |

**Table 7.17 Availability assessment: Education expenditure by type of institution and level of education**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Latent | Latent | Emerging | Advanced |
| Characteristics | Officers are more or less aware of the available information, and rely on personal connections to find it | There are no mechanisms to disseminate the documents or results, in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Officials are aware of some key indicators that are produced and disseminated through the web page, but there is no official report on education finance | Although the MoE produces data on education finance, these data are not included in national reports or publications used for policy making. They only disseminate some key indicators produced by the UIS | Outside users can access key indicators on education finance produced by UIS through the national system of educational indicators | Data on education finance are regularly reported to the UIS |

### *Questionnaire table 7-2: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance*

Data on enrolment are also managed by the MoE's Directorate of Planning. This is part of its information system and its process fully meets general quality criteria. The coverage is also good for the ISCED levels included in table 7.2 of the questionnaire. The alignment of enrolment data to the fiscal year is not an issue in Guatemala since the school year runs from January to October.

The Directorate of Planning is currently introducing an important change in the method of collecting data from schools. Data collection will continue to be via electronic forms, but it will no longer require a desktop application (specific software sent to schools every year) but rather an online system that is managed centrally. The framework,

main variables and concepts have not been modified, so this change should not have impact on the data collected; however, some delays are expected in the usual cycle for the year 2015.[6]

**Table 7.18 Quality assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The MoE statistical information system covers all the relevant education programmes | There are two periods for collecting data from educational institutions each year, aligned with the beginning and the end of the school cycle. Enrolment statistics are produced following these collection periods | The data are consistently produced and disseminated in a timely manner. Some changes have been introduced recently in the EMIS that could affect the usual process | There is a framework in place for the MoE information system | Responsibilities for the different information system processes are clearly defined within the MoE |

**Table 7.19 Availability assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Most officials are aware of the information available and know how to access it | Data produced by the MoE information system are used not only for statistical purposes but also for policy making, school resources delivery and school management | Data are shared periodically in publications and through the MoE website. There are two main tools in place: the national system of indicators and the school file | Data are shared with different international organisation, such as the UIS (education survey) or the CECC/SICA* network |

Note: (*) The CECC/SICA is the *Coordinación Educativa y Cultural Centroamericana* (Central American Educational and Cultural Coordination) (CECC) of the *Sistema de la Integración Centroamericana* (Central American Integration System) (SICA). More information is available at www.sica.int/cecc/.

# Notes

1. The full education legislation for Guatemala can be found at www.mineduc.gob.gt.

2. These data can be accessed through the DIGEDUCA web page www.mineduc.gob.gt/digeduca.

3. The current curriculum can be found at www.mineduc.gob.gt/DIGECUR/?p=CNB.asp&t=Curriculo_Nacional_Base_CNB.

4. For more information see www.mineduc.gob.gt/RRHH/index.html and www.onsec.gob.gt/acerca%20de%20onsec/descargas.php#digesto.

5. For more information see www.ine.gob.gt/index.php/estadisticas/tema-indicadores and www.banguat.gob.gt/inc/main.asp?id=112793&aud=1&lang=1.

6. For more information see http://estadistica.mineduc.gob.gt/.

# Chapter 8

# Paraguay and the PISA for Development system-level questionnaire

*This chapter provides a detailed assessment of the current state of data collection and availability, in terms of quality and completeness, at the level of the national education system in Paraguay. It shows that Paraguay is in very good condition to respond to the system-level questionnaire: each data table in the questionnaire has an institution assigned to it to collect and/or manage the requested information; metadata are based on well-known legislation while statistical data are based on advanced information system; and data requested by the national accounts are well managed. Challenges include the absence of a regulated national statistics system and of a general entrance system to tertiary education in the country, and the fact that data on expenditure does not cover private expenditure on education.*

## Paraguay assessment results

UIS visited Paraguay during the week of 17-21 May 2015.

The institution responsible for implementing PISA-D in Paraguay is the General Directorate of Educational Planning at the Ministry of Education (MoE). It acts as the PISA-D NC and is the respondent for the system-level questionnaire. Due to the structure of the questionnaire and the variety of topics covered, the General Directorate of Educational Planning obtains the data from different sources (see Table 8.1).

**Table 8.1 Paraguay's data providers for the system-level questionnaire**

| Number | Table | Data provider |
|---|---|---|
| 1 | Education stratification | General Directorate of Educational Planning (Ministry of Education) |
| 2-1 | Assessments and examinations | *Dirección de Evaluación de la Calidad Educativa* (Directorate of Educational Quality Assessment) (DECE) (Ministry of Education) |
| 2-2 | Tertiary entrance examinations | General Directorate of Higher Education (Ministry of Education) |
| 3 | Number of class sessions per year | General Directorate of Curriculum, Evaluation and Orientation (Ministry of Education) |
| 4 | Annual teacher salaries | Directorate of Human Talent Management (Ministry of Education) |
| 5 | Requirements for pre-service teacher training | General Directorate of professional training institutions of the third level (Ministry of Education) |
| 6 | National accounts | Central Bank (GDP) and General Directorate of Statistics, Surveys and Censuses (Population) |
| 7-1 | Education expenditure | Directorate of Education Statistics (Ministry of Education) |
| 7-2 | Number of students | Directorate of Education Statistics (Ministry of Education) |

### *Questionnaire table 1: Stratification*

The organisation of Paraguay's education system is regulated by the 1998 General Law of Education. For pre-primary education, the General Law of Education only includes regulations for the last year of the level. For this reason, the pre-primary level has its own regulation, according to Ministry Resolution 22449/2006 and National Law 4088/2010.[1]

Within the education system, there is no selection scheme to guide students into different streams. However, students from rural areas can enrol into an ISCED Level 2 vocational programme with agricultural elements. This programme is only available for rural educational institutions, representing nearly 40% of all enrolment, and is optional for students.

At ISCED Level 3 there are two educational programmes, general and vocational, for both rural and urban areas. Students can select an orientation at the age of 15, when they normally start upper secondary education. The orientations share a common core curriculum and both allow their graduates to continue to any tertiary education programme.

The school year runs from February to November and the reference date for age is 30 June.

**Table 8.2 Quality assessment: Stratification**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The Education Act defines the organisation of the education system and the characteristics of each stream | The current Education Act is from 1998 but there is no defined periodicity for its revision | As national law, it follows a regulated process for publication. The related legislation is also published by the MoE | All ministries and institutions involved have a clear framework for action | All ministries and institutions involved have a clear mandate and responsibilities |

**Table 8.3 Availability assessment: Stratification**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | The Education Act and the organisation of the education system are well known by all officials | The Education Act and all the related documents and regulations are disseminated within the system | The relevant documents on the education system, including the Education Act, are available on the MoE website | The structure of the education system is reported regularly to UIS through the ISCED mapping |

### *Questionnaire table 2.1: Assessments and examinations at lower and upper secondary level*

The institution in charge of assessing non-tertiary level education in Paraguay is the Directorate of Educational Quality Assessment, within the General Directorate of Educational Planning. It manages the *Sistema Nacional de Evaluación del Proceso Educativo* (National Assessment System of Educational Progress) (SNEPE), which includes assessment studies for secondary education. They are applied to the last grade of each cycle and focus on mathematics and reading.

The assessment for lower secondary education is implemented at Grade 3 (or Grade 9 counting from the beginning of primary education), while the assessment for upper secondary takes place at the last grade of the level. Both studies are applied every three years to a sample of students. Assessments are the same for general or technical programmes.

SNEPE was created in 1996 and the first assessment studies were carried out in 1997. The tests take place during the second semester (October) and the results are usually published more than a year later. Its main purpose is a diagnosis of the educational system in order to improve its quality, and the results are used for

pedagogical orientation. Paraguay therefore does not use examinations as defined by the system-level questionnaire.

In 2015, the assessments will be implemented as a census covering all students for both educational levels.

**Table 8.4 Quality assessment: Secondary-level assessments and examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Emerging | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes) | The system produces all data and statistics periodically | The system produces some information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | Secondary education in Paraguay uses assessments but not examinations. The assessments for lower and upper secondary cover all types of programmes and kinds of schools | The assessments are applied in the last grade of each ISCED level during the second semester of the school year. They are conducted every three years | The dissemination of results takes more than a year after implementation. Although the main objective of the assessments is a diagnosis for quality improvement, the timeliness of the dissemination could still be improved | There is a formal framework for the different phases of the of the assessment process | There is a defined evaluation system, SNEPE, and the institution responsible for managing the system is the DECE within the General Directorate of Educational Planning |

**Table 8.5 Availability assessment: Secondary-level assessments and examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Emerging | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | All relevant officers are aware of the information | Data is disseminated properly to different actors within the education system | The reports and other material from SNEPE are consistently published on the MoE web page. However, they are not permanently available online. The SNEPE does not have its own web page | DECE has shared institutional information on their assessments with international organisations such as LLECE and the UIS |

### *Questionnaire table 2-2: Tertiary entrance examinations*

The tertiary education system in Paraguay is composed for four types of educational institution:

- teacher training institutions
- institutions for technical programmes
- higher institutes
- universities.

