

IDENTIFYING COMPLEMENTARY AREAS

- *Preparedness for Effective Response (PER)*
- *Data Readiness Framework*

INTRODUCTION

Preparedness for Effective Response (PER) is a cyclical approach designed to empower National Societies to become more creative and innovative in their disaster management actions, and contribute to the coordination of national and global response systems. Learn more about the PER [here](#).

In working on both data readiness and the PER, it is clear there is quite a bit of overlap in what it means for a National Society to be prepared to respond and use data. This was validated in a detailed review of the PER components and benchmarks; many of components had data-related benchmarks.

PER components/benchmarks with data readiness elements

Table 1 below shows the percentage of PER benchmarks which mention something related to data readiness, shown by PER component. Benchmarks were given a binary indication if a data readiness element was mentioned. For example, the benchmark “NS has procedures, data collection and feedback mechanisms in place to ensure community engagement in prevention and response interventions” was marked as 1. The benchmark “Evacuation is part of NS’s response strategy and is identified in different scenarios” was marked as 0.

The benchmark binary indications were then averaged by PER component to understand which PER components are the most “data-heavy”. There is a wide range in terms of how data-heavy the PER components are. For instance, the component “Emergency Needs Assessment” had something data-related in each of its benchmarks, while “Coordination with External Agencies and NGOs” had no reference to data in its benchmarks.

This, however, is not a perfect indication of how relevant data is to the component. For example, “17. Cash Transfer Programming (CTP)” (now known as Cash and Voucher Assistance, or CVA) only had 22% of benchmarks mention a data readiness element, even though effective CVA would not be possible without good data readiness. The most data-heavy PER components are reflected in the Table 1.

Table 1. How relevant is data readiness for each PER component?

% Data relevance	PER Component
100%	18. <i>Emergency Needs Assessment</i>
100%	21. <i>Information Management (IM)</i>
89%	6. <i>Hazard, Context and Risk Analysis, Monitoring and Early Warning</i>
80%	19. <i>Beneficiary Selection</i>
78%	31. <i>Operations Monitoring, Evaluation, Reporting and Learning</i>
50%	16. <i>Early Action Mechanisms</i>
50%	2. <i>Disaster Risk Management Strategy</i>
50%	24. <i>Coordination with Movement</i>
48%	28. <i>Coordination with Local Community Level Responders</i>



When going through the PER, it may also be helpful for you to know how frequently certain data readiness elements are mentioned across the various PER components, so that you know which data readiness elements to prioritize with your team. The data readiness elements most commonly mentioned in the PER are included in Table 2. Language in the data readiness framework was added or modified in order to better align with the PER benchmarks.

Table 2. Which data readiness elements are mentioned most frequently in the PER?

# of mentions	PER mention	Data readiness element	Data readiness description
12	Ongoing monitoring	3.1 Primary data	Data collection is an umbrella term for all activities associated with soliciting information from individuals and groups. This encompasses, but is not limited to, activities such as evaluations, assessments, surveys, and others.
9	Established plan of action	3.4 Data-driven decision making	Data-driven decision making involves making decisions that are backed up by hard data rather than making decisions that are intuitive or based on observation alone.
7	Data quality assurance processes	2.4 Data quality and format	Data quality assurance is the process of data profiling to discover inconsistencies and other anomalies in the data, as well as performing data cleansing activities (e.g. removing outliers, missing data interpolation) to improve the data quality.
6	Data trends and context awareness	1.3 Data ecosystem	A data ecosystem is a network of organizations, affiliated and affected communities, governmental and private sector organizations who are producing, collecting and analyzing digital data.
6	Indicators	2.3 Data collection methodology	Data collection is an umbrella term for all activities associated with soliciting information from individuals and groups. This encompasses, but is not limited to, activities such as evaluations, assessments, surveys, and others.
6	Accuracy and relevancy of data	3.2 Data analysis and visualizations	Data analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data.
5	Data literacy in collection	1.2 Data literacy skills	Data literacy is the ability to read, understand, create and communicate data as information.
5	Survey design	2.3 Data collection methodology	Data collection is an umbrella term for all activities associated with soliciting information from individuals and groups. This encompasses, but is not limited to, activities such as evaluations, assessments, surveys, and others.
5	Regular/ongoing analyses	3.2 Data analysis and visualizations	Data analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data.
5	Timely reporting	3.3 Effective reporting	Effective reporting enables teams to be proactive in disseminating to external teams/organizations who may find the information valuable.
5	Effective sharing and/or dissemination	3.4 Data-driven decision making	Data-driven decision making involves making decisions that are backed up by hard data rather than making decisions that are intuitive or based on observation alone.



