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IIEP Guidelines

Conceptual Framework for Education in Emergencies Data

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7–9 rue Eugène Delacroix, 75116 Paris
info@iiep.unesco.org
www.iiep.unesco.org

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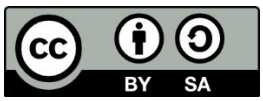

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1. Background, rationale, and scope

In the face of complex and increasingly overlapping challenges such as the COVID-19 pandemic, human-made disasters including climate change, conflict, and insecurity, and their consequences, such as forced migration and displacement, countries are increasingly focusing on building resilient education systems. Such systems should be able to prevent, prepare for, and respond to crisis while ensuring equitable and effective continuity and recovery in education for affected learners, teachers, and other education personnel. This focus is accompanied by growing recognition of the need for new ways of working across the humanitarian–development divide to enable access to education that is safe and equitable in the short term, and to make sure that crisis-affected populations are not left behind in longer-term recovery and development.

Advancing these mutually reinforcing priorities requires data and information that can drive planning and decision-making, guide the building of more resilient education systems, and achieve better outcomes for crisis-affected learners. Action needs information; more accurate, timely, and relevant information can mean more effective action. Increasingly, governments and humanitarian and development partners recognize the need for evidence-informed, crisis-sensitive educational planning and risk reduction strategies, whether preventive or in response to an emergency and focused on the short or long term (IIEP-UNESCO, 2021), and for harmonizing efforts to improve data quality, availability, and uptake (INEE, 2020; INEE et al., 2019; UNESCO, 2021).

However, governments and their partners often lack disaggregated, reliable, and up-to-date data that can inform timely and relevant preparedness, response, and recovery plans and programmes, while also monitoring the impact of progress made. Moreover, links between national data systems and humanitarian data are often lacking, and parallel systems may result: data focused on immediate response efforts or humanitarian programmes may not be readily integrated with national data to support longer-term recovery and resilience, particularly in periods of protracted crisis.

When available, educational data in crisis settings are typically fragmented, since their collection and use tend to mirror and reinforce misalignment between humanitarian and development programming (Buckner et al.; INEE et al., 2019). Multiple actors with different mandates and priorities are active in data production and use, often in ways that are poorly coordinated or overlapping, or focused only on a specific phase of crisis. 'Education in Emergencies (EiE) data' can mean different things to different people. This lack of common ground contributes to disparate ways of working and results in missed opportunities for efficiency, coherence, and the optimization of limited resources, both in the production of data and in their use to address educational needs in crisis settings and strengthen education system resilience.

In light of these challenges, this conceptual framework aims to build a shared and comprehensive understanding of what constitute EiE data and of the concepts and processes that underpin and guide work on EiE data across a range of contexts, including acute emergencies, protracted crises, and displacement. The framework also presents a number of strategic priorities for improving the data ecosystem and ensuring a holistic, joined-up approach to data that can help countries manage crises and build resilience. It does not seek to create something new or to reinvent the wheel. Rather, it brings together existing work on EiE data as well as on coordination, humanitarian–development coherence, and resilience, zooming out for a fuller picture of what data are needed and when, why they matter, and how to better align and optimize their production and use across the humanitarian–development–peace nexus.

1.1. Target audience and aims of the framework

As a global public good, the framework is addressed to a wide audience – from ministries of education (MoEs) at central level to administrators at middle-tier and school levels, from national authorities to local authorities, communities, and private institutions, and from staff in humanitarian and development organizations to donors and researchers.

The primary users of this framework will be MoEs, relevant coordination groups (education clusters, EiE working groups, and education development partners groups [EDPGs], particularly in contexts of protracted crisis), and other humanitarian and development practitioners engaged in crisis management at a national or sub-national level who would benefit from a coherent data organizing framework to facilitate preparedness and response efforts, while monitoring progress towards joint and joined-up outcomes. Overall, different actors should be able to see how their efforts fit within this bigger picture and how they can contribute to improved coordination and coherence of data to produce better outcomes for crisis-affected learners.

The framework is also intended to be applicable across a range of contexts and types of crisis, whether affecting specific regions or localities or an entire country, differing in duration and severity, managed exclusively by national authorities or requiring external humanitarian assistance. They may include slow- and sudden-onset emergencies, protracted crises, forced displacement, and a subsequent influx of refugees, internally displaced persons (IDPs), or returnees, or any combination of these.

The framework deliberately presents a complete and in some ways 'ideal' picture of a comprehensive data ecosystem. It is designed to develop a collective vision that can drive progress wherever it might be focused in this ecosystem, no matter how incrementally. However, it recognizes the diversity of contexts and risk landscapes in which EiE data may be produced and used, across countries and within them, and the need for localized and context-specific solutions. It is not designed to be prescriptive, but to be contextualized as needed by each setting. The goal is to help users to structure their thinking about how to analyse and strengthen their own ecosystems in contexts that may appear very different.

The framework provides a conceptual foundation for a series of guidelines and tools being developed by UNESCO to help bridge humanitarian and development data systems through strengthening institutional information systems (as defined in *Section 2*). The objective

is to provide a degree of harmonization and clarity that should allow for better shared understanding, collaboration, and efficiency when defining the scope and desired approach to work on EiE data. While this conceptual framing aims to provide a comprehensive basis for the development of EiE data, including their integration with national systems, it is intended neither as an indicator framework nor as a global reference for internationally comparable EiE data.

Abbreviations

DRR	Disaster Risk Reduction
ECW	Education Cannot Wait
EDPG	education development partners group
EiE	Education in Emergencies
EMIS	educational management information system(s)
ESP	Education Sector Plan
GPE	Global Partnership for Education
HRP	humanitarian response plans
IASC	Inter-agency Standing Committee
IDPs	internally displaced persons
INEE	Inter-Agency Network for Education in Emergencies
MEL	monitoring, evaluation, and learning
MoE	ministry of education
(I)NGO	(international) non-governmental organization
SDGs	Sustainable Development Goals
UNDRR	United Nations Office for Disaster Risk Reduction
UNHCR	United Nations High Commissioner for Refugees
WASH	water, sanitation, and hygiene

2. Methodology

The development of this framework was guided by the following principles:

- Ensuring complementarity and avoiding duplication with relevant, ongoing efforts aimed at addressing EiE data challenges.
- Being anchored in a consultative process with a range of stakeholders to ensure relevance.
- Bridging the humanitarian, development, and peace-building sectors, with a concern for long-term collective outcomes.
- Focusing on the key dimensions of equity, disaggregation, inclusion, and 'do no harm'.

In line with these principles, a three-pronged research process was adopted to inform the structure and conceptual underpinnings of the framework, so as to ensure responsiveness to demand and a basis in practical experience. This research covered a comprehensive desk review, stakeholder consultations with potential users, and validation at both country and global levels. It also drew upon lessons from the ongoing implementation of UNESCO initiatives around EiE data, institutional information systems, and crisis-sensitive planning across a range of country contexts and globally.

The desk review included an examination of existing evidence, key guiding principles, policy frameworks, and international guidelines related to the Education 2030 agenda, education in emergencies and protracted crises, the humanitarian–development nexus, crisis-sensitive planning, disaster risk reduction, resilience, and other key foundational concepts. It also included a review of relevant literature, presentations, and training material on EiE data, as well as measurement tools and frameworks used in the field of EiE and in the education sector more broadly.

To test working assumptions and improve conceptual clarity on a number of issues emerging from the desk review, a short survey was developed and distributed through a number of targeted channels to reach as many potential users as possible. It was shared through the INEE (Inter-Agency Network for Education in Emergencies) Data Working Group's mailing list and social media, the Global Education Cluster's Skype group and education clusters in Ethiopia and South Sudan, Norwegian Capacity (NORCAP) deployees working in EiE, and UNESCO field offices. The survey generated information from 225 respondents working in at least 40 contexts, including country and headquarters levels. Over half of these respondents identified themselves as both humanitarian and development practitioners.

Finally, the conceptual framework was tested against work being done on EiE data by UNESCO in Ethiopia and South Sudan. It was also shared for global open consultation, including through experts' peer review, and revised to reflect inputs from reviewers.

Box 1. Key terms used in this framework

EiE data: For reasons of consistency with established definitions of EiE and existing research on data in contexts affected by emergencies and protracted crises, the framework uses the term 'EiE data' throughout. However, it is worth noting that the user research conducted for this project showed that many practitioners describe their material 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 by or seen to be relevant to the work of certain categories of actor, such as MoEs or development workers. 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 this framework does.

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

Humanitarian–development nexus: 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, 2017) and describes 'the achievement of linkages between the different types of assistance to deliver more cost-effective, sustainable results' (Nicolai et al., 2019: 3).

Institutional information systems: These are 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, 2019).

They are also known as educational management information systems (EMIS). This framework uses the term 'institutional information systems' rather than EMIS to avoid potential conflation of the term 'EMIS' with annual school census data (which is often only one tool or data source within an EMIS, but is often understood to constitute an EMIS).

Joined-up vs joint: The distinction between 'joint' and 'joined-up' builds on work done on EiE coordination as part of the Global Partners Project (ISEEC, 2020). Whereas *joint* coordination, programming, or monitoring refers to initiatives or responsibilities that are formally articulated or shared, *joined-up* here refers more generally to ideas or parts of a system working together in a useful and effective way. This includes use of opportunities to work together, in coordinated and complementary ways, towards the achievement of common goals.

3. What are 'EiE data' and why do they matter?

3.1. A comprehensive approach to EiE data

An evolving understanding of how best to ensure safe, equitable, and inclusive access to quality education – before, during, and after crises that are increasingly protracted and complex– has implications for thinking about data. This understanding recognizes the need for comprehensive and coordinated approaches across government, humanitarian, development, and peace actors, emphasizing risk reduction and resilience as part of both preparedness and longer-term recovery and reconstruction, in addition to emergency response.

It follows from this that a broader approach to EiE data is also needed, one that emphasizes not only their relationship to humanitarian response but also to planning for prevention and preparedness as well as to 'building back better'. Adopting such a comprehensive approach to EiE data inevitably entails challenges, given the breadth and scope of analysis required, but is an essential basis for overcoming fragmented ways of working across data that are inherently interrelated.

