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International Institute for
Educational Planning

Guidance Note

Institutionalizing Education in Emergencies Data Production and Use for Crisis-sensitive Educational Planning



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Abbreviations

CSP	crisis-sensitive educational planning
ECW	Education Cannot Wait
EiE	Education in Emergencies
EMIS	education management information systems
IDP	internally displaced person
INEE	Inter-Agency Network for Education in Emergencies
MoE	ministry of education
INGO	(international) non-governmental organization
SDGs	Sustainable Development Goals
ToR	terms of reference
WASH	water, sanitation, and hygiene

Overview

Why this Guidance Note?

Quality, timely, purpose-driven education in emergencies (EiE) data can enable more effective response to education needs in crisis settings and strengthen system resilience. However, a growing body of evidence points to a number of problems related to the production, sharing, and use of EiE data within education information management systems (EMIS). These problems include data fragmentation, the creation of parallel systems, lack of readily available, reliable national data, weak coordination, inadequate capacity, differences in use of definitions, indicators, and reference populations, limited data sharing, and lack of coherence across humanitarian and development actors (see INEE et al., 2019; NORRAG, 2019; UNESCO, 2021; Buckner, Shephard, and Smiley, 2022).

As governments and humanitarian and development partners seek to better coordinate their efforts around data and to work in harmonized ways to reduce risk and build system resilience, an emphasis on institutionalizing the use and production of EiE data within EMIS – as part of ministry of education (MoE) leadership and engagement in crisis-sensitive planning and management – is key. Education systems that produce and are informed by purpose-driven, crisis-sensitive data will be better equipped to ensure equitable, safe, and inclusive quality education for all.

Improving EiE data and unlocking their contributions to resilience require technical focus, for example on the standardization of indicators and definitions, and the creation or adjustment of data collection tools or processes to improve data quality and analysis. The success and sustainability of these efforts will depend, however, upon the degree to which EiE data production, sharing, and use become institutionalized within education systems.

The complex and dynamic process of EiE data institutionalization has both structural and cultural or behavioural dimensions. It requires policies, structures, and resources, as well as behaviour change, leadership, values, and organizational culture that drive demand for EiE data within the education system on the one hand and improve production, or supply, on the other. The ultimate goal of this process is to move from ad hoc or one-off ways of working and innovating that rely solely on the initiative and goodwill of individuals towards a deliberate, shared, and committed course of action that eventually becomes part of routine planning and management of the education system.

This Guidance Note aims to support efforts in that direction, drawing on good practices and consolidating existing resources in a range of institutional, organizational, and individual elements to be considered when working to embed and improve production and use of EiE data for system resilience. It emphasizes reinforcing rather than replacing national and local systems, enabling MoE leadership and engagement, and improving coherence across government and humanitarian and development actors. It is intended to strengthen institutional awareness of and commitment to quality and timely EiE data within MoEs and across levels of the educational administration, while supporting the adoption of good data practices through improved coordination, communication, and collaboration.

What are ‘EiE data’?

To be consistent with established definitions of EiE and existing research on data in contexts affected by emergencies and protracted crises, the conceptual framework uses the term ‘EiE data’ throughout to refer to educational data and information on learners, teachers, and other education personnel, education facilities, and education systems that help to prevent and prepare for, respond to, and recover from an emergency or a protracted crisis. ‘EiE data’ therefore cover aspects related to access, quality, equity, and safety of learning opportunities for affected populations including, for example, participation and progression in education and training, learning achievements, infrastructure and equipment, teachers’ characteristics, learners’ and teachers’ well-being, and any other special consideration or need stemming from (potential) effects of the crisis. These data should help to identify and address risks as well as consequences.

User research conducted for this project showed that many practitioners describe their data as ‘education in emergencies and protracted crises data’, to emphasize that many crises are prolonged and complex. The research also showed that ‘crisis-and risk-related data’ as a framing may be more readily understood or seen to be relevant to the work of certain categories of actor, such as MoEs or development actors. These terms can essentially be understood as interchangeable when a comprehensive approach is taken to the data needed to prevent and prepare for, respond to, and recover from crisis, as put forward by the companion publication *Conceptual Framework on EiE Data* (IIEP-UNESCO, 2023a).

Like traditional educational data, EiE data are of better quality when timely, based on sound and established standards and methodologies, and disaggregated by age, gender, geography, socio-economic status, disability, and any other relevant dimensions of the affected populations, such as displacement status.

If there is a single standout difference between EiE data and traditional educational data, it is that EiE data are often generated and managed by multiple government and non-government actors, including humanitarian organizations who may be at the forefront of response and recovery efforts in an emergency setting. This multiplicity of actors requires the alignment and coordination of data production to facilitate their integration and coherence. Another key difference is that in crisis settings there is an increased need for information about protection concerns specific to or exacerbated by crisis, and about the psychosocial needs of learners and education personnel exposed to crises.

Who should use it?

This Guidance Note aims to support the work of MoEs and humanitarian and development actors at national and sub-national levels to institutionalize EiE data within education systems as part of broader system strengthening and resilience. Its target users include staff of education and other relevant line ministries, national civil society organizations, (international) non-governmental organizations (INGOs), UN agencies, research institutions, and donors.

While its primary audience is EiE data users and producers at country level, it can also be useful to regional and global actors from both the public and private sectors for purposes of informing and shaping advocacy and research, as well institutional policies, strategies, and operational support. Similarly, it may be of strategic interest to donors, with implications for optimizing and sustaining investments in data production and use, and for enabling more coherent ways of working across the humanitarian–development–peace nexus, or ‘triple nexus’.

The Guidance Note can be used in contexts affected by crisis, whether acute or protracted, and whether recurring or isolated. It can also be used in countries that may not be actively

experiencing crises or their impacts but seek to improve management capacity as part of overall efforts to build system preparedness and resilience. It applies across the full range from situations that national authorities can manage on their own to those requiring significant humanitarian assistance.

How was it developed?

The Guidance Note builds upon evidence and conclusions generated during implementation of the UNESCO project on ‘Strengthening institutional information systems for EiE and resilience’, undertaken with support from Education Cannot Wait (ECW), NORCAP, and the Swedish International Development Cooperation Agency (SIDA). The organizational framework for the project, outlining the pillars around which evidence and conclusions are organized, can be found in [Appendix 1](#).

The guidance is also informed by the work of the International Institute for Educational Planning (IIEP-UNESCO) on EiE data in Burkina Faso, as well as its long-standing experience in crisis-sensitive planning and programming activities in several countries involving a considerable focus on institutionalization of crisis and risk management. Lastly, it draws from available literature on EiE data, coordination, coherence, and MoE leadership and engagement, as well as processes of institutionalization, more broadly.

What is in this Guidance Note and how can it be used?

This Guidance Note provides concrete guidance for data managers, decision-makers, and partners seeking to institutionalize EiE data production and use for crisis-sensitive educational planning and management. It is organized in two parts: the first sets out a framing model of institutionalized EiE data, while the second drills down into different components of the model, providing a series of reflections and resources for strengthening institutional awareness, capacity, and commitment to production and use of quality and timely EiE data.

The Guidance Note forms part of a suite of three global public goods, which also include a ‘Conceptual Framework for EiE data’ and a set of ‘Guidelines and Tools for diagnosing the EiE data ecosystem’. The Conceptual Framework builds shared understanding of what EiE data are and why they matter for building system resilience and ensuring inclusive, quality education for all. The Guidelines and Toolkit outline practical steps and provide tools for the identification of EiE data needs, the mapping and quality assessment of existing data sources, and the identification of opportunities to address data gaps and support system strengthening.

This Guidance Note can be used independently. However, it builds on the comprehensive vision for EiE data put forward by the Conceptual Framework, which includes information needed to support prevention and preparedness as well as response and recovery, and is complemented by the challenges and good practices captured in practice-based evidence. It can also serve as a companion to the Guidelines and Tools for diagnosing the EiE data ecosystem to support the development and implementation of a roadmap or strategy for strengthening the production, sharing, and use of EiE data in education information systems and across the EiE data ecosystem. More generally, it can help to identify entry points for governments and partners to enhance and sustain MoE capacities for producing and using EiE data, to take a step back and reflect on ways of working, and to chart a course for improving collective practice in support of harmonized, systemic, and sustainable prevention and preparedness, response, and recovery.

The Guidance Note is focused on system strengthening and, more specifically, on reinforcing the capacities of the educational administration at different levels to produce and use EiE data for crisis-sensitive planning and management. Since governments are duty bearers for education, the Guidance Note considers institutionalization to be a process that should be government-led and nationally owned, focusing on the MoE’s active role in the production and utilization of fit-for-purpose data for prevention, preparedness, response, and recovery. Because of this emphasis, and given that institutionalization is both an outcome and a multi-

layered, non-linear process, the recommendations included here have a medium- to long-term perspective.

The scale or duration of an emergency, for example, or the political nature of a crisis, may necessitate humanitarian intervention or influence the degree of MoE engagement and leadership and the quality, availability, or reliability of national data. In these cases, the data landscape may be more complex, with more players who are likely to be involved in the production and use of EiE data at a given moment and who rely more extensively on data produced by humanitarian, development, or other actors. The ultimate aim, however, is for education systems to use and produce EiE data for risk reduction and resilience; the role of the MoE in this is the focus of this guidance. While the Guidance Note touches on a number of considerations relating to EiE data challenges more broadly, it does so by seeking to enable national and sub-national MoE leadership and engagement in the production and use of such data.

This Guidance Note recognizes the diversity of contexts and risk landscapes in which EiE data may be produced and used, and the need for solutions that are localized and context-specific. It is not one-size-fits-all. It is not designed to be prescriptive or normative; it does not suggest a hierarchy or prioritization, nor does it call for working across all domains at once. What contributes to institutionalizing purpose-driven data production and use in one context may not work as well in another, and decisions about what to prioritize are necessarily dependent upon contextual factors that influence their feasibility and success.

By distilling some key ideas and sharing resources, the Guidance Note aims to increase institutional awareness and commitment among MoEs as well as partners, and to trigger and inform reflection and action planning around EiE data that ultimately support coherent and sustainable production and use.

Frameworks relevant to this publication

This Guidance Note emphasizes the importance of national frameworks, including sector policies and plans, in relationship to institutionalization. Its focus on the production and use of EiE data by national and local education authorities for crisis-sensitive planning is aligned with –and essential for implementing– a range of global frameworks, commitments, and standards that guide collective action towards equitable, inclusive quality education for all learners. These include the Sustainable Development Goals (SDGs), the Grand Bargain commitments, and the Global Compacts for Refugees and for Migration, as well as a number of education-specific frameworks and standards, including the Comprehensive School Safety Framework, the Inter-Agency Network for Education in Emergencies (INEE) Minimum Standards, and the Safe Schools Declaration.

Key terms used in this Guidance Note

Crisis-sensitive educational planning (CSP): CSP involves identifying and analysing the risks to education posed by conflict and natural hazards. This means understanding both how these risks impact education systems and how education systems can reduce their impact and occurrence. The aim is to lessen the negative impact of crises on education service delivery while at the same time fostering the development of education policies and programmes that will help prevent future crises arising in the first place (IIEP-UNESCO, 2021).

Data ecosystem: A data ecosystem can be defined as a system in which several actors interact to exchange, produce, and utilize data (UNSD, 2019).

Data production: Data production here refers to all activities involved in the identification of needs, collection, processing, analysis, and maintenance of data.

Data sharing: Data sharing refers to all activities involved in disseminating data and information, and making it available for use by other entities and applications, while ensuring appropriate protection and privacy.

Data value chain: The data value chain describes the process of data creation and use, from the identification of a need for data to their final use and possible reuse (Open Data Watch, 2019, which includes a visual representation of this concept).

