WORKING PAPER

WHAT IS COUNTED AND WHY IN CRISIS-AFFECTED EDUCATION SYSTEMS? A COMPREHENSIVE REVIEW OF EDUCATION DATA SYSTEMS IN JORDAN

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ABSTRACT

In the contexts of conflict and crises, timely and reliable data is critical but often very difficult to obtain for governments and other stakeholders responsible for providing education services for affected populations. In Jordan, the arrival of approximately 1.3 million Syrian refugees since 2011 has challenged the lower-middle-income country to adequately plan and provide schooling for all students, regardless of nationality. This data systems review explores what education data is available and how it is used by stakeholders in Jordan to improve access, quality, continuity and outcomes for children affected by conflict and crisis. The methodology included a desk review of relevant literature coupled with 11 stakeholder interviews. In total, 14 data systems were identified and grouped into five main categories: (i) international large-scale assessments, (ii) national large-scale assessments, (iii) education management information systems, (iv) other sample-level data, and (v) other population-level data. The predominant focus of these systems is on student-related data, followed by data pertaining to teachers and principals with limited ability to disaggregate data for students of different nationalities.

Overall, results found that 29% of data systems focus on data related to access, 50% collect data on continuity, and all collect data on quality and/or educational outcomes. Seven key challenges facing Jordan's educational data systems were identified: capacity, device shortage, old data recovery, technical, financial, planning, and working in silos. Taken together, the results highlight the lack of refugee-specific educational data publicly available. While levels of refugee access to school (i.e. enrolment data) is available data collected and used on disaggregate levels to assess trends and provisions for vulnerable student groups is either not carried out or not shared publicly. In addition, the review highlights the need for more meaningful qualitative data on educational quality and student outcomes, and the lack of sharing and coordination of data among various education stakeholders. This is of particular concern for the education of refugee students as the data collected on their schooling is fragmented among government and NGO stakeholders. These trends reflect some of the findings of other conflict-affected contexts but also illustrate how data systems have been developed recently to increase access to and improve education, and how Jordanian officials are particularly aware, through data, of the gender-based achievement gap.

Disclaimer

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ACRONYMS

DCU	Development and Coordination Unit
DET	Directorate of Examination and Testing
EMIS	Education Management Information System
EQAU	Education Quality and Accountability Unit
ERICC	Education Research in Conflict and Protracted Crisis
ESP	Education Strategic Plan
ETC	Education Training Center
IEA	International Association for the Evaluation of Educational Achievement
ILSA	International large-scale assessment
IRC	International Rescue Committee
KPI	Key Performance Indicator
NCES	National Center for Education Statistics
NCHRD	National Center for Human Resources Development
NRC	Norwegian Refugee Council
OECD	Organization for Economic Co-operation and Development
PDP	Professional Development Program
PEA	Political Economy Analysis
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
QRF	Queen Rania Foundation
SIS	Safe and Inclusive Schools
TIMSS	Trends in International Mathematics and Science Study
UNRWA	United Nations Relief and Works Agency for Palestine Refugees

I. INTRODUCTION

A. Educational data and planning in contexts of conflict and protracted crisis

Data availability, quality and utilisation are crucial for education policy-making and are particularly needed in settings of conflict and protracted crisis. In conflict-affected settings, effective government action to provide education in both the short and long term hinges on the ability to collect and utilise reliable, timely data to understand the population's immediate needs and the structural drivers of risks and vulnerabilities. Governments facing a protracted refugee crisis, such as in Jordan, often work closely with the humanitarian and disaster response communities to build data systems to inform educational decision-making. However, ensuring these systems are adequate, secure, accessible, utilised and properly maintained to best inform planning and policy is a significant challenge.

This review of education data systems in Jordan, a country experiencing a protracted refugee crisis, seeks to map and understand what information is collected, about whom or what, how often, where and why. Answering these questions sheds greater light on the wider collection, management and use (or lack thereof) of education data for decision-making in Jordan. The objectives of review are firstly to map the data landscape and secondly to identify the gaps and challenges within Jordan's education system, particularly as they relate to education policy and outcomes in refugee and host community settings. These objectives aim to support the wider goal of improving and promoting informed decision-making in education among Jordan's different stakeholders, including policy-makers, educators and researchers.

For the international community, this review can serve as both an insider's look at the state of Jordan's education data system and as a means of highlighting the progress and pitfalls that come with attempts to build a robust, informative data system infrastructure. The data review findings will discuss both the current challenges hindering the integrity and use of the identified data systems, and how the government's progress in building and using an evidence base has been affected by the national context and refugee crisis.

B. Jordan's protracted refugee crisis and educational response

The government of Jordan, a small country of approximately 11 million people in the centre of the Middle East, has faced considerable challenges in providing education to all its people over the last decade. Since 2011, approximately 1.3 million Syrian refugees have made Jordan their home as the civil conflict in Syria continues. Almost 90% of Syrians live in host communities and attend government schools. Yet, despite limited resources, Jordan has welcomed Syrian refugees in its host community schools, setting up a double-shift system and remedial education programmes to ensure education access for refugees and to minimise overcrowding in classrooms. Only a small minority, approximately 12% of Syrian students, live in isolated refugee camps where they attend camp schools. Still, education quality and resources have been affected by the arrival of refugees, and tens of thousands of Syrian youths are out of school for myriad reasons. Moreover, the Covid-19 pandemic led to a significant increase in the number of children enrolled in public schools as many families who were affected economically left the private education sector. Overall, both of these crises have placed a significant strain on the public education system, which serves more than 2,160,000 students and has some 170,000 staff in approximately 7,300 schools.[1]

[1] UNESCO. (2022). Building a Resilient and Responsive Education System in Jordan: Strengthening Evidence-Based Crisis-Sensitive Planning and Governance. https://jordan.un.org/sites/default/files/2023-06/UNESCO%20EIE%20Data%20Evidence%20and%20Learning%20-%20Case%20Study%20MoE%20JORDAN_FINAL.pdf

This has meant that, despite avoiding direct involvement in conflict, Jordan is a state in protracted crisis – which affects the education of all its residents. Double-shift schools, overcrowded classrooms and limited resources have compromised the educational improvements that Jordan has worked towards in recent decades. However, the successive national crises have also highlighted the need for policy-makers to have reliable, timely and relevant data to inform the planning, implementation and impact of policies emanating from the system's central authority, the Ministry of Education (MoE).

As a result, the government of Jordan took steps to strengthen its capacity to effectively collect and use data to plan and deliver education services for all students regardless of nationality. One of these steps was the launch of the Education Management Information System (EMIS) platform in 2016. Managed by the MoE, EMIS has become the main administrative data source on formal education in Jordan and serves as the primary and most comprehensive repository for data within the MoE.[2] EMIS provides data for decision-makers across the three main levels of the education system: the ministry, the regional field directorates and schools. The effectiveness and importance of EMIS has to be seen in light of some challenges, the first of which is that the EMIS system is not systematically used to track MoE performance due to software and capacity challenges.

To overcome this (and to account for emerging priorities and needs during the pandemic), the MoE developed a comprehensive EMIS Operational Plan for Phase II (2020–2023) with UNESCO's support, with the aim of further developing the government's capacities to collect, manage and use educational data. This plan calls for clearly delineated key roles and responsibilities for efficiently managing EMIS, outlines the necessary resources, governance mechanisms and procedures to ensure its sustainable management, and mandates the integration of different datasets and software across different MoE departments. In addition, the Midterm Review (MTR) 2022 of the MoE's Education Strategic Plan (ESP) 2018–2025 explicitly included a recommendation to essentially normalise the expectation that those working at the administrative levels of education are able to ensure that updated and accurate data is entered into EMIS and used for decision-making at top and bottom levels of the system.[3] Thus, while the launch and evolution of EMIS has been a giant leap forward for education authorities in terms of collecting and using data for education planning and service delivery, education stakeholders are aware that EMIS remains relatively under-utilised and populated with somewhat unreliable data. This is largely because frontline staff lack technical capacities and universal access to EMIS and due to the limited software and lack of integration of various datasets within the EMIS system itself.

To inform how Jordan's education system responds to crises and addresses evidence gaps in relation to data collection and use, the Queen Rania Foundation (QRF) undertook a review of Jordan's education data systems. This study is part of the Education Research in Conflict and Protracted Crisis (ERICC) research initiative.[4] As a result, QRF used the lens of ERICC's conceptual framework and its focus on three drivers of learning – *access, quality and continuity of education* – to guide the data review. While the ERICC conceptual framework has a fourth driver – *system coherence* – this was not a focus of the data review. The paper will discuss the state of the data in relation to the first three drivers and highlight identified data gaps.