In keeping with the *INEE 2018–2023 Strategic Framework* and more recent work done on coordination as part of the Initiative to Strengthen Education in Emergencies Coordination (ISEEC, 2020), this framework takes as its starting point a definition of 'education in emergencies' as that which refers to quality, inclusive learning opportunities for all ages in situations of crisis, including early childhood development, primary, secondary, non-formal, technical, vocational, higher and adult education. EiE provides physical, psychosocial, and cognitive protection that saves and sustains lives. Common situations of crisis in which education in emergencies is essential include conflicts, protracted crises, situations of violence, forced displacement, disasters, and public health emergencies. Education in emergencies is a wider concept than 'emergency education response', which is an essential part of it (INEE, 2020).

The notions of preparedness and prevention, and of longer-term recovery and building back better, also figure in many stakeholders' understandings of EiE,[1] and are increasingly a focus of efforts to improve humanitarian–development coherence in the education sector.[2] They are also an essential part of the conversation around strengthening the resilience of education systems.

The resulting vision for EiE data encompasses the full cycle of disaster management – from prevention, preparedness, and mitigation through to response and recovery – and brings together humanitarian and development data to support and ensure coherence between the addressing of immediate education and protection needs and of longer-term system recovery and development, while preventing or mitigating future crises. It is also inclusive of all education levels and learning pathways, formal and non-formal, for learners of all ages.

Understanding of the scope of the term 'EiE data' tends to vary, and there may be more or less inclination to use this term among different types of actor and context. Some may interpret it in its narrowest sense, to include only those data generated by humanitarian actors as part of emergency education response. But as emphasized above, effective emergency response cannot be separated from the periods prior and subsequent to the emergency; the same is true for the data needed to inform and sustain such responses. Moreover, the data needed for managing the risks and impacts of different types of crisis may vary considerably from one setting to the next.

1 User research conducted as part of the development of this framework showed that a majority of respondents understood EiE to include prevention, preparedness, and recovery as well as response.

2 See also GEC (2022), which emphasizes collective action, system strengthening and preparedness, and the need to contribute to prepared and resilient education systems as a strategic objective of the Education Cluster's work over the period from 2022 to 2025.

Box 2. Defining EiE data

EiE data can be defined as data and information covering all four risk management dimensions (prevention, preparedness, response, and recovery) of the three core components of the INEE definition of EiE: i) quality learning opportunities for all, ii) at all levels of education including early childhood development, primary, secondary, non-formal, technical, vocational, higher, and adult education, which iii) provide physical and psychosocial support and cognitive protection.

A brief tentative definition could specify that EiE data include educational data and information on learners, teachers, and other educational 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 should therefore cover aspects of 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 a crisis. These data should help to identify and address risks as well as consequences.

Like traditional educational data, EiE data should be 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 distinction between EiE data and traditional educational data, it is that EiE data are often produced, 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. This multiplicity of actors necessitates the alignment and coordination of data production to facilitate their eventual integration and coherence. Another key distinction is that in crisis settings there is an increased need for information about protection concerns specific to, or exacerbated by, the crisis and about the psychosocial needs of learners and education personnel resulting from exposure to crises.

MoEs, schools, communities, and humanitarian and development actors working to deliver quality, inclusive education need information that helps them to identify risks, assess exposure, and undertake contingency planning to improve preparedness and response, both before and during a crisis. They also need to know how the education system or specific population groups have been affected, so that they can respond to needs in a coordinated manner and maximize the impact of finite resources. And they need to know whether what they are doing is working, and how it can be improved. But the scope of EiE data and information does not end there; a clear picture of what has been done where, and with what results, as well as of longer-term impacts and outstanding needs, is essential for informing and guiding long-term recovery, supporting responsive sector planning, and helping build back better education systems that can learn from past events to reduce risk and improve resilience.

The present framework, therefore, is built on, and seeks to promote, a view of the EiE data ecosystem that spans the dimensions of disaster management, viewing them as inherently interlinked and non-linear. It can encompass contexts that are now experiencing or have recently experienced crises, whether acute or protracted, as well as others that may be at risk of future crises and are seeking to increase system preparedness. This view also includes data generated across age groups, levels, and delivery modes of the education system, produced and used by schools and communities, humanitarian and development actors, and national education authorities alike. Lastly, it emphasizes capturing the differentiated experiences and needs of affected populations, both in the short and longer term. While respecting the

potentially distinctive character of emergency response data, it does not approach the EiE data ecosystem as fundamentally different from the traditional education data ecosystem, but rather as an integral part of it.

3.2. Goals of EiE data

Conceptualizing EiE data means starting by asking for what purposes these data are needed and how they relate to the broader education data ecosystem of which they are a part. The following section identifies the goals of EiE data, outlining the relationship of these goals to relevant normative frameworks.

3.2.1. National development goals, policy, and planning frameworks

At both national and sub-national levels, EiE data can be seen as integral to achieving a government's overall goals or development policies and priorities. These are often defined in national development strategies that set goals and outline the vision for a country's development, or by education (and other relevant) sector policies, plans, and strategies designed to help achieve them. In many cases, these goals include the expansion or improvement of educational opportunity, including for those most vulnerable. Crises necessarily interact with and impact such goals; achieving them depends on reducing risk and responding effectively to shocks when they occur.

Recognizing that crises threaten the fulfilment of such goals, MoEs are increasingly adopting crisis-sensitive approaches to sector planning. In a number of cases, they have developed specific policies and strategies for risk reduction and emergency response, which often complement national disaster management strategies.

To design and implement these national policy and planning frameworks requires data and information that can help governments to prevent and prepare for, respond to, and recover from the lasting consequences of crisis on individual learners, teachers, and schools, and indeed on entire education systems. This includes data that help to identify hazards, exposure, and vulnerabilities as well as capacities, and that can be used for purposes including sector analysis, policy design, and planning as well as eventual implementation and monitoring, and from prevention and preparedness through to emergency response and longer-term recovery.

3.2.2. Relevant global frameworks, standards, and commitments

EiE data also relate to and are shaped by a number of overlapping, interconnected global humanitarian and development frameworks, normative standards, and policy commitments. *Table 1* lists the principal frameworks and commitments that underpin work on these data. Some of these frameworks and standards are multi-sectoral and overarching, while others provide education-sector-specific contributions to meeting these broader humanitarian and development goals and standards.

Collectively, these frameworks formalize the global commitment of states, international organizations, and civil society actors to ensuring access to safe, equitable, inclusive, quality education for all crisis-affected children, youth, and adults. They also highlight the need to ensure education before, during, and after a crisis. The specific focus, target population, and operational implications of one framework or set of standards may differ slightly from one to another. However, they are all mutually reinforcing and share concerns for risk reduction, resilience, safety, protection and well-being, access, quality, and equity and inclusion for crisis-affected populations and education systems; all are essential both for achieving Sustainable Development Goal (SDG) 4 and for demonstrating the contributions of education to sustainable peace and development.

Table 1. Global humanitarian and development policy frameworks shaping EiE data

Multi-sectoral	Education-specific
• 2030 Agenda for Sustainable Development/ Sustainable Development Goals (SDGs) • Sendai Framework for Disaster Risk Reduction • Global Compact for Refugees • Global Compact for Migration • Paris Agreement • OECD Development Assistance Committee Criteria for Evaluating Development Assistance • Agenda for Humanity/Grand Bargain Commitments • Sphere Standards • Sector-specific humanitarian standards (e.g. Minimum Standards for Child Protection in Humanitarian Action) • IASC Guidelines on Mental Health and Psychosocial Support in Emergencies	• SDG4-Education 2030: Incheon Declaration and Framework for Action • INEE Minimum Standards for Education: Preparedness, Response, Recovery • Comprehensive School Safety Framework • Safe Schools Declaration • Refugee Education 2030

Source: Authors.

From this global commitment follows the need for data and information that can help guide and strengthen collective action, measure progress, and increase accountability at both micro- and macro-levels. EiE data are not ends in themselves, but rather one of several interconnected means of enabling evidence-informed action to ensure that crisis-affected learners are not left behind. Emphasis merely on improved or expanded data use should not come at the expense of more holistic, evidence-informed approaches to achieving equity, inclusion, and opportunity for learners in crisis settings. These data should help to address immediate needs and maximize interventions in the short term, and also contribute to longer-term recovery and resilience, for individual learners and for whole education systems. This commitment connects EiE data to the broader landscape of education data and information, underscoring the need to see EiE data not as something discrete or wholly different but rather as informed by and feeding into broader efforts to ensure access to inclusive, equitable, quality education and lifelong learning for all.

Humanitarian–development coherence: towards collective outcomes

Recognizing the interconnectedness of humanitarian and development aims and faced with increasingly complex and protracted crises, the international community has called for a 'New Way of Working'. This commitment seeks to improve coherence across the humanitarian–development–peace nexus, moving towards collective outcomes.

Collective outcomes have been defined by the Inter-agency Standing Committee (IASC) as jointly envisioned results with the aim of addressing and reducing needs, risks and vulnerabilities, requiring the combined effort of humanitarian, development and peace communities and other actors as appropriate. To be effective, the collective outcomes should be context specific, engage the comparative advantage of all actors and draw on multi-year timeframes. They should be developed through joint (or joined-up) analysis, complementary planning and programming, effective leadership/coordination, refined financing beyond project-based funding and sequencing in formulation and implementation. (IASC, 2020)

Collective outcomes are central components of the new way of working. They have the potential to bring humanitarian and development actors closer together; as such, they do not refer purely to life-saving humanitarian action or to longer-term development outcomes. Instead, the focus is on collective outcomes at the point where humanitarian and development action meet. They provide a common vision that aims to build a bridge between short-term

assistance, medium-term outcomes, and long-term development programming and financing (OCHA, 2021).

In the field of EiE, studies have conceptualized what this new way of working means for humanitarian and development actors in education (Nicolai, Khan, and Diwaker, 2020; INEE, 2020). While the idea of bridging humanitarian and development support in education is not new, there is growing momentum around how best to harness the efforts of national education authorities, humanitarian and development partners, and communities to achieve what are essentially shared goals.[3] In the words of a recent report on improving the coordination of EiE, this means working in structured and coherent ways to 'get over our differences and get on with the job' (ISEEC, 2020).