Education information systems: The broad systems within MoEs for ‘the collection, integration, processing, maintenance and dissemination of data and information to support decision-making, policy analysis and formulation, planning, monitoring and management at all levels of an education system. [They are systems] of people, technology, models, methods, processes, procedures, rules and regulations that function together to provide education leaders, decision-makers and managers at all levels with a comprehensive, integrated set of relevant, reliable, unambiguous and timely data and information to support them in completion of their responsibilities’ (UNESCO, 2008: 101).

Humanitarian–development coherence: This term is used to refer to the ‘efforts of different actors to collaboratively analyse contexts, define collective outcomes, and identify ways to work better together, based on their comparative advantages, principles, and mandates’ (OCHA, 2021) and describes ‘the achievement of linkages between the different types of assistance to deliver more cost-effective, sustainable results’ (Nicolai et al., 2019: 3).

Resilience: ‘The ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management’ (UNDRR, n.d.).

Humanitarian–Development–Peace Nexus: Also called the HDP Nexus or the ‘triple nexus’, this term refers to ‘the interlinkages between humanitarian, development and peace actions’, while the ‘Nexus approach’ refers to ‘the aim of strengthening collaboration, coherence and complementarity. The approach seeks to capitalise on the comparative advantages of each pillar – to the extent of their relevance in the specific context – in order to reduce overall vulnerability and the number of unmet needs, strengthen risk management capacities and address root causes of conflict’ (OECD, 2023: 6).

1. What is EiE data institutionalization?

Institutionalization, through which a given set of activities, structures, values, and behaviours becomes an embedded, sustainable part of everyday business, is both a multi-level process and an outcome (Colyvas and Powell, 2006). It covers the complex ways in which levels of an organization interact and drive institutional change, how and to what extent they respond to internal and external pressures and events (Schalkwyk et al., 2015), and how particular changes or practices within an organization are accorded legitimacy and come to be taken for granted (Colyvas and Powell, 2006). As a process of strategic system transformation (Kuchenmüller et al., 2022), it passes through stages or phases, which may not necessarily be linear, moving from the emergence of new practices or ideas to their adoption, experimentation and piloting, scaling and integration, and eventual institutionalization, continuous improvement, and adaptation.

When applied to EiE data and national information systems, using this concept helps to see how technical improvements in data production and use by MoEs are connected to and dependent upon a range of institutional, organizational, and individual factors. It refers to a process and an outcome that can help stakeholders work towards coherence, localization, and sustainability in EiE data by supporting their integration into the ‘everyday business’ of planning and managing education systems.

EiE data institutionalization is influenced by interactions between the levels of an education system (school, middle tier,¹ and central), as well as by changes in the environment and/or dynamic interactions with higher levels of government, citizens, and external organizations, such as humanitarian and development actors (e.g. donors, UN agencies, and NGOs). It includes the work of national education authorities to legitimize and integrate production and use of EiE data within the policies, structures, resources, and routine functioning of the education system; it also includes that of national and international partners to support this process, by harmonizing their own activity around data and improving coherence across the humanitarian–development–peace nexus, putting in place protocols and practices that enable greater coordination and data sharing, or providing direct assistance (whether technical or financial) to facilitate the process of institutionalization.

1.1. A model for EiE data institutionalization

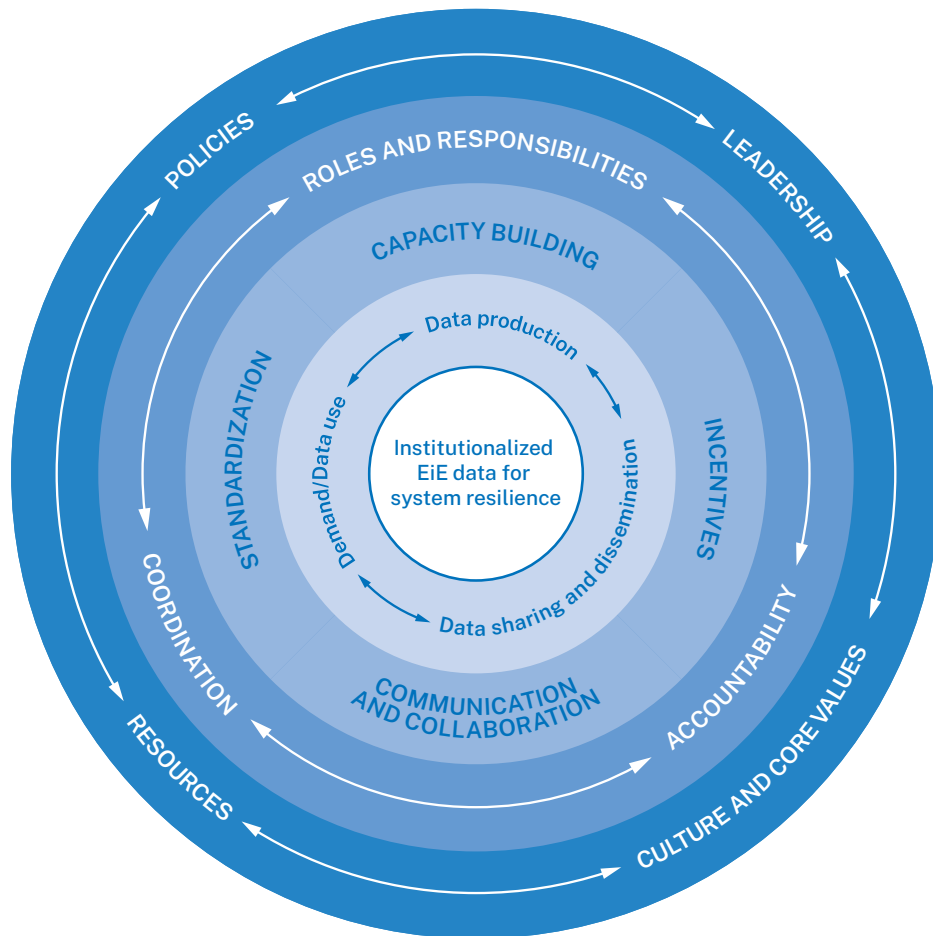
Drawing from learning and good practices around EMIS and other data systems as well as work on crisis-sensitive planning and management, this Guidance Note begins from an ideal model of EiE data institutionalization within education systems (*Figure 1*):

EiE data will be institutionalized when they are formally and systematically incorporated into the structure and functioning of an education system, with the educational administration playing a key role. They are adequately resourced; routinely produced and shared; consistently and purposefully used at all levels of the system to inform and promote accountability for planning and decision-making, implementation and monitoring; and supported by a broader culture of crisis-sensitive education, as reflected in organizational values, policies, governance and practice that enable system-wide prevention, preparedness, response and recovery (UNESCO, 2021).

The model attempts to visualize some of the key factors at play when seeking to institutionalize EiE data within education systems. Sustainable production and use of EiE data within education systems do not rely, for example, on technical capacity or on the presence of a regulatory or policy framework alone. They involve a more complex interplay of enabling and constraining factors within the institutional environment, governance structure, and existing practices or supports at individual and organizational levels across technical processes within the data value chain.

¹ The ‘middle tier’ can be ‘broadly defined as any local institutions, structures, networks, and roles sitting between the school and the state level with a quality improvement function’ and ‘can take a variety of forms across different jurisdictions. Small education systems typically have fewer intermediate actors between schools and the ministry of education, and school principals take responsibility for functions such as teacher evaluation and professional development. Meanwhile, larger systems may have several layers of intermediate units’ (Childress et al., 2020: 15).

Figure 1. Model of institutionalized EiE data



Source: Authors, based on existing models of institutionalization, including Kuchenmüller et al. (2022), IIEP-UNESCO (2022), Maeda et al. (2012), USAID (2000).

The core of this model is the desired outcome of institutionalization: purpose-driven production and use of EiE data contribute to system resilience, which can be seen as inextricably linked to the higher-level outcome of ensuring equitable and inclusive access to quality education for all learners, including in emergencies and protracted crises, in line with SDG 4. Surrounding this core are the technical processes or phases of the data value chain: data production, data sharing, and data use (and demand). The circle represents a feedback loop whereby data demand and use inform production, sharing, and dissemination, which in turn inform and adjust continued demand and use. It emphasizes the importance of two-way channels for collecting and communicating data, in which data providers can also be users and shape processes of production.

Surrounding this value chain are the practices or supports at individual and organizational levels that can enable movement towards institutionalization and ongoing reflection and adaptation across these technical processes. They include capacity development, communication and collaborative action, incentives, and standardization that can help to facilitate, motivate, and reward behaviour change in individuals and organizations.

These practices flow from and are facilitated by an environment conducive to institutionalization, one that considers both the enabling factors or preconditions and the structures in place that mandate and guide work on EiE data as part of the routine functioning of the education system. Preconditions for institutionalization include the policies, leadership, core values and culture, and resources that can drive change (including individual behaviour change) and anchor new ways of working. These enabling preconditions provide the logic for, and support the functioning of, a formalized organizational structure for using, producing,

and sharing EiE data that can translate policy, leadership, resources, and cultural/core values into action. The organizational structure delineates and assigns roles and responsibilities (including for oversight and quality control), formalizes coordination arrangements internally and externally, and promotes accountability.

1.1.1. Interrelationships with crisis-sensitive planning and broader education data management

Institutionalization of EiE data should be linked to –and is likely to follow from– system-wide institutionalization of crisis-sensitive education. When crisis-sensitive approaches to planning and management and classroom practice are adopted within an education system, they create legitimacy and demand for EiE data, in turn supporting their institutionalization within education data systems.

The same holds true for education data and the maturity of administrative data systems for education more generally.² Emergent information systems for producing and using education data, and/or the absence of a data culture within the MoE and across levels of the system that privileges transparency and evidence-informed action, are likely to impact the degree and success of efforts to institutionalize EiE data.

Institutionalization of EiE data also implies their eventual integration within the national EMIS. Therefore, the more robust the EMIS and the more institutionalized the approach to evidence-informed decision-making across the education system are, the more readily EiE data production and use are likely to become anchored and routine across the levels of the educational administration. The more national education data are accessible, reliable, timely, and relevant, the more useful they can be for prevention, preparedness, response, and recovery within the EiE ecosystem.

‘We don’t have a standard EMIS. It’s still under development and the last census was in 2017. Since 2017, that means the MoE, partners, and EiE partners have not had any current data to support planning. There have been so many data calls, resulting in parallel systems. But now the MoE is working on a robust EMIS, which will include EiE.’ –Key informant, researcher

1.2. Stages of EiE data institutionalization

Institutionalizing EiE data requires multiple stages of emergence and stabilization across different components of the model, moving from de-institutionalization and pre-institutionalization through to semi-institutionalization and (re)institutionalization. Although referring to stages might suggest a linear sequence, in reality the process of institutionalization is complex and dynamic. Movement and change across the multiple dimensions may occur at different times and speeds, and can involve progression, regression, vacillation, or even stagnation. For example, changes in leadership or a significant reduction in the availability of resources may set back progress or change institutional priorities; advances may be made in the design of policies but capacities for implementing them may be slower to develop.

These stages of institutionalization are triggered and shaped by external pressures or changes as well as internal sources, whether sudden or occurring slowly (Kuchenmüller et al., 2022). The process depends on two mutually reinforcing conditions that are central to sustainability and deepen the degree of institutionalization: being legitimate, which provides a foundation of acceptance and support for a given practice, and being taken for granted, which reinforces a practice as it becomes embedded in organizational routines (Colyvas and Powell, 2006), though improvements or adjustments may be made over time. The increasing awareness and acceptance (both internally and externally) that MoEs need to produce, share, and use EiE data both reinforce and are reinforced by the routinization of practice within education sector planning and management –even as processes, tools, and approaches continue to evolve.