[2] United Nations. (June, 2022). Ministry of Education launches EMIS Policy. Press release. https://jordan.un.org/en/188018-ministry-education-launches-emis-policy

[3] Ministry of Education. Mid-Term Review Report of the Jordan Education Strategic Plan 2018–2025.

[4] The ERICC programme strives to transform education policy and practice in conflict and protracted crises around the world. ERICC is led by the International Rescue Committee (IRC) with partners across seven countries: Bangladesh (Cox's Bazar), Jordan, Lebanon, Myanmar, Nigeria, South Sudan and Syria. The overarching aim of ERICC is to help improve holistic outcomes for children through building a global hub for a rigorous, context-relevant and actionable evidence base. As part of this research programme, each country team conducted a data review to better understand the educational data collected to inform planning and service delivery in their unique conflict-affected contexts.

C. The present study: mapping data systems in Jordan

As part of a larger, cross-country ERICC consortium agenda, the research team at QRF set out to take stock of the data and data systems used for educational planning in Jordan, and for the planning and delivery of additional provision needed for refugees. The study thus aims to provide a blueprint for comprehensive data system reviews, adding to the knowledge base within the wider field of education in emergencies, and informing policy and practice within Jordan. Thus, the study sought to answer the following research questions:

1. What data is available on access, quality, continuity and outcomes of children's education at different levels of the school system in Jordan, particularly for students in refugee camps and host community schools, and how is such data used?

Broken down into its component parts, this question included the following:

1.1. What data is available for different levels of the education system?
1.2. What proportion of the data is population-level vs sample-level data?
1.3. How frequently is data collected?
1.4. Who pays for, collects and uses data, and for what purpose(s)?
1.5. What is data used for?
1.6. What data is available on the drivers of learning and student outcomes?

The other two research questions guiding this review of Jordan's data systems were:

2. What are the challenges of data access and use?
3. What types of data are necessary but unavailable to the education system?

II. METHODOLOGY

For the data systems review, QRF first conducted an extensive desk review in which current government publications, strategy documents and other relevant non-government reports were collected and reviewed to gather background on what data systems exist. The desk review was then informed by 11 key informant interviews to gain deeper understanding of identified data systems. An initial survey was developed by New York University and the International Rescue Committee (IRC) to guide cross-regional efforts that the ERICC programme was conducting to map data systems across seven countries affected by conflict and crisis. The initial instrument was reviewed and contextualised by the QRF team for Jordan. The data systems mapping survey aims to collect information from stakeholders involved in data collection, storage and utilisation of existing education-related data and its uses in conflict and protracted crisis situations. For a list of all specific areas that the survey addressed, see Appendix A.

A. Procedure and participants

The desk review was conducted during early data review phases (June 2022) and has informed the identification of key data systems stakeholders as well as the course of quantitative interviews. During desk review, relevant documents, reports and key strategic documents were utilised to capture relevant information and inform research methodology. The data systems review was later informed by a Jordan Education Political Economy Analysis (PEA), conducted by DAI Global Education and Integrated International (DAI and Integrated International, 2022), which became available in mid-July 2022.[5]

[5] DAI Global Education and Integrated International. (2022). Jordan Education Political Economy Analysis 2 Final Report.

A questionnaire co-developed by the ERICC technical team was used, with slight updates or rewording opted for during interviews to suit the local context. Prior to data collection, all stakeholders were emailed with an introduction to the project along with an invitation for an interview. To confirm, phone calls with MoE respondents were then conducted. QRF obtained approvals from the MoE for conducting face-to-face interviews at the ministry premises.

A total of 11 quantitative interviews were conducted; eight of these were face-to-face and three were online surveys. Face-to-face interviews were conducted with MoE respondents and lasted around 30 minutes, while online surveys were conducted with non-MoE respondents. Data collection took place between early July and early August 2022.

During face-to-face interviews, questionnaires were printed and questions were filled in by hand by enumerators. Each question was read aloud to stakeholders and accordingly answers were filled in. All responses were later transferred into digital format. Transfer to digital format occurred over the course of the data collection period. Online surveys were filled in directly by stakeholders into a Word document and then reshared via email.

The ethical points below were considered to help protect the rights and wellbeing of individuals, to maintain the integrity of research, and to build trust between researchers and participants:

- **Informed consent:** The data collector ensured participants were involved based on personal will, with no sort of pressure affecting them.
- **Privacy and confidentiality:** The data collector took the appropriate measures to protect participants' privacy and ensure that any information collected remains confidential.
- **Transparency:** The data collector was transparent about the purpose, methodology and potential outcomes of the research.
- **Respect for autonomy:** The data collector addressed people appropriately and with their appropriate titles where applicable.

B. Analytic approach

After the completion of data collection, the survey data was entered into an Excel spreadsheet for analysis. Following a comprehensive data cleaning process, the QRF team analysed the data using descriptive statistics and then generated visualisations including various chart types. These visualisations facilitated the identification and clarification of patterns and trends. The utilisation of Excel for this analysis allowed for a systematic and streamlined approach, particularly given the size of the dataset.

C. Participants and data

The eight face-to-face interviews were conducted with MoE and National Center for Human Resources Development (NCHRD) respondents, while the three online surveys were conducted with non-MoE respondents, namely the United Nations Relief and Works Agency for Palestine Refugees (UNRWA), Norwegian Refugee Council (NRC) and a public school principal.

Table 1. Stakeholders interviewed for the Jordan data system review

Stakeholder/organisation name	Scale
MoE Development and Coordination Unit (DCU)	• Data feeding into the ESP
National Center for Human Resources Development (NCHRD)	• Programme for International Student Assessment (PISA) • Progress in International Reading Literacy Study (PIRLS) • Trends in International Mathematics and Science Study (TIMSS)
MoE Directorate of Examination and Testing (DET)	• DET Key Performance Indicators (KPIs)* • National Test for Quality Control • Tawjihi
MoE Education Training Center (ETC) – Professional Development Program (PDP)	• Teacher Rank Examination
MoE ETC – School and Directorate Development Programme (SDDP)	• SDDP KPIs*
MoE Education Quality and Accountability Unit (EQAU)	• EQAU KPIs*
MoE Managing Directorate of Strategic Planning and Research (MD-SPR) – Department of Statistics (DOS)	• EMIS
The United Nations Relief and Works Agency for Palestine Refugees (UNRWA)	• Sample-level data • Population-level data
MoE Queen Rania Center for Education and Information Technology (QRC)	• EMIS • Supply Management
Norwegian Refugee Council (NRC)	• Safe and Inclusive Schools (SIS) Assessment
Public School Principal	• EMIS

**Key Performance Indicators (KPIs) are set targets used to track progress towards a set of strategic outcomes.*

D. Limitations

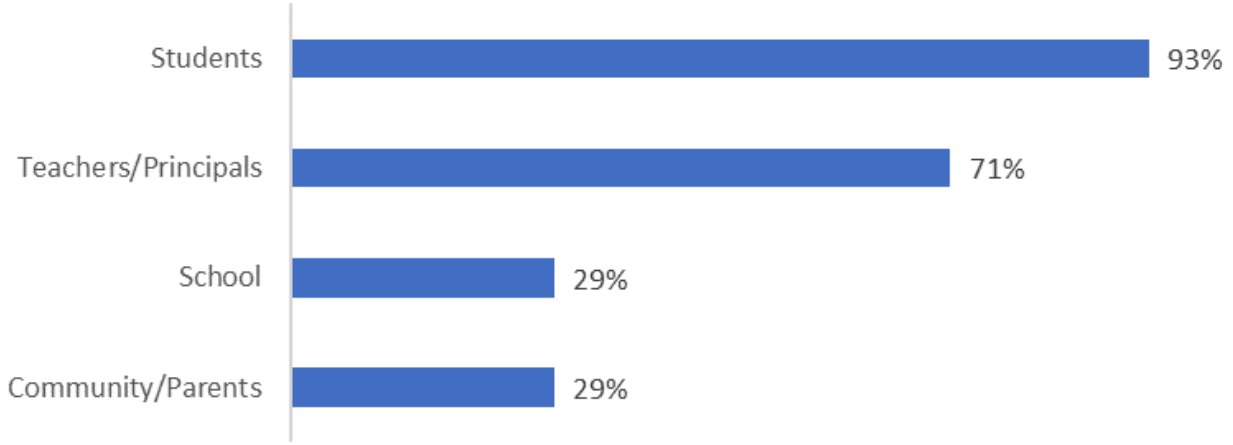
Although rigorous methods were followed to ensure high-quality data, some limitations are worth noting. Numerous sample-level data are collected by NGOs/INGOs and development partners in Jordan, but the data systems review captures only a snapshot of those. In addition, tools were being shared by the ERICC technical team/cohort 1 countries simultaneously with data collection. As a result, during early interview stages, there were minor inconsistencies in questionnaires used during data collection. Finally, some findings in the data systems review reflect interviewed stakeholder perceptions and should be taken with a pinch of salt.