Coherence across the nexus to achieve collective outcomes is critical for EiE data. It requires thinking about how to operationalize humanitarian–development coherence in terms of data, and the data implications of working towards collective outcomes: these issues are addressed in more detail in *Section 5* and *Section 6* of this framework.

Research undertaken by INEE (2020), the Global Partners Project,[4] and Nicolai et al. (2019) has identified a number of dimensions of humanitarian–development coherence in relation to norms, capacities, and operations. These include joined-up planning and coordination, multi-year financing, use of common frameworks and standards, strengthened capacities to respond to crisis, cross-over capacity to navigate and link humanitarian and development processes, education sector plans (ESPs) that address needs in crisis contexts and humanitarian plans aligned with national priorities and processes, and institutionalized disaster risk reduction and EiE approaches in national education systems. EiE data should ideally be able to contribute to all of these aspects of greater coherence, by helping to understand risks, identify needs, support coordinated planning and implementation, and track progress against collective outcomes determined to be measurable and intermediate outcomes at country level, which in turn feed up into higher level outcomes (e.g. ESPs, national development plans, SDG4).

3.3. Uses of EiE data

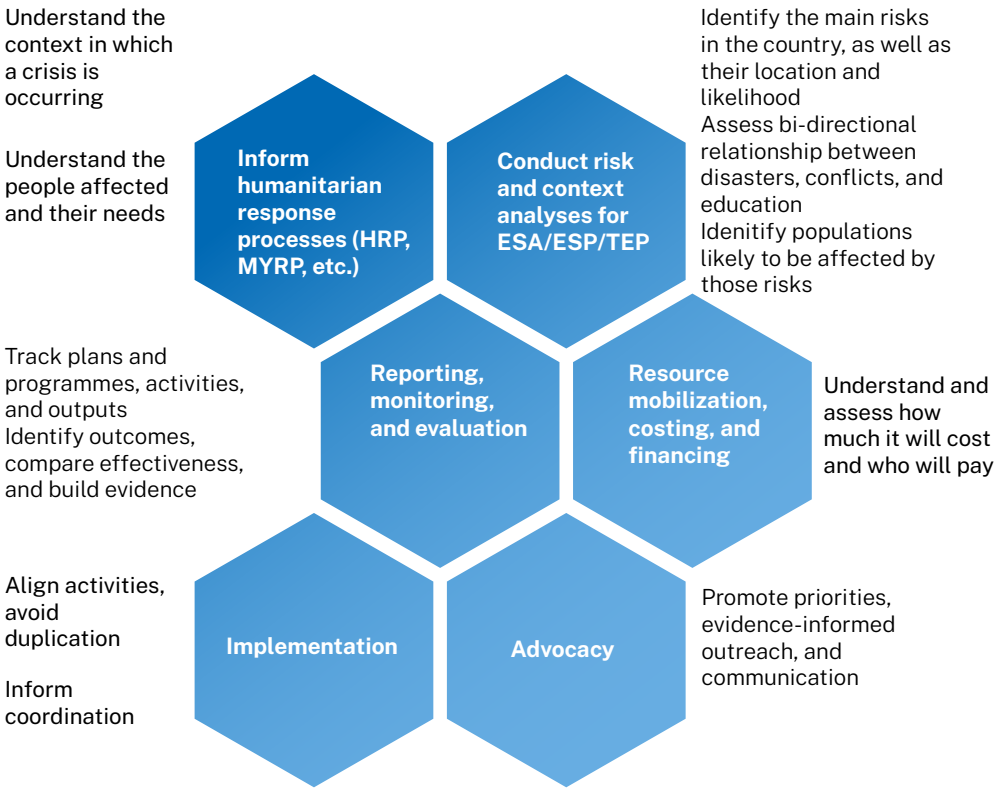
Closely linked to the goals of EiE data are their uses, which in turn should help to determine the kinds of data needed and inform their production and sharing. Research by Buckner et al. (2019; 2022) suggests that there are several main operational and strategic categories, linked to the achievement of the abovementioned goals, into which a majority of EiE data uses fit: planning, coordinating, monitoring, evaluating, policy-making, and advocating (which includes mobilizing resources).

Different actors put different emphasis on these categories of use, depending on their role and location; for example, actors at country level tend to emphasize operational uses of data, whereas those working at global level may be more focused on strategic uses (Buckner et al., 2019; 2022). They may also require different types of data or degrees of granularity or frequency, which should ideally be driven by context and use (Buckner et al., 2022).

3 See INEE (2020). There are also efforts to encourage joint planning and implementation, for example through Education Cannot Wait (ECW)-funded Multi-Year Resilience Programmes and GPE-supported Transitional Education Plans.

4 The Global Partners Project was a collaboration between the Global Education Cluster, INEE, and UNHCR, funded by ECW, 'to undertake a comprehensive review of coordination, planning, and response structures for EiE' (ISEEC, 2020).

Figure 1. Uses of data and information across the dimensions of crisis-sensitive planning



Source: IIEP-UNESCO, 2021: 7.

EiE data have operational and strategic uses at multiple levels, from the coordination, planning, implementation, and monitoring of individual projects, through joint and joined-up programmes, to sector-wide policies and plans, and from schools and local communities through to global actors and initiatives. At the level of individual education facilities and classrooms, for example, data may be used to support emergency preparedness and contingency planning, or to identify and respond to the psychosocial and learning needs of individual learners or groups of learners. Data are also vital at the middle tier or sub-national level, which plays a key leadership role in contexts where education governance is decentralized.[5] At the level of the national MoE, EiE data might be used to inform sector analysis, planning, and resource management. Humanitarian actors at country level may use data to prioritize needs and design interventions, as well as to coordinate their actions. Among global and regional actors, data may help to support advocacy efforts, evidence-building, and strategic planning that can increase available resources and channel them to better address operational needs at country level. *Table 2* summarizes some of these principal uses of EiE data by level.

5 See IIEP-UNESCO (2022) and the series of IIEP-UNESCO publications on MoE leadership and engagement in crisis management.

Table 2. Principal uses of data by level

Level of education actor	Data uses
School	• Evidence-informed planning, monitoring, and decision-making • Design and improvement of instructional practice • Design and implementation of risk reduction interventions and contingency or emergency plans
Sub-national	• School supervision and inspection • Sector coordination • Evidence-informed strategic planning and decision-making • Programme design and implementation • Budgeting and resource allocation • Advocacy and resource mobilization • Monitoring, evaluation, and learning
National	• Sector coordination • Evidence-informed strategic policy design, planning, and decision-making • Programme design and implementation • Budgeting and resources allocation • Advocacy and resource mobilization • Monitoring, evaluation, and learning
Regional/Global	• Global/regional coordination • Advocacy and resource mobilization • Financing • Knowledge building and sharing • Monitoring progress towards global commitments

Source: Authors.

EiE data also have an essential role to play in improving transparency and accountability across multiple dimensions (although in practice there is still considerable progress to be made). They can be used to ensure accountability to affected populations, through including them and making sure they participate in decision-making around data collection and its utilization (Sharma, n.d.), as well as through fulfilling commitments to account to and be held to account by the people humanitarian organizations seek to assist (IASC, n.d.). Data can be used by a range of actors, for example to make governments and humanitarian and development workers accountable for the fulfilment of legal obligations, the distribution and use of resources, or the implementation and effectiveness of programmes.

EiE data can have short-, medium-, and long-term uses. For example, they may be focused on identifying and addressing immediate needs for assistance during rapid education responses and emergency interventions, or on longer-term processes of system strengthening and risk reduction.

3.4. Information needs for EiE and resilience

The primary goal of EiE data is to ensure that children, youth, and adults have access to safe, equitable, inclusive, and quality education and lifelong learning before, during, and after crises, including through improved humanitarian–development coherence, more efficient and effective use of resources, and greater accountability to affected populations. To achieve this goal, a range of actors need data to inform and drive coordination, planning, implementation, monitoring, evaluation, advocacy, and resource mobilization, and to increase accountability across different dimensions of disaster management (prevention, preparedness, response, and recovery). What do these actors need to know?

3.4.1. Types of information needed

Linking data uses to information needs, we can recognize three more general, closely interrelated types of information in relation to education through all dimensions of disaster management: risks, impacts of a crisis and related needs, and interventions and their effectiveness.

Risks for the education system: Information about risks can be thought of in terms of the nature and severity of potential hazards and their interactions with the education system. This includes identifying potential hazards and their likelihood, exposure to hazards, existing vulnerabilities, and available capacities for resilience. The following equation illustrates the relationship among these factors:

$$\textbf{Risk} = \frac{\text{Exposure} \times \text{Hazards} \times \text{Vulnerabilities}}{\text{Capacities}}$$

A *hazard* is defined by the United Nations Office for Disaster Risk Reduction (UNDRR, n.d.) as:

> *a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation … Hazards may be natural, anthropogenic or socio-natural in origin. Natural hazards are predominantly associated with natural processes and phenomena. Anthropogenic hazards, or human-induced hazards, are induced entirely or predominantly by human activities and choices. This term does not include the occurrence or risk of armed conflicts and other situations of social instability or tension which are subject to international humanitarian law and national legislation. Several hazards are socio-natural, in that they are associated with a combination of natural and anthropogenic factors, including environmental degradation and climate change.*

To this list, conflict and insecurity can be added, in keeping with the understanding of 'all hazards and all risks' underpinning the Comprehensive School Safety Framework (GADRRRES, 2022). For a more detailed overview of hazard types, see *Appendix 1*.

Exposure can be defined as the situation of the learners, teachers, and other education personnel, infrastructure, and materials located in hazard-prone areas.[6] *Vulnerabilities* are understood as 'the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards' (UNDRR, n.d.). *Capacities* refer to 'the combination of all the strengths, attributes and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience' (UNDRR, n.d.) – in this case, within the education system and its component parts. This includes, for example, numbers and locations of pre-positioned emergency supplies or of safely stored learning materials, numbers of retrofitted schools, numbers of teachers trained in mental health and psychosocial support, or numbers of schools with emergency response plans in place. While this might seem most relevant before a crisis, information on risks is an ongoing need both during and after crises, particularly in protracted crises or where hazards might be multiple or recurrent.