² ‘Maturity’ is defined here as different stages of growth or progress towards a desired goal. For a detailed discussion of administrative data system maturity, see UNICEF (2021).

Pre-institutionalization of EiE data, which may be preceded by or occur simultaneously with de-institutionalization, is a nascent phase during which new practices, structures, and procedures may be emerging, but are ad hoc or isolated and not yet formalized.³ Typically, pre-institutionalization does not mean starting from a completely blank slate; it does not represent a vacuum or scarcity of policies or resources. Rather, it can be thought of as a stage during which existing norms, practices, structural arrangements, or other incentives that work against institutionalization of EiE data need to be de-institutionalized, or dismantled, at the same time that awareness is built of the need for new approaches.

During this formative phase, the focus is on exploring ideas, objectives, and potential strategies for producing and using EiE data, in addition to the identification of obstacles and constraints. While informal networks and individuals within the administration may begin to see the value of engaging in production or use of EiE data or begin working towards a common goal, there is no clear commitment or system-wide directive to adopt a particular course of action (in this case, the use, production, and sharing of EiE data at all administrative levels within education systems). Moreover, there may be resistance among partners or entrenched practices external to the educational administration that are at odds with the goal of institutionalization. This phase often involves garnering support from stakeholders, diagnosing the data ecosystem, and putting in place the foundations for a new approach.

Semi-institutionalization is a more developed stage, in which production and use of EiE data by the educational administration becomes accepted and widespread, with tested approaches increasingly generalized and accorded legitimacy, including through their formalization. In this phase, formal structures, rules, and procedures to support production and use begin to be established or adapted, although they may not be fully entrenched or universally implemented. There is a growing recognition of their existence and purpose, and efforts are made within the administration to institutionalize related operations. Roles and responsibilities may be defined, and there may be limited resources and initial mechanisms for decision-making and governance. These efforts may also start to attract external support and involve collaboration with other organizations, who increasingly recognize the importance and value of strengthening and sustaining capacity for EiE data production and use within the education system, orienting their own data practices accordingly.

(Re)institutionalization is the mature and fully established stage: production and use of EiE data become standard practice across levels of the administration, with humanitarian and development partners consistently orienting their own ways of working to support this outcome. During (re)institutionalization, commitments, standards, and frameworks remain stable and reaffirm the need for robust EiE data production, sharing, and use. At the same time, practices are continuously adapting and innovating to optimize this commitment.

When EiE data are fully institutionalized, there are well-defined structures, established norms and practices, and a recognized place for them within the operating environment of schools, district offices, and sub-national and national MoEs. Production and use of EiE data within the system gain credibility, legitimacy, and stability over time. Functions are routinized and related activities are sustainable and predictable, with policies implemented and mechanisms in place for monitoring and evaluation. Continuous adaptation and innovation ensure that practices remain relevant and fit for purpose, even as the production and use of EiE data within education systems becomes an unquestioned part of the functioning of the system.

Drawing on existing literature on institutionalization, data maturity, and strengthening EMIS, *Table 1* in [Appendix 3](#) delves deeper into the model, using these different stages to consider what progress towards institutionalization might look like across the different layers and elements of the model. It is not intended to map detailed and specific intermediate steps on the path to institutionalization, which will necessarily vary from one context to the next, but rather to provide a sense of where MoEs and their partners can target their efforts to embed EiE data production and use within education information systems.

³ The categorization of phases (de-institutionalization, pre-institutionalization, semi-institutionalization, and [re-]institutionalization) draws on the work of Kuchenmüller et al. (2022) on the institutionalization of evidence-informed policy-making in the health sector.

Table 1 can be useful for thinking about where a system is at a given point in time across various dimensions of EiE data institutionalization, and for prioritizing action and investment. It can help to chart progress, as well as to identify areas requiring specific attention or potential bridging support from external partners. It can highlight areas in which a comparatively small amount of effort or more deliberate linkages could result in a big push towards stabilizing system-wide production and use of EiE data. Lastly, it keeps the focus on the bigger picture, showing how improvements in data production and use are likely to flow from better coordinated efforts to support institutionalization.

EiE data are produced in a variety of contexts (from acute emergency to protracted crisis, from localized to nationwide emergency, from conflict to natural hazard, and with varying levels of capacity and political will) and used for a variety of purposes across different dimensions of crisis management (prevention, preparedness, response, recovery). The presence of, or support required from, humanitarian and/or development actors or other partners also varies considerably. These variations in context will necessarily require different sets of objectives, with realistic, incremental steps and potentially greater reliance on external partners to bridge capacity gaps while working towards institutionalization.

2. Dimensions of EiE data institutionalization

The sections that follow go into greater depth for each of the dimensions of a favourable environment and practices that can support institutionalization of EiE data within education systems. Each sub-section includes a short summary of relevant issues, a set of questions to guide reflection, and a list of resources, tools, and further reading.

2.1. Preconditions for institutionalizing EiE data

A favourable institutional and organizational environment provides the necessary foundation for the education system, and the individuals and organizations that comprise it, to use and produce purpose-driven EiE data. It can be thought of as a set of preconditions that creates a context for growth, development, and success. These conditions are closely interrelated and mutually reinforcing, and include:

- the policies, plans, and legal frameworks that mandate and shape information management as well as crisis-sensitive planning, management, and pedagogy;
- the leadership, at central, middle-tier, and school levels of the administration, that can drive change and align practices and capacities with shared goals;
- the values and culture that shape commitments to building resilience and to promoting transparency and accountability;
- the resources dedicated to using and producing EiE data as part of a comprehensive approach to crisis.

2.1.1. Policies and plans

Policies and plans are an essential foundation for institutionalizing production, sharing, and use of EiE data within education systems. They can accord priority to EiE data and promote their inclusion in sector-wide information management, as part of a broader vision for risk reduction and resilience that makes crisis-sensitive approaches integral to the functioning of the system. As frameworks they help to articulate shared goals, set strategic direction for the sector, and guide resource allocation.

Evidence about EMIS and EiE has demonstrated the value of clear, resourced, and deliberately linked legal, policy, and planning frameworks for strengthening data production, sharing, and use (UNESCO, 2021). Legal frameworks related to the right to education make the case for ensuring equity and inclusion, while data privacy and protection laws are critical for purposes of accountability and safe data handling and use. Coherence across EMIS policies and crisis management policies and strategies can lay the foundation for more coordinated ways of producing and using EiE data.

Moreover, a favourable policy environment is likely to increase demand for EiE data, which can support its institutionalization. For example, a crisis-sensitive sector plan includes costed EiE-related objectives (for preparedness, ongoing response in a protracted crisis, or the integration of displaced populations within the national system); monitoring these will require, and can support, production and use of EiE data. Similarly, a wider focus on strengthening information management across the sector can support the availability of better-quality data for use in preparedness, response, and recovery, or to address the education needs of displaced populations and host communities.

Guiding questions on policies and plans

- Is there an EMIS policy/framework or other national education data governance framework? Does it include crisis- and risk-related data issues?
- Is the existing education sector plan crisis-sensitive? Does it address issues related to EiE, including in its monitoring framework?
- Is there a policy or strategy for disaster management within the education sector? Does it make reference to or link to the EMIS framework?
- Are there other policies that support production and use of EiE data?
- Are policies disseminated and accompanied by guidance and resources to support their implementation at middle-tier and school levels?
- What legal protections exist around data privacy, handling, and use? Do they meet international data standards?

► *Resources and further reading on this topic*

2.1.2. Leadership

Leadership is a practice, ‘a process of social influence, which maximizes the efforts of others, towards the achievement of a goal’ (Kruse, 2013). It encompasses a range of skills, qualities, and behaviours, including effective communication, problem-solving, strategic thinking, empathy, and the ability to empower and guide. Leaders help to set clear direction, inspire and motivate others, make sound decisions, encourage experimentation and learning, and effectively manage resources to achieve desired outcomes – all of which are essential for institutionalizing EiE data.

Sustained EiE data production, sharing, and use require adaptive leadership across the levels of the system. This demands political will, including at the highest levels of government, and the decision-making authority required to put risk reduction and resilience on the agenda and to model and promote an organizational culture, one that values flexibility and innovation, transparency, accountability, and evidence-informed practice. It also involves the practice of leadership by key stakeholders engaged in the production and use of data at different points across the value chain, regardless of title or formal authority.

‘The Ministry of Education and Sports (MoES) Basic Education Department took the lead in implementation of all activities in the pilot districts. MoES was responsible for all official communications to the districts, took part in district entry meetings, training, and support supervisions. MoES’ stewardship role in implementation increased ownership of the system by the districts.’ – Key informant, Uganda

Together with adaptive leadership, institutionalization requires champions within the MoE, from school to central levels, within other ministries and levels of government, and among other key stakeholders (including donors and humanitarian and development partners) who understand the strategic importance of EiE data and the essential role they play in planning and managing a resilient education system. These champions actively work in complementary

ways to make EiE data a legitimate and unquestioned dimension of the MoE's efforts to use and generate quality data and evidence and to strengthen system resilience. They help to drive the design and implementation of policy and plans, the mobilization and allocation of resources, effective coordination and collaboration, and the continuous learning, knowledge sharing, and improvement required to strengthen and sustain EiE data efforts.

Guiding questions on leadership

- Is there the political will to address issues related to preparedness, response, and recovery within the education sector? Are national and sector-level interests aligned?
- Are staff with decision-making authority aware of the important role that education can play in reducing risk and building resilience? Do they understand the strategic need for EiE data?
- Are there champions of crisis-sensitive planning and/or purpose-driven data across administrative levels of the MoE and/or other levels of government?

► *Resources and further reading on this topic*

2.1.3. Culture and core values

Closely linked to the practice of leadership, organizational culture refers to the shared core values, beliefs, and practices that guide an institution or organization in its actions and decision-making processes. This culture shapes – and is shaped by – the behaviour and motivation of individuals within the organization (Arenth et al., 2017). It is influenced by factors including management style, organizational history, government and sector-wide norms, and external influences. Core values include the guiding principles that an organization holds to be fundamental, such as commitment to mission and goals, transparency, accountability, and equity and inclusion.

Research on institutionalizing organizational change has demonstrated the importance of both a transparent, involvement-oriented organizational context and trust in management as critical elements for gaining stakeholder commitment (Mugenyi et al., 2022). Moreover, individual beliefs and mindsets of stakeholders within an organization are key to initiating and sustaining change. The more internal stakeholders believe that an initiative responds to an organizational need, or aligns with core values, the more likely they are to participate in actions that support its institutionalization (Mugenyi et al., 2022).

In the context of EiE data institutionalization, organizational culture and core values play a crucial role in shaping the behaviour of individuals and organizations across the data value chain, in creating demand for EiE data and the conditions that support its production and effective use.

Organizational cultures within MoEs that prioritize risk reduction and resilience, and that value and promote evidence-informed policy, planning and implementation, learning and improvement, collaboration and partnership, innovation and adaptation, ethical collection and use of data, and mutual trust and respect will necessarily encourage stakeholder engagement and help to embed the use and production of EiE data system-wide. When underpinned by express (and resourced) organization-wide commitments to transparency, accountability, equity, and inclusion, these cultures are likely to demand and enable continuous improvements in terms of EiE data quality, sharing, and dissemination as a necessary part of decision-making and implementation across the system. In turn, improvements in the availability, reliability, accessibility, and timeliness of EiE data can reinforce data demand and use, contributing to a culture of evidence-informed prevention, preparedness, response, and recovery.