From this list, we can see that the following data readiness elements are most commonly mentioned across the PER benchmarks:

- Ongoing monitoring
- Established plan of action
- Data quality assurance processes
- Data trends and contextual awareness
- Indicators
- Accuracy and relevancy of data

If your organization is preparing to undergo a full PER assessment in the future and you want to improve certain elements of your data readiness prior to the PER in order to achieve higher results, these may be good data readiness elements to prioritize. Because they have the most broad application across PER benchmarks, becoming more data-ready in these areas will help your organization with overall preparedness for disasters!

Table 3 shows an excerpt from the data readiness framework that includes the elements most likely to support you in achieving higher PER results.

Table 3. Priority data readiness elements to support PER preparation

1. DATA LITERACY			
1.2 Data literacy skills			
1.2.4. Ability to read and understand data			
<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Staff often misinterpret data or cannot make sense of the information in a way that relates to their work.</i>	<i>Staff have a basic understanding of data, and can conduct basic level analyses (such as summary statistics).</i>	<i>Staff are able to read and understand data within the context of varying data quality (e.g. missing data).</i>	<i>Staff are able to read and understand data, and extrapolate information for their programmatic or operational context.</i>
1.2.5. Data analysis and visualization skills			
<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Staff does not know how to do data analysis, often relying on a first read of data or not using it all</i>	<i>Only basic analyses done (summing, averages)</i>	<i>Team has capacity to do custom analytics to support specific requests (e.g. disaggregated data, time and regional trends)</i>	<i>Advanced econometric analyses done (sub-group analysis, correlations, etc.) Analysis is contextualized</i>



1. DATA LITERACY

1.2 Data literacy skills

1.2.6. Data interpretation skills

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Data users cannot use data to describe their programs</i>	<i>Users can connect data with some on-the-ground activities, but may explain or use data incorrectly in the context of program management (i.e. come to different conclusions than suggested by the data)</i>	<i>Users can explain what data means to others in words outside of what is presented, using a longitudinal and/or comparative understanding of the data</i>	<i>Users can explain concepts like bias and other limits to data and use available data for other relevant proxies</i>

1.2.7. Technical support

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Team is working completely independently, with no support outside the immediate team.</i>	<i>Team collaborates with other staff in the organization for technical assistance.</i>	<i>Team has identified technical staff who can support in the event of advanced data needs</i>	<i>Team is linked to wider resources of technical teams (e.g. IFRC technical working groups or Surge)</i>

1.3 Data ecosystem

1.2.8. Awareness and linkages to technology

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Team has limited knowledge of outside technical resources.</i>	<i>The team has heard of commonly used technology tools for humanitarian work.</i>	<i>Teams have an understanding of humanitarian technical sectors and communities (e.g. open source communities, local technology firms, etc.)</i>	<i>There is direct engagement with technical sectors and communities (e.g. open source communities, local technology firms, etc.)</i>

1.2.9. Secondary data awareness

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Team is not aware of what data is available from other governments or agencies</i>	<i>There is some information on what other actors have/are collecting, through individual networks.</i>	<i>The team is aware of secondary data sources, though often without formal engagement</i>	<i>There are formal linkages to external data sources and where relevant</i>



1. DATA LITERACY

1.3 Data ecosystem

1.2.10. Data interpretation skills

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Team is not aware of any analysis of country context, trends.</i>	<i>Team is plugged into key national data trends and information as relevant to the program/operations.</i>	<i>Team is plugged into national data trends and information as relevant to the program/operations across multiple stakeholders and resources.</i>	<i>Team anticipates country context changes and data trends and work/priorities reflect those changes</i>

2. DATA PREPAREDNESS

2.3 Data collection methodology

2.3.15 Tools and resources

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Team does not have the appropriate technology to do data collection.</i>	<i>Team has some resources/ access to the technology to do data collection (e.g. can borrow phones for data collection, but may be old).</i>	<i>Team has all the appropriate resources/ access to the technology to meet data collection needs.</i>	<i>Team has all the appropriate resources/ access to the technology to meet data collection needs and if there is a surge in data collection demands.</i>

2.3.16 Data questions and analysis plan

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Team has no specific questions related to data collected, suggesting no linkages to action</i>	<i>Data questions are limited to summary statistics (e.g. distribution numbers).</i>	<i>Data questions help answer basic context questions, as well as help understand trends and sub-group impacts.</i>	<i>Data questions consider true impact of the program and external risks.</i>

