Türkiye & Syria Earthquake February 2023

Daily Highlights - 06/02/2023

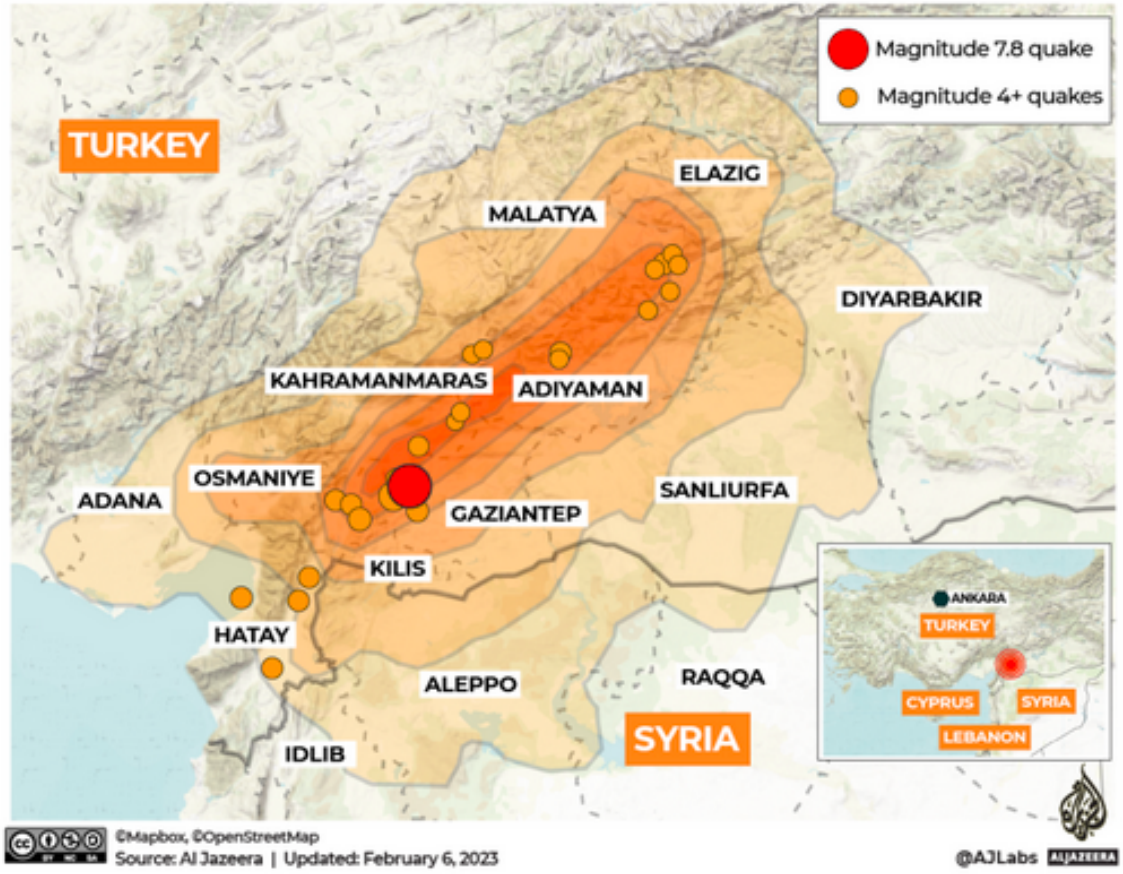
Crisis Overview

Two of the strongest earthquakes in the region in more than 100 years, of 7.8 and 7.7 magnitude, occurred on Monday 6 February in southeastern Türkiye at about 4:15 am and 1:30 pm local time.

One of the strongest earthquakes in the region in more than 100 years, of 7.8 magnitude, occurred on Monday 6 February in southeastern Türkiye at about 4:15 am local time (1:15 GMT), centered about 70 kilometers from Gaziantep, in Şekeroba (ADAM WFP 06/02/2023). A strong 6.7 aftershock was felt in Türkoğlu, a few kilometers north from the first earthquake, about 10 minutes later (ADAM WFP 06/02/2023). More than 2.65 million people were living in the 50 kilometers radius of the epicenter (ADAM WFP 06/02/2023). Up to 70,000 people were exposed to violent shaking, according to USGS (USGS 06/02/2023).