The first two types of institutions are regulated by the MoE and they only manage teacher training programmes. Higher institutes and universities are regulated by the National Council of Higher Education and are authorised to manage pre-graduate and post-graduate programmes.

In Paraguay there is no general entry system for tertiary education; each institution defines its own entry system. The only exception is entry to the teacher training programmes in public institutions. In this case, there is a one-month entry course that students must complete in order to be accepted on the programme. The course is defined by each institution but is regulated by the MoE.

**Table 8.6 Quality assessment: Tertiary entrance examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Latent | Latent | Latent | Latent | Emerging |
| Characteristics | Not applicable | The system produces data and statistics, but not periodically | The system does not produce information, data and statistics in a timely manner | There is no framework in place | Some specific teams are identified, but no platform for collaboration |
| Justification | Although the Education Act stipulates that tertiary education should have an entry system, this process is currently managed by each educational institution, with particular criteria for each case. The only exception is the entry system to teacher training programmes | Within each educational institution the entry system should be aligned with the school cycle. However, there are no centralised reports since there is no national or central entry system, not even for the group of public institutions | Same as for periodicity | This depends on each tertiary institution | The Education Act clearly defines the role of the MoE and the National Council of Higher Education in the management and regulation of the various tertiary education institutions |

**Table 8.7 Availability assessment: Tertiary entrance examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Not applicable | Not applicable | Not applicable | Not applicable |
| Characteristics | Not applicable | Not applicable | Not applicable | Not applicable |
| Justification | Not applicable. With the exception of initial teachers training programmes, there is no general or main entry system to tertiary education | Not applicable. With the exception of initial teachers training programmes, there is no general or main entry system to tertiary education | Not applicable. With the exception of initial teachers training programmes, there is no general or main entry system to tertiary education | Not applicable. There are no known international data collections to this effect |

### *Questionnaire table 3: Instruction time in public institutions by age of student*

Instruction time in Paraguay for ISCED/CINE Levels 0-3 (which covers the age range in this table of the system-level questionnaire) is regulated by different pieces of legislation, including the national curriculum and the duration of the school year. Data on duration of the class session and the annual number of sessions can be easily estimated from these documents.

The current version of the national curriculum is from 2005 for pre-primary education, 2008 for primary and lower secondary education, and 2010 for upper secondary education. There is no prescribed periodicity to revise the curriculum.[2]

The prescribed duration of the school year in Paraguay is defined every year by the MoE, but it is normally around 180 days. The National Education Law establishes 200 working days for teachers, but they have activities before and after the school year. The duration of the class session is established at 40 minutes for all educational levels.

**Table 8.8 Quality assessment: Instruction time in public institutions by age of student**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The official curriculum is defined at national level for all educational institutions at the ISCED levels included in the questionnaire. The MoE also defines the legislation for the duration of the school year | While legislation is in place that requires this, the curriculum is not defined by any particular school cycle and there is no prescribed process for updating the curriculum in Paraguay | Once the curriculum is defined, it is published through official channels | There is a well-known process for developing the official curriculum | There is clear definition of responsibilities within the MoE for developing the official curriculum |

**Table 8.9 Availability assessment: Instruction time in public institutions by age of student**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | The official curriculum for different educational levels is well known by all the relevant actors of the education sector | The official curriculum is disseminated to the education system through official channels | There are publications of the official curriculum as well as information on the website of the MoE | For data on instruction time, Paraguay has reported similar information to that requested by the system-level questionnaire within the WEI project framework (UIS/OECD) since 1999. Recently, they have also reported the UIS questionnaire on intended instruction time |

### *Questionnaire table 4: Annual teacher salaries (statutory) by level of education and number of years and level of teaching experience*

Teachers' salaries are regulated nationally by the MoE. The legislation establishing the framework for the teaching profession was issued in 2011. Teachers' salaries have

three main components: the base salary and two additional payments. The first additional payment is based on years of experience and the second on continuous training.

The additional payments are given for five-year periods. That means that a teacher has the same salary during five years and, after that, he/she receives a promotion to the next salary grade, which includes the supplement for experience and training. The latter depends on completing the prescribed minimum training. The legislation establishes other criteria to be included in the promotion scheme but they have not been regulated yet.

Teachers enter the profession with only the base salary and can expect five promotions during their career. That means that a teacher reaches the highest category after 25 years of service. The annual salary also includes an extra monthly payment ("13th month"). There is no other supplementary payment.

The base salary is defined every year by the National Budget. In secondary education, teachers are usually hired for a specific number of weekly class sessions. The table 4 data in the system-level questionnaire applies to a secondary education teacher who works full time.

**Table 8.10 Quality assessment: Annual teacher salaries (statutory)**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | National government is in charge of regulating teacher salaries for public educational institutions | The various legislative instruments containing data on statutory salaries for teachers are available every year | The information is produced in a timely manner | There is a clear framework for defining, collecting and managing this information | Responsibility for teachers' salaries is clearly defined within the MoE and the Ministry of Finance |

**Table 8.11 Availability assessment: Annual teacher salaries (statutory)**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Emerging |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Some information in some areas is sent to the UIS/UN, some gaps in data and timeline |
| Justification | Officers are aware of the information and criteria for teachers' salaries and they know how to access this data | The MoE has detailed data on teacher salaries and it is used for planning | The criteria for defining teacher salaries are defined by the legislation and they are available on official websites | The MoE reported data on teacher salaries to UIS through the WEI survey until 2013 |

### *Questionnaire table 5: Teacher training and professional development requirements*

Pre-service teacher training, entry and professional development in Paraguay are regulated by the MoE, specifically by the General Directorate of Higher Education.

Pre-service training programmes for teachers of different educational levels have changed during the last decade. For pre-primary education, a three-year programme was established in 2006 (before that, the programme lasted for two years). For primary education teachers the initial training programme was modified in 2013, but not the duration. Finally, programmes for secondary education teachers were revised in 2008. All these programmes are regulated by educational legislation and norms from the MoE.

Currently, all teacher training programmes have a duration of three years including a period of teaching practicum. In terms of ISCED 2011, they are at ISCED Level 6. Programmes are offered by public and private educational institutions. Public institutions have a compulsory one-month entry course.

**Table 8.12 Quality assessment: Teacher training and professional development requirements**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The MoE is in charge of regulating teacher training and teacher service. It applies to all teachers | The different stages of initial teacher training as well as the entry procedure for trained teachers are regulated by national legislation and are aligned with the school cycle | The information is produced in a timely manner | There is a clear framework for defining, collecting and managing this information | Responsibility for teacher training is clearly defined within the MoE |

**Table 8.13 Availability assessment: Teacher training and professional development requirements**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Officials are aware of the information about training and they how to access it | Information about teacher training programmes and requirements and processes to start a teaching career is periodically disseminated | These data are defined by the legislation and disseminated through official websites | Data on teachers and teacher training are usually reported to different international organisations (for instance, the UIS) |

### *Questionnaire table 6: National accounts*

Data on GDP and population are key indicators for the national statistical system. Although Paraguay does not have a regulated national statistical system, the *Banco Central del Paraguay* (Central Bank of Paraguay) is currently responsible for producing GDP estimates, while the *Dirección General de Estadística, Encuestas y Censos* (General Directorate for Statistics, Surveys and Censuses) is responsible for population estimates.

Current GDP estimates are based on 1994. The Central Bank follows international standards for their statistics, particularly the norms defined by the IMF and United Nations; currently, they use the System of National Accounts 1993.

Paraguay does not apply the complete international framework for national accounts, in part due to the lack of some key basic economic statistics, as well as a regulating institution for the National Statistics System. Nor does the country follow the international recommendation to update the base year every five to ten years. In response to this situation, the Central Bank of Paraguay is currently working on an update of the national accounts with the support of the Inter-American Development Bank.

Population projections are being revised and were expected to be published in June. They are based on the demographic components method, and the current estimate uses data from the 2002 national population census, updated with results from the 2012 census. The last census had some implementation problems that resulted in a low response; it had an omission rate of 25%. The data therefore needed to be reviewed, and this has delayed using the results to update the model for estimating population. The revision process had support and technical assistance from international organisations such as the Inter-American Development Bank and the Economic Commission for Latin America and the Caribbean (ECLAC); as well as national institutes for statistics from other countries in the region, such as Brazil and Mexico.