Similarly, organizational cultures and core values among partners that privilege sustainability and accountability to affected people, and promote coherent ways of working across humanitarian, development, and government actors, are foundational enablers of institutionalization. Partners' commitment to building system capacities, and to transparency,

innovation and adaptation, nexus thinking, and collaboration, can encourage investment and shape organizational and individual behaviours that support the longer-term goal of equipping education systems to use and produce data and evidence for risk reduction and resilience.

Guiding questions on culture and core values

- Is there an organizational culture of using data for decision-making?
- Does organizational culture reflect a sector-wide commitment to risk reduction and resilience? To transparency and accountability? To equity and inclusion?
- Is there shared understanding around the value of data for decision-making to reduce risk and build system resilience? To promote equity and inclusion?
- Is there awareness and understanding among humanitarian actors of the importance of reinforcing national data systems, and among development actors of the importance of including EiE data within EMIS?

► *Resources and further reading on this topic*

2.1.4. Resources

The final precondition for successful institutionalization is adequate, dedicated resourcing. This includes both the human and material (financial and infrastructural) resources necessary to use and produce EiE data at different levels of the system (central, middle-tier and school). The availability, adequacy, and regularity of these capacities are determining variables for institutionalization.

Achieving fully institutionalized EiE data means having adequate personnel with appropriate line authority, job descriptions, and skills to support well-coordinated EiE data collection, analysis, sharing, dissemination, and use. It also requires the availability of sufficient and regular funding, whether specifically earmarked as part of a budget line for crisis management or for data management more generally. Lastly, a favourable environment is one that provides access to the necessary infrastructure – such as information technology, transport, and other required materials – for data collection, analysis, sharing, and dissemination, often under challenging conditions.

‘By using those tools and partners, we have good data collection and management systems, but we need additional support because these strengths come from the partners’ side – they have capacity, well-trained expertise. The government needs this kind of EiE expertise.’ – MoE representative

Guiding questions on resources

- What capacities exist for production and use of EiE data within the MoE at national and sub-national levels (central, middle-tier, school)?
- Are dedicated human, financial, and infrastructural resources available to support EiE data production and use? Are they adequate?
- Is the overall number of staff sufficient to perform required tasks?
- Are the qualifications, skills, and experience of staff adequate? Are they appropriate for assigned functions?
- Are efforts made to ensure the retention of a core contingent of skilled staff at any given time? (For example, is succession planning taken into account?)
- Is there sufficient, specifically allocated funding for EiE data production and use?
- Are software, hardware, and physical facilities available and fit for purpose to perform required tasks at different levels of the system and across the data value chain?

► Resources and further reading on this topic

2.2. Organizational structure

Institutionalization of EiE data also depends upon implementing a well-defined organizational structure that formalizes roles, responsibilities, and relationships and helps to ensure that the integration of production and use of EiE data is embedded and supported at various levels across the education system, including in operations, workflows, and systems. This structure functions to define reporting lines, decision-making processes, and communication channels, distribute resources appropriately, and create formal accountability for results.

An effective organizational structure can take many different forms, and is likely to evolve as a given system moves towards EiE data institutionalization. While work on this may begin with a specific unit, task force, or steering committee, over time it may become mainstreamed across different departments and functions and should build on existing structures for producing and using education data within the MoE to avoid creating parallel systems. At minimum, however, institutionalization requires a clear outline of roles and responsibilities (including oversight), coordination arrangements, and accountability mechanisms, no matter what form a given organizational structure or set of institutional arrangements may take.

‘From the government side, there is no specific unit that focuses on EiE or EiE data. If we are talking about strengthening a national information system that is resilient, EiE within the MoE is very important.’ – Key informant, project officer

2.2.1. Roles and responsibilities

In line with a data governance policy or framework and/or crisis management policy and strategy within the sector, formalized and distributed roles and responsibilities (including oversight) are needed at different levels of the system, to assign specific functions across EiE data production and use and provide for communication and coherence to avoid duplication or siloed ways of working.

These roles and responsibilities should be developed with consideration for appropriate levels of line authority and be clearly spelled out, reflected in organizational charts, job descriptions, and performance management processes. The designation of roles and responsibilities should be accompanied by training that supports skills development and improves understanding of how different roles and responsibilities relate and interact.

Well-defined and empowered functions, developed to implement a given strategy, can reduce duplication, clarify lines of communication, and support mobilization of stakeholders from within and across different levels of the MoE and across other line ministries and government authorities. They can also enhance the relationship of MoE leadership to humanitarian and development actors, ensuring coherence of related efforts. Lastly, they help to ensure that EiE data production and use are anchored within the institution, regardless of staff turnover or individual motivation or skill.

Guiding questions on roles and responsibilities

- Is there a data governance or EMIS framework in place that outlines roles and responsibilities at different levels of the system for data production, sharing, and use?
- Are assigned roles and responsibilities reflected in the organizational chart? In job descriptions? In performance evaluations?
- Do oversight roles have sufficient decision-making authority and line management to coordinate efforts among stakeholders?

2.2.2. Coordination

An organizational structure that supports EiE data institutionalization also requires formalized coordination arrangements. Stronger coordination among stakeholders in the production and use of EiE data – from the stages of identifying data needs to their operational and strategic use at different levels – stands to enhance MoE leadership, reduce duplication and data fatigue, optimize use of capacities, and facilitate uptake and impact.

This requires improving coordination within MoEs, including both across and within different administrative levels. It means not only bringing people together and opening channels of communication and cooperation, but also ensuring coherence and coordination across the development and implementation of relevant policies and strategies. For example, formalized coordination between an EMIS unit and a unit or set of focal persons tasked with crisis management is needed to ensure internal efficiency and alignment, while an EMIS policy and a disaster management policy or strategy should cross-reference one another.

This also requires establishing or deepening regular coordination with other relevant line ministries (e.g. health, finance) and government offices (e.g. the national statistics office or the national disaster management authority). Lastly, it requires coordinating data efforts across humanitarian and development actors and education authorities to be sure that processes are appropriately aware of, aligned with, and able to speak to one another.

Internal coordination is necessary to support clear lines of communication, streamlined ways of working, and accountability within the MoE and across national and sub-national levels. A dedicated mechanism for coordination specifically around EiE data, one that brings together actors from across the MoE, humanitarian, and development sectors, can also help to harmonize different efforts and align them with education sector policies, strategies, and plans in the various dimensions of crisis management, while establishing and building consensus around roles and responsibilities in relation to data production and use.

The form these arrangements or mechanisms take will necessarily look different from one country to the next, and should be adapted accordingly. Depending on the context, for example, such a mechanism to bring the MoE and humanitarian or development actors together might usefully be embedded within an existing coordination forum, such as a Local Education Group (LEG), EiE Working Group/Education Cluster, or Education Development Partners Group (EDPG). For example, in Ethiopia, an EiE Data Technical Working Group was established within the Education Cluster to bring the MoE and partners together to strengthen the EiE data ecosystem.

It is essential that coordination arrangements – both internal and external – are sufficiently representative, bringing all of the necessary stakeholders together around the table, and are supported by decision-making authorities. This is a prerequisite for ensuring that EiE data are not treated as an isolated set, but rather as an integral part of education data, relevant for all departments within the MoE and for humanitarian and development actors alike. Coordination mechanisms that only manage to engage with humanitarian actors, for example, will necessarily make it challenging to achieve joined-up humanitarian and development efforts.

Guiding questions on coordination arrangements

- Are coordination arrangements for EiE data formalized within the MoE? Do they include intra-ministerial coordination (including across levels of the system)? Inter-ministerial coordination? Coordination with humanitarian and development actors?
- Are EiE data efforts and EMIS-strengthening efforts coordinated within the MoE and across humanitarian and development partners?
- Is there formal accountability for coordination within the organizational structure of the MoE?

► *Resources and further reading on this topic*

2.2.3. Accountability

Accountability is both a key feature of a structure for institutionalized EiE data and a condition for EiE data institutionalization. It includes the accountability of individuals and organizations for results related to production and use of EiE data, and accountability for protecting the rights and interests of individuals whose data are being collected and used.

Accountability is closely linked to the definition of roles and responsibilities and their formalization in terms of reference (ToRs) and performance evaluations, as well as to staffing. It is encouraged by organizational culture and leadership that emphasize evidence-informed decision-making, continuous learning and adaptation, transparency, openness, and ethical data practice (including responsible handling and use), and a legal framework that provides the foundation for ensuring data privacy and protection. Formal accountability for ethical data practice is likely to build the confidence and trust required for sustainable production and use of EiE data within national systems.

A commitment to accountability for both results and data ethics means making these expectations part of staff selection, retention, promotion, and professional development, and relies on ongoing monitoring and evaluation of information management within the MoE. It also requires engagement with stakeholders, from the design of data collection processes through sharing and use, to ensure that data practices are informed by the values, needs, and expectations of those involved and affected by them. Individuals need to be informed about how their data are being collected, used, and shared, and channels must be in place to hold organizations to account for their data management practices. Lastly, accountability requires compliance with relevant data protection laws, regulations, and national and international standards, and oversight for responsible use of data that avoids potential harm to individuals or communities.

Guiding questions on accountability

- Are results linked to producing and using EiE data included in job descriptions and performance management processes?
- Are data available and accessible to the public in conformity with ethical guidelines?
- Are data used to support crisis-sensitive planning and programming at all levels?
- Are teachers and administrators at district level who collect or provide data also empowered to be end users of such data and analysis?
- Are processes of data management informed by data impact assessments to determine possible risks and benefits associated with EiE data management?
- Are stakeholders able to access and use data to hold education authorities and other government officials, as well as humanitarian and development actors, to account?

► Resources and further reading on this topic

2.3. Practices across the data value chain

An institutional environment and organizational structure that support EiE data institutionalization enable – and are bolstered by – practices or ways of working across processes in the data value chain that can support individual, organizational, and institutional capacities to produce, share, and use EiE data. While many practices can drive and support institutionalization, some of the main enablers identified within evidence and conclusions around EiE and institutional information systems include communication and collaboration, building skills and competencies, and standardization, as well as incentivizing or motivating individual and organizational behaviour.

2.3.1. Communication and collaborative action

EiE data institutionalization requires fluid communication, coordinated action, and effective collaboration, from identifying demand to sharing and using data and information. This includes within and across different levels of the MoE, among and across humanitarian and development actors, and with stakeholders on the ground – who are asked to provide and collect data, but are all too often not given an opportunity to access or use it, or understand how it has been used and with what impact (UNESCO, 2021).

Communication is a two-way process that enables knowledge and information sharing and can influence uptake of new practices or approaches. Effective communication can help raise awareness, develop buy-in, and maintain engagement, building and sustaining support for production and use of EiE data across the system. It allows for open dialogue among stakeholders that can help to establish trust, manage expectations, address potential resistance to new ways of working, and gather feedback to inform the adaptation and improvement of practices.

Collaborative approaches, facilitated by good communication and clear coordination arrangements, further stand to support EiE data institutionalization. Evidence and conclusions

‘There are challenges with providing feedback down to the schools, down to the community level. They were really keen to learn from our pilot project how we do this. In terms of feedback, we have built dashboards and league tables at the district level to enable them to evaluate the quality of data and use those data. Data use at the lower level has been a challenge, and also the lack of feedback. Also, districts have indicated that they are always asked for more data but receive no feedback.’ –Key informant, Uganda

about EiE data underscore the importance of better harmonizing efforts across the EiE data ecosystem to reduce duplication and data fragmentation, including through joint and joined-up assessments, programmes, monitoring, and evaluation.