Another 7.7 earthquake occurred 100 kilometers north of the first one, in Ekinözü, with an aftershock of magnitude 6, at 1:30 pm local time (ADAM WFP 06/02/2023).

Map 1 | Earthquakes epicenters | Source: Al Jazeera, 6 February 2023



The earthquakes have been felt throughout the region, in neighboring countries, especially Syrian border regions with Türkiye and Iraq (Anadolu Agency 06/02/2023). They affected an

area of around 400 kilometers, including the main cities of Gaziantep, Adana, Hatay, Kahramanmaraş, Malatya, Kilis, Osmaniye, Diyarbakir, Adiyaman and Sanliurfa in Türkiye and Aleppo, Idlib, Homs and Hama in Syria.

A series of earthquakes followed the initial tremor, at least 66 before 9 am local time according to Türkiye disaster management agency AFAD (The Guardian 06/02/2023), with at least 18 aftershocks with a magnitude over 4 and seven above 5 recorded (CNN 06/02/2023).

Situated on or near several fault lines, Turkey is one of the world's most active earthquake zones. Düzce was one of the regions hit by the last worst earthquake, a 7.4-magnitude earthquake in 1999, which killed more than 17,000 people (The Guardian 06/02/2023).

Crisis Impact Overview

10 M Türkiye 4.6 M NW Syria	2,300+	10,600+	4.1 M NW	4 M
People living in affected areas and northern Syria (Census Türkiye, HNO 2022)	Deaths (AFAD 4.30pm CEST, SANA, White Helmets 06/02/2023)	Injured (AFAD 4.30pm CEST, SANA, White Helmets 06/02/2023)	People in need in northwest Syria (HNO 2022)	Refugees in Turkey (UNHCR 18/07/2022)

Table 1 | Casualties | Source: The Guardian, 2023

Those numbers are expected to rise significantly, as many buildings collapsed with large numbers of people buried under the rubble.

	Injured	Death
Türkiye	8,533 (AFAD 4.30pm CEST)	1,498 (AFAD 4.30pm CEST)
Syria Government-controlled areas	1,284 (SANA - Al Jazeera)	430 (Health ministry - The Guardian)
Northern Syria	811 (OCHA - The Guardian)	380 (The Guardian)
Cumulative	**10,628**	**2,308**

Türkiye

Impact - Cross Sector

Several cities, notably Iskenderun, Hatay, Maras, Gaziantep and Malatya, have suffered heavy destruction, with at least 2,830 buildings collapsed.

Key Figures and Findings

- *Shelter*

Several cities, notably Iskenderun, Hatay, Maras, Gaziantep, Pazarcık and Malatya, have suffered heavy destruction. Official figures stand at 2,834 buildings collapsed (AFAD 06/02/2023) but this number could be as high as 4,000 (IBC 06/02/2023). According to the governor of Malatya Province, some 130 buildings had collapsed in the regional capital (Deutsche Welle 06/02/2023). At least 17 buildings collapsed in Diyarbakir, according to a security official. Authorities said 16 structures collapsed in Sanliurfa and 34 in Osmaniye (Reuters 06/02/2023). The majority of the buildings along the coast of Iskenderun collapsed,

according to residents (Al Monitor 06/02/2023). Gaziantep Castle, a UNESCO World Heritage site in Turkey, also withstand severe damages (CNN 06/02/2023).

- *Health*

Two hospitals were reportedly destroyed in Hatay province (Al Monitor 06/02/2023). More than 7,600 people have reportedly been injured across Kahramanmaraş, Gaziantep, Şanlıurfa, Diyarbakır, Adana, Adıyaman, Malatya, Osmaniye, Hatay and Kilis, according to AFAD (Al Jazeera 06/02/2023).

Table 2 | Casualties | Source: AFAD, 06/02/2023, 4pm CEST

	Hatay	Gaziantep	Maraş	Osmaniye	Malatya	Adana	Diyarbakir	Sanliurfa	Adiyaman	Kilis
Deaths	250	200	191	131	98	43	41	27	20	13

- *WASH*

Water cuts have been reported in Gaziantep.