Impacts of a crisis on education and related needs: Information about the impacts of a crisis and related needs includes how the education system has been impacted and how learning has been disrupted, who is unable to access learning opportunities and why, what resources are available, and what is needed to support the continuity, safety, equity, and quality of education for affected populations. It comprises data on disruption to learning, including both direct impacts, such as immediate damage and destruction of education facilities, death and injury of students and teachers, and displacement, and indirect impacts such as learning loss or reduced return to education, both short- and long-term. It should be gender-responsive,

6 Adapted from the UNDRR definition of exposure: 'The situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas.' (UNDRR, n.d.).

considering the specific ways in which girls and boys, women and men might be affected. It also includes the interactions between education and the consequences of the crisis in relation to other issues such as sexual and gender-based violence, child protection, health, nutrition, and water, sanitation, and hygiene (for example, rates of child labour may increase as a result of the crisis, negatively impacting enrolment and attendance). Lastly, it requires data on baseline indicators against which the effects of the crisis on education can be understood and measured.

Interventions and effectiveness: Information on interventions and their effectiveness across the dimensions of disaster management includes data that help to identify who is doing what, where, when, and for whom (also referred to as the '5Ws') to support preparedness, response, and recovery in the education sector. It also includes monitoring, evaluation, and learning (MEL) data that help to track progress in meeting identified needs and to adjust programming as necessary to be sure that objectives remain appropriate and are being met.

MEL data can be thought of on several levels – inputs, activities, outputs, and outcomes – whether of individual projects or joint and joined-up programmes. Inputs and activities pertain to implementation, and include the financial, human, material, technological, and information resources used for an intervention and the actions taken or work performed to turn these resources into outputs (UNDG, 2011). Outputs and outcomes are focused on the results of activities, outputs being 'changes in skills or abilities and capacities of individuals or institutions, or the availability of new products and services that result from the completion of activities', and outcomes being 'changes in the institutional and behavioural capacities for development conditions that occur between the completion of outputs and the achievement of goals' (UNDG, 2011).

These three types of information also need to be complemented and informed by analysis of the broader country context, which covers aspects related (but not limited) to, and interactions among, the:

- demographic context (e.g. population growth, school-age population, and internal and external migration including refugees and IDPs, marginalized population/groups)
- socio-cultural context (including an analysis of tensions between identity groups, language issues, homogeneity and heterogeneity of the population, the existence of marginalized groups)
- macro-economic and public finance contexts (covering past and future economic growth trends, government revenues and budget, employment trends, and how these could be or have been affected by the crisis and subsequent shocks)
- politico-institutional context (pertaining to the role of the state and the private sector, the territorial organization of the government administration, and issues of decentralization)
- political-humanitarian context (including the conflict and post-conflict resolution situation and direct and potential humanitarian effects)
- public health context (e.g. disease prevalence, the impacts of COVID-19, vaccination of school-age children against common childhood diseases).

The analysis should consider drivers of conflict and risk, including their relation to and intersection with education.

Categories of focus

These information needs can be conceptualized in relation to three categories of focus: people, assets, and processes. *People* refers to all those involved in the education process – learners, teachers, other education personnel, parents or guardians, and communities – and may be further categorized in terms of affected populations (e.g. refugees, IDPs, host communities, or the crisis-affected). *Assets* are the physical or material resources of an education system, including infrastructure, equipment, transport, learning materials, technology, and financial resources. *Processes* cover both educational processes such as pedagogy, curriculum, and assessment, and institutional processes such as coordination, policy-making, planning, and management.

3.4.2. Outcome areas

Lastly, these information needs can be organized around a number of thematic outcome areas, which can facilitate the development, categorization, and harmonization of indicators and the identification of data gaps. These areas correspond to the broad groupings of educational outcomes that are of interest to stakeholders working in education and reflected in key frameworks such as SDG4 and the INEE Minimum Standards (see *Appendix 2*).

For purposes of consistency, this framework has chosen four thematic areas that are aligned with SDG4 and echoed in work done on EiE coordination and humanitarian–development coherence (ISEEC, 2020; Nicolai, Khan, and Diwaker, 2020; ECW, 2018):

- access and continuity
- quality
- inclusion, equity, and gender equality
- safety and protection.

To these is added system management, 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. The framework also emphasizes capturing cross-sectoral linkages across outcome areas, which can help to improve data on how education interrelates with and contributes to outcomes in other sectors such as child protection, health, nutrition, and water, sanitation, and hygiene (WASH).

Table 3 shows the definitions of the key outcome areas, as well as indicative themes relevant to each of these outcomes.

Table 3. Definitions and indicative themes of outcome areas

Outcome area	Definition	Indicative themes
Access and continuity	'Access to education includes: on-schedule enrolment and progression at an appropriate age, regular attendance' (Lewin, 2015: 29). The INEE Minimum Standards (2010) define access as 'an opportunity to enrol in, attend and complete a formal or non-formal education programme. When access is unrestricted, it means that there are no practical, financial, physical, security-related, structural, institutional or socio-cultural obstacles to prevent learners from participating in and completing an education programme'. Continuity, which can also be expressed as 'participation', emphasizes survival, transition, and completion across grades and levels of the education system.	• 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, including cash voucher assistance
Quality	'Two principles characterize most attempts to define quality in education: the first identifies learners' cognitive development as the major explicit objective of all education systems. Accordingly, the success with which systems achieve this is one indicator of their quality. The second emphasizes education's role in promoting values and attitudes of responsible citizenship and in nurturing creative and emotional development. The achievement of these objectives is more difficult to assess and compare across countries' (UNESCO, 2004: 2). This includes learning outcomes –academic and social and emotional –and skills.	• 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	'In education, the extent to which access and opportunities for children and adults are just and fair. This implies reduction of disparities based on gender, poverty, residence, ethnicity, language, and other characteristics' (UNESCO, 2008), including displacement status and disabilities. 'Equity in education means that personal or social circumstances ... do not hinder the achievement of one's educational potential (fairness) and that all individuals reach at least a minimum level of skills (inclusion)' (OECD, 2012).	• 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)[7] • Language of instruction • Resource allocation

7 This may be a matter of disaggregating existing indicators for access and quality, or developing parity indices, but can also capture specific interventions designed to ensure equitable access and participation in education for vulnerable groups.

Outcome area	Definition	Indicative themes
Safety and protection	Safety and protection comprise multiple and often interrelated dimensions, including the physical and psychological safety of the learning environment and the protection of learners, teachers, and other education personnel, and infrastructure to combat threats and harm. 'School safety in the face of all hazards intends to protect the health and well-being of school users. It includes not being exposed, and being protected from danger, death, injury, and harm. It includes the location, design and construction of school sites and facilities, the management of school facilities, the education of staff and students in risk reduction and resilience, and the provision of psychosocial support' (GADRRRES, 2022). Protection can be defined as 'freedom from all forms of abuse, exploitation, violence, and neglect' (INEE, 2010).	• Safety of learning environments (including locations, building standards, codes of conduct) • Risk and resilience education, including disaster risk reduction (DRR) and global citizenship (formal and non-formal curriculum and learning materials, teacher training) • School/education facility-level emergency preparedness (e.g. contingency planning/ emergency management protocols) • Protection of education from attack (e.g. monitoring of attacks on education and military use; prevention and response measures) • School violence (e.g. sexual and gender-based violence, peer violence, bullying, corporal punishment) • Mental Health and Psychosocial Support (MHPSS)
System management	System management refers to the administration of the education system in a given context, and includes the design, implementation, and monitoring of policy and legislative frameworks, mobilization and management of financial and human resources, and coordination between and within the national education system, the humanitarian system, and architecture for development assistance.	• Management, inspection, and supervision of education facilities • School governance (e.g. school management committees, parents' and teachers' associations) • Human resources (including recruitment) • 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
Contributions of education to outcomes in other sectors	Education interacts with a number of other sectors to reduce risk and support resilience across the dimensions of disaster management. While cross-sectoral interventions such as school feeding or de-worming support access and retention in education, these education-related interventions can also support outcomes in other sectors, such as nutrition, child protection, WASH, livelihoods, and disaster management.	• Nutritional status • Health outcomes • Employment/labour market participation • Acquisition of knowledge and skills for disaster risk reduction

Source: Authors.