They also emphasize the importance of stakeholder mapping as a starting point to better understand the existing data landscape, including the strengths and weaknesses of different data sources, the power dynamics and interests shaping them, and the overlaps and gaps in the production and flow of data. For a sample ecosystem stakeholder mapping developed by UNESCO, see [Appendix 3](#). Doing so can help to identify entry points for collective action and opportunities for improved cooperation among stakeholders to support EiE data institutionalization.

Given the multiplicity of actors and data sets that may be present in a humanitarian context, multi-stakeholder partnerships and collaboration in the form of responsible data sharing can also help to support institutionalization.⁴ Particularly where data systems are still at early levels of maturity, or where capacity has been impacted by crisis, collaborative attitudes and practices around data sharing can minimize fragmentation, maximize comparative advantage, and ensure comprehensiveness, while enabling their use by the MoE for crisis-sensitive planning and management.

Assessing data sensitivity and developing agreements and protocols for the safe sharing of data within and across government, humanitarian, and development actors can encourage this process. Fundamentally, making data more accessible and available to those who need it – while promoting ethical data practice – can enable better decisions and more effective policy-making, and in turn support a culture of EiE data within the education system.

Guiding questions on communication and collaborative action

- Are activities related to EiE data production and use coordinated among stakeholders across the EiE data ecosystem, including within the MoE and across partners?
- Are assessments undertaken jointly, whether multi-sector or involving multiple government, humanitarian, and development actors?
- Is there an up-to-date mapping of stakeholders involved in the production and use of EiE data and related datasets?
- Does the MoE have a communication strategy that includes ongoing dissemination of EiE data and analysis and sharing of knowledge and insights?
- Is there a dedicated data portal or other web-based platform that includes and consolidates EiE data for use?
- Do MoE units and levels, government offices, and external partners responsibly share EiE data, while adhering to ethical principles and relevant international standards?
- Are data-sharing agreements and protocols in place? Do national or sector data governance frameworks include provisions for cross-sectoral data sharing and use?

▶ *Resources and further reading on this topic*

⁴ See, for example, the case of Uganda, where collaboration between the education and health sectors and data sharing across interoperable information systems supported the response to COVID-19. For more detailed information, see [UNESCO \(2022\)](#).

2.3.2. Capacity development

Data are only as good as their source, which means that any effort to strengthen and institutionalize the production and use of EiE data requires investment in continuous capacity development and pre-service and in-service professional development. This includes technical, financial, human resource, and infrastructure capacity across individual, organizational, and institutional levels at all points in the data value chain, from reporting and collecting data to their analysis, sharing, and use. The need for deepening and strengthening capacities applies to the educational administration from school and community level through to middle-tier and national education authorities, as well as to humanitarian and development actors and coordination mechanisms.

Mapping existing capacities and gaps related to data production, sharing, and use at different levels, for example through the development of a skills/capacity framework and assessment, or the inclusion of EiE data capacities within broader capacity mapping exercises, can be a useful starting point. Reinforcing capacities to fill identified gaps should be prioritized and resourced within initiatives to improve EiE data.

Evidence and conclusions from the UNESCO initiative have repeatedly emphasized the need to provide training and improve competencies and skills across the data value chain among collectors of data, as well as those who analyse and translate, share, and use them. This includes technical skills involved in the collection and analysis of data (e.g. related to instrument design, data cleaning, use of software and tools, database management, or visualization). It also includes data literacy – the ability to read, understand, create, and communicate data as information, or in other words, how and why to use which kind of data and when. Moreover, it requires familiarity with the concept of EiE and the role of data across the dimensions of crisis management. Increasing data literacy and deepening understanding of EiE, in turn, can shape more purpose-driven demand and encourage more effective use, as well as more consistent and accurate collection and analysis.

‘District managers have been empowered to use data to lobby politicians and this has been a “game changer” for them, but more work needs to be done to increase the appetite for and love of data among teachers and school leaders through professional development.’ – Key informant, Uganda

Guiding questions on capacity development

- Has a capacity framework been developed to chart progress and assess needs?
- Do staff assigned to participate in production and/or use of EiE data have the requisite technical skills to fulfil their roles and responsibilities?
- Do staff involved in production and use of EiE data have access to ongoing training and professional development to build their skills, including in crisis-sensitive planning, management, and pedagogy, as well as data analysis and use to inform action?
- Are there dedicated financial resources to support ongoing capacity development activities?
- Is enhancing data literacy an ongoing part of pre-service and in-service training and professional development across the sector?
- Do teachers and other data subjects and providers have access to training and information that helps them to analyse, interpret, and use data?
- Do staff have access to, and training to support use of, appropriate technology solutions for collecting, analysing, integrating, and disseminating data and information?

► **Resources and further reading on this topic**

2.3.3. Incentives

Institutionalization requires a deliberate practice of motivating individuals and organizations to adopt a particular approach or initiative and rewarding them for continuing to embed and improve it. People are more likely to take up new habits or be open to new ways of working when they see a clear benefit for their work from doing so, and when their efforts are recognized. These incentives for encouraging behaviour change or institutionalizing a new practice or approach can be material or non-material, tapping into intrinsic motivations (e.g. autonomy, sense of purpose, professional growth, impact, recognition).

Within a given level of the MoE, recognition can be accorded by management in the form of positive performance review, or public acknowledgement and appreciation for efforts to adopt and improve processes of producing, sharing, or using EiE data, for example. Opportunities for advancement, increased responsibility and autonomy, and professional development can also motivate individuals in ways that sustain and deepen engagement. Facilitating communities of practice or knowledge sharing among actors working with EiE data at different levels – and clearly highlighting the impact of their efforts in relation to improved outcomes – may further incentivize the behaviour change necessary for institutionalizing EiE data.

Incentives from outside an organization can play a key role in supporting (or undermining) institutionalization – whether they come from higher levels of government, civil society, or donors and humanitarian and development organizations. To support institutionalization, for example, donors can incentivize greater harmonization and sharing of EiE data, as well as ways of working to strengthen EMIS, by designing funding that sets this as a requirement and promotes accountability for doing so.

In reality, there may also be incentives that work against institutionalization of EiE data within the EMIS in a given context. For example, funding for specific thematic issues or with short time horizons, or individual priorities and incentive structures within humanitarian or development partners, or a management approach that discourages adaptation and innovation, may work against or be at cross purposes with longer-term investment in institutionalizing EiE data. Identifying these potentially conflicting incentives and taking steps to mitigate or address their effects should be an ongoing part of institutionalization.

Guiding questions on incentives

- Are efforts – whether individual or collective – to use and produce quality EiE data formally recognized?
- Do individual results around EiE data use and production support professional advancement and/or increased responsibility and autonomy?
- Do staff have access to professional development opportunities and/or communities of practice or other avenues for knowledge sharing?
- Are stakeholders across the data value chain consistently made aware of the impact of their efforts?
- Does financing incentivize coordinated and purpose-driven use and production of EiE data?
- Are there any incentives that work against institutionalization of EiE data? How might they be mitigated?

► *Resources and further reading on this topic*

2.3.4. Standardization

Once EiE data are institutionalized, processes of production and use have become standardized and routine, while balancing the need for flexibility and adaptation. They are consistent, reliable, and replicated across time and space within a given context, and at the same time responsive to emerging issues and quality improvement.

These processes use an agreed set of data standards that establish shared rules and specifications for how EiE data are structured, formatted, and represented. This includes common definitions of terms and indicator groups and ways of identifying and organizing information (e.g. standardized codes, classifications, and units of measurement), aligned with the existing administrative data system.

In promoting consistency and accuracy in data production and dissemination, standardization can help to improve data quality, in turn increasing the legitimacy and acceptance of EiE data production, sharing, and use by and within MoEs. The development and use of national data standards for EiE enables incremental steps toward greater compatibility and interoperability across sources of EiE data and between some types of EiE data and traditional education data, as well as other relevant administrative data. Interoperability means that data and data systems can speak to one another and work more effectively together in support of institutionalized processes for producing and using EiE data.

As a means of better harmonizing EiE data efforts across different administrative levels of the system, as well as among humanitarian and development actors, and enabling greater interoperability, the development of an indicator dictionary, aligned with existing national data, can be a useful exercise (see [Appendix 4](#)). An indicator dictionary provides a shared reference that establishes common definitions and methods of collecting and calculating indicators. The use of such a tool can help to increase coherence across data sources and enable greater comparability and consistency.

Guiding questions on standardization

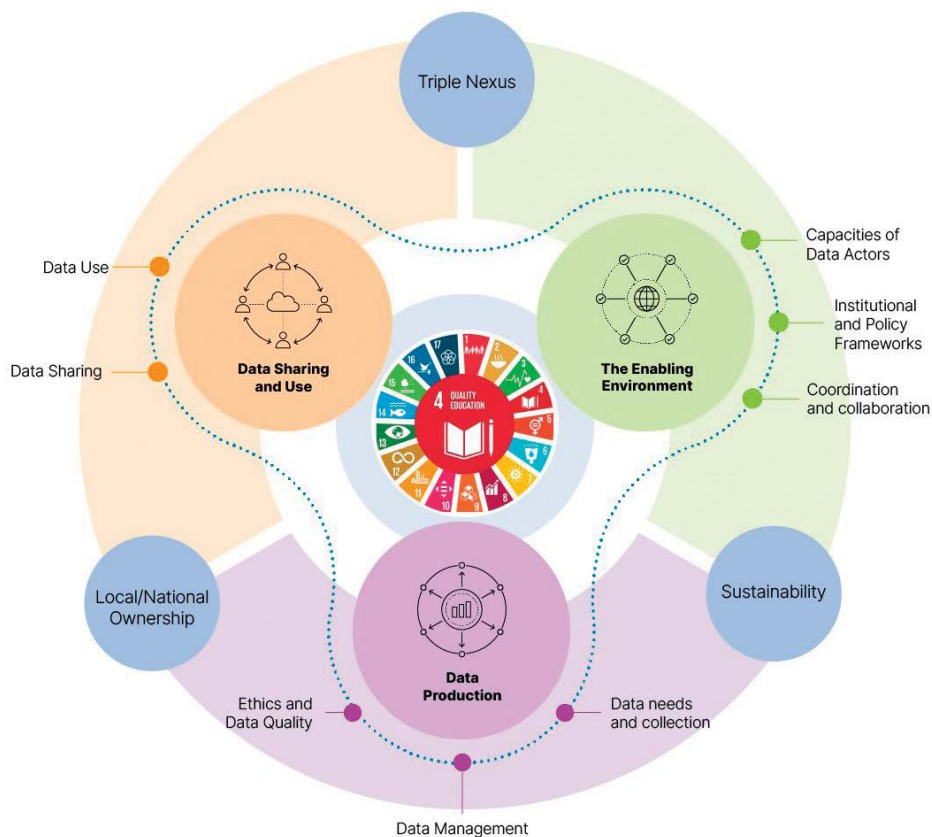
- Do data standards exist for the education sector? Do they specifically include standards for EiE-related indicators and data analysis?
- Is there shared agreement around use of terms, definitions, indicator groups, calculation methods, and tools for EiE-related data? Are they aligned with other terms, definitions, indicator groups, calculation methods, and tools used for other education data?
- Are different sources of relevant data interoperable?

► *Resources and further reading on this topic*

Appendix 1. Organizational framework for EiE data systems

Figure 2 was developed by UNESCO as an organizational framework for the wider project on strengthening institutional information systems for EiE. This framework guided the development of the global public goods, and the development of actionable knowledge building on evidence generated by the project has been structured across these pillars.

Figure 2. Organizational framework for EiE data systems



Source: UNESCO (2023).

Appendix 2. Drafting Terms of Reference for an EiE data coordination mechanism

This outline can be used as a guide for establishing a thematic working group, or sub-group of an existing coordination body, focused on EiE data.