- *Transport*

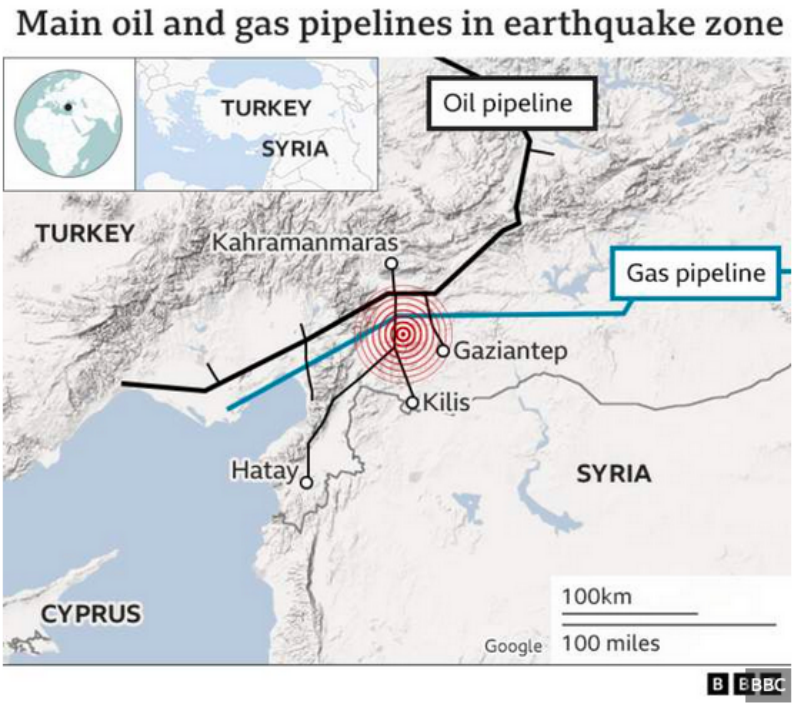
Hatay airport runway has been damaged and flights are suspended from Hatay, Gaziantep and Adana airports (Al Jazeera 06/02/2023). Emergency response teams are however allowed to land in Gaziantep and Kahramanmaraş airports (OCHA 06/02/2023).

- *Telecommunications*

Phone lines have been disrupted throughout the southern provinces, but internet appears to be functioning in the main cities, notably Gaziantep.

- *Education*

Schools are closed in southern provinces. They will be suspended for two weeks in Kahramanmaraş, Hatay, Adıyaman and Malatya provinces and for one week in Diyarbakır, Gaziantep, Şanlıurfa, Adana, Osmaniye and Kilis (Raillynews 06/02/2023).



- *Energy*

The Turkish energy minister confirmed serious damage to the country's energy infrastructure, including gas pipelines near the epicentre, with 30 substations damaged. Cuts were reported in Antep, Hatay and Kilis (The Telegraph 06/02/2023). Reports of fires along the gas pipelines have been reported, notably in Hatay (BBC 06/02/2023).

Response and Capacities

The Turkish Interior Minister issued a call for international assistance and more than 9,000 personnel are focusing on search and rescue activities.

The Turkish Interior Minister issued a call for international assistance (IBC 06/02/2023). More than 9,000 personnel are carrying out search and rescue activities (President Erdoğan 06/02/2023). Nearly 1,000 search and rescue volunteers have been deployed from Istanbul to the affected earthquake regions in Turkey, according to the Governor of Istanbul (The Guardian 06/02/2023). 10 more governors were assigned to the 10 provinces affected by the earthquake (President Erdoğan 06/02/2023). According to the defense ministry, armed forces have established an air corridor to enable medical and rescue teams to reach the earthquake-hit areas (Reuters 06/02/2023).