III. RESULTS

A. Research question 1: What data systems are available in Jordan on access, quality, continuity and outcomes of children's education, particularly for refugees, and how is the data used?

A1. What data is available for different levels of the education system?

Figure 1. Percentage of data systems collecting data on the following items



In Jordan, education data systems can be classified into five main categories, namely: (i) international large-scale assessments; (ii) national large-scale assessments; (iii) EMIS; (iv) other sample-level data by either governmental or non-governmental entities; and (v) other population-level data by governmental entities. Each of these types of data systems is explained below, including how they relate to children affected by the country's protracted refugee crisis.

i) International large-scale assessments (ILSAs)

ILSAs include PISA, PIRLS and TIMSS. These assessments are designed to identify the level of achievement at a regional or national level, offering insights into the overall educational performance of students. Secondly, they function as a global and national tool to monitor student improvement over time, enabling educators and policy-makers to gauge the effectiveness of macro educational reforms and compare progress with other countries taking part in the assessments.

- **PISA** is run by the Organisation for Economic Co-operation and Development (OECD) every three years and assesses 15-year-olds' reading, mathematics and science knowledge and skills.[6] Jordan started participating in PISA in 2006.
- **PIRLS** is run by the National Center for Education Statistics (NCES) and the International Association for the Evaluation of Educational Achievement (IEA) every four years and assesses fourth graders' (ages 9-10) reading achievement. Notably, Jordan took part in the last cycle of PIRLS examinations for the first time, in 2021, with the specific goals of (i) evaluating the Arabic language curriculum in reference to international benchmarks, (ii) assessing Jordanian students' outcomes compared with

[6] OECD. (n.d.). Programme for International Student Assessment (PISA). https://www.oecd.org/pisa

their international peers, and (iii) attaining valid and reliable data for monitoring and evaluating reforms over time.[7]

- **TIMSS** is run by the NCES and IEA every four years and assesses fourth (ages 9-10) and eighth (ages 13-14) graders' achievement in mathematics and science.[8] Jordan started participating in TIMSS in 1999. In Jordan, the NCHRD is responsible for administering, running and conducting the analysis of these assessments. Analysis is carried out in collaboration with the OECD and IEA.

The NCHRD conducts regular technical meetings with stakeholders to discuss the data collection process for ILSAs. Stakeholders include field directorates, sampled school principals, NCHRD staff, and the data collection vendor, among others. Prior to data collection, school computers are quality checked by an expert IT team. Examinations are usually a combination of electronic and paper-based formats. Any required data entry is usually outsourced.

There are two types of data involved with ILSAs: **final report** and **raw data**.

- The **final report**, which is a product of the data analysis done by the NCHRD, IEA and OECD, can be accessed by the general public through NCHRD's website. Final reports provide insight into Jordan's performance benchmarked against previous years as well as against other participating countries.
- **Raw data** is not shared with the general public; any request for raw data access is shared with the IEA and OECD with details specifying the purpose, whereby approval is either granted or not. Accordingly, data is made available for secondary analysis by other entities.

It is important to note that refugee status as well as race and ethnicity data are "largely unavailable in the public PISA or TIMSS datasets for most national education systems".[9] (However, refugee status data may be collected by national authorities administering the PISA and TIMSS assessments in their respective countries.) This means that, globally, ILSAs currently do not provide publicly available data that is systematically collected and disaggregated for refugee populations. Such data is not consistently collected nor made available to national and subnational policy-makers or other educational stakeholders for decision-making.[10]

Table 2. ILSAs conducted in Jordan

ILSA	Focus	Designed by	Frequency	Year Jordan first participated
PISA	Reading, maths and science outcomes for 15-year-olds	OECD	Every 3 years	2006
PIRLS	Reading outcomes for Grade 4 students	NCES, IEA	Every 5 years	2021
TIMSS	Maths and science outcomes for Grade 4 and 8 students	NCES, IEA	Every 4 years	1999

[7] NCHRD. (2021). *Jordan.* https://pirls2021.org/wp-content/uploads/2022/10/Jordan.pdf
[8] National Center for Education Statistics. (n.d.). Trends in International Mathematics and Science Study (TIMSS), Overview. https://nces.ed.gov/timss/overview.asp
[9] Wiseman, A.W., & Bell, J.C. (2022). Education without evidence: Gaps in data availability for refugee, asylee, and humanitarian migrant students in US schools. *Research in Education*. 112(1), 95–108.
[10] Ibid. p.95.

ii) National assessments: Tawjihi and the National Test

There are two types of national large-scale assessments in Jordan, namely Tawjihi and the National Test for Quality Control (or simply the National Test).

Tawjihi (for students completing Grade 12) is the General Secondary Education Certificate. Tawjihi examinations take place at the end of the secondary cycle (Grade 12). This certification holds significance in acknowledging the completion of foundational education and acts as a stepping stone for further educational pursuits as well as employment opportunities.

Tawjihi tests, which primarily assess the memorization of facts and data, are annually constructed and quality-checked by a committee created by the MoE according to certain criteria. After printing, tests are shared in aluminium envelopes with test centres. Tawjihi tests are paper-based assessments and are corrected using either stray-light correction methods or through correction centres. Nevertheless, during the Covid-19 pandemic, assessments were delivered online. Tawjihi raw data is highly confidential and is never shared. Each student receives their final grade on a pre-declared day. In addition, Tawjihi results are not commonly used to benchmark student performance. As one interviewee notes, "*the Tawjihi results remain underused because comparability across years is difficult, analysis is limited to disaggregated means scores on major skill sets, and teachers and principals are uncertain how to use the Tawjihi results*".[11]

Despite their limited use for decision-making, the MoE collects data on the demographics of those taking the Tawjihi and their aggregate results. In 2020, the United Nations noted that "1,670 Syrian refugee youth in Jordan passed their Tawjihi, end of high-school exams; 154 of whom achieved grades of 95% or higher".[12] Unfortunately, this number represents a small minority of the total Syrian refugee population in Grade 12, which highlights the continued struggle that Syrian refugee students face to remain in school and adequately prepare for the Tawjihi. However, the Tawjihi is also a formidable barrier for Jordanian and other students aiming to complete their studies and move forward. Approximately half the students who take the Tawjihi fail to earn a passing score and an additional 20% to 25% ultimately decide not to take the exam. As a result, the Tawhiji has an "exclusionary" effect for students since a majority of them never graduate or attain a passing high school certificate.[13] While there have been discussions among policy-makers and stakeholders in recent years on the need to reform the decades-old format and fact-focused content of the Tawhiji, the exam has not undergone significant change.

The other national assessment in Jordan is the **National Test** (for students in Grades 4, 8, 10), which assesses 4th, 8th and 10th graders in four core subjects (mathematics, science, English and Arabic skills). The test takes place on an annual basis, but each year only one grade is assessed. According to MoE interviewees in a previous 2014 study, the National Test is given to students in only one of the three grades in a given year on a rotating basis because of limited resources, manpower or institutional capacity. As a result, the National Test is supposed to provide a "grade cohort comparability" analysis in which the results of a single grade can be compared to the same grade three years prior.[14] However, the NCHRD (2014) flagged that the rotating yearly schedule for testing is problematic, noting:

[11] DAI Global Education & Integrated International (2022) "Jordan Education Political Economy Analysis 2 Final Report".
[12] United Nations. (September, 2020). Jordan continues to support refugee education as students head back to school. Press Release. https://jordan.un.org/en/89701-jordan-continues-support-refugee-education-students-head-back-school
[13] World Bank. (2017). Education Reform Support Pay-for-Results: Program Appraisal for the International Bank for Reconstruction and Development. https://documents1.worldbank.org/curated/en/731311512702123714/pdf/Jordan-Educ-Reform-121282-JO-PAD-11142017.pdf
[14] NCHRD. (2014). Mapping of Student Assessments in Jordan. (p.30). https://www.nchrd.gov.jo/assets/PDF/Studies/En/180.pdf

> *Unfortunately, the fixed interval of "every three years" to repeat a test in the same grade and frequent change of testing items without considering comparability over time with the grade cohort or tracking students and schools have made it impossible to "do the value added" of the national assessment system. As a result, NT [National Test] results in a given year for a given grade has [sic] minimally been useful. The design of the NT [National Test] could be significantly improved.*

The NCHRD (2014) report recommended that the National Test be given to all three grades annually to enable longitudinal comparisons, cross-unit comparisons and comparison against expected targets, but this recommendation has not been implemented. Nevertheless, significant effort goes into conducting the National Test each year. Jordan's National Tests are initially created and piloted with a sample of eligible students. Accordingly, tests are adjusted and updated. Exams take place in schools with approximately 10% to 15% of schools conducting the test online, and the rest administering a paper-based assessment (corrected using the stray-light correction method). Student data is stored on school and directorate computers and is shared with the Directorate of Examination and Testing (DET), where statistical analysis is later done. Results are then shared on CDs with field directorates who in turn share those with schools.