1. Introduction

- Brief background on the need for EiE data for risk reduction and resilience and the importance of sharing information, harmonizing tools, joint assessment and agreement about indicators and shared definitions, and clear lines of responsibility to promote joined-up production and use of data for prevention, preparedness, response, and recovery.

2. Main objective(s) of the group

- Provide a general statement of purpose or broader objective(s) for the group.

3. Key functions of the group

- Outline the core functions of the group that will contribute to the identified objective(s).

4. Structure and membership

- Outline a structure for the group (including leadership).
- Outline criteria for membership, as well as duration.
- Outline expectations of members (e.g. time commitment, participation).
- Articulate the values and behaviours, if any, expected from members of the group and the principles or commitments guiding the group's actions.

5. Working arrangements

- Identify key roles and responsibilities for leadership.
- Identify key roles and responsibilities for members.
- Establish the frequency of meetings.

6. Links with other coordination mechanisms/working groups

- Describe how this group/mechanism relates to other working groups/coordination mechanisms specifically for data, as well as for humanitarian action and development cooperation (both within the education sector and cross-sectorally)? Practically, how will links be maintained?

7. Periodic review and learning

- Outline how and when the group will review progress against objectives and identify strengths and bottlenecks (e.g. regular self-assessment, as part of joint sector review processes), and who will be involved.
- Determine how and when these ToRs will be reviewed and amended as needed.

Appendix 3. Stages of EiE data institutionalization

Table 1. Stages of EiE data institutionalization

	Key domains and processes	De-institutionalization/ Pre-institutionalization	Semi-institutionalization	(Re-)institutionalization
Preconditions for institutionalization	Policies and plans	Isolated policies may exist or be under development at different levels (e.g. individual schools or districts, national policy on a single issue or sub-set of relevant issues). They are not necessarily consistent with one another, and may not be connected to plans, strategies, or resources for their implementation. The education sector plan may not be crisis-sensitive or address EiE issues, and may not include EiE-related indicators in its monitoring framework.	Relevant policies and plans—including for EMIS and for crisis-sensitive education—are in the process of being developed or have recently been developed. Efforts are made to refine and strengthen these policies and laws, ensuring they align with international standards and good practices, as well as with one another. While legal and policy measures and plans provide a framework for data collection, management, and utilization, there may still be areas that require further development or clarification. Moreover, their resourcing and implementation may still be at an early stage or rely heavily on external support.	Crisis-sensitive policies and plans and education data policies and frameworks are coherent, sustainably resourced, and implemented, creating demand for and specifically addressing the collection and analysis of fit-for-purpose EiE data. These policies connect data production clearly to use and demand as part of system-wide approaches to evidence-informed action and risk reduction or resilience. They establish clear protocols for ethical data management within the education sector, ensuring compliance with national and international standards.
	Leadership	A select number of individuals at different levels within the educational administration understand the relationships between EiE data and risk reduction or resilience, and work to improve practices around data production, sharing, and use for preparedness, response, or recovery. However, their engagement remains informal, and is dependent upon individual initiative and goodwill. There may also be resistance among leaders at different levels, both within the educational administration and among external partners, to greater MoE engagement in EiE, or lack of awareness among leadership regarding the need for EiE data for system resilience.	Education authorities, including senior MoE officials, increasingly and actively champion sector-wide approaches to risk reduction and resilience, and the need for EiE data. They advocate for the importance of evidence-informed decision-making and work towards securing adequate resources and support for EiE data initiatives across levels of the MoE.	Formalized, organization-wide commitments to evidence-informed risk reduction and resilience are made and set the direction for engagement within the MoE and across levels of the system in production and use of EiE data, as evidenced by the priority given to them in policy, planning, budgeting, and organizational management and the consistent engagement of senior management and political leadership in related advocacy and coordination. Leaders at different levels of the system model and promote an organizational culture that values flexibility and innovation, transparency, accountability, continuous improvement, and evidence-informed practice.

Preconditions for institutionalization	Key domains and processes	De-institutionalization/ Pre-institutionalization	Semi-institutionalization	(Re-)institutionalization
	<p>Culture and core values</p>	<p>Risk reduction and resilience, and generation and use of evidence to inform practice, may not be part of the organizational culture or core values of the MoE or across levels of the system. Prevailing culture may not privilege, for example, transparency and accountability, continuous learning, and improvement. The culture of the data ecosystem, which includes humanitarian and development partners in many contexts, may perpetuate fragmented ways of working or otherwise constrain MoE engagement and leadership.</p>	<p>Efforts are made to nurture a data culture, in which the contributions of EiE data to resilience are understood, valued, and reflected in approaches to sector analysis, policy, planning, pedagogy, monitoring, and accountability. Stakeholders work to raise awareness and promote the use of EiE data in decision-making processes. Collaboration and data sharing become more embedded in the sector's culture, as stakeholders recognize the benefits of working together towards system strengthening to address data challenges and improve practice. Discussions turn less on whether or not to engage in evidence-informed, crisis-sensitive education, but rather, how to do so.</p>	<p>A commitment to using evidence to reduce risk and build system resilience is reflected in the culture and core values of the education system, including at all administrative levels. EiE data are consistently used for decision-making and sector planning, while crisis-sensitive planning and management drive and shape processes of collecting, analysing, sharing, and using data across the education sector. This EiE data culture is supported by a broader organizational culture that values partnership and collaboration, flexibility and innovation, transparency, accountability, continuous improvement, and evidence-informed practice.</p>
<p>Resources</p>	<p>Human, financial, and infrastructural resources are limited and inadequate. There are no dedicated staff to support EiE data production and use, limited knowledge of and skills for EiE among staff involved in data management or inappropriately qualified staff in data management roles, and no dedicated funding to support data production and use. Limited access to IT and infrastructure to support data collection, analysis, dissemination, etc., particularly in crisis-affected areas, hampers MoE efforts to capture EiE data. Individual initiatives to strengthen EiE data production are entirely dependent on external support.</p>	<p>Some human and/or financial resources may be allocated to production of EiE data –for example, the creation of a focal point within an EMIS unit, but are insufficient. Efforts to build system capacities for EiE data production and use remain heavily dependent on external financing and technical support.</p>	<p>Sector planning, human resource management, and regular programme budgets allocate adequate resources (including qualified staff in appropriate roles) for production and use of EiE data as part of sufficient capacity for effective education data management, including dedicated funding, appropriate staffing, and sufficient technology and materials for data system maintenance and improvement according to emerging data needs and purposes.</p>	

	Key domains and processes	De-institutionalization/ Pre-institutionalization	Semi-institutionalization	(Re-)institutionalization
Organizational structure	Roles and responsibilities	Roles and responsibilities related to production and use of EiE data are not spelled out. Individuals may either voluntarily engage or be informally designated to engage in EiE data production and use, but these roles are not formally part of job descriptions or ToRs. Roles and functions across different levels and departments or units within the ministry may not be clarified, resulting in gaps and overlaps.	Roles and responsibilities begin to be formally assigned and included in existing job descriptions and the creation of new functions. However, these may be ad hoc and are not yet connected within the framework of an EMIS policy or education data governance framework.	An education data governance framework is in place, clearly designating roles and responsibilities related to the production and use of EiE data. These roles and responsibilities are formalized in organizational charts, job descriptions, and performance management. They are widely shared and provide an organization-wide roadmap, with clear accountabilities and oversight.
	Coordination arrangements	Coordination is primarily informal and ad hoc. It may occur informally within the MoE or as a one-off response to an acute emergency (e.g. the creation of an emergency task force), but because it is not formalized, there is little accountability or investment. While coordination arrangements for education data, or with development or humanitarian actors, may exist, these do not necessarily address or include EiE data, or may not be connected to one another.	Steps are taken to establish coordination arrangements, or build on existing ones, to facilitate harmonized ways of producing and using EiE data. While structures or mechanisms are put in place, they may not yet be fully resourced or invested with decision-making authority, or connected to performance management and accountability. Stakeholders increasingly see necessity for and understand the value of these arrangements, but active participation to ensure coordinated ways of working may still be nascent.	Formal, resourced coordination arrangements are in place and effective. These cover coordination within and across administrative levels of the education system (central MoE, middle tier, and school); coordination with other relevant line ministries and government bodies; and coordination with humanitarian and development partners. Designated focal points within the MoE and across line ministries actively engage in established intra-ministerial and intergovernmental coordination mechanisms. They also actively engage with humanitarian and development partners, coordinated through a dedicated mechanism that ensures a comprehensive and coherent approach to EiE data, before, during and after crisis.

Key domains and processes		De-institutionalization/ Pre-institutionalization	Semi-institutionalization	(Re-)institutionalization
Organizational structure	Accountability	There is little or no formal accountability for producing or using EiE data (or for evidence-informed action and crisis-sensitive education more generally), or for complying with laws and standards around ethical data handling and use. Stakeholders have little opportunity to provide feedback or bring complaints regarding production, sharing, or use of EiE data.	Accountability mechanisms begin to be developed or enhanced and include responsibility for evidence-informed crisis-sensitive education and sector-wide approaches to risk reduction and resilience. This may include regular monitoring, evaluation and learning, audits, and established channels for providing feedback and enforcing existing laws.	Accountability for results and ethical data management are part of staff retention, promotion and professional development, as well as ongoing monitoring, evaluation, and learning. Development of crisis-sensitive policies and plans and related monitoring are participatory. EiE data production and use comply with existing data protection and privacy laws and international standards, and there are established mechanisms for oversight, compliance, and feedback.
Practices	Capacity development	Staff have limited opportunities for improving technical knowledge and skills for production and use of EiE data. They may also lack required skills and competencies for assigned functions.	Opportunities for improving knowledge and skills to support production and use of EiE data are increasingly made available across administrative levels of the system.	Ongoing capacity development is prioritized, and ensures that staff have the necessary knowledge, skills, and ability to carry out their functions in relation to production and use of EiE data. They are given access to pre-service and in-service training, mentoring, and supervision that enables continued growth and professional development.

	Key domains and processes	De-institutionalization/ Pre-institutionalization	Semi-institutionalization	(Re-)institutionalization
Practices	Communication and collaborative action	Communication and collaboration are limited. The MoE does not regularly communicate about its work on crisis-sensitive education or around data, whether internally or externally, and there are limited opportunities for two-way exchanges of information. Data-sharing agreements are not in place to facilitate safe and ethical sharing of data, nor do partners have collaborative ways of working with EiE data.	The MoE increasingly communicates, internally and externally (including with data subjects and providers), about data efforts (and risk reduction and resilience more broadly), disseminating data and analysis and seeking feedback. Data-sharing agreements are beginning to be put in place across different levels of the system and with other line ministries, as well as key humanitarian and development actors, where relevant. These stakeholders are beginning to share data more consistently and better harmonize and coordinate their data efforts, including through mapping the EiE data ecosystem, joint assessment, and use of common indicators.	The MoE regularly communicates, internally and externally (including with data subjects and providers), about data efforts (and risk reduction and resilience more broadly), disseminating data and analysis and seeking feedback. Data are routinely and responsibly shared between the MoE and humanitarian and development actors, within the MoE, and across relevant line ministries and government offices, with adherence to national and international standards for ethical handling and use of data. Stakeholders have a clear understanding of data flows and sources in the EiE data ecosystem, and work in harmonized ways, undertaking joint assessment, using common indicators, definitions, and methodologies, and regularly sharing data and analysis.
	Incentives	Few incentives – whether internal or external, material or non-material – exist to encourage and support production or use of EiE data. Many stakeholders do not see the interest or value of engaging in production or use of EiE data. There may be incentives shaping behaviour within the educational administration or among partners which work against the idea of a greater role for the MoE in production or use of EiE data.	Deliberate efforts to incentivize production and use of quality EiE data are initiated or in place. These may come from within the MoE as well as from external sources. Stakeholders increasingly see the value of their efforts, and are encouraged and motivated to strengthen and deepen their engagement.	Consistent production and use of quality EiE data and continuous improvement are encouraged and rewarded at individual, organizational, and institutional levels – whether non-materially, e.g. in the form of recognition, performance evaluation, awareness of impact, or materially, e.g. linked to promotion or other professional incentives. Donors incentivize greater harmonization and sharing of EiE data, as well as ways of working to strengthen institutional information systems, by designing funding that sets this as a requirement and promotes accountability for doing so.