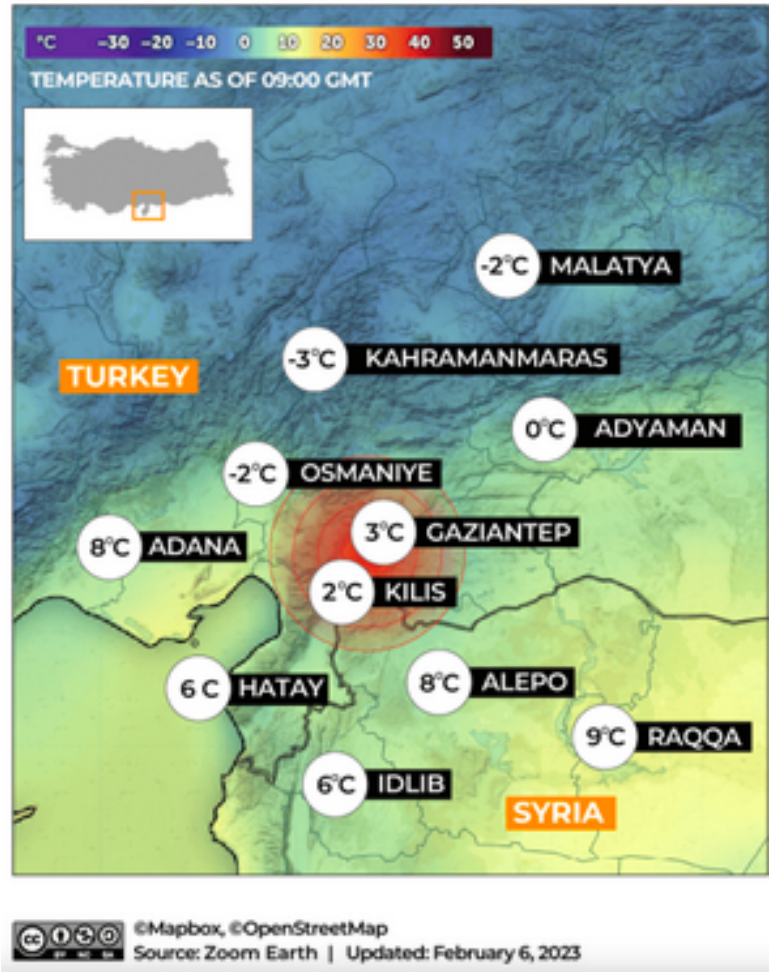
The European Union has mobilized search and rescue teams for Türkiye following its request to activate the EU Civil Protection Mechanism (EU 06/02/2023).

Across southeast Turkey and Syria, people have fled their homes to take shelter in cars, fearing aftershocks and collapsed buildings (The Guardian 06/02/2023). Some are sheltering in mosques and restaurants. People have been trying to leave the affected regions, fearing further

earthquakes, causing traffic jams, hampering efforts of emergency teams trying to reach the affected areas (The Guardian 06/02/2023).

Aggravating factors

- *Cold weather*



Cold temperatures and snow have been occurring since Friday 3 February. Heavy snow in the entire region, including heavy rains, continues to occur and are forecast for the rest (source map: Al Jazeera 06/02/2023).