Data on purchasing power parity (PPP) factors are not produced by the country, but should be taken from the World Bank database.

**Table 8.14 Quality assessment: National accounts**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Emerging | Emerging | Emerging | Advanced |
| Characteristics | All the sectors of the economy are covered and the total population of the country | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | Basic components of a framework or informal mechanisms are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | Data on GDP are produced in the framework of the National Account System. Population projections are based on the National Population Census | Data on GDP are produced every trimester. Population projections were produced up to 2025. In both cases, the international recommended periodicity for updating the data or related methodology is not strictly followed | Data on GDP is produced in a timely manner based on international recommendations. The National Population Census was carried out in 2012 but presented coverage problems that affected the population projections. The updated projections are not yet published | The National Account System and population data are key indicators within the work framework of the responsible institutions. However, Paraguay does not have a regulated national statistics system | The Central Bank is responsible for the National Account System and the General Directorate of Statistics, Surveys and Censuses is responsible for population data |

**Table 8.15 Availability assessment: National accounts**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the World Bank/IMF/UNPD through regular activities, and then relayed to other partner agencies |
| Justification | Information on GDP and population is well known by all the relevant officials | There is an organised dissemination system for data on GDP. Data on population are shared through official channels by the General Directorate of Statistics, Surveys and Censuses | Data on GDP and population are available on the respective websites | Data on GDP are regularly reported to IMF and World Bank. Population estimates are regularly reported to ECLAC |

### *Questionnaire table 7-1: Education expenditure by type of institution and level of education*

Data on educational expenditure are produced annually by the MoE and reported to UIS through Questionnaire B of the Survey of Formal Education (a World Education Indicators, WEI, survey until 2013). The office in charge of this report is the Directorate of Education Statistics within the General Directorate of Educational Planning.

This data has been produced regularly since 1999. However, it currently only covers government expenditure on education. Estimates for private expenditure on education were reported to UIS until 2011 (fiscal year 2010).

Data on public expenditure are estimated from the executed national budget. The MoE accesses the data on expenditure for the educational budget under its management, while the budget allocated to educational programmes outside the MoE (including national universities) is accessed through the Ministry of Finance.

In previous years, private education expenditure was estimated from an annual household survey (*Encuesta Permanente de Hogares*) managed by the General Directorate for Statistics, Surveys and Censuses. This survey included a special module on education expenditure until 2010 but then it was excluded. The MoE has now asked for the module to be reincorporated. A second possibility would be using another survey from the same institution focusing on household income and expenditure (*Encuesta de Presupuesto Familiar*). It was implemented in 2011/12 and will be again in 2015/16.

**Table 8.16 Quality assessment: Education expenditure by type of institution and level of education**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Advanced | Advanced | Advanced | Emerging |
| Characteristics | The initial education system, general primary and secondary, is covered, and technical and professional programmes in both public and private sectors | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | Currently, data on expenditure on education are limited to the public source. Until 2010, the MoE produced data on private expenditure | The MoE have produced annual data on expenditure on education for more than a decade | The information is mainly produced for reporting to the UIS education survey and it currently has a two-year delay. It is possible to update these indicators since data on the public budget execution are regularly available for the previous year | There is a conceptual framework for developing statistics on education finance that is followed by the country | The General Directorate of Educational Planning of the MoE leads the development of statistics on education finance but this responsibility is not formally defined |

**Table 8.17 Availability assessment: Education expenditure by type of institution and level of education**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Emerging | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Officials are aware of the key data and indicators for education finance | Data on education finance is included in national reports and is used for policy making | There are no specific reports on education finance but this data is included in statistical reports (currently with a delay of three years). General raw data on budget execution are also disseminated | Data on education finance is regularly reported to the UIS |

### *Questionnaire table 7-2: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance*

Data on enrolment are also managed by the Directorate of Education Statistics within the General Directorate of Educational Planning. It is part of the MoE information system and its process fully meets general quality criteria. The alignment of enrolment data to the fiscal year is not an issue in Paraguay since the school year runs from February to November.

The Directorate of Education Statistics collects enrolment data from schools twice a year, at the beginning and the end of the school cycle. The initial enrolment data are used to complete the system-level questionnaire table, which is the same data used to report enrolment to the UIS.

The Directorate of Education Statistics is currently analysing some changes in the method of data collection from schools in order to implement an on-line register for students. This could have an impact on the enrolment statistics, but the project is still at an early stage.

**Table 8.18 Quality assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The MoE statistical information system covers all the relevant education programmes | There are two periods for collecting data on enrolment from educational institutions each year, aligned with the beginning and the end of the school cycle | Due to the method of collecting data from educational institutions, enrolment data on is consistently produced and disseminated in a timely manner. Alternative tools are being analysed to improve this process (such as online data collection) | There is a framework in place for the information system of the MoE | Responsibilities for the different information system process are clearly defined within the MoE |

**Table 8.19 Availability assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Emerging | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Most officials are aware of the information available and know how to access it | Data produced by the MoE information system are used not only for statistical purposes but also for policy making | Data are shared periodically in publications and through the website of the MoE. However, the most recent report on education statistics published on the MoE website dates from 2011. A second tool, for school mapping, has 2012 data | Data are shared with different international organisation, such as the UIS (education survey) or Mercosur |

Note: Mercosur is a sub-regional bloc consisting of five member countries: Argentina, Brazil, Paraguay, Uruguay and Venezuela.

## Notes

1. This legislation can be found at www.mec.gov.py/cms.

2. The current curriculum can be found at www.mec.gov.py.

# Chapter 9

# Senegal and the PISA for Development system-level questionnaire

*This chapter provides a detailed assessment of the current state of data collection and availability, in terms of quality and completeness, at the level of the national education system in Senegal. It shows that Senegal is in a satisfactory condition to respond to the system-level questionnaire: there are institutions responsible for producing and managing the information requested by the different tables of the questionnaire, and the metadata are in general based on well-known legislation. Data on national accounts are produced in accordance with the highest statistical standards and in a professional manner. Challenges include lack of co-ordination between the different ministries responsible for different levels of education; availability of data on assessments and examinations at secondary level; and providing up-to-date data on education expenditure.*

## Senegal assessment results

UIS visited Senegal during the week of 2-5 March 2015.

The institution responsible for implementing PISA-D in Senegal is the *Institut National d'Etude et d'Action pour le Developpement de l'Education* (National Study and Action Institute for Education Development) (INEADE) within the *Ministère de l'Education National* (Ministry of National Education) (MEN). It acts as the PISA-D NC and is the respondent for the system-level questionnaire. Due to the structure of the questionnaire and the variety of topics covered, INEADE obtains the data from different sources (see Table 9.1)

**Table 9.1 Senegal's data providers for the system-level questionnaire**

| Number | Table | Data provider |
|---|---|---|
| 1 | Education stratification | INEADE, *Direction de l'enseignement moyen et secondaire général* (Directorate for lower- and upper-secondary basic education (DEMSG), *Direction de la planification et de la réforme de l'éducation* (Directorate of Planning and Education Reform) (DPRE) - Ministry of Education<br>Ministry of Technical and Vocational Education |
| 2-1 | Assessments and examinations | Examinations and Competition Department,<br>Baccalauréat Office (Ministry of Education) |
| 2-2 | Tertiary entrance examinations | Not applicable |
| 3 | Number of class sessions per year | INEADE (Ministry of Education) |
| 4 | Annual teacher salaries | Directorate of Salaries, Pensions and Annuities (DSPRV; Ministry of Finance) |
| 5 | Requirements for pre-service teacher training | Directorate of Human Resources (Ministry of Education) |
| 6 | National accounts | National Agency for Statistics and Demography (ANSD) |
| 7-1 | Education expenditure | Directorate of General Administration and Equipment (DAGE; Ministry of Finance) |
| 7-2 | Number of students | DPRE (Ministry of Education)<br>Technical and Vocational Education Department |

The MEN is responsible for all aspects of general education from ISCED Level 1 (primary) to ISCED 3 (secondary education non-vocational). A number of different units or departments are involved in the various aspects surveyed by the system-level questionnaire; UIS met officials from 13 different teams or structures.

Technical and vocational education, as well as tertiary education, are each managed by their own ministry: the *Ministère de la Formation professionnelle, de l'Apprentissage et de l'Artisanat* (Ministry of Vocational Training, Apprenticeship and Crafts) (MFPAA), and the Ministry of Higher Education and Research respectively. Part of pre-primary education is managed by the Ministry for Women, Families and Children.