Similar to ILSAs, there are two types of data involved with the National Test: **final report** and **raw data**. The **final report,** which is a product of the data analysis done by the DET, is shared with field directorates and schools. Final reports provide schools and directorates with insights on students' "*performance, strengths, and weaknesses benchmarked against other directorates and schools*", according to one interviewee. Meanwhile, **raw data** from the national tests can be shared with members of different entities (such as ministry departments and researchers) on demand, in which they are required to go through an approval process that requires an official letter signed by accountable MoE stakeholders.

iii) Education Management Information System (EMIS)

The EMIS system fulfils a range of purposes, including needs identification, accurate data provision to decision-makers, facilitating seamless integration with other platforms, and the monitoring of progress in comparison to international learning assessments. The main purpose and objective of EMIS, according to its official, is to unify data sources for "planning, monitoring and reporting in one database in order to provide accurate, timely and comprehensive data on students, teachers and schools as well as educational indicators to serve decision-makers at all administrative levels."[15]

As part of further developing EMIS, the MoE is planning to: (i) include digitization of the work of field directorates at the central MoE in auditing and updating data; and (ii) integrate EMIS with other systems, both internally within the MoE and with other relevant systems. This will ensure an informed, evidence-based and decision-making process. To further assist education stakeholders in utilising data collected through EMIS, the MoE uses a tool called the **Geographic Information System** (**WebGIS**). WebGIS provides digital maps to help in visualising educational information and indicators to support decision-making. This has been further developed by the MoE to integrate educational data to create visualisations of the educational reality of the country. Uses of such digital maps include identification of the construction of new school buildings and the expansion of education infrastructure.[16]

As a system-wide data system, data is collected electronically and inputted into EMIS by account owners (usually teachers). Each account owner has unique login details. Data is collected through electronic forms, digital forms and through paper-based records. Paper-based records are transferred into digital format before input. EMIS data is usually shared with different MoE units for data analysis. Data-sharing depends on levels of authority; data is shared with stakeholders who have the authority to view the provided information. Performance indicators serving the Education Strategic Plan (ESP) and MoE units are primarily drawn from

[15] Ministry of Education. (2022.) Mid-Term Review Report of the Jordan Education Strategic Plan 2018–2025.
[16] Ibid.

EMIS. In addition, the platform offers static/built-in reports; data analysis is available instantly to users. Another option is the advanced reports option, in which data analysis is offered on-demand.

iv) Other sample-level data

Other sample-level data includes data collected by governmental entities (MoE, NCHRD) and by non-governmental entities (development partners/NGOs, UNRWA) on a sample level. Sample-level data covered in this review includes DET KPIs, UNRWA Sample-Level Data, and NRC's Safe and Inclusive Schools (SIS) Assessment. Different MoE units are assigned with performance indicators that are used to better understand educational performance and the course of strategic direction. All MEL departments at the ministry track progress against performance indicators. In addition, the ESP is driven by 29 indicators. Indicators are either on a sample or a population level. Each of the above-named sample-level datasets provides educational stakeholders with important information as summarised below.

- **Directorate of Examination and Testing (DET) KPIs** system plays a vital role in developing educational performance indicators, which will in turn act as a standard evaluation tool for all students undertaking basic subjects across four levels. The DET KPIs are set by a committee of MoE experts. Assessments are then conducted of a nationally representative sample of students. Results are allocated to levels according to the pre-set KPIs. Results are shared with field directorates and schools in a form of guides which include analysis and end results. Raw data is shared with members of the same organisation (DET) and concerned MoE units.

- **UNRWA:** Data collection in UNRWA schools that are serving registered Palestinian refugee students is usually done to evaluate the impact of policies and programmes implemented within the education system. Data is typically collected on paper-based documents and is sometimes video-recorded by UNRWA experts. Data is entered into school computers by IT teachers. Data is then shared with the UNRWA management, who collaborate with external experts/consultants to develop a report with detailed analysis. Raw data is shared with members of the same organisation. However, certain types of raw data can be shared with the general public. In addition, final reports are shared with the general public and members of different organisations on-demand.

- **Norwegian Refugee Council's (NRC) Safe and Inclusive Schools (SIS) Assessment:** NRC has implemented the Safe and Inclusive Schools (SIS) programme, which provides training to teachers/principals and provides students with academic support.[17] The purpose of the SIS assessment is to assess changes within school environments as a result of NRC's intervention. More specifically, through the SIS programme, NRC works with a school for two years during which time it trains school personnel in Social and Emotional Learning (SEL), anti-violence and anti-bullying, classroom management, as well as school cleanliness and hygiene. Thus, the SIS Assessment serves as a means to monitor the progress of a programme, evaluates the impact of policies and programmes implemented within the education system, and is used to assess changes occurring within the school environment, particularly as a direct result of initiatives introduced by the NRC intervention. Final assessment results are shared with members of the same organisation only. Note, the SIS programme also rehabilitates schools and builds new classrooms.

v) Other population-level data

Similar to sample-level data, population-level data includes data collected by governmental entities (MoE) and by non-governmental entities (development partners/NGOs, UNRWA). Population-level data covered in this review includes teacher-level data (Teacher Rank Examination), School and Directorate Development

[17] Norwegian Refugee Council. (n.d.). NRC in Jordan. https://www.nrc.no/countries/middle-east/jordan

Unit KPIs, UNRWA Population-level data, Supply Management Data, and Education Quality and Accountability Unit (EQAU) KPIs.

- **Teacher Rank Examination: T**he Professional Development Program (PDP) Teacher Rank Examinations system is utilised to screen individuals for eligibility for promotion within the educational sphere. It serves as an assessment tool to identify those who have met the criteria for advancement in their teaching careers. Teachers seeking promotion need to undertake the Teacher Rank Examination. Application is done through an online link created by the MoE's Education Training Center (ETC). ETC checks registrar eligibility. Teacher information and attached certificates are then quality checked and filtered by the PDP (an ETC unit) in collaboration with the MoE Human Resources department. Those who pass the criteria proceed to the examination. Teachers take exams electronically in one of the 42 field directorate centres. Results are then shared with the head of ETC and concerned departments. Other data requests must go through an approval process that requires an official letter signed by accountable stakeholders.

- **School and Directorate Development Unit KPIs:** The School and Directorate Development Department KPIs system aids in the preparation and ongoing monitoring of a two-year development plan for individual schools. At the beginning of the academic year, a committee that consists of ETC personnel conducts paper-based data collection (focus groups and quantitative surveys) with school administration, teachers/principals, pupils/students and parents to prepare a two-year development plan for each school. Focus groups are conducted with students in Grades 1 to 3 (ages 6-8), in which classroom teachers fill in the survey. Collected data is entered into Excel sheet templates (with analysis formulas pre-embedded) by the ETC personnel committee. Data collected is stored into the committee personnel's personal devices. Analysis is then done by the committee. Results are shared with concerned stakeholders. Other data requests need to go through an approval process that requires an official letter signed by accountable stakeholders.

- **UNRWA:** UNRWA Data Type A and UNRWA Data Type B are designed to identify the needs of individuals within the education system, to evaluate system-wide reforms, and to screen individuals in aims of determining their eligibility for various educational services. These include the agency-wide Assessment of Learning Outcomes (ALO) and a Survey of Associated Factors (SAF) which measure the achievement of both minimum proficiency levels and higher order thinking skills in Arabic (as a proxy for reading) and mathematics at Grades 4 and 8.[18] The data enables UNRWA to assess achievement at the individual level and evaluate the educational landscape at larger scales, providing insights into regional and national performance trends. The protocols for data collection are similar to those described for UNRWA (see the section on sample-level data).

