

Diagnostic Toolkit for High-Impact Early Childhood Education Data Generation and Use

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Together for Early Childhood Evidence: Consortium for Pre-Primary Data and Measurement in Africa
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Step 1: Define the purpose and users of data

As a first step of a country diagnostic, the purposes of early childhood data should be defined. Country data teams should consider the questions they want to answer with ECE data, the goals of data, and how these goals can be achieved. CPDMA taskforce countries began this process by bringing together a diverse country team that represented various stakeholders including representatives from ministries of education, universities, NGOs, multilaterals, and other partners. By having representation from various entities, differing priorities, approaches, and ideas about data could be shared and discussed. At this step, many questions should be raised without concern for prioritizing or narrowing down in focus. The purpose of this step is to consider all the various ways that data may be used to inform ECE systems, regardless of whether those data currently exist for a country.

Data, gathered as part of measurement, research, or program evaluation, help address many types of questions. Below, in Figure A-1, we outline some examples of questions that country teams generated as part of CPDMA and that other countries may consider. The questions are organized into broad categories that reflect a variety of data priorities.

Figure A-I. Examples of questions to be answered with ECE data

Quality	Child Outcomes	Workforce	Access/Inclusion	ECE System
<ul style="list-style-type: none"> ○How has ECE improved since the introduction of X policy? ○How to measure success/quality of program? How to define “acceptable quality”? ○How effective is the curriculum? ○Which pre-primary classrooms (compare modalities) meet minimum standards? ○Which parts of quality are most important for child learning? ○Which teaching resources are available (for school-based, community-based, home-based centers)? ○How do studies conducted on ECE programs inform programming and policy formulation and identify appropriate approach ? 	<ul style="list-style-type: none"> ○Are learning outcomes of those who completed pre-primary better than those without or with home-based ECD or parenting education alone? ○How do we know that children are ready for school? ○How do student-teacher interactions contribute to students’ productivity/ learning? ○How do levels of school readiness compare e.g., private vs. public schools; rural vs. urban settings? 	<ul style="list-style-type: none"> ○Do teachers have the necessary knowledge and skills to support children’s school readiness? ○How effective is initial teacher training and continuous professional development? ○What is the availability of trained ECE teachers and caregivers by qualifications and experiences? ○Are higher education institutions offering relevant training to provide quality ECE? ○How many providers have received training? ○How many ECE practitioners have the minimum qualifications? 	<ul style="list-style-type: none"> ○Are there adequate facilities to meet the demand for ECE services? ○Do teachers have specialized training to cater to children with special needs? ○To what extent is children’s attendance in ECE programs regularly observed and checked? ○What are the reasons for increase/decrease of enrollment? ○How many learners of each age group are participating in ECE programs? 	<ul style="list-style-type: none"> ○How to improve coordination of interventions in pre-primary? ○How to improve parenting? What is the value of parental contribution? ○How to increase school leadership support for pre-primary? ○What are the challenges and the assets that differ depending on rural vs. urban context? ○Is there collaboration between schools and communities/ parents? ○Are parents engaged in parental education/are parents aware of their children’s progress in early learning? ○What are the funding gaps in running ECE programs in the country?

Source: Consortium on Pre-primary Data and Measurement in Africa

STEP 1 QUESTIONS FOR CONSIDERATION

- 1. Make a list of the questions you want to answer with ECE data. This can be a long list at first that gets narrowed down over time. Make sure to include questions that various stakeholders in the system might have.** Refer to Figure 3 in the Technical Guide for examples of stakeholders and the types of data they require. You may also want to refer to national policy statements outlining goals for ECE programs or pre-primary education.

Question	Who is asking?
<i>Ex. Which ECE programs are of acceptable quality? What are some challenges/assets between urban and rural contexts? To what extent are teaching resources available for the different modalities (school-based, community based and home-based)?</i>	<i>Parents, inspectors, policymakers, implementing partners, donors, etc.</i>

- 2. Write a brief goal and purpose statement for ECE data in your country. This will guide your work as a member of the consortium and also the project you pursue. Discuss with the other taskforce members from your country and decide on a collective statement.** If a similar statement already exists in national policy documents, please write that here.