### *Questionnaire table 1: Stratification*

Education in Senegal seems to be largely based on student-specific guidance from the national authorities, so it means that from a very early age, pupils are sorted and guided into different streams. The age at first selection in the education system is 12,

which is the theoretical age of entry in the first year of lower secondary education. At the end of primary, indeed, the children are selected for either the mainstream curriculum of secondary education, or guided to a technical stream. Since the technical stream has a poor reputation in the public eye, not being selected for general lower secondary education is perceived as a rejection by the regular system. Nonetheless, children attending the technical stream at that early stage can continue their schooling up to the end of the technical secondary level (ISCED 3), and even further their studies in tertiary education.

At the national level, age is defined as the age of a child on the 31 of December (*âge révolu*), as regulated by the *Lettre de politique générale pour le secteur de l'éducation et de la formation*.

**Table 9.2 Quality assessment: Stratification**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The production of reports and other outputs from the data warehouse occur in accordance with cycles in the education system | The system produces information in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The law defines each stream (stratification) clearly and the expectations for the various orientations | Laws are modified as needed, so there is no expectation in terms of periodicity | Laws are disseminated within a short interval after their adoption | All ministries involved have a clear framework for action | All ministries involved have a clear mandate and responsibilities |

**Table 9.3 Availability assessment: Stratification**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Emerging | Emerging | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Individual staff members know how to access their information | The answer might vary depending on who the question is addressed to. Teams also work in "silos" so there are some gaps in sectorial coherence | Some information is available, but sometimes undated, so it is difficult to be sure that the available information is actually current | Information is regularly reported to UIS and used in the global community |

### *Questionnaire table 2.1: Assessments and examinations at lower and upper secondary level*

At the lower secondary level, students in the general streams take the *Brevet de fin d'études moyennes* (BFEM) examination, which is administered by the MEN. At upper secondary level, students in the general streams take the *Baccalauréat* (Bac), a series of subject-specific exams administered by the Ministry of Tertiary Education.

In the technical and vocational education and training (TVET) stream, the lower secondary students take the *Certificat d'aptitude professionnelle* (CAP) and *Brevet d'études professionnelle* (BEP) (two programmes that have different entry requirements and durations), and at the upper secondary level students take the *Bac Technique* (BT).

The Examinations and Competitions Department manages the whole operation, from preparing the examinations (based on proposals from classroom teachers), printing the exam papers, sending the papers to schools where the exams will take place, managing the marking and grading process; and finally announcing the results, by sending back lists to be posted on school doors or notice boards. The results are returned to central government in electronic format for non-vocational examinations, and on paper for the TVET sector.

The official website where Bac information is stored at the *Office du Bac*. As of 27 March 2015, the most recent results available on its website date from 2011 (at the end of June, the 2012 results had been published). Results are presented in report format;[1] data in worksheet or database format are not available for downloading.

Individual results can also be accessed; these are available on the MEN website[2] in a portable document format (PDF) file, presenting the name of the student, date and place of birth, school name, and sex. Although some confidentiality concerns can be raised, the main technical issue with these data is that some results that are usually included (e.g. by school, region or programme) are not available and they need to be specifically requested from the ministry.

Finally, it emerged during meetings that once the results are stored at the ministry, little use is made of them, whether in terms of disseminating them or other uses such as policy making. This stands for general programmes only, as this information was not requested for TVET programmes.

The DPRE stores the individual records and general BFEM and Bac results, while the MFPAA stores the CAP, BEP, and BT results.

**Table 9.4 Quality assessment: Secondary-level assessments and examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Emerging | Emerging | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. in education: including second chance programmes and literacy) | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | Both the general and technical sectors are covered, at both lower and upper secondary levels | The general Bac and BT exams are carried out every year – some results are published soon after (as aggregates) on the MoE website, but there is a time-lag in publishing the full results | The results of the general Bac and BT exams are published within a short interval for students, but not for the general public | The process is well established, and all the various actors involved have a specific plan of action | The process is well established, and all the various actors involved have clearly delimited responsibilities |

**Table 9.5 Availability assessment: Secondary-level assessments and examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Latent | Latent | Latent | Latent |
| Characteristics | Officers are more or less aware of the information available, and rely on personal connections to find it | There are no mechanisms to disseminate the documents or results in order to improve the system | Information is available through personal contact | No data has recently been shared with the UIS/UN and other international partners |
| Justification | It is possible that the information is available somewhere, because a detailed report was published until 2011 | Apart from the *Office du Bac* report and press release, no use seems to be made of the data | Apart from the *Office du Bac* report, data are not available to the external user | Information on lower secondary is part of the UIS regular activities in the Observatory of Learning Assessments framework. Senegal has not yet replied this request |

### *Questionnaire table 2.2: Tertiary entrance examinations*

The examination used for university entry (and to be "oriented" into a field) for graduates of secondary general streams is the *Baccalauréat* (see section above).

However, some universities use specific criteria for selecting students. *Grandes écoles* within the tertiary sector have entry tests (*concours*) organised at national level.

**Table 9.6 Quality assessment: Tertiary entrance examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Emerging | Emerging | Emerging | Emerging |
| Characteristics | Information about public and private sectors are available | Annually | Timely enough to organise school year | Some elements of a framework are in place | Teams responsibility are identified |
| Justification | There are criteria (for faculties) and entry exams (for *grandes écoles*) depending on the type of training | Aligned with the cycle of the education system | All education entities do not publish information at the same period | Selection criteria are still not well harmonised | Responsibility of each institution |

**Table 9.7 Availability assessment: Tertiary entrance examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Emerging | Latent | Latent | Not applicable |
| Characteristics | Exams results are available | Not really in place | Not harmonised among institutions | Not applicable |
| Justification | All the actors involved in the system are aware of the information | Selection justification is provided | Not all institution publish publicly | Not applicable. There are no known international data collections to this effect |

### *Questionnaire table 3: Instruction time in public institutions by age of student*

The regulatory number of teaching hours is codified by decree, the most recent being:

- pre-primary: *Normes et standards de qualité en éducation et formation (mai 2014)*
- primary: *Decret n°79-1165 du 20 décembre 1979 Portant organisation de l'Enseignement élémentaire*
- lower secondary: *Décret no 2014-632 fixant les crédits horaires et les coefficients dans l'enseignement moyen*.

There have been some complaints in the media about institutions not fulfilling the mandatory number of hours, raising the issue of official oversight and control of teaching hours.

**Table 9.8 Quality assessment: Instruction time in public institutions by age of student**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Emerging |
| Characteristics | All the sectors of the relevant system are covered (e.g. in education: including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | Although this information is not statistical, the information requested by the questionnaire is fully available within specific laws | There is no expectation in terms of periodicity, but the instruments are recent | The May 2014 document was available at a reasonable interval | Most elements are in place, although sometimes the mandate of each relevant office is not clear | Most teams work in "silos", making it difficult to provide a unified picture of the educational system |

**Table 9.9 Availability assessment: Instruction time in public institutions by age of student**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Emerging | Emerging | Latent | Latent |
| Characteristics | There are some official channels through which national officers can access the information | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | Information is available through personal contact | No data have recently been shared with the UIS/UN and other international partners |
| Justification | Some information is missing from main documents and difficult to access otherwise | Although there are policies on instructional time, there are no mechanisms to have schools respect the prescribed time | Unless a national officer provides the information, there is very little chance of finding it unaided | Senegal has not responded to the UIS Questionnaire D since its inception |

### *Questionnaire table 4: Annual teacher salaries (statutory) by level of education and number of years and level of teaching experience*

Teachers' salaries (either contract teachers or civil servants) are determined by adding to a base salary other statutory payments, usually the outcome of negotiations by

unions. In addition to the standard salary, family allocations are added depending on each teacher's situation. Although some information on salaries is available on the MEN website, it is difficult to identify the actual salaries from that page or the reference date for the information provided.[3] Teachers are paid monthly, 12 months per year.

Contract teacher salaries are calculated by the *Direction de l'administration générale et de l'équipement* (Directorate of General Administration and Equipment) (DAGE) whereas the salaries of civil servants are calculated by the *Direction de la solde, des pensions et rentes viageres* (Directorate of Salaries, Pensions and Annuities) (DSPRV). Although there seems to be a clear separation of tasks between the two entities, data collection, management and use is done separately.

Legislation (*DECRET n° 2010-630 du 27 mai 2010*) does not provide numbers for salaries, but DAGE representatives were able to tell us the base salary for contract teachers. The Ministry of Finance salary unit (DSPRV) director was able to tell us the starting and top salaries – but only because he had family and friends who were teachers, and was therefore able to see their February 2015 payment slips (they luckily included those at the bottom or top of the scale). In fact, the staff member we met did not personally know anybody at the top of the lower secondary scale, which explains why those data are missing.