- **Supply Management Data:** The Supply Management Unit at the MoE is responsible for securing all field needs for a successful educational process. Supply management personnel meet and visit public schools twice a year to update data available on school supply. Data is collected on learning resources (textbooks, chalk, etc.), furniture, supplies and appliances. Only eligible stakeholders have the authority to access data collected. By focusing on measuring the needs for furniture, appliances and supplies within educational institutions, the Supply Management Unit ensures that the necessary resources are available to support effective teaching and learning.

- **Education Quality and Accountability Unit (EQAU) KPIs:** The MoE's EQAU developed 20 KPIs that assess school-level accountability standards in four main areas: (i) learning and teaching, (ii) student environment, (iii) school and community, and (iv) leadership and management. Data on the 20 KPIs is collected by a committee that consists of EQAU personnel known as assessors. Data

[18] UNRWA. (2024). UNRWA education 2030 baseline report. https://www.unrwa.org/sites/default/files/content/resources/web_unrwa_education_2030_baseline_report.pdf

collection is usually conducted on tablets, with minor instances that require paper-based formats (usually new enumerators to ensure the school principal signature on documents). Paper-based data is later transferred to digital. Data is then shared with the EQAU either through emails or WhatsApp for data analysis. Schools that are underperforming are re-visited by the committee to track progress. Raw data is shared with the minister, MoE secretary general and field directorates. A final report is available to the general public on the MoE website.

The reviewed data systems, associated educational levels and whether they contain refugee-related data are summarised in Table 3. The results highlight the lack of refugee-specific data and lack of disaggregated analysis for this vulnerable group. Four data systems are on a primary level only, two on a secondary level only, and eight systems are utilised for both levels, primary and secondary.

Table 3. Data systems by level of education and inclusion of refugee-specific data and analysis

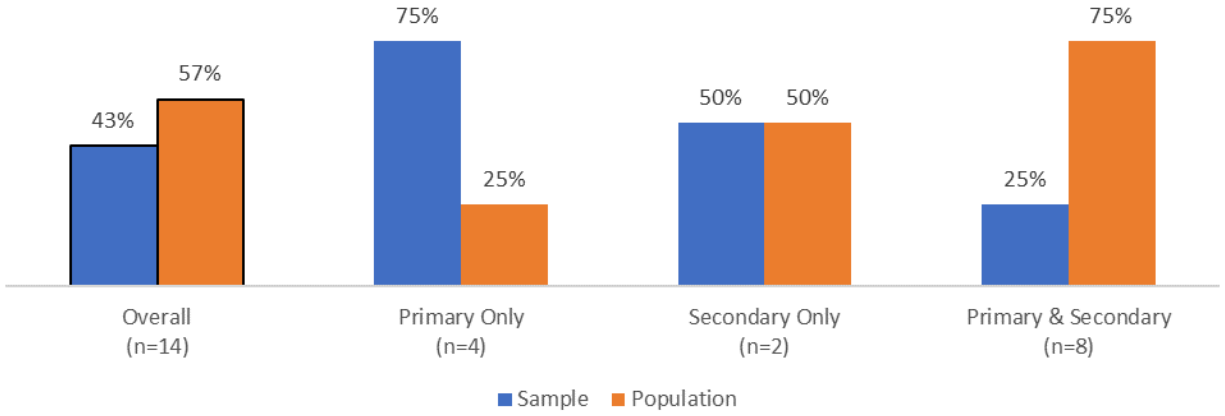
Level	Data system	Include data on refugee status	Disaggregation by nationality
Primary only	PIRLS	No	No
	NRC Safe and Inclusive Schools (SIS) Assessment	No	No
	UNRWA Sample-Level Data	Yes	Yes
	UNRWA Population-Level Data	Yes	Yes
Secondary only	PISA	No	No
	Tawjihi	Yes	Yes
Primary and secondary	TIMSS	Yes	No
	Directorate of Examination and Testing Key Performance Indicators	Yes	No
	Directorate of Examination and Testing (DET) National Test for Quality Control	Yes	Yes**
	Professional Development Program Exams (Promotion Exams)	NA	NA
	School and Directorate Development Department KPIs	No	No
	EMIS	Yes	Yes
	Supply Management System	No	No
	School Performance Indicators (EQAU)	Yes	No

***Results are disaggregated but not shared in the public reports; rather disaggregate analysis is only available upon request by the DCU or NGOs.*

A2. What are the proportions of population-level and sample-level data?

More than half of data systems (57%) are collected at a population level. This is especially true among data systems that are collected for "primary and secondary" levels, of which three-quarters are collected at a population level (Figure 2).

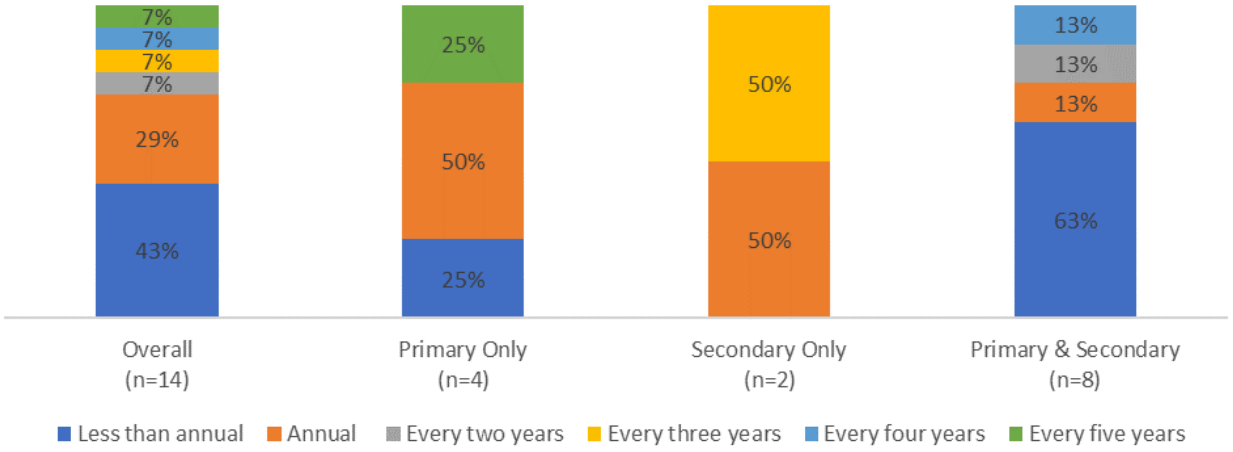
Figure 2. Percentage "sample vs population" data collection by education level



A3. How frequently is data collected?

Overall, educational data is collected frequently. More than two in five data systems are collected on a "less than annual" basis. This is especially true among data systems used to collect data for "primary and secondary" education levels; 63% of "primary and secondary" data systems are collected on a "less than annual" basis (Figure 3). In addition, data systems collected less frequently (in cycles of three years or more) are usually ILSAs, like PISA, PIRLS and TIMSS.

Figure 3: Data collection frequency by education level

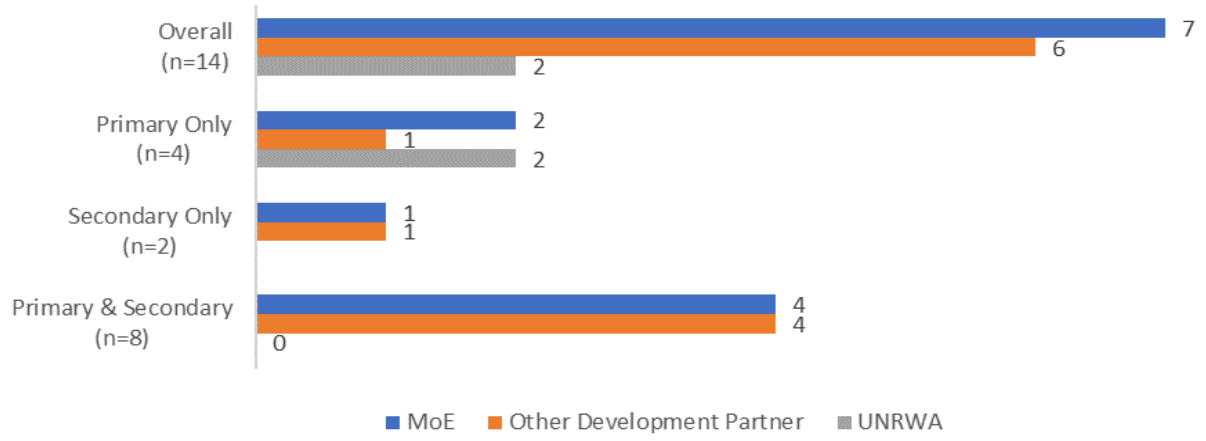


A4. Who pays for data collection and who collects data?