PERSONAL GOAL
<p>Examples:</p> <p><i>Ex 1. To ensure improved quality and equitable access to ECE by all the intended beneficiaries in a coordinated and sustainable manner.</i></p> <p><i>Ex 2. To generate current and reliable data that will inform evidence-based policy, planning and implementation of programs in the ECE sub-sector.</i></p>
<p>My goal and purpose statement for ECE data:</p>

COLLECTIVE GOAL

Examples:

Ex 1. The data will be used by the government and ECE stakeholders in the planning and resource allocation to increase equitable access and quality pre-primary education

Ex 2. The data will be used to plan and focus resources to the highest-need target groups for optimal results in terms of increasing access, improving quality, and enhancing equity.

Our country team's goal and purpose statement for ECE data:

STEP 2: Define what data exist

In this step, teams are encouraged to conduct a data map to understand which data are collected, by whom, how these data are shared and used, and how this information currently informs decisions. This step also begins to pull in information about existing monitoring systems as one key area where data may be leveraged to support ECE systems improvements. CPDMA teams worked on this step by pulling together all of their own available data, conducting online reviews of data collected by others and reaching out to partners to request information about their data collection, reports, and other details about data use. By doing so, the teams found many additional sources of data that were not publicly distributed or easily accessible online but were very useful in understanding the current ECE landscape in their country. Doing this also provided opportunities for conversations around very recent data collection efforts and planned work. This task also helps to further build collaboration within countries as groups begin to work together to leverage multiple sources of information, often collected in silos, to inform efficient ways to use the data and move forward.

Table I in the technical guide outlines the various types of data, how they are collected, and how they might be used within an ECE system. For example, data on ECE quality may be collected from a subset of classrooms each year by government inspectors to provide accountability. These data may also be given to programs to provide feedback and guidance around compliance or program improvement. Besides quality and learning data, other types of data in ECE systems may include information on enrollment and access, dosage (e.g., time children spend in ECE settings), teacher background and qualifications, and education inputs (e.g., number of teachers, school expenditures, etc.) to provide an overview of the ECE system.

In this step, as teams document which data currently exist, they could consider existing policies, standards, and other resources as the foundation on which to build or expand an ECE data system. These include ECE policies, quality standards, child development standards, licensing or regulatory standards for public or private ECE programs, information management systems, current reporting requirements, monitoring systems, teacher preparation and professional development institutes, and multi-sectoral partners. Also consider recent research or data collected by others for program impact studies, household surveys, or other efforts

undertaken by country partners. While the goal may be to have ongoing data collection of quality and/or learning outcomes for children, these one-time data sources can be used to help inform what ongoing monitoring or potential scaling of these efforts may be most effective and informative.

In many countries, multiple sources of data may be available, but there may be few opportunities for stakeholders to look across findings to create a comprehensive view of quality of settings and child development. Collaboration among the multiple sources of data, with the potential to link different types of data for the same child together, can provide a more complete picture of the child's learning and development within an early childhood setting and home environment. CPDMA teams often found that there were many sources of data that other partners would benefit from accessing to inform their own work. Data sharing and dissemination do not always occur or are delayed. By documenting data sources and access, oftentimes the data and/or tools needed to answer questions (such as those generated in Step 1) already exist or partially exist, and then the work becomes accessing and using those data rather than trying to build a new data collection system or collecting additional data. This step is important in making the most out of available data to inform ECE systems, which is necessary to complete Step 3, identifying data gaps and needs and further exploring how existing data can be better or additionally utilized.

CPDMA country teams found that this step was an ongoing process and, even as they moved through subsequent steps, they maintained and added to a repository of available data, reports, presentations, and organizations collecting ECE data. This process was helpful for the teams and it also can become a resource for other country partners who wish to review ECE data for the country. Sometimes there are summaries of these research reports, and one CPDMA country (as part of a proposed project) identified summarizing available research as an important outcome and useful resource for the future.

STEP 2 QUESTIONS FOR CONSIDERATION

- 1. Conduct a data map. Who has collected data relevant to early childhood in your country? What type of pre-primary data on quality or learning exist in your country? Please include any type of data (data from governments, external organizations, monitoring, program evaluations or other studies, etc.)**

Type of data	Who collected the data? (agency/org)	Who has analyzed/synthesized the data?	Who has not analyzed/synthesized the data but might be interested?	How have these data been disseminated/shared?
<i>Ex. ECD Audit</i>	<i>Department of Social Development</i>	<i>Department of Social Development; Department of Basic Education; Innovation Edge; universities</i>		<i>As a report; in research reports</i>

- 2. Summarize the key resources in place that are part of your ECE system. Map how these systems align and work together to provide a framework for ECE programs.**

Ex 1. Key resources available are ECE curriculum, professional development framework and guidelines for opening an ECE school. There is also a policy of child protection.