Teachers' salaries are determined by grade (*grade*) and by scale (*échelon*). Every year, teachers are evaluated by their school principal or director. In order to change grade, a teacher needs a good evaluation, and is then granted a new grade on a competitive basis (there are quotas for these promotions). The teacher salary scale changes every two or three years, depending on the grade. Typically, a teacher can spend many years as a contractor before being incorporated into the civil service and sometimes contract teachers are never incorporated into the civil service.

There is no systematic salary increase for teachers in Senegal, so there is no typical combination of scale and grade for teachers with 15 years of experience. Rather, one would have to select teachers in the workforce who have 15 years' experience and work out their average salary. Perhaps this calculation could be made centrally, but it was not possible to do so during the site visit.

**Table 9.10 Salaries for contract and civil servant teachers, in CFA francs, Senegal 2014/15**

| | Lower secondary | Upper secondary |
|---|---|---|
| Contract teachers, below the bottom of civil service scale | 2 673 276 | 3 095 592 |
| Bottom of civil service scale | 3 704 976 | 4 774 980 |
| Top of civil service scale | Data unavailable | 5 855 892 |

Overall the quality of the data seems reliable, as salaries are calculated with very specific grids and standardised budget posts. Data are produced and disseminated monthly, and salaries are paid with no arrears. Although separate and rarely communicating with each other, units involved have a clear framework for action and mandate, and clearly own the information and data.

**Table 9.11 Quality assessment: Annual teacher salaries (statutory)**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Emerging | Emerging |
| Characteristics | The initial education system, general primary and secondary, is covered and technical and professional programmes in public sectors | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | The MoE pays the salaries of all teachers included in the system-level questionnaire | Salary information is produced every month without delay | Salary information is produced every month without delay | Teams seem to follow their own framework, although there is no co-ordination or information sharing | Many teams are in charge of different aspects of payroll, no co-ordination or information sharing |

**Table 9.12 Availability assessment: Annual teacher salaries (statutory)**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Emerging | Latent | Emerging | Emerging |
| Characteristics | There are some official channels through which national officers can access the information | There are no mechanisms to disseminate the documents or results, in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Officers know what is going on in their own division, but not in others | The official grid used to calculate teacher salaries could not be found; a government official had to look into specific teacher records to extract salary information. This information is clearly not used for managing teacher allocations | The position scale is publicly available but salaries do not seem to be public; some information on MoE website; information obtained through personal contacts | Data on teachers and trained teachers are usually reported to different international organisations (for instance, the UIS). The information on teacher salaries was not part of regular UIS activities for Senegal until 2015 |

### *Questionnaire table 5: Teacher training and professional development requirements*

Three different units manage different aspects of the requirements for pre-service teacher training, entry into the teaching profession and teachers' professional development: the Directorate of Training and Communication, the Directorate of Human Resources and the Directorate of General Administration and Equipment. Because so many units are involved, it took many discussions in meetings to sort out the actual information and reach a consensus.

**Table 9.13 Quality assessment: Teacher training and professional development requirements**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Emerging | Emerging | Emerging | Emerging |
| Characteristics | The initial education system is covered, general primary and secondary, and technical and professional programmes in both public and private sectors | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | Basic components of a framework or informal mechanisms are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | The country is currently reforming its policies in terms of the training required | Different teams seem to be working on different timelines | Because information is managed by different teams, timelines seem different | Different teams manage different aspects of the system; the framework is not clearly addressing co-ordination between teams | The different bodies that determine the training needed for different levels of communication do not have a platform to communicate |

**Table 9.14 Availability assessment: Teacher training and professional development requirements**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Emerging | Emerging | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Officers are aware of the available information and where to access it. But different teams needed to discuss it to come to a consensus | The information has only recently been used to improve the system through policy making and raising training standards for teachers | Some information is available online, but through multiple sources, so it is not straightforward to know what information is most accurate | Data on teachers and trained teachers are usually reported to various international organisations (for instance, the UIS) |

### *Questionnaire table 6: National accounts*

National accounts are managed by the *Agence Nationale de la Statistique et de la Démographie* (National Agency for Statistics and Demography) (ANSD), which is responsible for producing a range of statistics, from the national population census to agriculture, consumer prices, health, education and so on.

Data are produced in accordance with the highest statistical standards, in a professional manner. Data are produced periodically and shared in a timely manner, through all dissemination channels possible.

**Table 9.15 Quality assessment: National accounts**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. in education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | All relevant sectors are covered | Annual data are produced | Data are timely | Framework is clear | All teams have clear responsibilities |

**Table 9.16 Availability assessment: National accounts**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | From the front desk to the directors, organisational and institutional structure is clear | The communication plan is clear, as can be witnessed on the website (e.g. the census communication strategy) | The website is extremely well designed and easy to access | Data is shared with the relevant UN agencies, and updated when needed |

### *Questionnaire table 7-1: Education expenditure by type of institution and level of education*

Senegal produces annually education finance data for the all sector. The Directorate of General Administration and Equipment (for each Ministry) can access data through the ministry of finance information system.

**Table 9.17 Quality assessment: Education expenditure by type of institution and level of education**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Emerging | Emerging | Emerging | Emerging |
| Characteristics | A report is produced periodically | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | Basic components of a framework or informal mechanisms are in place | Some specific teams are identified and co-ordinated by DPRE |
| Justification | The country is able to report some data by nature or type of institution. The breakdowns between ISCED levels for secondary and tertiary are not provided | The last time the data were provided to UIS was in 2010 | The last time the data were provided to UIS was in 2010 | There is a framework, but apparently with unclear co-ordination | Teams are identified |

**Table 9.18 Availability assessment: Education expenditure by type of institution and level of education**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Emerging | Emerging | Latent | Latent |
| Characteristics | There are some official channels through which government officers can access the information | Data are used for sector analysis and policy review | Information is available through personal contact | No data have recently been shared with the UIS/UN and other international partners |
| Justification | These channels have different agendas and timeline, making collaboration difficult | Data seem to be used for policy-making | No information is available remotely | Country is able to report some data by nature or type of institution. The breakdown of ISCED levels between secondary and tertiary are not provided. Most recent data were provided in 2010 |

### *Questionnaire table 7-2: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance*

The Directorate of Planning and Education Reform, situated within the MEN, is responsible for collecting, managing and storing information on the education sector non vocational. The MFPAA is in charge of the same for TVET. Unfortunately, there are no communication or collaboration frameworks in place at the national level, so the education sector appears to have a dispersed or fractured data infrastructure.

**Table 9.19 Quality assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Emerging | Emerging | Advanced | Emerging |
| Characteristics | The initial education system is covered, as well as the technical and professional programmes, in both public and private sector | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | Most elements of a framework are in place | Some specific teams are identified, but no platform for collaboration |
| Justification | The whole education system is covered, but there is little connection between the general sector and the technical sector, meaning that information is rarely presented as a whole | Information is produced annually, with some lag in the technical and vocational sector | Some information is produced in a timely manner, some not (especially the technical and vocational sector) | All elements of the framework are in place | There is no collaboration across sectors in Senegal |

**Table 9.20 Availability assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Emerging | Latent | Emerging |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | Information is available through personal contact | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Each unit has its own database to be accessed by government officers | Some mechanisms are in place, but no communication in order to make policy-making actionable | Information is barely available by the external user | Some information is shared with the international community, but with gaps |

## Notes

1. See www.officedubac.sn/IMG/pdf/Rapport_2011.pdf.
2. See www.men.gouv.sn.
3. See http://tinyurl.com/jdaejbv.

# Chapter 10

# Zambia and the PISA for Development system-level questionnaire

*This chapter provides a detailed assessment of the current state of data collection and availability, in terms of quality and completeness, at the level of the national education system in Zambia. Zambia has acceptable capacities to produce the statistics requested through the system-level questionnaire. The country has established mechanisms for conducing high-stakes national examinations and national assessments, as well as implementing international student learning assessments. Legislative instruments are in place to guide the education system's implementation, to regulate its human resources, and to authorise the activities of various data-producing entities. Challenges include tracking data in expenditure in private institutions, the coverage of education statistics in pre-primary education, and the timely publication of examination and assessments results.*

## Zambia assessment results

UIS visited Zambia during the week of 6-8 May 2015.

The institution responsible for implementing PISA-D in Zambia is the Examinations Council of Zambia (ECZ). It acts as the PISA-D NC and is the respondent for the system-level questionnaire. Due to the structure of the questionnaire and the variety of topics covered, the ECZ obtains the data from different sources (see Table 10.1).