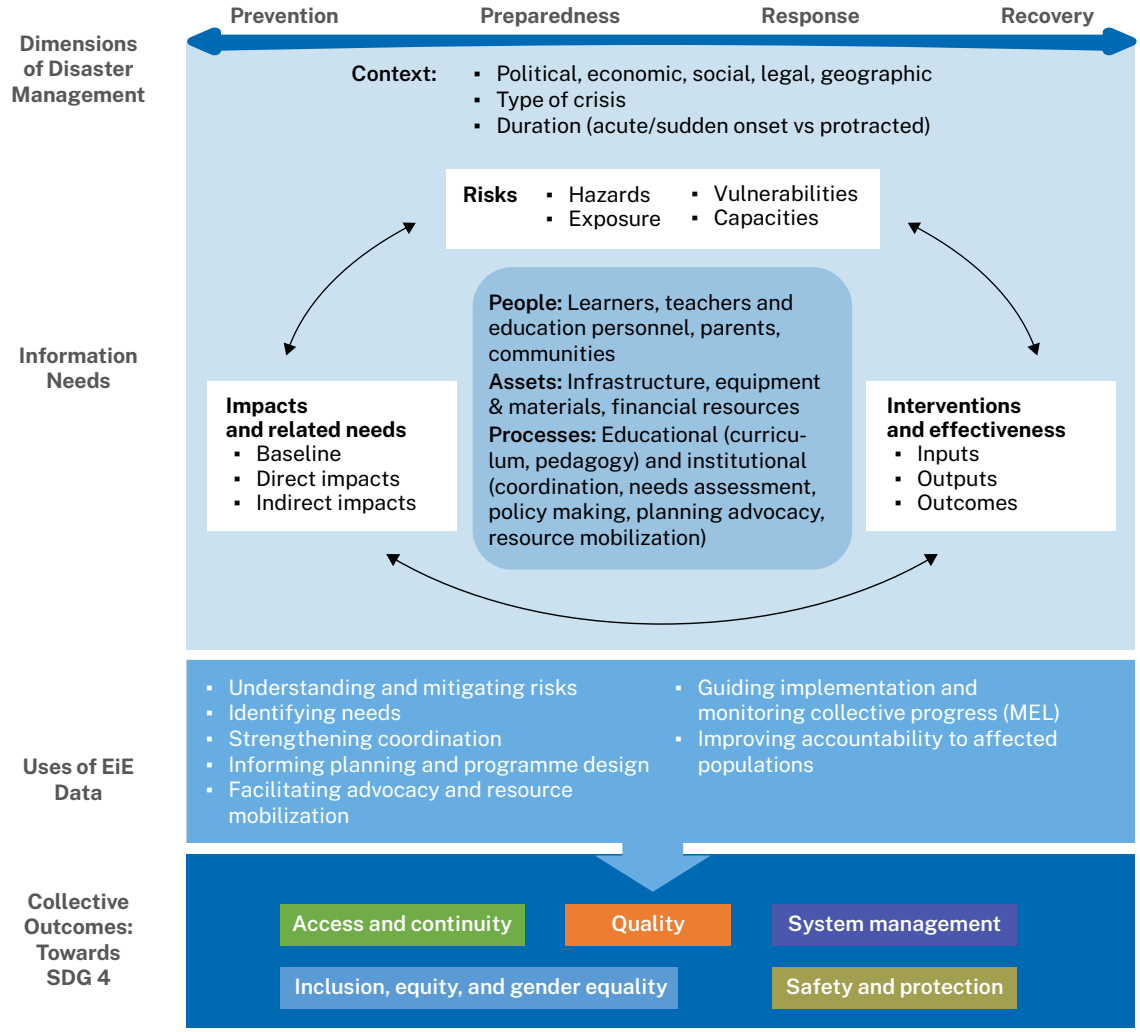
The categories in *Table 3* are closely interrelated, and the areas of inclusion, equity and gender equality, or safety and protection might usefully be cross-listed with, or seen as cross-cutting themes within, access, quality, and management. For example, the safety of learning environments or the inclusion of global citizenship and disaster risk reduction (DRR) in the curriculum can also be considered a dimension of quality, while equity and inclusion may be measured by disaggregating data for access or quality indicators. They are separated conceptually in *Table 3* to highlight their significance and distinctive emphasis in relation to crisis. However, when practically identifying information needs and categorizing indicators, recognizing these interconnections may facilitate alignment and integration of certain types of EiE data with more traditional education data.

Classifying information needs in terms of their relationship to these outcome areas can help to organize data and information and think holistically about what data are needed at different levels. Doing so enables a structured way of thinking about the risks of potential hazards for education, and the effects or impacts of crisis interventions in terms of their interaction with and progress towards desired educational outcomes. It can also support greater harmonization and standardization across processes, producers, and users that enable data to be aggregated and compared over time.

3.5. Putting it all together

Figure 2 is a visual representation of this conceptual approach to EiE data, connecting goals and uses to information needs across the dimensions of disaster management.

Figure 2. Conceptual framework for EiE data



Source: Authors.

This framework can inform the identification of specific information needs in a given context. It can be contextualized and used at different levels to help identify and organize the kinds of information needed and for what purpose, and to begin to link these needs to existing data sources and ongoing data collection processes, as well as possible indicators. While the framework provides a comprehensive view of what constitutes EiE data and how they can be used, not all categories of information in *Figure 2* will be necessary for all uses. For example, the data needed for advocacy may be very different from the data needed for evaluation; they might or might not overlap. Similarly, depending on the actor and dimension of disaster management where data efforts are focused, different types of information may be more or less relevant or immediately necessary.

4. Who produces EiE data and how?

EiE data are produced by multiple actors across a number of levels, from the teachers, administrators, local leaders, and community members who collect and report data (for example on individual learners and education facilities), upwards to sub-national and national education authorities and other relevant national authorities (e.g. National Office of Statistics, Disaster Management Authority, or line ministries such as labour and health). They also include the range of humanitarian and development actors (NGOs, INGOs, UN agencies, donors, and coordination mechanisms such as Education Clusters and EDPGs) in a given context, who may be collecting and analysing data for their own purposes as well as collaboratively as part of joint assessments and planning processes. Finally, actors at regional and global levels are engaged both in aggregating data and in contributing to improve their production and use.

The diversity of contexts, both across and within countries and by type of hazard, in which the production and use of EiE data take place mean that roles, responsibilities, capacities, and relationships among different actors vary considerably. Depending on the nature and duration of the crisis and on existing capacity for crisis management, MoEs or national bureaus of statistics may be the main producers of EiE data. In other cases, EiE data are generated, produced, and managed by a mix of government and non-government actors, including local, national, and international humanitarian and development organizations, with varying degrees of coordination and engagement. Where ministries lack either the capacity or the will to produce EiE data, humanitarian and development actors may be their exclusive producers.

As demonstrated by *Figure 2*, production of EiE data involves a number of main, interconnected, and often overlapping processes, which should ideally be informing and informed by one another, including for example annual school censuses, needs assessments, and ongoing monitoring and evaluation of projects, programmes, and plans. The range of available data sources will vary by context, but a comprehensive and integrated approach to the before, during, and after of crises will likely require complementarity among different sources. For example, MoE administrative data may serve as a useful baseline for joint needs assessments, while humanitarian data may be able to help fill data gaps for the MoE to inform sector planning.

Table 4 provides an indicative list of some common sources and producers of relevant data, linking them to EiE information needs.

Table 4. Linking information needs to common sources and producers of data

Data source/process of production	Actor(s)	Information on risks	Information on impacts of a crisis on education and related needs	Information on interventions and their effectiveness
Education administrative data (e.g. annual school census, school mapping, attendance monitoring, learning assessments, human resources [HR] information systems, data collection on relevant issues such as attacks, school closures)	Schools (head teachers and teachers), MoE (national and sub-national), National Office of Statistics	√	√	√
Education Sector Plan/ Transitional Education Plan monitoring and sector review	MoE, Global Partnership for Education (GPE), development partners	√		√
Household survey data	National Office of Statistics	√	√	
Multiple Indicator Cluster Survey (MICS)	UNICEF	√	√	
Humanitarian Needs Overview	OCHA, Education Cluster, humanitarian actors	√	√	
Joint Education Needs Assessment (JENA)	Education Cluster	√	√	
Multi-Sector Needs Assessments (MSNA)	REACH Initiative		√	
Post-Disaster Needs Assessments (PDNA) and Recovery and Peacebuilding Assessments (RPBA)	Government-led, with support from the EU, UN, World Bank, and other national and international actors	√	√	
3/4/5Ws	Education Cluster			√

Data source/process of production	Actor(s)	Information on risks	Information on impacts of a crisis on education and related needs	Information on interventions and their effectiveness
Humanitarian Response Plan monitoring and humanitarian dashboards	OCHA, Education Cluster, UN, and NGOs		√	√
ECW First Emergency Response and Multi-year Resilience Programme monitoring and evaluation	UN, NGOs, ECW			√
Refugee EMIS	UNHCR, national authorities	√	√	√
Displacement Tracking Matrix	International Organization for Migration (IOM)	√	√	
UN Monitoring and Reporting Mechanism on Children and Armed Conflict (MRM)	Country Task Force on Monitoring and Reporting (CTFMR)	√	√	
MEL for individual projects	UN, NGOs			√
Donor reporting	UN, NGOs			√
Financial Tracking Service (FTS)	OCHA		√	√

Source: Authors.

Table 5 shows a general overview of some of the processes of data production and sources of data that may be common in crisis settings – though their availability and quality are likely to vary significantly by context. It does not represent an exhaustive or prescriptive list, but rather helps conceptually to connect different types of information need to potentially relevant sources of data.

These processes of data production can also be helpfully linked to their uses during key phases guiding planning for education in crisis contexts, as shown in the table.

Table 5. Linking key planning processes for education in contexts of crisis to data production and use

Before	During	After
← Humanitarian–development coherence →		
Prevention, preparedness, long-term disaster risk reduction plans and strategies	**Immediate response**	**Recovery and building back better**
Planning processes		
• Education sector plan that addresses systemic risks	• Annual humanitarian response plans (HRPs) • Flash appeals • ECW First Emergency Response (FER) • Other rapid response mechanisms	• Transitional education planning (TEP) • Multi-year humanitarian planning (e.g. Multi-Year Humanitarian Response Plan, ECW Multi-Year Response Plan)
Key features and objectives		
• Long-term planning and programming with a strong focus on disaster risk reduction • Preparedness and preventive planning • National focus and coverage • Sectoral approach • Average plan duration of five to 10 years	• Short-term life-saving interventions related to an immediate crisis • HRP generally has cross-sectoral coverage, including education • Focus can be very localized depending on the nature and extent of the crisis • HRP often lasts only one to two years	• Strengthening the coherence between short- and long-term education strategies and assistance • Response (including in protracted crises), but mostly recovery efforts • Average plan duration of up to three years
How data and information are produced		
Education administrative data, e.g. • Annual school census • School mapping • School attendance monitoring • Learning assessments • HR management • MEL of Education Sector Plan National disaster management data Needs assessments (including previous JENA, PDNA/RPBA, etc.)	• Humanitarian needs assessment (JENA, MSNA) • PDNA/RPBA/CRNA (COVID-19 Recovery Needs Assessment) • UNHCR/refugee data • IDP data (IOM Displacement Tracking Matrix, Internal Displacement Monitoring Centre [IDMC] Updates) • Education Cluster 3/4/5Ws and humanitarian dashboards • FTS • Donor reporting	• Humanitarian needs assessment • PDNA/RPBA/CRNA • MYRP MEL • UNHCR/Refugee data • IDP data (IOM Displacement Tracking Matrix, IDMC Updates) • Individual project and other joint programme MEL • FTS • Donor reporting
How data and information are used		
• Sector analysis, including risk analysis • Design and implementation of policies and programmes • Cost and financing • Coordination arrangements • M&E	• Coordination • Advocacy and resource mobilization • Programme design and implementation • M&E • Reporting and evaluation/ accountability	• Sector analysis, including risk analysis • Advocacy and resource mobilization • Design and implementation of policies and programmes • Cost and financing • M&E • Coordination • Reporting and evaluation/ accountability

Source: Adapted from IIEP-UNESCO, 2021: 16.