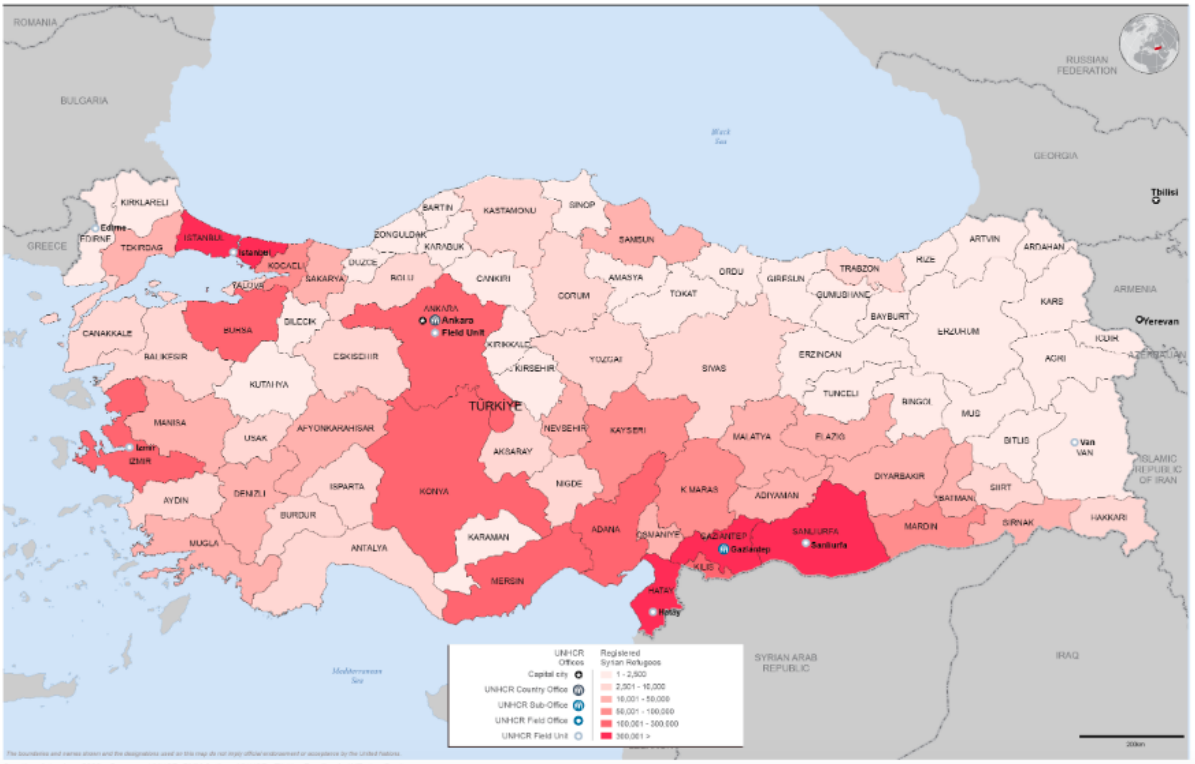
- *Refugees*

Türkiye is home to more than 4 million refugees, mostly Syrians, most of which are living in the southeast, including 50,000 Syrian refugees living in camps (UNHCR 18/07/2022).

UNHCR Türkiye:

Provincial Breakdown of Syrian Refugees in Türkiye

as of 02 June 2022

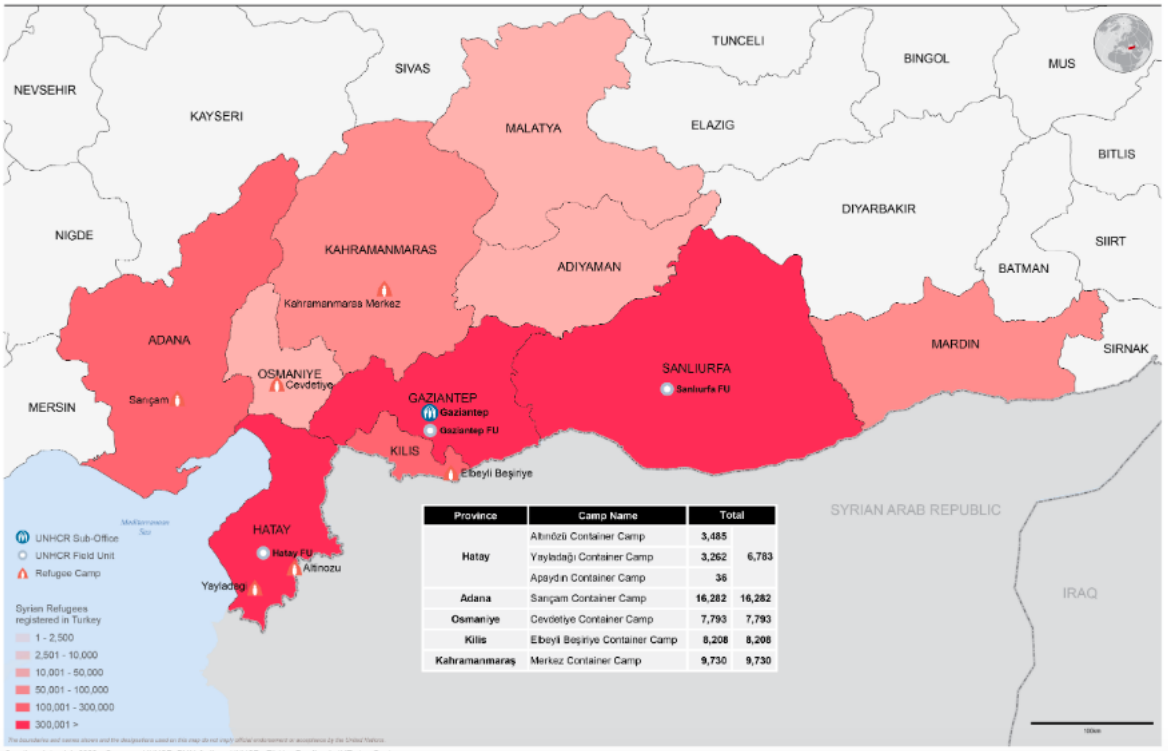


Creation date: June 2022 Sources: UNHCR, PMM Author: UNHCR - Türkiye Feedback: IMTurkey@unhcr.org