**Table 10.1 Zambia's data providers for the system-level questionnaire**

| Number | Table | Data provider |
|---|---|---|
| 1 | Education stratification | Zambia Qualifications Authority (Ministry of Education) |
| 2-1 | Assessments and examinations | Examinations Council of Zambia (Ministry of Education) |
| 2-2 | Tertiary entrance examinations | Not applicable |
| 3 | Number of class sessions per year | Directorate of Standards and Curriculum (Ministry of Education) |
| 4 | Annual teacher salaries | Directorate of Human Resources and Administration (Ministry of Education) |
| 5 | Requirements for pre-service teacher training | Directorate of Teacher Education and Specialised Services (Ministry of Education) |
| 6 | National accounts | Central Statistical Office (Ministry of Finance) |
| 7-1 | Education expenditure | Accounts Unit, Directorate of Human Resources and Administration (Ministry of Education) |
| 7-2 | Number of students | Directorate of Information and Planning (Ministry of Education) |

### *Questionnaire table 1: Stratification*

The Zambia Qualifications Authority (ZQA) Act (2011) outlines matters related to the standardisation of educational qualifications in Zambia. The ZQA oversees the implementation of the national qualifications framework, which outlines educational levels, progression pathways, and the recognition of prior learning achievements. The Education Act (2011) further promotes access to all levels of education.

The education system is comprised of academic, technical and vocational pathways. Primary Education covers Grades 1 to 7, while Junior and Senior Secondary are covered in Grades 8 to 9 and 10 to 12 respectively. Children as young as 6 months old (early childhood education) are eligible to access education. Formal pre-primary education starts at the age of four, for a duration of three years. Compulsory education starts at pre-primary (ISCED 02) education until junior secondary (ISCED 2). Primary education (ISCED 1) starts at the age of seven for a period of 7 years.

Entry into successive levels of education is characterised by competitive selection processes. Students undergo a selection process at the end of the primary school cycle when 13-year-olds take the primary school certificate examination to access the first cycle of secondary education (Grades 8 and 9). Students aged 15, typically by Grade 9, sit the Grade 9 certificate examinations at the end of the junior secondary cycle in order to qualify for senior secondary (ISCED 3, or Grades 10, 11 and 12). Students who may not have performed well enough to continue through the academic stream to join higher education are eligible to re-sit the Grade 12 examination in order to obtain a General Certificate of Education.

The education system is highly competitive and mainly academic up to the end of the second cycle of secondary education, when technical and vocational pathways become available to students. In 2014, Zambia revised its curriculum to accommodate a two-track system – academic, or technical and vocational. The government has plans to introduce "trade testing" (assessments of particular trade-related skills) for learners enrolled in practical subjects. The availability and quality of education stratification data is at an advanced stage.

The Ministry of Education, Science, Vocational Training and Early Education recognises alternative approaches to basic education that target hard-to-reach children, those with disabilities and school-age students who have dropped out or never attended formal education.[1]

**Table 10.2 Quality assessment: Stratification**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | National frameworks and legal documents are available on the education structure and indicate clear educational pathways for academic, technical and vocational education | Although there are no expectations in terms of periodicity, legal frameworks and documents are relatively recent | National frameworks and legal documents are up-to-date. The national curriculum was reviewed and revised in 2014 | The Ministry of Education, Science, Vocational Training and Early Education oversees the implementation of the curriculum | Frameworks and legal documents are accounted for under the respective education authority |

**Table 10.3 Availability assessment: Stratification**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Frameworks and legal documents are available to education authorities | Frameworks and legal documents are official and public documents under implementation by the Ministry of Education, Science, Vocational Training and Early Education | Frameworks and legal documents are available on various websites and through published media | Information on the country's education system is available through the International Standard Classification of Education reported to the UIS |

### *Questionnaire table 2.1: Assessments and examinations at lower and upper secondary level*

The ECZ is the sole examinations and assessment regulatory body. The ECZ Act established the council and gives it the mandate to assess candidates, quality assure examinations, and issue certification at the end of primary (Grade7), junior secondary

(Grade 9) and senior secondary (Grade 12). It develops test content in conjunction with the Ministry of Education, Science, Vocational Training and Early Education, teachers and independent test developers. In 2014, the ECZ discontinued setting examinations for the Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA). The ECZ also administers the General Certificate of Education examination.

An Early Childhood Education Examination is set for pre-primary school teachers while primary and junior secondary teachers take the teachers' diploma, also set by the ECZ. The ECZ sets national assessments at Grade 2 (early grade reading and mathematics), Grade 5 (middle primary) and Grade 9 (junior secondary).

Zambia has a long-standing system of conducting national assessments. The national assessment at Grade 5 (middle primary) has been in place since 1998, while 2013 was the base year for the Grade 9 (junior secondary) assessment. A follow-up assessment in 2015 is anticipated following the recent curriculum review. School-based "mock examinations", while not having any impact on students' selection into higher education, are compulsory and conducted three months prior to the high-stakes examinations at Grades 7, 9 and 12. ECZ also sets guidelines for examinable projects that contribute to students' final exam score.

Exceptionally performing students are eligible for government scholarships to the two main public universities or multilateral scholarships to universities abroad. The ECZ does not publish individual examination or assessment results online. However, assessment survey results and feedback reports are posted online. Feedback reports are available immediately after the national and annual performance review meetings.

Official media releases in conjunction with the Ministry of Education, Science, Vocational Training and Early Education are the main medium used to communicate results to the public. The ECZ holds official annual performance reviews to sensitise the public to students' performance. Stakeholders are invited to open public forums to discuss policy implications. More recently, the Ministry of Education, Science, Vocational Training and Early Education responded to assessment findings of poor mastery of teaching content by teachers, by introducing career development plans to strengthen teaching practices.

The release of official results to the public is timely. Grade 7 exams are released one month after being administered, while Grade 9 and Grade 12 examination results are released two months after being administered. Teacher education results are released one month after being administered.

Due to limited spaces in national secondary schools, entry into senior secondary institutions is competitive. Students that excel in the Junior Secondary School Leaving Examination are selected for national or technical secondary schools. Other institutions with competitive entry requirements also select junior secondary students. The availability and quality of data for examinations and assessments is at an advanced stage.

**Table 10.4 Quality assessment: Secondary-level assessments and examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | Examinations and sample-based assessments cover junior (ISCED 2) and senior secondary (ISCED 3) levels of education | Annual examinations at the end of junior and senior secondary are high-stakes examinations that determine the selection of students into consecutive levels of education | Examination and assessment results are available within 1 to 2 months of their administration | Systematic procedures are in place for setting, administering and releasing examination and assessment results | The Examinations Council of Zambia was established by a legal act for quality assurance and exam certification |

**Table 10.5 Availability assessment: Secondary-level assessments and examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Examination and assessment results are maintained in internal databases at the ECZ premises and captured at examination centres. The ECZ has dedicated staff who manage exams and assessments | Dissemination of examination and assessment results is organised to inform the public. Expert research on examinations and assessments is accessible to the public on online platforms | Brief results highlights are available at the ECZ and the Ministry of Education, Science, Vocational Training and Early Education websites. Detailed reports are available at ECZ premises | Zambia has completed the international Catalogue on Learning Assessments (UIS) on primary and junior secondary levels of education |

### *Questionnaire table 2.2: Tertiary entrance examinations*

The ECZ has the legal mandate to assess and certify students across all education levels. The performance of students in the Grade 12 (senior secondary) examination remains the sole determinant for students' competitive entry into tertiary programmes in public universities in Zambia or to higher education programmes offered through TEVETA.

In very exceptional cases, students who may not have performed competitively enough in examinations administered at the end of senior secondary may be eligible to access public universities in Zambia e.g. mature students with previous work experience. However, it should be noted that in comparison to the competitive examinations administered at the end of Grade 12, this access route is considered to have a much lower level of priority for entry into diploma or degree programmes. The "degree of

vulnerability," for example, family status (defined by the socio-economic status or family income) of students who have already been competitively admitted to public universities may be eligible for government bursaries. The availability and quality of data on tertiary entrance examinations is at an advanced stage.

**Table 10.6 Quality assessment: Tertiary entrance examinations**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Characteristics | Not applicable | Not applicable | Not applicable | Not applicable | Not applicable |
| Justification | No additional examinations are applicable outside formal high-stakes examinations administered by the ECZ | No additional examinations are applicable outside formal high-stakes examinations administered by the ECZ | No additional examinations are applicable outside formal high-stakes examinations administered by the ECZ | No additional examinations are applicable outside formal high-stakes examinations administered by the ECZ | No additional examinations are applicable outside formal high-stakes examinations administered by the ECZ |

**Table 10.7 Availability assessment: Tertiary entrance examinations**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Not applicable | Not applicable | Not applicable | Not applicable |
| Characteristics | Not Applicable | Not Applicable | Not Applicable | Not applicable |
| Justification | No additional examinations are applicable outside formal high-stakes examinations administered by the ECZ | No additional examinations are applicable outside formal high-stakes examinations administered by the ECZ | No additional examinations are applicable outside formal high-stakes examinations administered by the ECZ | Not applicable. There are no known international data collections to this effect |

### *Questionnaire table 3: Instruction time in public institutions by age of student*

The Directorate of Standards and Curriculum within the Ministry of Education, Science, Vocational Training and Early Education manages the implementation of the Zambia Education Curriculum Framework. The framework spells out the instruction time (teacher-pupil contact time) and subject content for formal pre-primary, primary and senior secondary education. The academic term runs for a duration of 13 weeks, encompassing 3 academic terms for a cumulative duration of 39 weeks per year.