2.3.17 Scope and external relevance

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Data is not regularly collected. Or data collected can be insufficient for current purpose</i>	<i>Data is only collected for a single purpose (and not representative), therefore of limited use for future programming or other uses.</i>	<i>There is sufficient data to conduct needed statistical analyses (i.e. it captures historical trends, has a good level of frequency, granularity, and scope) and includes other relevant sectors.</i>	<i>Data available includes that needed of current and future/connected programs.</i>



2. DATA PREPAREDNESS

2.3 Data collection methodology

2.3.18 Indicators

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>No standard indicators used in data collection</i>	<i>Standard indicators are generally used per a broader NS Strategy</i>	<i>Standard and key indicators and instituted and align with IFRC requirements. For example, indicators for gender and disability are included</i>	<i>Standard and key indicators and instituted and align with IFRC requirements. In addition, team has gone through a robust process of including only indicators that will be used in decision making.</i>

2.3.19 Survey templates

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>No predetermined data collection methodology (i.e. standard templates and surveys)</i>	<i>There is a standard data collection methodology, but this often changes or is not always followed.</i>	<i>There is a standard data collection methodology, which is regularly used and rarely changed.</i>	<i>There is a standard data collection methodology, which is regularly used and has been standardized to fit needs of multiple users (i.e. across departments or external partners).</i>

2.3.20 Sampling

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Teams don't have an sampling strategy; whole population of interest is typically surveyed.</i>	<i>Teams are able to do a basic subset of the population, but this is not statistically rigorous (e.g. randomized).</i>	<i>Team has systems in place to collect data from relevant actors (e.g. considering diversity of sources and methods of getting quality data).</i>	<i>Rigorous statistical sampling methodologies are used for future analysis. For example, teams consider the sample size, cluster size, correlation estimates, impact estimates, etc.</i>



2. DATA PREPAREDNESS

2.4 Data quality and format

2.4.21 Data format

Tier 0	Tier 1	Tier 2	Tier 3
<i>Data is not formatted and cannot be immediately analyzed. Data is often collected on paper or in multiple formats (such as email, text, phone calls, etc.).</i>	<i>Data is digital but may be difficult to use (e.g. in PDFs or manually entered in Excel).</i>	<i>Intermediate-level data collection instruments used (e.g. mobile data collection, online surveys).</i>	<i>Data collection is automated where possible and can be linked to outside databases.</i>

2.3.22 Data quality assurance processes

Tier 0	Tier 1	Tier 2	Tier 3
<i>There is no data-cleaning process; Data is only shared in raw format or with very slight modification.</i>	<i>Data cleaning is done on an adhoc basis, or is individual-specific.</i>	<i>There are audits on the data collected, though not necessarily on a scheduled, predetermined basis Data quality standards in place, with a robust data collection strategy, regular quality checks and an audit strategy.</i>	<i>Data audits are done regularly, with automated data logic checks, internally and using secondary sources.</i>

2.3.23 Metadata and other documentation

Tier 0	Tier 1	Tier 2	Tier 3
<i>There is no information about the data available; lacks meta-data. There is no trace of data changes.</i>	<i>Very basic information about information is available. Typically for single use or handover to a specific individual; briefing required. Changes to the data may have been made without stored history of changes.</i>	<i>Metadata included so multiple people from outside teams can understand and use the data. There are clear identifiers for what data is changed and a system for reverting back from changes if needed.</i>	<i>All data is linked to relevant metadata information and has standardized indicators so it can be joined with other sources. Format is optimized for searches and analysis. Changes to data are traceable and authenticated. Additionally, metadata attached to all sources, with clarity on what stage the data is in (raw, cleaned, etc.) and with reported accuracy statistics and potential biases.</i>



3. DATA FOR DECISION MAKING

3.1 Primary data

3.1.30 Primary data collection

Tier 0	Tier 1	Tier 2	Tier 3
<i>Team is not able to manage primary data collection without external support.</i>	<i>Team can do very basic data collection, often not meeting leadership demand/needs.</i>	<i>Team is able to meet data collection requirements for the program or operations.</i>	<i>Team is able to meet data collection requirements for the program or operations and often supports other departments/programs.</i>

3.1.31 Ongoing monitoring

Tier 0	Tier 1	Tier 2	Tier 3
<i>Team needs to mobilize teams (typically from training to data collection) for each question.</i>	<i>Team has a ready-group of people to collect follow up data.</i>	<i>Team has a system in place for ongoing data collection or monitoring.</i>	<i>Team collects information passively or through technologically advanced ways to keep up with new data. (E.g. API systems, automated surveys, social media analysis.)</i>