UNHCR Türkiye:

Syrian Refugee Camps and Provincial Breakdown of Syrian Refugees Registered in South East Türkiye

as of 07 July 2022



Province	Camp Name	Total	
Hatay	Altinözü Container Camp	3,485	6,783
	Yayladağı Container Camp	3,262	
	Apaydın Container Camp	36	
Adana	Sarıçam Container Camp	16,282	16,282
Osmaniye	Cevdetiye Container Camp	7,793	7,793
Kilis	Elbeyli Beşiriye Container Camp	8,208	8,208
Kahramanmaraş	Merkez Container Camp	9,730	9,730

Creation date: July 2022 Sources: UNHCR, PMM Author: UNHCR - Türkiye Feedback: IMTurkey@unhcr.org

- *Economic and political situation*

Türkiye has been facing a severe economic crisis for the past years, with the Turkish Lira hitting a new record low after the earthquake, slipping to 18.85 per 1 USD (Reuters 06/02/2023).
The earthquake also occurred in a tense political period, with less than four months to go before the country's presidential and parliamentary elections.

Syria

Impact - Cross Sector

Major damage has been reported in northern Syria, an area that includes more than 4.1 million people in high need, with an healthcare system reportedly "overwhelmed".

Key Figures and Findings

The sub-districts of Harim, Atmeh, Sarmada, Atareb, and Kafr Takharim are among the worst-hit areas (OCHA 06/02/2023).

- *Shelter*

At least 325 buildings have been partially damaged and 224 were completely destroyed in 17 sub-districts (OCHA 06/02/2023). In northwest Syria, the White Helmets described the situation in the rebel-held region as "disastrous", with entire buildings collapsed and people trapped under the rubble (The Guardian 06/02/2023). Tens of buildings have collapsed in the city of Salqin, according to a member of the White Helmets rescue organization in a video clip on Twitter (The Guardian 06/02/2023).

- *Health*

Already strained health facilities have reportedly quickly filled with wounded, according to rescue workers (The Guardian 06/02/2023), with the regional director of the Syrian American Medical Society saying the healthcare system was "overwhelmed" (Al Jazeera 06/02/2023). At least one hospital in northern Syria was being evacuated after its structure was compromised (UOSSM 06/02/2023).

According to an official from the Syrian Ministry of Health, quoted by the official Sana agency, 42 dead and more than 200 injured have been recorded in Aleppo (Le Monde 06/02/2023).

Response and Capacities

The White Helmets declare a state of emergency in northwestern Syria.

- *Northwest*

The White Helmets declare a state of emergency in northwestern Syria (White Helmets 06/02/2023).

- *Government-controlled areas*

In government-controlled areas, medical professionals have reportedly been sent to affected regions (Syria Health Ministry 06/02/2023). Israel announced it received a Syrian request for assistance with earthquake relief and will send aid (Reuters 06/02/2023).

Aggravating factors

- *Cold weather*

Adverse weather conditions, including low temperatures and stormy weather, have compounded the dire situation.

- *Previous high needs caseload*

4.1 million people were already estimated to be in need in northwest Syria, including 3.3 million people food insecure (OCHA 06/02/2023).

Information Gaps and Limitations

Consolidated figures are changing rapidly and become rapidly outdated.
Information on Syria remains scarce and is not always disaggregated.

About This Report

This report is a synthesis of publicly available information, powered by the DEEP - the Data Entry and Exploration Platform - a collaborative analysis platform for effective aid response - and supplemented by assessment data provided by humanitarian partners working in-country. The analysis was conducted independently by Data Friendly Space (DFS) on behalf of the DEEP project, currently funded by USAID Bureau of Humanitarian Assistance (BHA).