At pre-primary (compulsory education encompassing four to six-year-olds) student learning time is set at 30 minutes per period, or a combined study duration of 15 hours per week. For the lower primary curriculum (compulsory education encompassing seven to ten-year-olds), which covers Grades 1 to 4, study time is set at 42 periods per week. Each period for each subject is expected to run for 30 minutes, with the time allocated per week at lower primary set at 21 hours. The same number of periods is applicable at upper primary (compulsory education encompassing 11 to 13-year-olds); however, each period for each subject runs for 40 minutes. Each period for each subject at lower secondary also runs for a duration of 40 minutes; however, the number of periods per week is set at 48.

Children with special educational needs are accommodated in separate schools or mainstreamed in regular schools. While the curriculum is similar, certain components are not taught. Teachers are required to adapt the curriculum to the needs of individual learners. The availability and quality of data for the number of class sessions is at an advanced stage.

**Table 10.8 Quality assessment: Instruction time in public institutions by age of student**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education: including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | Instruction time is well articulated in the Zambia Education Curriculum Framework and covers pre-primary, primary and secondary education | The curriculum was revised in 2014 | The curriculum framework has been published as an official document referenced by the Ministry of Education, Science, Vocational Training and Early Education | The curriculum framework has been published as an official document referenced by the Ministry of Education, Science, Vocational Training and Early Education | The Directorate of Standards and Curriculum within the Ministry of Education, Science, Vocational Training and Early Education oversees implementation of the Zambia Education Curriculum Framework |

**Table 10.9 Availability assessment: Instruction time in public institutions by age of student**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | The Directorate of Standards and Curriculum maintains updated information on the contents of the Zambia Education Curriculum Framework | The curriculum is published and available to authorities | Information on the curriculum and documents are available on request. Information is not published online | Specific information on the curriculum has been reported to the UIS |

### *Questionnaire table 4: Annual teacher salaries (statutory) by level of education and number of years and level of teaching experience*

The Directorate of Human Resources and Administration within the Ministry of Education, Science, Vocational Training and Early Education is responsible for the recruitment of teachers. Salaries for all public civil servants have been harmonised according to academic qualifications, and aligned to the job evaluation and re-grading exercise conducted for the civil service. This has resulted in the temporary suspension of in-grade salary increments so that public servants, including teachers, are remunerated at the same rate – irrespective of the number of years of experience – who hold similar

academic qualifications. There is a minimum of a diploma for teaching at lower secondary level, and a degree for teaching at upper secondary. The level of seniority of teaching staff, which should typically be determined by the number of years of experience, has no bearing on in-grade salary increments, nor does any outstanding performance in teaching.

The salary revision is the outcome of negotiations between the employer (government) and teachers' unions. The availability and quality of data on annual teachers' salaries by level of education, number of years and level of teaching experience, is at an advanced stage.

**Table 10.10 Quality assessment: Annual teacher salaries (statutory)**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The salary structure for teachers is established in official guidelines for the remuneration of all public civil servants | The salaries of public civil servants have been reviewed in 2013 and harmonised accordingly | The structure of salaries for public civil servants has been published and is available at the Directorate of Human Resources and Administration within the Ministry of Education, Science, Vocational Training and Early Education | The salary structure is implemented across the entire public civil service according to official guidelines | The Ministry of Education, Science, Vocational Training and Early Education maintains records of teachers' qualifications and salary structures |

**Table 10.11 Availability assessment: Annual teacher salaries (statutory)**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Emerging |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Some information in some areas is sent to the UIS/UN, some gaps in data and timeline |
| Justification | Public servants including teachers are well aware of the salary structure for public civil servants | Documentation on the salary structures is available to the public | Information is available on request from the Directorate of Human Resources and Administration but not disseminated online | Disaggregated data on teachers' salaries by level of education as requested by international organisations (UIS) is not complete |

### *Questionnaire table 5: Teacher training and professional development requirements*

The Directorate of Teacher Education and Specialised Services within the Ministry of Education, Science, Vocational Training and Early Education maintains information on the availability of teachers and qualifications.

Pre-primary, primary and secondary school teachers are required to hold a minimum of a Grade 12 school certificate (ISCED 3 qualification) and an additional two-year certificate to teach pre-primary school. A three-year primary and a three-year secondary diploma are required to teach at these levels. By 2015, less than 40% of pre-primary school teachers were trained to teach at this level. The upgrading of minimum qualifications required to teach pre-primary has not kept pace with the recently introduced Early Childhood Education policy (2014). A minimum of an ISCED 6 qualification and in a specific teaching subject are required to teach senior secondary.

Teachers who have attained the minimum qualification to teach are required to take part in school teaching practice. The availability of sufficiently qualified teachers remains a challenge in the country, so some teachers still hold a qualification lower than the minimum requirement to teach at those specific grades. For example, the majority of teachers assigned to primary and junior secondary schools have not yet upgraded their teaching diploma.

Teachers that have attained the minimum teaching diploma should have attained competitive grades in the Grade 12 school certificate examination to be eligible to teach higher levels of education. Candidates therefore have the option to re-sit the Grade 12 examination as external candidates in order to obtain the General Certificate of Education and then join the bachelor degree programme. In-service teachers may also teach lower secondary or primary and then apply to tertiary institutions to obtain a Bachelor of Education qualification to teach senior secondary. In-service teachers may also enrol in the distance education programme. It is expected that accreditation – registration – of teachers will be carried out by the Teaching Council in the future.

It is important to have reliable estimates on the proportion of teachers who have upgraded their teaching qualifications in compliance with recent minimum teaching requirements, including reporting reliable statistics on teaching staff by ISCED at the international level. The availability and quality of data on pre-service teacher training, entry into the teaching profession and teachers' professional development is at an emerging stage.

**Table 10.12 Quality assessment: Teacher training and professional development requirements**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | Not applicable | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The Directorate of Teacher Education and Specialised Services within the Ministry of Education, Science, Vocational Training and Early Education sets the guidelines for pre-service teacher training | The Directorate of Teacher Education and Specialised Services revised the official minimum requirements for teaching in 2014 | Information is produced in a timely manner | The Directorate of Teacher Education and Specialised Services oversees the establishment of guidelines for teacher qualifications and training | The Directorate of Teacher Education and Specialised Services oversees matters related to the qualification of teachers |

**Table 10.13 Availability assessment: Teacher training and professional development requirements**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Emerging |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Some information in some areas is sent to the UIS/UN, with some gaps in data and timeline |
| Justification | Information is maintained by the Directorate of Teacher Education and Specialised Services within the Ministry of Education, Science, Vocational Training and Early Education | Guidelines are available at the Directorate of Teacher Education and Specialised services | Information is not published online but is available on request from the Directorate | Data coverage on teachers' qualifications as reported to international organisations (UIS) is incomplete, due to the pace of upgrading qualifications in accordance with more recent requirements set by the ministry |

### *Questionnaire table 6: National accounts*

The Central Statistical Office (CSO) is a department within the Ministry of Finance mandated to collect and manage information for national planning. The CSO generates estimates on GDP, population projections and other social and economic indicators. Following a situational analysis on the effectiveness of the national statistical system to produce quality statistics, Zambia prepared a national strategy for the development of statistics for the period 2014-18, to co-ordinate the timely production of quality statistics from several sectors.

The base year for GDP figures is 2010. The CSO recognises that revisions should occur every five years; however, prior to the 2010 revision, rebasing was done several years earlier, in 1994. Population projections are generated from the 2010 national census. Data on purchasing power for GDP are not generated by the CSO. The CSO regularly produces thematic reports that are available online and through printed media.

It is notable that nationally produced education statistics indicators – based on the primary school-age population – that are published regularly by the Directorate of Planning and Information depict the number of school-age children at the national and sub-national levels as exceeding the population in given areas. Given that the recent 2010 census and resulting projections are in use to produce indicators on an annual basis, both data producers should consider reviewing the quality of these two sources of data. The availability and quality of data on national accounts is at an advanced stage.