	Key domains and processes	De-institutionalization/ Pre-institutionalization	Semi-institutionalization	(Re-)institutionalization
Practices	Standardization	Definitions and terms, indicators, and methodologies used in producing EiE data vary from one dataset or producer to the next. Data are not readily comparable over time or across sub-national contexts, nor do they consistently align with other education data. No standards exist to guide production of EiE data within the national information system or to promote harmonization across different datasets.	Stakeholders have agreed on the need for, and are moving towards development of, common EiE data standards, in alignment with existing education data and any other relevant standards. Proposed indicators, definitions, and methodologies are being tested and refined.	A set of EiE data standards exists for the sector and is reflected in common use of indicators, definitions, and methodologies, which in turn are aligned with traditional education data. Adherence to these data standards across stakeholders involved in production of EiE data and over time improves quality and interoperability.

Source: Authors.

Appendix 4. Examples of stakeholder mapping

The following are examples of an exercise conducted to map existing data sources and the stakeholders involved in their production in South Sudan and Jordan.

Table 2. Mapping data sources and stakeholders in South Sudan

Organization	Tool	Types of information collected	Geographical coverage	Frequency of data collection
Ministry of General Education and Instruction	School census	School enrolment, infrastructure, etc.	National level	Annually
	School Attendance and Monitoring System	Attendance	National level	Weekly
	Human Resources Information System	Human resources	National level	Annually
	Exams	National exams	National level	Annually
	TVET-Information monitoring system	TVET (technical and vocational education and training)	National level	Annually
	Minister of Higher Education, Science and Technology	Higher education	National level	Annually
South Sudan Education Cluster	Joint education needs assessment	Joint education needs assessment	National level	Ad hoc
	Initial rapid needs assessment	Initial rapid needs assessment	National level	Ad hoc
	5Ws: what, when, where, who, why?	Activity implementation reporting	National level	Monthly
	IMT (Incident Monitoring Tool)	Attacks on school, incident reporting	National level	When needed

Organization	Tool	Types of information collected	Geographical coverage	Frequency of data collection
International Organization for Migration (Disaster Monitoring Matrix)	Vulnerability Assessment Survey	Internally displaced person (IDP) demographic information	Affected areas, IDP camps/sites	Ad hoc
	Urban Multi-Sector Needs and Vulnerabilities Survey	Food security, with a module on education	National level	Ad hoc
Multi-Year Resilience Programme	School enrolment	Enrolment in ECW-supported schools	Selected states	Monthly
	Distribution register	Materials allocated to ECW-supported schools	Selected states	Monthly
	Children with disabilities	Children with disabilities in ECW-supported schools	Selected states	Monthly
	Training attendance registry	Teacher training for ECW-supported schools	Selected states	Monthly
	Out-of-school children registry	Out-of-school children in ECW-supported areas	Selected states	Monthly
	Learning materials registry	Monitoring of distribution of learning materials	Selected states	Monthly

Source: Authors.

Table 3. Mapping data sources and stakeholders in Jordan

	Data source characteristics	Name of data producer	Type of data producer	Type of data source	Main objective of survey
Options and comments to fill in the table	Name of data source	Agencies responsible for definition of survey objectives, collection, analysis, and dissemination of data (list primary agency first, if more than one); include agencies and groups both within the country and outside, as applicable	<ul style="list-style-type: none"> • Government agency • National NGO • International NGO • International organization 	<ul style="list-style-type: none"> • Humanitarian education response data • Educational development data • Contextual data 	Objective usually can be found in survey manuals or other technical or dissemination reports related to the data source
Data source 1	Open EMIS (includes Geographical Information Systems [GIS] data)	Ministry of Education	Government agency	Educational development data	To have timely and reliable statistical information on the population attending the public and private sectors from early childhood to secondary education levels
Data source 2	WebGIS school maintenance module	Ministry of Education	Government agency	Educational development data	The school maintenance module allows for all school maintenance needs to be electronically captured, monitored, analysed, and used to inform evidence-based decision-making related to school maintenance and budget planning
Data source 3	National assessments	Ministry of Education	Government agency	Educational development data	The MoE in Jordan conducts national assessments for students in grades 4, 8, and 10 in maths, science, Arabic, and English
Data source 4	Emergency school planning	Ministry of Education	Government agency	Humanitarian data	The MoE has developed a plan for the creation and management of educational distant learning solutions to respond to education disruptions caused by the spread of COVID-19

	Data source characteristics	Name of data producer	Type of data producer	Type of data source	Main objective of survey
Data source 5	Evaluation report	King Abdullah II Center for Excellence	Government agency	Educational development data	The evaluation report determines the strengths and areas for improvement and highlights the assessment results
Data source 6	Household Expenditure and Income Survey	Ministry of Labour	Government agency	Contextual data	The Household Expenditure and Income Survey (HEIS) is the central database that measures and tracks poverty and living standards in Jordan
Data source 7	Labour force survey	Ministry of Labour	Government agency	Contextual data	The Labour Force survey provides a regular measure of employment and unemployment
Data source 8	Unemployment survey	Ministry of Labour	Government agency	Contextual data	The unemployment survey provides a regular update on unemployment
Data source 9	National budget	Department of Statistics	Government agency	Contextual data	The national budget is the approved and executed budget in the country
Data source 10	Technology in school survey	Ministry of Education	Government agency	Educational development data	A comprehensive survey of the utilization of information technologies in education during the COVID-19 pandemic in Jordan
Data source 11	Census	Department of Statistics	Government agency	Contextual data	Population census
Data source 12	JRGC spatial data	Jordanian Royal Geographical Center (JRGC)	Government agency	Contextual data	Provides information on road network, rainfall catchment area, landmarks, contours, land cover
Data source 13	Early Grade Maths Assessment / Early Grade Reading Assessment	Research Triangle Institute	International organization	Education development learning data	The EGRA and EGMA assessment models are designed to provide simple measures of literacy and numeracy

	Data source characteristics	Name of data producer	Type of data producer	Type of data source	Main objective of survey
Data source 14	Trends in International Mathematics and Science Study (TIMSS) / Progress in International Reading Literacy (PIRLS)	International Association for the Evaluation of Educational Achievement (IEA)	International organization	Education development learning data	TIMSS and PIRLS are international assessments that monitor trends in student achievement in mathematics, science, and reading
Data source 15	UNICEF (national diagnosis assessment)	UNICEF	International organization	Educational development data	To evaluate the learning loss post COVID-19: individual learning outcomes data for over 850,000 schoolchildren from Grades 4 to 11 across public schools in Jordan
Data source 16	Child protection information management system at camp level	UNICEF	International organization	Educational development data	To provide case management services: individual case management system on cases such as violence, bullying, child marriage, and all protection concerns
Data source 17	Reading recovery (grades 5 and 6 in the camps)	UNICEF	International organization	Educational development data	Evaluate reading skills for these children: individual learning outcomes data for over 5,000 children in grades 5 and 6 in the camp schools
Data source 18	Out-of-school children Initiative (OOSCI) report	UNICEF	International organization	Educational development data	Calculate the number of children who are out of school, and at risk of dropping out, analysing the demand and supply barriers
Data source 19	Bayanati ('My data')	UNICEF	International organization	Educational development data	Monitor coverage and performance of scholarship programmes for refugees and vulnerable students
Data source 20	Three stars approach (WASH)	UNICEF using USAID data	International organization	Educational development data	The approach evaluates and determines the status of water, sanitation, and hygiene (WASH) facilities of the school

	Data source characteristics	Name of data producer	Type of data producer	Type of data source	Main objective of survey
Data source 21	DHS	USAID	International organization	Educational development data	The Demographic and Health Surveys (DHS) Program has collected, analysed, and disseminated accurate and representative data on population
Data source 22	Physical Assessment Survey	USAID (soon to be handed over to MoE)	International organization	Educational development data	Periodic collection of information and data on the existing construction status of schools, at a specific time and duration (snapshot), to assist in developing future maintenance plans
Data source 23	IOM DTM	International Office for Migration (IOM)	International organization	Humanitarian education response data	The Displacement Tracking Matrix (DTM) gathers and analyses data to disseminate critical multi-layered information on mobility and vulnerabilities
Data source 24	UNRWA EMIS	UNRWA (The United Nations Relief and Works Agency for Palestine Refugees in the Near East)	International organization	Educational development data	Planning and monitoring of the strategic plan
Data source 25	proGres (UNHCR registration data base for demographics and population planning data)	UNHCR (United Nations High Commissioner for Refugees)	International organization	Humanitarian education response data	Data update (vital events) document renewal
Data source 26	RAIS population census (Refugee Assistance Information System)	UNHCR	International organization	Humanitarian education response data	To have timely and reliable information about the population registered with UNHCR and receiving different kinds of assistance
Data source 27	VAF (Vulnerability assessment framework)	UNHCR	International organization	Humanitarian education response data	The Vulnerability Assessment Framework (VAF) is an inter-agency initiative to put in place a multi-sectoral framework which supports the humanitarian and development community

	Data source characteristics	Name of data producer	Type of data producer	Type of data source	Main objective of survey
Data source 28	Resilience assessment framework	UNHCR	International organization	Humanitarian education response data	Livelihoods and coping mechanisms
Data source 29	Food Security Outcome Monitoring (FSOM)	World Food Programme (WFP)	International organization	Contextual data	WFP Jordan Country Office conducts quarterly food security outcome monitoring (FSOM) exercises covering WFP beneficiaries in Jordan
Data source 30	Integrated Context Analysis (ICA)	WFP	International organization	Contextual data	Provides a basis for strategic programmatic discussions
Data source 31	Risk analysis (earthquakes)	WFP	International organization	Contextual data	Monitoring and visualizing disaster risks
Data source 32	Risk analysis (drought)	WFP	International organization	Contextual data	Monitoring and visualizing disaster risks

Source: Authors.

Appendix 5. Sample methodology for developing an indicator registry (example for Ethiopia)

This registry was compiled based on existing indicator lists at both national and international levels. In total, 1,657 indicators were collected from 89 sources, including DG ECHO Key Results Indicators (KRI), GCPEA Toolkit/report, INEE Minimum Standards, JENA, IIEP-UNESCO, UN OCHA (Joint Intersectoral Analysis Framework), UIS, UNRWA CMF, GADRRRES Comprehensive School Safety Framework, and JIAF 2022 indicators, among others. Specifically for Ethiopia, the Humanitarian Response Plan (HRP 2019/2020), the Education Sector Development Program VI (ESDP VI), the Multi-Year Resilience Programme (MYRP), the Education Cluster (EEC) Strategy, and the Ethiopia Refugee Education Strategy were reviewed.

Subsequently, only SMART indicators were selected (see *Figure 3*). In parallel, all duplicated or redundant indicators were excluded and the information on the indicators was completed as they were classified across sub-dimensions, leading to a total of 43 indicators.

At national level, several reference planning and programming documents were reviewed, including the [ESDP-VI](#), the [Education Cluster Strategy](#), and the Ethiopian MYRP programme. At international level, several indicator frameworks were analysed, including the ECW's indicator framework, the [Global Education Cluster's HRP](#) indicator registry and the Comprehensive School Safety Framework.