Frequency of data production differs across processes and purposes or uses of data, ranging from those produced on a daily, weekly, or monthly schedule in a more volatile or acute situation to longer intervals in protracted crises with relatively more stable reference populations (Buckner et al., 2022). Humanitarian data tend to be collected more often, as they are focused on responding to immediate operational needs, whereas development data may be collected on a less frequent basis (e.g. annually), given their focus on trends for planning purposes (Smiley and Cremin, 2019). Frequency should be driven by context, with consideration given to the ability to analyse and use the data collected (Buckner et al., 2022).

Frequency is also likely to be affected by context, since challenges in terms of access and security, availability of resources, and technical capacity affect the quality, regularity, and consistency of data collection and analysis, whether for certain areas or entire countries, potentially limiting their use or usefulness. For example, an annual school census, representing a significant source of national administrative data, may not be conducted every year or in all localities, or it may take a significant amount of time for data to be analysed and published after collection is complete.

Although various providers of data, working in parallel, can collaborate in the three phases described by *Table 5*, a well-designed EMIS or institution information system can serve all three phases. A digitalized EMIS, which includes data on schools, children, and risks, can be used to report baseline figures and emergency needs after a crisis, and also monitor recovery and response activities.

4.1. Challenges and considerations: multiple actors, processes, and priorities

This variety of actors and processes results in the collection of considerable amounts of data and information that can be useful in helping to improve preparedness, response, and recovery efforts in education. However, it also gives rise to a number of challenges that need to be addressed in order to harness and optimize these multiple efforts and priorities for EiE data production and use.

Capacity for EiE data production, sharing, and use remains a significant issue across MoEs and humanitarian and development actors at institutional, organizational, and individual levels (UNESCO, 2021; Buckner et al., 2022). There is a lack of dedicated staffing and resources for EiE data production and use, as well as limited knowledge and technical skills, both for data collection and analysis, at national, sub-national, and school levels (UNESCO, 2021; Buckner et al., 2022). This lack of capacity can affect the quality, availability, and timeliness of data required for preparedness, response, and recovery. Furthermore, there are practical, logistical, and methodological challenges associated with collecting EiE data disaggregated by different crisis-affected groups, including protection concerns that warrant careful consideration.

Available data are typically fragmented and vary in accuracy, reliability, completeness, coverage, consistency, timeliness, availability, and accessibility (INEE et al., 2019; Buckner et al.; UNESCO, 2021). Differing mandates, data needs and capacities, and donor reporting result in the use of different frameworks, tools, indicators and definitions, and focuses for data production both across and within national systems and by humanitarian and development actors. These differences can also lead to duplication of data collection efforts and parallel systems, while lack of coordination, harmonization, and standardization and the absence of an enabling institutional environment can limit data interoperability, sharing, and use (INEE et al., 2019; Buckner et al., 2019; UNESCO, 2021; Buckner et al., 2022).

This duplication has a cost in terms of resources and missed opportunities; it can also lead to overburdening of (and fatigue among) those involved in data production, in turn affecting quality and usefulness. Moreover, the absence of effective feedback loops for data, limited involvement in decisions around data, and poorly visible links to concrete results have been shown to decrease the motivation and participation of data providers and to impact data quality (UNESCO, 2021).

Data production, sharing, and use are influenced by political considerations, personal and institutional relationships, and organizational structures (Buckner et al., 2022). This can include the dynamics of the political context and the extent to which humanitarian principles of neutrality and impartiality may limit or interact with data sharing and use. Data are inherently political, and there may be more or less appetite or willingness for certain data to be captured or shared; appetite may be stronger in one stakeholder or group of stakeholders than another. The production and sharing of EiE data can also be shaped by the power dynamics among actors, and by conditions that support or undermine greater coordination, collaboration, and interoperability of data, such as lines of accountability, donor requirements, capacities (including cross-over understanding of both humanitarian and development processes), presence, inclusiveness and effectiveness of formal coordination mechanisms, and pooling of resources. For example, the pressure to demonstrate 'quick wins' and to address short-term emergency needs in a humanitarian response may work against greater collaboration and contribution to longer-term outcomes that could strengthen national authorities and information management systems.

5. Operationalizing humanitarian–development data coherence

A shared understanding of why EiE data are needed, what they are, and how and by whom they are used and produced should lead to improving the production, use, and usefulness of the data. Improving coherence across the humanitarian–development–peace nexus and strengthening system resilience can be accomplished by quality data and information. But for this to happen, humanitarian, development, and government data need to relate better before, during, and after crisis in order to support joint and joined-up coordination, assessment, planning, implementation, and monitoring of progress towards better outcomes for crisis-affected children, youth, and adults. This requires greater harmonization not only of humanitarian and development data, but also within or among data production efforts in the nexus.

Adapted from a conceptual framework for humanitarian–development coherence developed by ODI for USAID (2020), *Table 6* outlines directions for improving humanitarian–development data coherence in norms, capacities, and operations, which in turn can contribute to more resilient education systems.

Table 6. Opportunities for humanitarian–development coherence in data

	Humanitarian	Opportunities for coherence in EiE data	Development
Norms (What guides data production and use?)	• Humanitarian Principles • INEE Minimum Standards • Minimum Standards for Child Protection in Humanitarian Action • Sphere Standards	• Data and information on crisis-affected populations for decision-making to realize 'Leave no one behind' agenda of SDGs • Data for measuring progress towards collective outcomes for humanitarian and development education support in line with New Way of Working • Data on displaced populations to support their inclusion in national education systems in line with Global Compacts and Refugee Education 2030	• Principles for Good International Engagement in fragile states • SDG4 – Education 2030 Agenda • Sendai Framework for Disaster Risk Reduction • Paris Climate Agreements • Comprehensive School Safety Framework • Global Compacts for Refugees and Migration
Capacities (Who leads and coordinates production of education data?)	• National authorities (e.g. MoE, national statistics offices, disaster management authorities) at central and decentralized levels • UNHCR and OCHA • Education Cluster and Child Protection AoR • UNHCR, IOM • ECW • Humanitarian actors (UN, [I]NGO, donors) – both in education and in other sectors (e.g. emergency management, child protection, health, WASH)	• Institutional information systems that join national and sub-national MoE capacities for data collection, analysis, and use across dimensions of prevention, preparedness, mitigation, response, and recovery with the capacities of humanitarian and development actors	• National authorities (e.g. MoE, NBS) at central and decentralized levels • Development partners (e.g. UN agencies and NGOs, donors)

	Humanitarian	Opportunities for coherence in EiE data	Development
Operations (How are data produced and used?)	• Rapid needs assessments • HRP processes • Education Cluster 5Ws • First Emergency Response plans • MEL of individual projects and joint humanitarian programming • PDNA/RPBA and/or other government-led assessments • Citizen-generated data	• A coordination mechanism for data is established, bringing together MoE and other relevant national authorities with humanitarian and development actors, to support alignment and optimization of efforts • Data production, sharing, and use are standardized and harmonized across MoE and humanitarian and development actors • EiE data are used to strengthen education system preparedness and enable anticipatory action • Needs assessments and analysis are undertaken jointly and include MoE and humanitarian and development partners (e.g. JENA, PDNA, RPBA) • EMIS provides baseline data for needs assessments, anticipatory action/ preparedness planning, monitoring • EMIS includes disaggregated data for displaced learners and those in crisis-affected areas to the extent that protection considerations allow • Humanitarian data (including on numbers of affected learners, teachers, and education facilities, IDPs, refugees, returnees, and climate-related displacement) are used to support the development of transitional education plans, inform MoE sector analysis and planning, support school-level preparedness and contingency planning, prioritization for building back better • Cluster strategies, MYRPs, sector analysis, and plans are aligned and used as opportunities to harmonize and standardize data production, sharing, and use • Joined up monitoring of progress against collective outcomes helps to bridge humanitarian assistance with sustainable development	• Household data • Annual school census • HR management data • School mapping • Attendance monitoring • Learning assessments • School inspection • Education Sector Analysis, review and ongoing sector plan MEL • Citizen-generated data

Source: Authors, contextualizing the framework on humanitarian–development coherence in education developed by ODI for USAID (Nicolai et al., 2016).

5.1. Collective outcomes: a data nexus

Humanitarian–development coherence requires increased coordination and joint or joined-up analysis and programming to achieve collective outcomes among humanitarian and development actors and with MoEs (ISEEC, 2020). Collective outcomes have the potential to bring these actors closer together. They apply neither purely to life-saving humanitarian action nor to longer-term development outcomes; instead, the focus is on shared outcomes at the point where humanitarian and development action meet. These outcomes provide a common vision that aims to bridge short- and medium-term assistance and, when linked to national sector plans, can help to ensure that the most vulnerable are not left behind in longer-term development processes (OCHA, 2021).

Working within and towards collective outcomes for education in crisis settings should help address the challenges caused by the proliferation of plans and programmes in a given context by encouraging organizations to set common priorities and targets. These collectively agreed, measurable, intermediate target outcomes should be 'based and articulated on a shared analysis and a shared understanding and allow for humanitarian, development and peace actors to align their programming individually towards those collective outcomes, in accordance with respective mandates' (IASC, 2020).

In the case of EiE data, developing and monitoring progress against context-specific collective outcomes represents an opportunity to bridge data production and use across various plans and programmes, reducing duplication and fragmentation. This approach can help to ensure that different stakeholders have the granularity, frequency, and focus of data they require to anticipate, respond to, and be accountable for meeting needs in their respective roles, while at the same time making sure that such data can feed upwards – for example, by contributing to the implementation and monitoring of joint or joined-up programmes.[8] It also provides an opportunity to link these data more closely to institutional information systems and sector planning processes.

5.2. Aligning strategies, programmes, and sector plans

The first step in moving towards joined-up monitoring of collective outcomes is to identify and agree on these processes and outcomes at country level. One opportunity for doing this might be in the alignment and development of points of intersection across Education Cluster strategies, refugee response plans, national EiE strategies, and ESPs. Further reflection and guidance are needed on how best to operationalize the imperative to identify measurable, intermediate collective outcomes, but initiatives such as ECW-funded MYRPs and GPE-funded transitional education plans may provide a useful starting point.