**Table 10.14 Quality assessment: National accounts**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Advanced | Advanced | Advanced | Advanced | Advanced |
| Characteristics | All the sectors of the relevant system are covered (e.g. initial education, including second chance programmes and literacy) | The system produces all data and statistics periodically | The system produces all information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | GDP and population projections are produced by the Central Statistical Office as part of a wide array of social and economic indicators produced regularly | Population projections are based on the 2010 national census while the base year for GDP is 2010 | Multiple years of projections for population (census every ten years) and GDP are available at the CSO and various online platforms | The Central Statistical office was set up by the Census and Statistical Act and mandated to collect and manage information for national planning | The Central Statistical Office manages the production of most national accounts |

**Table 10.15 Availability assessment: National accounts**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Emerging | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | Various divisions at the Central Statistical Office generate national accounts including GDP and population projections | Divisions within the CSO are tasked with producing specific data sets on national accounts. There is awareness that population projections impact on indicators that are reliant on single years of age, but clear mechanisms to resolve any possible inconsistencies have not been established | Population projections and GDP estimates for certain future years are available on request or on online platforms | GDP and population data are shared with international organisations as required |

### *Questionnaire table 7-1: Education expenditure by type of institution and level of education*

Annual statistics on education expenditure are prepared by the Accounts Unit within the Ministry of Education, Science, Vocational Training and Early Education.

The unit uses a programme-based budget approach that disaggregates data by education sectors, including early childhood education; primary; secondary; colleges of education; expenditure in dependant private institutions (mission schools); capital (infrastructure), and current expenditure, including the bulk of salary payments to staff (personal emoluments). Expenditures are tracked through the integrated financial management information system (IF-MIS) and published in an annual expenditure report ("Statement C") produced by the Accounts Unit. Statement C does not track expenditure in private institutions, and limits it's reporting on education expenditure to institutions directly managed by the Ministry of Education, Science, Vocational Training and Early Education.

Some private institutions receive funding from private entities at the local level but these are not captured in the IF-MIS. Other government entities such as the Directorate of Standards and Curriculum maintain separate records on education expenditure that are not reflected in the annual Statement C report. Reporting on teacher salaries by ISCED level is possible with closer collaboration with the Directorate of Human Resources and Administration, which tracks salaries according to set official conditions of service for management of the public service. In terms of reporting by education sector, early childhood education was recently incorporated into the government budget. Funding for early childhood has been decentralised for selected primary schools that run formal pre-primary classes.

Reporting on pre-primary expenditure remains partial, since many institutions are private and located in urban areas which are difficult to survey. Similarly, salaries for early childhood education teachers are reported under the primary education sector wherever districts are piloting early childhood education in selected primary schools. While TEVETA can track expenditure in institutions owned or regulated by the authority, co-ordination is required to track expenditure in institutions that offer educational programmes under other parent ministries.

As up to 20% of the national budget is allocated to education, better co-ordination is needed between the Ministry of Education, Science, Vocational Training and Early Education and private institutions, other directorates, and ministries that manage private institutions, to improve the quality and coverage of centralised statistics on education expenditure; as well as statistics reported at the international level. The availability and quality of data on education expenditure by type of institution and level of education is at an emerging stage.

**Table 10.16 Quality assessment: Education expenditure by type of institution and level of education**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Emerging | Emerging | Emerging | Latent | Emerging |
| Characteristics | The initial education system, general primary and secondary, is covered, and technical and professional programmes in both public and private sectors | The system produces some data and statistics periodically | The system produces some information, data and statistics in a timely manner | There is no framework in place | Some specific teams are identified, but no platform for collaboration |
| Justification | The Accounts Unit within the Ministry of Education, Science, Vocational Training and Early Education maintains education expenditure reports for all education sectors except private institutions | An annual expenditure report (Statement C) is produced – expenditure can be tracked through an integrated financial management information system (public sector only) | For those public education sectors under the Ministry, Statement C reports and electronic records on education expenditure are available on request. 2014 expenditure reports are available in 2015 | No specific framework has been established to compel private or other entities external to the Ministry of Education to share expenditure statistics with the ministry | Co-ordination across several ministries is key to ensure comprehensive data on expenditure is centralised |

**Table 10.17 Availability assessment: Education expenditure by type of institution and level of education**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Emerging | Emerging | Emerging | Latent |
| Characteristics | There are some official channels through which national officers can access the information | There are some mechanisms in place in order to make sure the documents or results are used in order to improve the system | Some information is publicly available, either online, at documentation centres, or in other ways | No data has recently been shared with the UIS/UN and other international partners |
| Justification | Electronic reports are accessible at the ministry in addition to summaries on expenditure. Formal requests for specific data sets are required to access data. The integrated financial management system is updated by designated officials in the Accounts Unit | Education expenditure on the public sector is decentralised and can be tracked for public institutions only. Co-ordination with the private sector to determine policy making has not been established | Electronic reports on education expenditure are available on request. Summaries of education expenditure are available at the ministry on request but limited to public institutions | Education expenditure is reported to international organisations (UIS); the most recent data shared were for 2011, but coverage is incomplete |

### *Questionnaire table 7-2: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance*

The Directorate of Information and Planning within the Ministry of Education, Science, Vocational Training and Early Education conducts an annual school census covering all formally recognised education programmes. An Education Statistical Bulletin is generated annually and contains several education statistics indicators.

Coverage is acceptable, with over 90% of public and private institutions completing the annual census. The Directorate maintains a centralised education statistics database and dedicates human resources to support a regular data production cycle. The academic year is consistent with the financial year. The availability and quality of data on the number of students is at an advanced stage.

**Table 10.18 Quality assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Coverage | Time sensitivity | | Ownership of information | |
|---|---|---|---|---|---|
| Sub-category | Statistical units | Periodicity of production | Timeliness | Framework for action | Team responsibility |
| Rating | Latent | Advanced | Emerging | Advanced | Advanced |
| Characteristics | General programmes in the public sector are covered, for primary and secondary | The system produces all data and statistics periodically | The system produces some information, data and statistics in a timely manner | Most elements of a framework are in place | Specific teams are identified, collaborative platforms are in place |
| Justification | The Directorate of Planning and Information within the Ministry of Education, Science, Vocational Training and Early Education collects annual statistics on all formal education sectors, but pre-primary data are still not collected. Most of the schools are private | An annual Educational Statistical Bulletin is published | Publication of the bulletin is delayed. Data on the previous academic year is only available 5 months into the next academic year | An education management information division within the Directorate of Planning and Information is tasked with conducting the annual school census | Responsibility to collect and publish education statistics is well established within the Directorate of Planning and Information |

**Table 10.19 Availability assessment: Number of students (full-time equivalent) with coverage adjusted to statistics on educational finance**

| Category | Government officers | | Outside users | Global community |
|---|---|---|---|---|
| Sub-category | Awareness | Data-driven culture | Openness and transparency | International organisations |
| Rating | Advanced | Advanced | Advanced | Advanced |
| Characteristics | Information is organised in a coherent and accessible manner, for example through a specific office or data warehouse | There is a communication strategy to make sure the documents or results are disseminated and used in order to improve the system | All the information is organised in a coherent manner and available in a single place (e.g. website, information centre) | Relevant information is regularly shared with the UIS/UN through regular activities, and then relayed to other partner agencies |
| Justification | An education management information system is in place to capture annual education statistics. Designated officials manage and update the system regularly | An annual statistical bulletin publishes Ministry of Education data; historical series of data are available on request | Up-to-date statistics (i.e. one year behind the academic year) can be requested directly from the ministry – these are not available online | The Directorate of Planning and Information (EMIS division) reports annual education statistics to international organisations (the UIS) |

## Notes

1. Legal documents are available at www.zambialii.org and www.moe.gov.zm (documentation and information centres).

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PISA

# Making Education Count for Development

## DATA COLLECTION AND AVAILABILITY IN SIX PISA FOR DEVELOPMENT COUNTRIES

This report reviews the collection, availability and quality of system-level data and metadata on education from countries participating in the PISA for Development project: Cambodia, Ecuador, Guatemala, Paraguay, Senegal and Zambia. PISA for Development aims to increase middle-income and low-income countries' use of PISA assessments for monitoring progress towards national goals for improving education and for analysing the factors associated with student learning outcomes, particularly among poor and marginalised populations. The project also helps track progress towards the international education targets defined in the Education 2030 Framework for Action, which the international community adopted in 2015 as the strategy for achieving the Education Sustainable Development Goal (SDG).

The report suggests technically sound and viable options for improving data quality, completeness and international comparability in the six countries that are reviewed. It also provides insights into overcoming some of the challenges common to countries that participate in PISA for Development and to other middle-income and low-income countries.

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