The Ministry of Education (MoE) and their international development partners (including UNRWA) are the primary funding source for data collection activities in Jordan. The MoE and development partners fund,

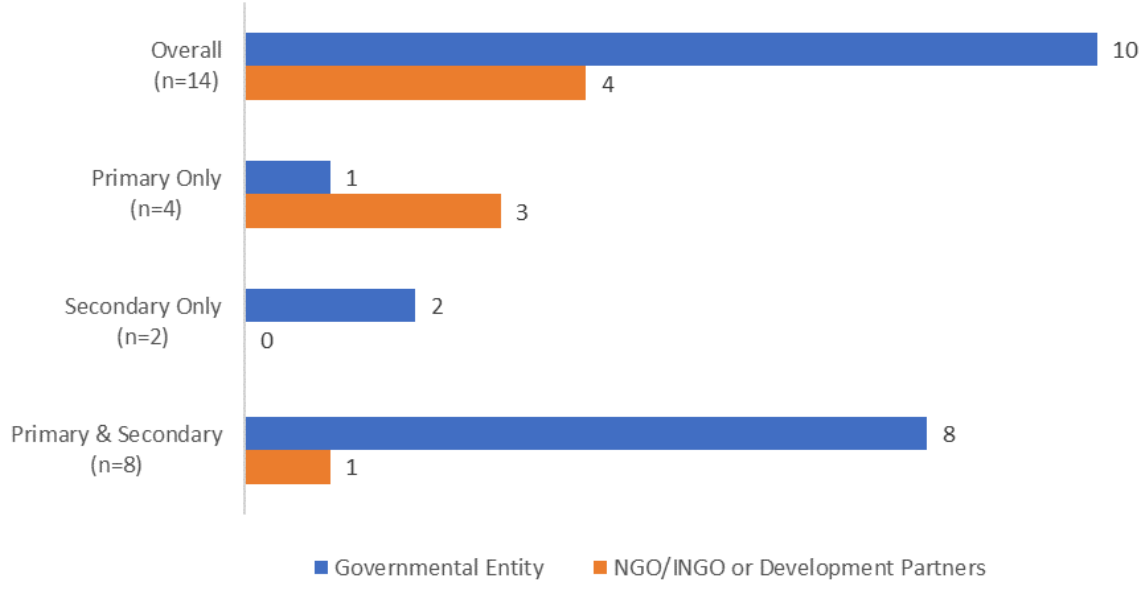
respectively, seven and six of the 14 data systems (Figure 4). It is worth noting that data collection activities funded by the MoE are more likely to be collected by the same entity, the MoE, as well.

Figure 4: Data collection fund source by education level (frequency)



Various data systems are collected by governmental entities, mainly the MoE; ten of the 14 data systems are collected by governmental entities (Figure 5). This could be attributable to the fact that many of the interviews are carried out by MoE stakeholders. Also, it is worth noting that data systems collected by the MoE are more likely to be on a population level, which could explain the higher percentage of population-level data. Numerous sample-level data are collected by NGOs/INGOs and development partners in Jordan, but the data systems review captures a snapshot of those.

Figure 5: Data collection entity by education level (frequency)



A5. What is the data used for?

The different data systems covered serve various purposes in the educational landscape, each contributing to the enhancement and assessment of educational programmes and outcomes at different levels. As reported by participants, these data systems play crucial roles in tracking achievements, evaluating policies

and programmes, identifying needs, and monitoring inputs, outcomes and variables of a quality education. Table 4 is a summary of some of the main uses of each data system according to interviewed stakeholders. However, please note, this table is not an exhaustive list as often data is used for multiple purposes and data systems can serve multiple purposes.

Table 4. Summary of the purposes for which various educational data systems are utilised

Purpose	Data system
Evaluate learning at the population level for benchmarking	• ILSAs (i.e., PIRLS, PISA, TIMSS)
Summative and/or formative assessment of student learning	• Tawjihi exams (General Secondary Education Certificate exam) • The National Test for Quality Control (Grades 4, 8, 10) • UNRWA Assessments for Learning Outcomes (Grades 4, 8)
Screening for eligibility	• PDP Teacher Rank Examinations System (Promotion Exam) • Tawjihi exams (needed for entrance to university, required by some jobs) • UNRWA Data Type A and Type B (assess student eligibility for services)
Assess and monitor the impact of programmes	• The NRC Safe and Inclusive Schools (SIS) Assessment • UNRWA Data Type A and Type B
Monitor school or system performance / policy compliance	• School Performance Indicators (monitor school performance) • School and Directorate Development Dept KPIs (school improvement) • DET KPIs (student outcomes for system performance)
Monitor data on student outcomes	• EMIS • UNRWA Data Type A and Type B • ILSAs
Assess and monitor the impact of programmes	• The NRC Safe and Inclusive Schools (SIS) Assessment • UNRWA Data Type A and Type B

A6. What data is available on the drivers of learning and student outcomes?

i) Access

Approximately 29% of the data systems collect data on access. Data systems that can be utilised to inform access in situations of conflict and protracted crisis include: UNRWA data (on sample and population level), EMIS and EQAU KPIs (Table 5). Notably, three-quarters of data systems used to collect data on access are collected on a population level.

Table 5. Access drivers by level of education and data system

Level of education	Data system	Access drivers and outcomes

Primary only	UNRWA sample-level data	# schools, # slots available, # qualified teachers, enrolment, attendance, number of schools, distance to schools, other (# of classrooms, scholarship availability)
	UNRWA population-level data	
Primary and secondary	EMIS	# qualified teachers, attendance
	EQAU KPIs	# schools, # qualified teachers, # slots available

ii) Quality

The majority of data systems collect data on quality. Data systems that can be utilised to inform quality in situations of conflict and protracted crisis include: NRC SIS Assessment, UNRWA data (sample and population level), DET KPIs, National Test for Quality Control, Teacher Rank Examination, School and Directorate Development Department KPIs, EMIS, Supply Management, and EQAU KPIs (Table 6).

Table 6. Quality drivers by level of education and data system

Level of education	Data system	Access drivers and outcomes
Primary only	NRC Safe and Inclusive Schools (SIS) Assessment	Teacher qualification, other (teacher capacity building), personnel trained in social-emotional learning, other (enhanced school environment)
	UNRWA Data Type A	Teacher-student ratio, teacher qualification, learning facilities, teacher supervision, textbook pupil ratio, class size, # textbooks in school
	UNRWA Data Type B	
Primary and secondary	Teacher Rank Examinations	Teacher qualification, teacher supervision
	School and Directorate Development Department KPIs	Teacher-student ratio, teacher qualification, learning facilities, teacher supervision, class size
	EMIS	Teacher-student ratio, teacher qualification, learning facilities, other (e.g., teacher attendance), mental health, physical health, other (disabilities)
	Supply Management	Learning facilities
	EQAU KPIs	Teacher qualification, learning facilities, teacher supervision, class size, # of textbooks in school, other (# of qualified teachers)

iii) Continuity

In total, 50% of the data systems collect information on continuity. Data systems that can be utilised to inform continuity in situations of conflict and protracted crisis include: ILSAs, UNRWA data (sample and population level), EMIS and EQAU KPIs (Table 7). More than 70% of data systems used to collect data on continuity are collected by governmental entities: MoE or NCHRD (Figure 4).

Table 7. Continuity drivers by level of education and data system

Level of education	Data system	Continuity drivers and outcomes
Primary only	PIRLS	Grade/class repeat
	UNRWA sample-level data	Drop-outs, grade/class repeat, transition to higher level, attendance, grade promotion, graduation
	UNRWA population-level data	
Secondary only	PISA	Grade/class repeat
Primary and secondary	TIMSS	Grade/class repeat
	EMIS	Grade/class repeat, attendance, grade promotion
	EQAU KPIs	Drop-outs, grade/class repeat, transition to higher level, attendance, grade promotion, graduation

iv) Student outcomes

Students' educational outcomes are assessed by both the MoE and international assessment bodies. Table 8 highlights the various data collected on these outcomes across primary and secondary schools in Jordan.