6. Quality standards to strengthen the EiE data ecosystem

Humanitarian–development coherence in and through data requires reconciling the inevitable variation in needs, uses, and sources of data and information among different stakeholders at different levels, with the imperative to work towards shared outcomes and monitor collective progress. It also means harmonizing the data needed to plan, implement, and monitor immediate response interventions with data that can support system strengthening, so that crisis-affected learners are not left behind. It requires improving coordination among the different actors involved in data production and use, and strengthening capacities – both technical and in terms of resources – that can enable more effective and efficient ways of working. Lastly, it means committing to and being accountable for any behaviour change around data production, sharing, and use that might be required to make EiE data more impactful. The sections that follow highlight ways of thinking and working simultaneously towards these different purposes.

8 The concept of nested results matrixes, whereby 'decision-makers at different levels (of decentralization for example) can programme concrete actions and activities relevant to local contexts but all conducive to achieving a common goal', may offer a useful approach for thinking about the relationship of individual projects and programmes to sector plans and broader development goals, as well as implications of this nesting of logframes for data. See Chang (2006): 45–48.

6.1. Building capacity for EiE data production, sharing, and use

Data are only as good as their source, which means that any effort to strengthen the production and use of EiE data requires investment in capacity. 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 capacity applies to national systems from school and community levels through to national 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 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.

6.2. A more coordinated approach across the data value chain

Working to strengthen EiE data requires improved coordination around production and use at all stages of the data value chain. Stronger coordination among stakeholders around the production and use of EiE data – from the collection and analysis of data on risks, needs, and interventions to their operational and strategic use at different levels – should reduce duplication and data fatigue, optimize use of capacities, and better facilitate uptake and impact.

Coordination around data should be improved among humanitarian partners (through the Education Cluster, between the Education Cluster and Refugee Education Working Group, and across relevant humanitarian clusters) and within MoEs (across and within levels of leadership and across line ministries). Data efforts need to be coordinated among humanitarian and development actors and national education authorities to be sure that processes are appropriately aware of, aligned with, and able to speak to one another. As a starting point, mapping the data landscape, including the strengths and weaknesses of different data sources as well as the overlaps and gaps in the production and flow of data, can help to identify entry points for collective action and opportunities for improved coordination and collaboration among stakeholders.

A dedicated mechanism for coordination specifically around EiE data, bringing together actors from the MoE, and humanitarian and development sectors, can help to harmonize different efforts and align them with education sector policies, strategies, and plans across the dimensions of crisis management, while establishing and building consensus around roles and responsibilities in data production, sharing, and use. The form this takes will necessarily look different from one country to the next, and should be adapted accordingly. Depending on the context, such a mechanism might usefully be embedded within an existing coordination forum, such as a Local Education Group, education in emergencies working group (EiEWG)/ Education Cluster, or EDPG, or in an intra-ministerial group in situations that do not require humanitarian assistance, provided such a forum brings together all of the necessary actors to ensure a comprehensive approach.

6.3. Moving towards standardization and interoperability

In order to improve data quality and facilitate the coordination and harmonization of EiE data production and use within a given context, a degree of standardization is required, but should be in balance with the need for flexibility. Standardization can be defined as bringing something 'into conformity with a standard especially in order to assure consistency and regularity' (Merriam-Webster, 2023).

While the term can be understood in the context of data to refer specifically to standardizing indicators, it can also apply to more incremental steps towards greater interoperability across sources of EiE data and between some types of EiE data and traditional education data. It can be thought of in relation to processes and procedures throughout the data value chain

as much as to the data themselves, whether within individual organizations or across a given system.

This implies that there is a need to collaborate to build shared understanding and use of terms, definitions, and taxonomies in joint assessments and programmes as well as individual project monitoring in a given context, and then to align these as far as possible with terms, definitions, and indicator groups used by the national education system. It also means working to standardize processes of data collection, analysis, and dissemination at country level, both internally within organizations and among different actors. These steps towards standardization can help to ensure that data can be compared and aggregated more readily across partners and programmes and over time, and ultimately increase their usefulness beyond the implementation and evaluation of individual projects and programmes.

6.4. Encouraging safe data sharing and feedback loops

Improving the availability, accessibility, and quality of crisis-related data and increasing humanitarian–development coherence also requires incentivizing and systematizing responsible data sharing to reduce duplication, maximize comparative advantage, and ensure comprehensiveness. Making data more accessible and available to those who need it can enable better decisions and more effective response and policy-making (Open Data Institute, 2021).

Protection and data privacy are paramount, and the humanitarian principle of 'do no harm' should underpin all work on crisis-related data. Data, especially on affected people, should be managed responsibly, in a safe, ethical, and effective manner (OCHA, 2021). However, data exist on a spectrum, from closed access through to open data (Open Data Institute, 2020). With privacy and protection in mind at all times, data should be 'as open as possible' to unlock their potential and increase opportunities for efficiency and optimization. While further work is needed to understand what more systematic and standardized sharing of data could look like and to develop and implement strict privacy and safeguarding protocols that can build confidence and trust among stakeholders, this is an essential direction for work to strengthen the data ecosystem.

Similarly, making sure that there are meaningful feedback loops on all levels of this ecosystem, so that providers, collectors, and subjects of data see the usefulness of their efforts, should be a priority. Data play a crucial role in building and strengthening accountability to affected populations, through increased transparency and broadening the scope for participating in and giving feedback on decisions. Data must not only flow upwards, but should also be used and demonstrate results across partners and back down to the level of individuals, schools, and communities. This also means ensuring that those about whom data are collected are involved in decisions around its production and use, and designing inclusive processes which stakeholders can feel invested in, showing the benefit of working together rather than in silos.

6.5. Building a joined-up measurement framework

Monitoring collective outcomes and using joined-up monitoring to measure progress towards shared goals are not intended to replace specific programme and project indicators and reporting requirements. Rather, they provide a basis for bridging data from the monitoring of various plans and programmes around commonly agreed outcomes to avoid duplication and fragmentation, and to enable these data to be greater than the sum of their parts.

Taking joint assessment and joined-up monitoring one step further, it may be useful to work towards collectively identifying a core set of indicators into which various data in a given context can be fed.[9] These indicators should flow from the agreed collective outcomes, and reflect a common vision of what stakeholders need to measure to know whether and to what extent they have achieved these outcomes, and where and how they might need to adjust or concentrate their efforts. They should be built around a commitment to use of

9 See *Appendix 3*, which provides a sample matrix for understanding how common measurement of collective outcomes at country level using a set of core indicators might be approached.

shared definitions, indicator groups, and quality standards across assessments, projects, and programmes that enable data for this core set of indicators to be aggregated and useful for a range of stakeholders over time.

The process of identifying core indicators should be country-driven and context-specific. As far as possible, the formulation of indicator definitions and taxonomies should build upon existing M&E frameworks such as those for sector plans or MYRPs, to reduce duplication and increase interoperability and efficiency. Global frameworks and measurement tools, such as the SDG4 Targets, the INEE Minimum Standards, the Global Education Cluster's HRP Indicator Registry, the Comprehensive School Safety Framework, and the Global Coalition to Protect Education from Attack (GCPEA) Toolkit for Collecting and Analyzing Data on Attacks on Education, might also be usefully drawn upon to support the formulation of specific indicators.

This core set of indicators should strike a balance between limiting complexity so as to be manageable and efficient, and sufficiently capturing essential information. It also needs to pay attention to, and adequately account for, considerations specific to crisis settings and humanitarian responses, including potential differences in the nature of EiE interventions (e.g. temporary learning spaces located in camps and camp-like settings, curriculum and languages of instruction, EiE-specific non-formal learning modalities such as catch-up and bridging programmes and accelerated education, and lack of age-disaggregated population statistics). These kinds of information need to be included, but without introducing sources of bias, error, or misinterpretation of indicators, and in ways that can facilitate sector planning for longer-term recovery and resilience.

6.6. Strengthening institutional information systems

Institutional information systems, which exist under the responsibility of MoEs with a lasting mandate to collect system-wide education data, provide a valuable entry point for strengthening the humanitarian–development–peace nexus and for promoting alignment, collaboration, and longer-term planning. They can also be seen as an integral part of system resilience.

Institutional information systems (defined in *Box 1*) provide the architecture for ensuring that crisis risks, impacts, and interventions are captured, measured, and used for national sector policy, planning, and management, and can help to strengthen and support effective MoE leadership and engagement to increase access, quality, equity and inclusion, and safety for crisis-affected learners. When operational and adapted to such purposes, institutional information systems can capture comparable system-wide data over time, reflecting trends that are valuable both for emergency preparedness and longer-term crisis response and recovery, and helping to facilitate tracking of programme efficiency, resource allocation, and progress towards international commitments on the part of governments and partners.

Working to strengthen institutional information systems as a shared goal, with alignment ensured among data sets referenced by humanitarian and development partners and education authorities, can help to minimize the fragmentation and the creation of parallel systems and bring greater coherence to EiE data. Doing so also reflects wide recognition of the essential role of MoE leadership in crisis management, including coordination, and can help support increased capacity for MoEs to lead and engage in preparedness, response, and recovery efforts (IIEP-UNESCO, 2022).

Appendix 1. Typology of hazards

There can be various ways of categorizing and grouping hazards and risk factors, ranging from a binary division between natural and human-made hazards, to more detailed scientific classifications, categorizing hundreds of types of hazard across multiple hazard clusters.[10] Ultimately, the decision about how to approach the identification and grouping of hazards should be context-specific and pragmatic, and certain categories and types of hazard will necessarily be more or less relevant from one setting to the next. As a starting point or reference, however, the present paper proposes using the 'all hazards, all risks' classification shown in *Figure 3* and developed in the Comprehensive School Safety Framework 2022–2030.

Figure 3. All hazards, all risks classification

Natural and climate change-induced hazards

Land: earthquake, landslide/rockslide, debris or mud-flow, glacial lake outburst, volcanic eruption, avalanche.
Wind & Water: flood, tropical cyclone, windstorm, coastal erosion, tsunami, bridge/dam break, drought, water shortage, hailstorm, sandstorm, lightning.
Fire: wildfire, structural fire.
Temperature: extreme cold, extreme heat.