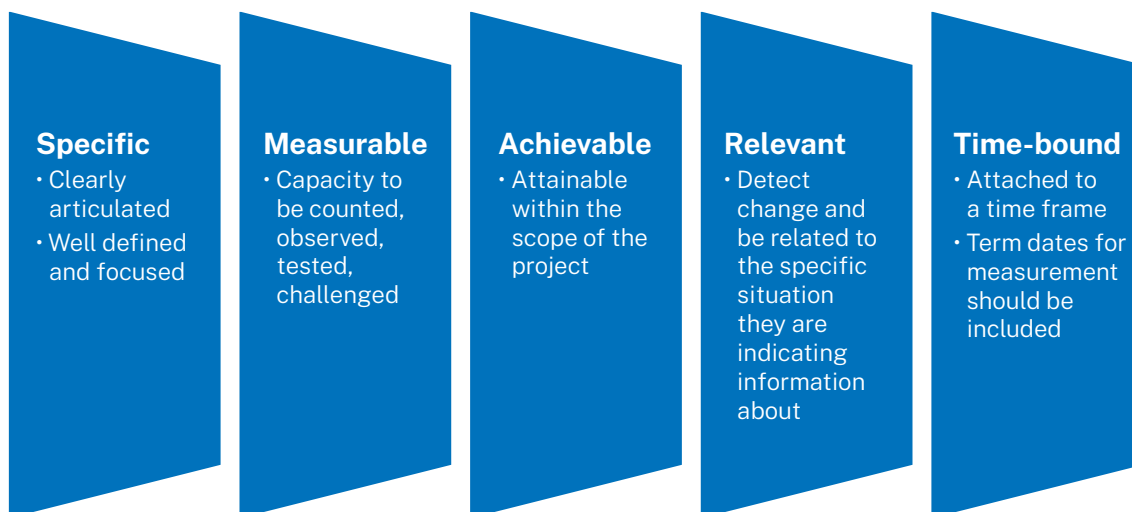
Also, where necessary, indicators were reformulated to make them generic and therefore applicable across various contexts and organizations. The dictionary can be used to compare to existing indicators in Ethiopia and identify the main gaps. This analysis will be part of a forthcoming technical report.

The indicators suggested in the current registry remain highly flexible and can be updated for specific purposes such as target populations (IDPs, refugees, etc.), geographical location (sub-national levels, rural versus urban), specific considerations related to gender (male, female) or inclusivity (children with disabilities, etc.), and new crises in consultation with EMIS, EiE Data Technical Working Group, and Education Cluster.

Tips for designing and selecting SMART indicators

The most important criteria for choosing indicators to monitor collective educational outcomes are their ability to measure what they are supposed to measure (validity), and their alignment with the expressed goal or collective objectives (relevance). Indicators should as far as possible fall into the SMART framework, meaning that they have five qualities: Specific, Measurable, Achievable, Relevant, and Time-bound, as outlined in *Figure 3*.

Figure 3. Designing SMART indicators



Source: Authors.

Indicators selected for monitoring should be anchored in the country's EiE strategy. There are several ways to pick the most relevant indicators from the dictionary:

- The selection of each indicator should be based on the availability of data and the relevance to the result.
- Don't pick too many indicators for each result – choose the most important or strategic ones.
- Choose and adapt indicators with partners – agree data collection responsibilities.
- Be clear on the frequency of reporting (annual, monthly, weekly, etc.), and any other relevant considerations.

In some instances, data will not be available for the most suitable indicators of a particular result. In these situations, stakeholders should use proxy indicators. Proxy indicators are a less direct way of measuring progress against a result. The registry suggests proxy indicators where available and applicable.

This registry should serve as a complementary resource bank to existing indicator registries such as the [INEE Minimum Standards indicators](#) and the [Comprehensive School Safety Framework](#) and [SDG 4 indicators](#), which the registry intends to bring together and operationalize within the perspective of joint or joined up monitoring of collective outcomes. The indicator dictionary will not replace these frameworks, which provide monitoring tools for the organizations using them. However, it will propose a list of common indicators which can be monitored by all these organizations.

The indicators are organized around core dimensions of collective educational outcomes, which are shown in *Figure 1* and informed by several documents such as the [ECW Strategic Plan](#), [ODI Global Analysis Framework](#), [the new way of working](#), and the [Conceptual Framework on Education in Emergencies Data](#).

For purposes of consistency, the collective outcome areas suggested through this registry are aligned with SDG 4 and echoed in work done on EiE coordination and humanitarian-development coherence: access and continuity, quality, equity and inclusion, and safety and protection. System management has been added to these in order to capture data on aspects of planning and management, both of the education system and among stakeholders, that are critical to achieving objectives within all of the other outcome areas. It also emphasizes capturing cross-sectoral linkages across outcome areas that can help to improve data on how education interrelates with and contributes to collective outcomes in other sectors (e.g. child protection, nutrition, WASH).

Figure 4. Dimensions and sub-dimensions for collective educational outcomes: an organizing framework⁵

Access and continuity	<ul style="list-style-type: none"> • Enrolment • Attendance • Survival • Completion • Transition (including from one education level to the next, and from non-formal to formal education) • Availability of education facilities • Accreditation of learning • Remedial and accelerated learning • School feeding and other initiatives to support access and continuity in crisis contexts
Quality	<ul style="list-style-type: none"> • Teacher availability • Teacher qualification • Teacher professional development • Teaching and learning materials • Language of instruction • Curriculum and pedagogy • Learning outcomes (academic and social and emotional learning) • Literacy and skills • Infrastructure (e.g. classrooms, electricity, WASH)
Inclusion, equity, and gender equality	<ul style="list-style-type: none"> • Equitable access, quality, safety, and protection for specific groups (e.g. learners in crisis-affected areas, refugees, IDPs, host communities, girls, children with disabilities, low socio-economic status, ethnicity, language, unaccompanied children, children in conflict with the law, forcibly recruited children) • Language of instruction • Resource allocation
Safety and protection	<ul style="list-style-type: none"> • Safety of learning environments • Risk and resilience education • School/education facility-level emergency preparedness • Protection of education from attack • School violence • Mental Health and Psychosocial Support (MHPSS)
System management	<ul style="list-style-type: none"> • Management, inspection, and supervision of education facilities • School governance • Human resources • Provision/delivery of learning materials and other necessary supplies • National examinations • Accountability, policy, and coordination • Financing • System-wide disaster risk management/crisis-sensitive sector planning

Source: IIEP-UNESCO (2023a): 18-19.

⁵ For the purposes of this indicator dictionary, inclusion, equity, and gender equity are mainstreamed across all indicators, while the other four categories are themes for which every indicator is present.

There are several education indicators to monitor in emergency settings. It is essential to pay attention to considerations specific to EiE settings, since if left unaddressed these could constitute potential sources of bias, errors, and misinterpretation of collective outcome indicators. Some of the most common specificities of education in emergencies and protracted crisis (EiEPC) indicators are:

- **Learning spaces located in camps and camp-like settings.** In non-emergency contexts, education is chiefly provided in educational institutions or facilities, also referred to as schools. In most contexts these are typically registered institutions guided by national rules and regulations in terms of curricula, teaching and learning conditions, and so on. However, in EiEPC settings, other learning spaces and modalities can also play an important role. These include temporary learning spaces, which may not necessarily respond to traditional schools' organizational requirements. In Ethiopia, displacement as a result of natural disaster and conflict has impacted on education, especially access to education, poor classroom conditions, access to learning materials, poor teacher–pupil ratio, and other protection concerns, especially the distance the pupils must walk in order to access learning opportunities.
- **Duration of education programmes.** While in non-emergency contexts aspects such as duration of education programmes are formalized and standardized across the country, this may not be the case in EiEPC settings, where education provision can follow non-standard durations stipulated by the national curriculum in order to adapt to the crisis needs.
- **The use of national curricula and languages of instruction.** The national curriculum and language of instruction may not be the de facto learning medium in some cases, such as for refugees.⁶
- **EiEPC specific learning modalities.** In emergency contexts, other learning modalities can emerge, including catch-up and bridging programmes, accelerated education programmes, and other non-formal education modalities. In Ethiopia, as non-formal education has been central in complementing the formal education systems during emergencies, this has not been given priority except for early childhood development. Other non-formal education components are taken into consideration in the second stage of emergencies.
- **Lack of age-disaggregated population data.** Data collected in EiEPC can often lack specific information and disaggregation, including age, which further complicates the aggregation with traditional educational data.
- **Identification of EiEPC catchment area.**⁷ While in non-emergency contexts a school-age population is typically attached to a specific catchment area, which then serves as the basis of several educational measurements and indicators assessing how well a particular education demand is satisfied, this may not apply to EiEPC settings, particularly in displacement contexts.

⁶ In the case of Ethiopia, refugees do use national curriculum and language.

⁷ A catchment area is the geographical area served by a school.

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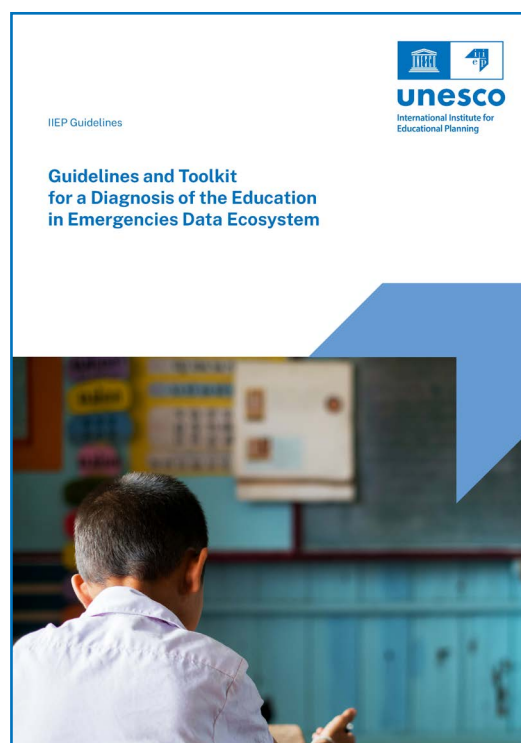
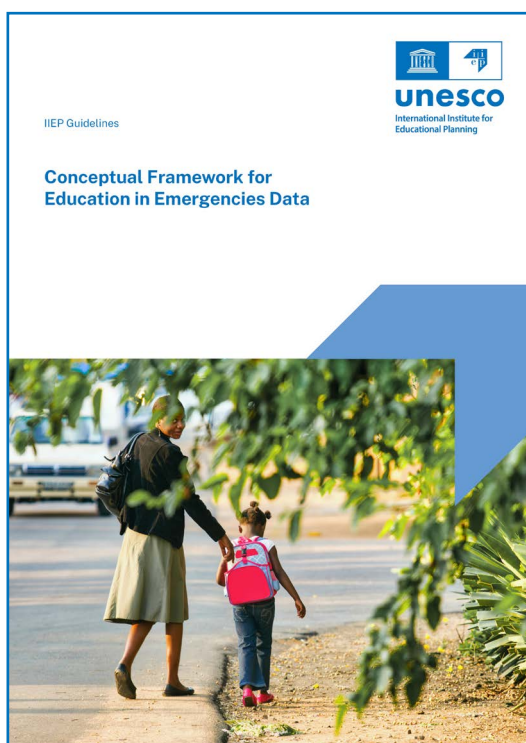
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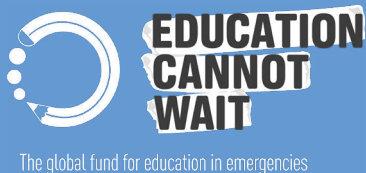
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