Table 8. Data systems measuring student outcomes

Level of education	Data system	Quality drivers and outcomes
Primary only	PIRLS	Other (student performance), literacy outcomes, social-emotional learning
Secondary only	PISA	Other (student performance), literacy, maths, academic (not maths or literacy) outcomes, social-emotional learning (creative thinking specific)
	Tawjihi	Literacy, maths, academic (not maths or literacy) outcomes
Primary and secondary	TIMSS	Student performance (maths and other academic outcomes), social-emotional learning

	DET KPIs	Literacy, maths, other academic subjects
	National Test for Quality Control	Literacy, maths
	School and Directorate Development Department KPIs	Other academic subjects (not maths or literacy)
	EMIS	Literacy, maths, other academic subjects, mental health, physical health, other (disabilities)
	EQAU KPIs	Student performance included

B. Research question 2: What are the challenges of data access and use?

Interviewees provided novel insights into a range of challenges relating to the access and use of data across different levels and sections of the education system. These challenges, uncovered through the data systems review interviews, are categorised into seven areas:

- capacity
- device shortage
- old data recovery
- technical
- financial
- planning
- working in silos

Capacity and device shortage were the top-reported challenges among stakeholders. The following are descriptions of these categories and excerpts of such reported challenges as described by interviewed stakeholders.

B1. Capacity

Data on access, quality and continuity is available in abundance. However, accurate data utilisation remains a bottleneck as many officials and whole departments lack the training and hence the capacity to utilise the data in meaningful ways. As a result, data utilisation is limited across the national, administrative and school levels. With ILSAs for example, one of the biggest challenges has always been the disconnect between learning assessment findings and policy change.

> *"Field teams need training on data collection, cleaning, analysis, reporting and utilisation. This challenge is more likely to be true among data collected on a population-level. Sample-level data collection is usually done by data collection vendors pre-assigned by the implementation team."* - Interviewee

> *"In addition, school and MoE staff require specialisation in advanced software, like EMIS. It is worth noting that the new EMIS policy addresses this challenge and has an additional guideline that includes training schools on EMIS data collection. The new EMIS policy will be deployed aiming to institutionalise and clarify roles and responsibilities, as well."* - Interviewee

B2. Device shortage

Device shortage refers to the lack of electronic resources through which more timely and accurate data can be collected and communicated.

> *"There's a shortage in devices among MoE staff and public schools. Lack of devices in [the] MoE leads to bottlenecks in data processing and compilation. Lack of devices in schools leads to bottlenecks in assessments that require devices, example: ILSAs and teacher rank examinations."* - Interviewee

B3. Old data recovery

Old data recovery refers to the challenge of utilising data collected in the past, which was often not thoroughly collected or securely stored. As one interviewee pointed out:

> *"Over the years, data was inaccurately collected in paper-format and stored in storage rooms, making data recovery a challenge. Not only were some documents lost, but data collected was incomplete as well."* - Interviewee

B4. Technical

Technical challenges refer to shortcomings in the data collection process that affect the reliability and validity of the data. For example, bias in responses is one type of technical challenge according to one interviewee:

> *"For data collection by surveys, respondents' responses tend to be biased at times. For example, interviews done with parents to better understand children's at-home environments result in unrealistic answers."* - Interviewee

While self-reported data via surveys is a common way by which data in the field is collected, the desire to report socially desirable answers, particularly for refugees and other vulnerable groups living in poverty, may be higher than those in more established communities. This may suggest more qualitative methods (e.g., focus groups) or even ethnographic methods may be needed to triangulate or expand upon survey data for more realistic results.

Another example of a technical challenge is attendance:

> *"For ILSAs, student attendance should reach a specific rate (usually 90%). This often leads to reschedules and call-offs of data collection teams."* - Interviewee

B5. Financial

Financial refers to the challenge of limited monetary resources within the MoE in general, meaning that funds allocated for data systems are not always sufficient. One interviewee highlighted this:

> *"Monetary amounts allocated for data collection are not always enough."* - Interviewee

B6. Planning

Planning is another challenge that refers to difficulty in effectively and efficiently delivering education provision when data can be inaccurate, outdated or not measure the necessary indicators. This was noted by one interviewee, who stated:

> *"Inaccuracy in forecasted data can result in other challenges. For example, the DET forecasts 100 test papers of a certain subject for a specific school, according to available data – only to be surprised during examination day that resources are underestimated, or overestimated."* - Interviewee

B7. Working in silos

Education stakeholders continue to work in silos, even on an internal level, according to interviewees. Despite the plethora of data available in the MoE, there is no single protocol or policy to ensure that all data resources are added in and utilised for evidence-based decision-making.

C. Research question 3: What types of data are necessary but unavailable to the education system?

This is a key research question with relevance for not only Jordan but any educational authority facing conflict or a protracted crisis in which the planning and delivery of education is a challenge. All interviewees were asked this question. Notably, insights were garnered from three interviewees while all others said that they did not feel there was any data that was needed but unavailable. Below are summaries of the responses from each of the interviewees who answered the question positively.

C1. Qualitative data on education quality and student outcomes

An UNRWA official who was interviewed felt that there was a wide spectrum of topics on which more data was needed. Although the UNRWA school system serves only registered Palestinian refugees, and hence are somewhat autonomous within Jordan's education system, the official felt that much more data should be collected in order to assess the quality of the education system, noting:

> *"More data on training, supervision, teacher performance, curriculum evaluation, real teacher competencies, parents' perceptions on schools, and students' proficiency in basic skills [is needed]. In addition, there's a need for qualitative data… Those are necessary to measure quality indicators, strategic planning and rapid reforms required by the educational levels… We intend to retrieve this data through school visits, regional reports, experts and coordinators, and by designing research tools that would reveal real practices and behaviours."* - Interviewee

According to the official, UNRWA's aim is to better understand practices and impacts of policies in the field and, contrary to many policy-makers' over-reliance on quantitative data, UNRWA intends to ensure sufficient qualitative data is also collected to shed light on quality issues.

C2. Data on teachers

Two interviewees from the MoE felt that additional data about the education system was needed. One of the MoE officials interviewed felt that there was a lack of data on teachers, stating:

> *"More data on teachers' academic backgrounds [is needed]. Are teachers good enough for their assigned subjects? … We intend to retrieve this data by checking availability of and reviewing resources and information in that area."* - Interviewee

More data on the supply and demand of teachers was also noted as necessary by the other MoE official.

C3. Data on students

The other MoE official from a separate department also insisted that more data collection was necessary at the school level. The second MoE official voiced the need to gather more data on students to build a better understanding of children's backgrounds, needs and abilities to better support them, stating:

> *"More data [is] required on: student disability, students' socio-economic and socio-emotional backgrounds… This data is considered necessary as it affects high-level decision-making and all should be evidence-based… Planning to obtain this data is already a work-in-progress. We are planning to do so through field team visits to schools."* - Interviewee

IV. DISCUSSION

This data systems review has brought together information on the various data systems that exist within the Jordanian educational system, including those operating and utilised for planning and delivery of education in refugee settings (i.e., camps and host community). The overall picture that emerges is one in which data and evidence are becoming more important and valued but one in which data systems are still not fully funded or utilised in planning and decision-making. Based on the outcomes of the review, education data systems in Jordan are primarily geared towards quantitative measurements and capture data on three of the four drivers of learning, namely access, quality and continuity across both levels of compulsory schooling. In total, the review identified 14 data systems which were classified into five main categories of international and national large-scale assessments, education management information systems, and other sample-level and population-level data.

A. The need for disaggregated data and analysis of outcomes for refugee students

While the government of Jordan as well as the international donor community has made significant efforts to provide refugee children in the country with access to an education, the findings of this study highlight the lack of critical data on refugee students, particularly their educational progress, needs and dropout rates. This may be because so much attention has focused on ensuring access for all students since the start of the influx of Syrian refugee students in 2011. Government efforts and donor funds have been concentrated in assessing the numbers of students and need for schools to accommodate the continually increasing numbers of refugees throughout the past decade. The construction of new schools and the creation of double-shift schools in northern and central Jordan have addressed this data and made access to schooling a reality for the majority of Syrian families (approximately 64% in 2022 according to UNHCR).[19] However, with the numbers of Syrian refugees now residing in Jordan levelling off, there is an urgent need for Jordan's government and international donors to assess how the quality of education can be improved as there is a general consensus that quality and certainly student outcomes have decreased due to the stress on schools' space and resources caused by the student influx. As noted in the introduction, the Covid-19 pandemic also contributed to this over-stretching of resources as many families had to transfer their students from the private sector to the public schools.