Technological hazards

Nuclear, biological, radiological and chemical threats (including hazardous materials and waste, pesticides, asbestos & paint & cleaning agenda), radiation, power shortage, road accidents (bus, car, bicycle, pedicab/rickshaw, etc.) and other transportation accidents (train, plane, boat).

Biological and health hazards

Pandemics (e.g., HIV, flu, Avian Flu, Ebola, COVID-19, etc.), epidemics (e.g., gastrointestinal), vector-borne diseases (e.g., Malaria, Dengue, Zika), unsafe or insufficient water, unsafe or insufficient food, air pollution (including molds), water pollution, pest infestations (e.g., rodents, insects, venomous animals).

Conflict and violence

Physical and humiliating punishment, abuse, neglect & exploitation, peer violence, sexual and gender-based violence, cyber-bullying, online violence, civilian and military conflict, gang violence, attacks on schools, students and staff, military use of facilities, child recruitment.

Everyday dangers and threats

Vehicle accidents, drowning, playground accidents, alcohol and substance abuse, separation from family, unsafe routes to schools (e.g., in or through water, falling coconuts, animal crossings), displacement and migration, child labour, and child marriage.

In addition, conditions could increase exposure to hazards and exacerbate risks, including: the lack of basic necessities (e.g., warmth, water, food, light, ventilation, sanitary facilities, emergency medical care, shelter).

Source: GADRRRES, 2022: 19.

10 See for example the Emergency Events Database (EM-DAT) and the *UNDRR Hazard Definition and Classification Review Technical Report*, which group more than 300 types of hazard into eight hazard clusters, including meteorological and hydrological, extraterrestrial, geohazard, environmental, chemical, biological, technological, and societal.

Appendix 2. Bringing global frameworks together

Table 7 highlights relationships across outcome areas and humanitarian and development frameworks, and may usefully inform the processes of developing or harmonizing indicators and identifying core indicators, as well as mapping existing data sources.

Table 7. Bringing global frameworks together

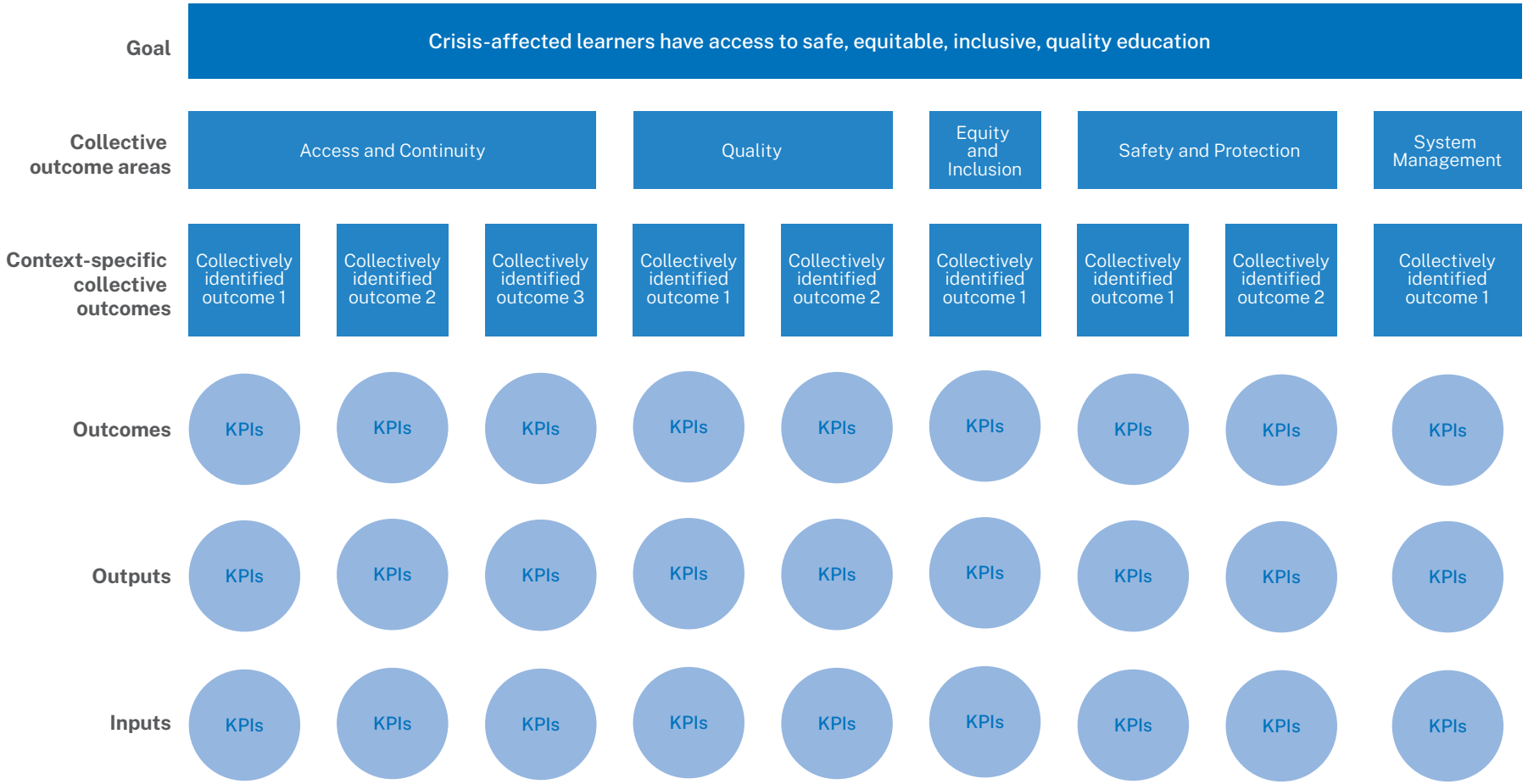
Outcome Areas	INEE Minimum Standards	SDG4
Access and continuity	Domain 2: Standard 1–2	Target 4.1 (indicators 4.1.2–4.1.5) Target 4.2 (indicators 4.2.4–5) Target 4.3 (indicators 4.3.1–4.3.3) Target 4.6 (indicator 4.6.3)
Quality/learning and skills	Domain 2: Standards 2–3 Domain 3: Standards 1–4	Target 4.1 (indicators 4.1.0–4.1.1) Target 4.2 (indicator 4.2.1) Target 4.4 (indicators 4.4.1–4.4.3) Target 4.6 (indicators 4.6.1–4.6.2) Target 4.c (indicators 4.c.1–4.c.4)
Equity and inclusion	Domain 2: Standard 1	Target 4.5 (indicators 4.5.1–4.5.3, 4.5.5)
Safety and protection	Domain 2: Standards 2–3	Target 4.a (indicators 4.a.1–4.a.3) Target 4.2 (indicators 4.2.1, 4.2.3) Target 4.7 (indicators 4.7.1–4.7.5)
System management	Domain 1: All Standards Domain 4: Standards 1–3 Domain 5: Standards 1–2	Target 1.a (indicator 1.a.2) Target 4.1 (indicators 4.1.6–4.1.7) Target 4.2 (indicator 4.2.5) Target 4.5 (indicator 4.5.4) Target 4.7 (indicator 4.7.6) Target 4.c (indicators 4.c.5–4.c.7)

Source: Authors.

Appendix 3. Matrix of collective outcomes

Figure 4 shows a sample matrix for understanding how common measurement of collective outcomes at country level using a set of core indicators might be approached. It is intended only to be indicative, as the number of collective outcomes developed per outcome area will vary.

Figure 4. Sample matrix for joined-up measurement of collective outcomes



Note: KPIs = Key Performance Indicators.
Source: Authors.

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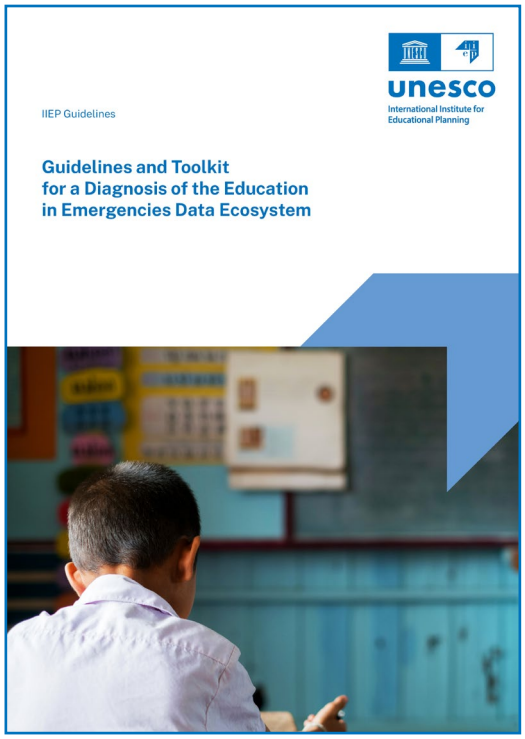

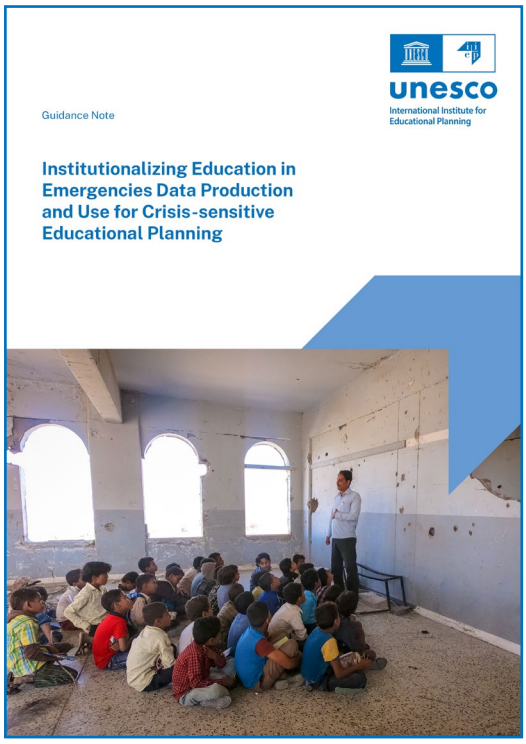

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