- 3. Who has conducted ECE studies, and what might they be able to offer when moving to data-driven ECE systems?**

Ex 1. World Bank

- 4. Conduct a “users” map: Who has access to the ECD data? (See Figure 3 in technical guide)**

Data user (e.g., parents, teachers, school admin, district ed officers, policymakers)	How do they access data?	How are they using data to make decisions?

<i>Ex 1. Policymakers</i>	<i>Meetings, database, and Internet</i>	<i>Data are really used to plan teacher professional development</i>
<i>Ex 2. Teachers</i>	<i>Limited access through Internet</i>	<i>N/A</i>

5. Are there any groups that do not have access to the data?

6. Where is there highest leverage for change in behavior due to ECE data?

7. Describe the current monitoring system procedures. Do monitoring tools exist? Who collects this information and how is it used?

STEP 3: Identify gaps and resources needed

After understanding what currently exists in a data system, teams can identify either (a) what data are missing to answer questions and/or (b) how existing data can be better utilized. Teams should consider how data can be used for impact in the system. Are there data feedback loops where data are reported to programs, teachers, parents, or policymakers in an understandable, actionable way? How can data be used to inform improvements in ECE quality, learning, and equity?

As discussed above, data can be useful at multiple levels of the system. Before identifying what types of data are needed, it is important to clarify who will/could use the data, and for what purpose. Before defining how and where new or existing data can be useful, it is important to clarify which entities have responsibility for collecting and analyzing data on early childhood education. By completing the previous steps, teams will be well-informed when considering what type of data may help inform decisions and be relevant and valuable to entities

working within the ECE systems. Completing those steps also makes these discussions more focused and avoids making recommendations that would duplicate existing or planned efforts.

It should be noted that, even if stakeholders have access to data, it doesn't necessarily mean they are *using* the data for change. Discussions about identifying gaps and resources may include areas of focus for capacity-building, particularly around data analysis, dissemination, and use.

CPDMA teams used their knowledge of existing data and how it was being used, along with their ECE data questions, to begin to think about areas of focus and need. These discussions were very broad and far-reaching in terms of scope and time but then narrowed down to what could be done more easily, through sharing data or making revisions to specific processes, coupled with upcoming country activities (such as a systems audit or household survey) that could have the most impact in a relatively short time. This led to the next step, which is to identify potential projects or actions.

STEP 3 QUESTIONS FOR CONSIDERATION

I. Mapping existing data to your identified purposes

Use this table to map the key questions identified in Step I to the types of data currently being collected.

Key question (Step I)	Types of existing data (Step II)	Do the current data completely answer the question? If not, what else is needed?

2. Are data aligned with curriculum and instruction?

3. Data system design

Is there a system designed for the collection and management of pre-primary data?

Yes In Progress No

If you responded **yes** or **in progress**, please answer the following questions to provide more detail about the data planning and management:

- Is there a diagram to help explain the data system visually?
- Who is responsible for managing the system?
- Does the system include unique identifiers for children and organizations or an established matching process to ensure accurate information?
- How does the system ensure privacy and confidentiality?
- Does the system adequately meet the need to access data for decision-making?

4. Financial resources for data

Is there funding available or earmarked for pre-primary data collection, management, and monitoring activities?

Yes In Progress No

If you responded **yes** or **in progress**, please answer the following questions to provide more detail about the data planning and management:

- What funding is available?
- What is the process and who can access the funding?

5. Stakeholder engagement for pre-primary data

Is there engagement across different sectors and/or with different stakeholder for pre-primary data activities?

Yes In Progress No

If you responded **yes** or **in progress**, please answer the following questions to provide more detail about the stakeholder engagement:

- Who are key stakeholders working in relevant areas and what is their role in pre-primary data and measurement activities?
- Is there a multisectoral group or early childhood taskforce that meet regularly to discuss activities that include pre-primary data?
- *Reflection question: Which stakeholders should participate in the taskforce activities and how should they be included? How will the taskforce communicate the work to the relevant stakeholders?*

6. Data governance

Is there a formal documented preprimary data policy or is the collection of pre-primary data included in a broader pre-primary policy? **Yes** **In Progress** **No**

If you responded **yes** or **in progress**, please answer the following questions to provide more detail about the data governance policy:

- What is the policy?
- Does the policy describe who has authority over the data, i.e. a leadership structure?
- Is there a data governance manual that defines how data is used, who can access data, definitions of terminology to create a common language, and the roles and responsibilities of different stakeholders?