At the same time, when there is data collected on students that includes their nationality or socio-economic background, there is minimal attention given to disaggregation of data. This also means that educational goals and progress towards such goals are not set nor monitored for vulnerable groups such as refugees. Disaggregated data along nationality or socio-economic background is not publicly included in reports and

[19] UNHCR. (2022). Annual Results Report 2022 Jordan. https://reporting.unhcr.org/files/2023-06/MENA%20-%20Jordan.pdf

only made available to international donors and local NGOs on a case-by-case basis as requested. Thus, while multiple achievement tests and indicators are used to assess outcomes across all schools – both double-shift schools and those in camps – there is little national data or discussion about the outcomes of different groups (e.g., Jordanian nationals vs refugees, migratory children such as Bedouins, students with disabilities, etc.).

One notable exception to the prevailing trend in Jordan of neglecting to collect, disaggregate and analyse data on various demographic groups is gender. Educational outcomes for girls and boys in Jordan are closely monitored through national and international assessments and reveal a consistent pattern of underachievement of boys compared to girls. Attention to the gender-based achievement gap is heightened by the fact that the school system is gender-segregated after Grade 4 and by the fact that the labour market is heavily dominated by men. However, while the causes of this gender achievement gap have been linked to teacher quality, safety issues and students' family needs within boys' schools, there has been limited attention or donor funding given to collecting further data or developing evidence-based programmes tailored to and designed specifically for boosting achievement in boys' schools. In addition, the problem of boys' academic underachievement in Jordan may benefit from a disaggregated analysis on the level of nationality/refugee status, school shift (first shift, second shift, or regular school) and other indicators to provide a more nuanced picture of the problems and possible solutions within boys' schools. Thus, as the MoE's ESP 2018–2025 and 10-Year Inclusive Strategy are aligned to improve the quality education for all, the MoE needs to ensure that it has the data at the disaggregate level to understand the trends in student outcomes for different groups. This finding echoes the insights from UNHCR and others in the field:

> Even where there is the disaggregation of refugees in national data education data systems, our research finds this remains focused on access… Although most countries have some form of national learning assessment covering at least one level of education, it is rarely possible to disaggregate this data by protection status (or a suitable proxy) to enable a comparison of outcomes between refugees and host country students. In general, research indicates that inclusion in national educational data systems lags policy change, use of host country curricula or access to certification.[20]

Thus, while disaggregation based on refugee status is a data gap that appears to be common in conflict-affected contexts, the reasons for this omission may vary. In Jordan, the government and the MoE may avoid collecting, analysing and publicly sharing data on the student outcomes of different groups for political reasons. The topic of refugees and their access to public systems within host countries can be very sensitive politically. Hence, to avoid rifts in social cohesion within communities or the outward appearance of more public resources or attention going to one particular group, the authorities in Jordan may avoid highlighting trends or disparities of outcomes among refugees and others in Jordan.

B. Over-reliance on quantitative data with little contextualization

As noted in the findings, the predominant focus of these systems is on student-related data, followed by data pertaining to teachers and principals. This data, however, tends to be focused on the inputs into the education system rather than any measures of the relationships, processes or practices occurring in schools. Data is also somewhat detached from its context as qualitative data about schools' circumstances and history is not systematically collected and considered. As a result, data systems in Jordan are limited in the ways they measure education access, quality, and continuity as comprehensively defined by the ERICC Conceptual Framework. The lack of decentralisation and accountability for results within the system also hinder the quality and use of the data, particularly the quality indicators, as such data is not clearly connected either to tailored support or to consequences for the parties responsible. However, the need for

[20] UNHCR. (June, 2023). Counting what matters: examining refugee inclusion in national education data systems. https://www.unhcr.org/blogs/counting-what-matters-examining-refugee-inclusion-in-national-education-data-systems

greater decentralisation and greater accountability is a problem that the MoE is keenly aware of and intends to address in the future. In addition, the data systems are not well designed to address the particular needs of sub-groups such as refugees, students with disabilities and those particularly at risk of dropping out.

C. Ample data but limited use due to lack of sharing and coordination

Still, the most clearly identified gap in Jordan's data systems is the lack of coherence as the systems are not well integrated nor is there coordinated use of them among different levels of the education system. Within the ERICC Conceptual Framework, coherence refers to "the alignment and coherence in goals, processes, resource arrangements, and incentives for achieving access, quality, and continuity, within and across stakeholders and systems". Within Jordan's very centralised education system, information appears to flow mainly in only one direction, which is towards the centre where policy is made and meted out, with few feedback loops.

This prevents lower levels, including schools and regional field directorates, from taking more active approaches in collecting and utilising data for their own planning and decision-making. In addition, the structure promotes fragmentation among departments, leading them to often work in silos with little exchange of information and data. Instead, data collected and data management systems are sometimes treated as the property, or turf, of a particular department and access is not freely available. Again, this inhibits efficient coordination and collaboration around data utilisation and curtails accountability for collecting and maintaining high-quality data, although lack of funding, adequate resources, technical expertise and capacity also contribute to the problem of misalignments around data management and utilisation. There also seems to be limited data-sharing between MoE departments and other international donors and national NGOs that are conducting educational research. Although there are concerns and steps to be taken regarding safeguarding digital information, the MoE, DCU and other stakeholders may consider ways in which data could be safely shared for mutual benefit in planning, delivering and assessing educational provision and outcomes.

Overall, the findings of the review highlight the lack of refugee-specific data and analysis of trends, which governments need for effective educational planning in crisis-affected contexts. Jordan's government, with the help of international donors, has worked to develop protocols and comprehensive data systems since the onset of the Syrian refugee crisis. However, although their work has produced a volume of much-needed data, stakeholders highlight the need to improve the quality, use (particularly disaggregation), and sharing of the data to better inform decision-making at all levels of the education system. Others highlight the need for more qualitative data to better understand factors behind the insights from quantitative data. Both these challenges will also require greater capacity-building, including technical training and expertise.

APPENDIX A

The ERICC Data System survey was designed to gather insights on the following areas:

1. **Type of data:** What kind of data is collected – population or sample data, primary or secondary data, quantitative or qualitative data.
2. **Aspects of education:** This examines if the data is related to access, quality, continuity, coherence, or other aspects of education.
3. **Purpose of data collection:** The reasons for collecting the data – identifying needs, monitoring programmes, evaluating policies or programmes, etc.
4. **Data collection and source:** Who collects the data, who pays for the data collection, and who/what is the subject of data collection.
5. **Demographic data: I**f the data is collected on teachers, students, parents, communities, or school infrastructure; what demographic information is gathered.
6. **Location of data collection:** Where the data is collected – schools, communities, government offices, etc.
7. **Main indicators: T**he specific indicators being measured for access, quality and continuity.
8. **Data usage and access:** How the collected data is used and who has access to it.
9. **Data storage:** The format and storage methods for the data – hard copy, electronic, online.
10. **Data-sharing:** With whom the data is shared and under what conditions.
11. **Description of data system:** Detailed descriptions of the data collection instruments, data entry and processing, and storage methods.
12. **Challenges and recommendations:** Challenges faced in the data movement process and recommendations for improvement.

ABOUT ERICC

The Education Research in Conflict and Protracted Crisis (ERICC) Research Programme Consortium is a global research and learning partnership that strives to transform education policy and practice in conflict and protracted crisis around the world — ultimately to help improve holistic outcomes for children — through building a global hub for a rigorous, context-relevant and actionable evidence base.

ERICC seeks to identify the most effective approaches for improving access, quality, and continuity of education to support sustainable and coherent education systems and holistic learning and development of children in conflict and crisis. ERICC aims to bridge research, practice, and policy with accessible and actionable knowledge — at local, national, regional and global levels — through co-construction of research and collaborative partnerships.

ERICC is led by the International Rescue Committee (IRC) with Academic Lead IOE, UCL's Faculty of Education and Society, and expert partners include Centre for Lebanese Studies, Common Heritage Foundation, Forcier Consulting, ODI, Osman Consulting, Oxford Policy Management and Queen Rania Foundation. During ERICC's inception period, NYU-TIES provided research leadership, developed the original ERICC Conceptual Framework and contributed to early research agenda development. ERICC is supported by UK Aid.

Countries in focus include Bangladesh (Cox's Bazar), Jordan, Lebanon, Myanmar, Nigeria, South Sudan and Syria.

ERICC
EDUCATION RESEARCH IN CONFLICT AND PROTRACTED CRISIS

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