3.2 Data analysis and visualizations

3.2.32 Accuracy and relevancy

Tier 0	Tier 1	Tier 2	Tier 3
<i>Analysis is often inaccurate and can't be used for programming (if any).</i>	<i>Sometimes inaccurate or irrelevant analyses conducted; different people may come up with different results when running similar statistics.</i>	<i>Accurate, standardized, and relevant analysis conducted. Includes analysis typically required for the sector (e.g. vulnerabilities breakdown).</i>	<i>Pre-analysis plans complete before interventions.</i>

3.2.33 Timely analysis

Tier 0	Tier 1	Tier 2	Tier 3
<i>No analyses are conducted with data. (e.g. typically only the raw or cleaned version is used).</i>	<i>Analyses only done when requested; not standardized.</i>	<i>Analyses are standardized, relying on a predetermined methodology (i.e. pre-analysis plan).</i>	<i>Standard analytics are pre-determined and automated and linked to action.</i>



3. DATA FOR DECISION MAKING

3.2 Data analysis and visualizations

3.2.34 Presentation

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Data and/or analysis is often shared in its raw format.</i>	<i>Some work is done to present or visualize the data, however it is not always easy to understand.</i>	<i>Data is presented and/or visualized with high-level IM skills (i.e. maps, graphs, tables).</i>	<i>Data is presented with high-level IM skills and is targeted to a specific audience.</i>

3.3 Effective reporting

3.3.35 Standardized format

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Team does not have any mechanisms for reporting.</i>	<i>Reports have no regular format or structure.</i>	<i>Reports are generally standardized (e.g. standard SitReps).</i>	<i>Reports are completely standardized and audiences know what to expect from the content creators ahead of the report.</i>

3.3.36 Reporting relevance

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Reports give minimum information requirements, often basic summary counts or raw data.</i>	<i>Reports are able to answer key, basic questions for leadership.</i>	<i>Reports give sufficient analysis and context for next steps/actions.</i>	<i>Reports are targeted and contextualized to different audiences.</i>

3.3.37 Timely reporting

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Reports are usually done after a decision has been made.</i>	<i>Reports are done at the request of a decision maker.</i>	<i>Reports are done in a timely basis, often before request band and ahead of any decision-making.</i>	<i>Reports come in a timely manner and consistently; audiences know when to expect information.</i>

3.3.38 Effective dissemination

<i>Tier 0</i>	<i>Tier 1</i>	<i>Tier 2</i>	<i>Tier 3</i>
<i>Reports tend to be delayed, sometimes too late for the key audience.</i>	<i>Relevant reports are made available after specific requests.</i>	<i>Relevant reports, analyses, and/or visualizations reach the right audience for decision to be made in a timely manner.</i>	<i>Teams are proactive in disseminating to external teams/organizations who may find the information valuable.</i>



3. DATA FOR DECISION MAKING

3.4 Data-driven decision making

3.4.39 Established expected action

Tier 0	Tier 1	Tier 2	Tier 3
<i>Action plans are not typically linked to data. If data is available, it may be informative, but without clear purpose.</i>	<i>Decision-makers use the data/analysis to inform a plan of action.</i>	<i>There are clear policies/procedures in place to act on certain findings or analysis. (e.g. early action triggers linked to a specific action).</i>	<i>Actions/triggers are directly linked to pre-defined, automated analyses.</i>

3.4.40 Decisions are tied to data

Tier 0	Tier 1	Tier 2	Tier 3
<i>No demonstrated interest or previous experience in using data for decision-making, preference for intuition.</i>	<i>Data is not referred to for programmatic decisions due to an incomplete knowledge of data available or how to use that data for decisions.</i>	<i>Data and information are incorporated into planning and monitoring processes, but usually advises decisions on a case-by-case basis.</i>	<i>Advanced knowledge of how to use data for decision-making. Pre-analysis plan (i.e. guiding principles/policies) is tied to programmatic decisions, with accountability measures to ensure "best" decisions are made using data and they are documented.</i>

CONCLUSION

It is suggested for you to focus on these data readiness indicators as your organization/project team is preparing to undergo a PER assessment. Understanding which tiers align with your team's current data readiness will make you more informed when you are justifying and providing evidence as to your PER benchmarks. After your PER assessment, and as you are developing your PER action plan, you may wish to incorporate data readiness indicators for monitoring your progress in these areas.

The PER may also uncover other areas of data readiness that your team could work on to improve your preparedness for emergencies. The full Data Readiness Toolkit is available [here](#). Remember, although the framework is presented in tiers, your team does not have to do a full assessment to understand where your gaps, strengths, and priorities for data readiness lie! However, it provides a guidepost for how your team can move from your current state of data readiness to where you wish to be.