STEP 4: Plan for high-impact data: Prioritizing gaps to fill

As a final step, teams are encouraged to reflect on their data mapping and priorities for data and measurement to develop a plan for high-impact data. Potential new projects should match policy expectations and other possible uses of data. Teams should strategically consider open policy windows, including top ministerial interests, ongoing research projects, and other places where momentum may propel efforts forward. In many cases, building on existing data, rather than collecting new data, may be the best option. Figure A-2 presents some sample country projects that build on existing early childhood data.

Upon reaching Step 4 of this diagnostic toolkit, country teams should have a good grasp of the “Foundation” step in the ECE Data for Impact framework. As teams move forward, they should also consider the remaining pieces of the framework, including defining data feedback loops, addressing the mechanics of measurement, and application to policy and practice.

Figure A-2. Sample projects for data teams

<p>With population-level data (eg MICS, DHS)</p>	<ul style="list-style-type: none"> • Create data dashboard w/ high-level messages from population survey, along with more country specific indicators. • Identify new modules that could/should be added to the next administration of the survey. • Explore secondary data analyses to uncover more information on key areas/topics. • Conduct workshop w/ policymakers to synthesize: what data tell us about where we are and where we want to go?
<p>With Ministry of Education data...</p>	<ul style="list-style-type: none"> • Identify top themes on school functioning/quality or child development and prepare dissemination information and/or workshops for teachers. • Work with citizen-led assessments or other groups to integrate ECE data into existing surveys of education. • Create pilot program to share data directly with teachers as part of improvement. • Conduct focus groups to hear directly from teachers, school administrators, others on what data would be most useful to them over time, or other issues of data use or definitions of quality. • Make results accessible to laypeople- create briefs/hand-outs for ECE stakeholders summarizing complex national reports- explain how findings can be applied to classroom- level. • Design a national quality rating and improvement system.
<p>With program-level or research data..</p>	<ul style="list-style-type: none"> • Translate research tools into monitoring tools. • Develop a simple way to share data on quality and aggregated child outcomes for the ECE programs in a city/town/village to inform choice (e.g. posting ratings physically on the buildings, in the newspaper, via SMS, etc.) • Interpret and disseminate previous research. • Design interventions for professional development.

Annex. Helpful Resources

[Association for the Development of Education in Africa Inter-Country-Quality Node for Early Childhood Development \(ADEA ICQN-ECD\)](#)

The ICQN-ECD, hosted by the Ministry of Education in Mauritius, is an intergovernmental organization for policy dialogue and collaborative action among African Ministers of Education and strategic partners advancing the ECD agenda in Africa.

[Bernard vanLeer Foundation “Get Ready for Data!” toolkit](#)

Toolkit produced by the Bernard vanLeer Foundation the Open Data Institute to help stakeholders make practical decisions with early childhood data. Tool provides guidance on important considerations for planning a data-informed project or policy, including strategy, data collection and use, and ethics and engagement.

[Consortium on Pre-primary Data and Measurement \(CPDMA\)](#)

CPDMA is an initiative supported by USAID that builds on global investments in early childhood education by convening a network of government officials, researchers and other stakeholders interested in pre-primary data and measurement. The emphasis is on exploring how we can use data to help improve children’s learning in the years before they enter formal schooling. CPDMA is working in partnership with existing networks in the region, including ADEA and the Africa Early Childhood Network (AfECN) to determine the best ways to build upon existing efforts.

[ECD Measure](#)

ECD Measure provides the tools, resources and community that empower governments, non-profit organizations and researchers to build feasible, efficient and reliable early childhood development measurement systems. The ECD Measure group is comprised of professionals with a broad range of expertise working in multi-lateral organizations, research institutions, and philanthropy. In addition to facilitating CPDMA, ECD Measure works on various US-based and international early childhood research initiatives. The ECD Measure website hosts the MELQO portal as well as a blog and resources on early childhood measurement and data.

[UNESCO Global Alliance to Monitor Learning \(GAML\)](#)

GAML is an alliance of global stakeholders designed to improve learning outcomes by supporting national strategies for learning assessment and measuring progress towards education targets within the SDGs. It is hosted by the UNESCO Institute for Statistics.

[Toolkit for Measuring Early Childhood Development in Low- and Middle-Income Countries](#)

The World Bank’s toolkit provides practical guidance on child development measures for use in low- and middle-income countries. The tool walks users through the process for selecting, adapting, implementing, and analyzing early childhood tools and data.