Methodology

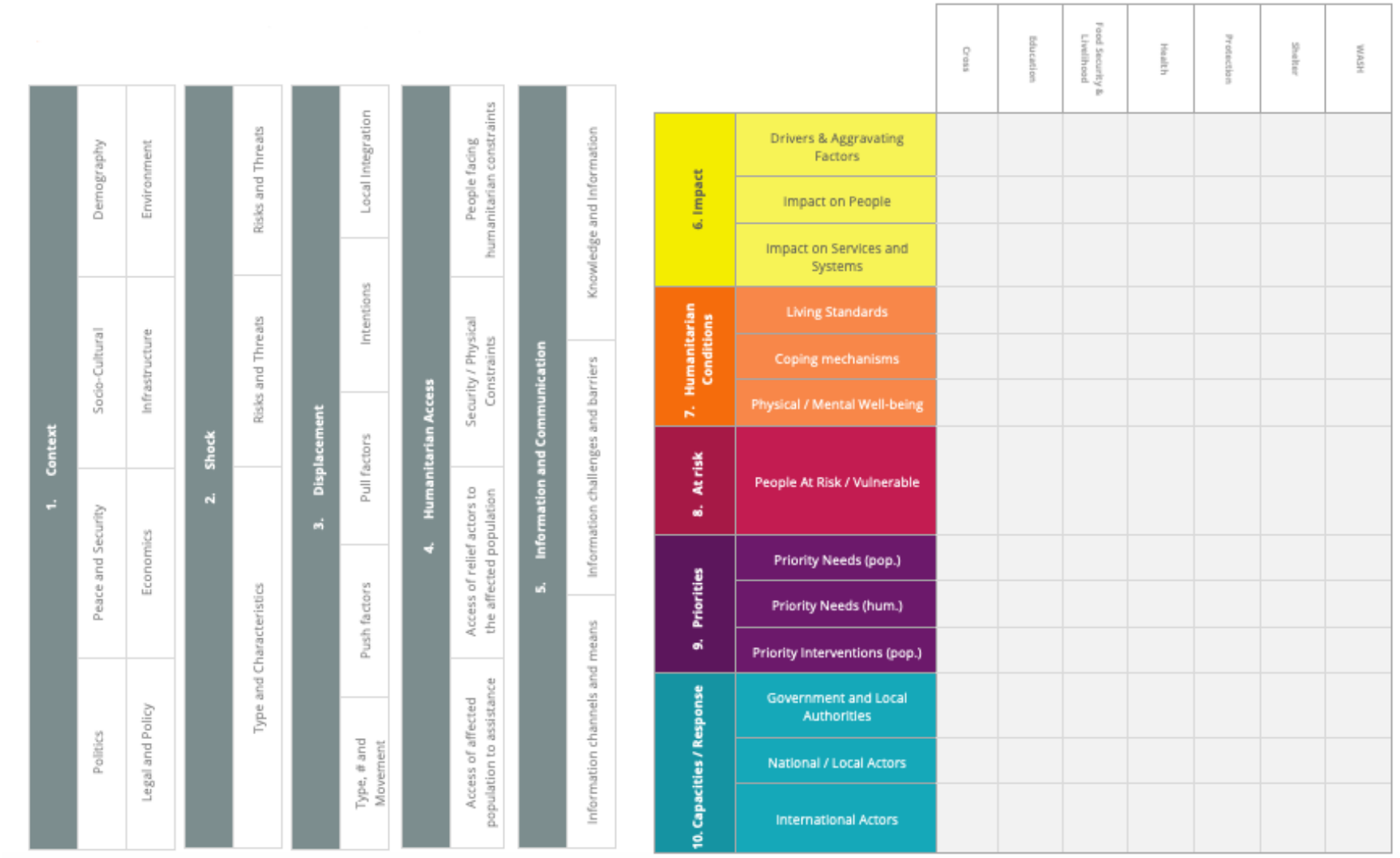
DFS Analysts and Information Management Officers collate and structure available information in the DEEP platform daily.

The Data Entry and Exploration Platform (DEEP) is an intelligent web-based platform, offering a suite of collaborative tools tailored for qualitative and secondary data review. DEEP is free, open source, and fully accessible for all humanitarian and development users. Log in here: https://app.thedeep.io/login/

Each piece of information is tagged based on the pillars and sub-pillars of the Analysis Framework, based on the JIAF 1.0 (see below) and developed in line with successful models used across previous projects. The framework is shown below and comprises the humanitarian conditions (by sector) and the operational environment. All the captured information receives additional tags to allow examination of different categories of interest such as affected group, geographic location, etc.

Data Friendly Space analysts follow key steps for ensuring robust and sound humanitarian analysis, relying on an analysis workflow and spectrum (see below). For this report, the analysts relied on the main three first steps of the analysis spectrum – description, explanation, and interpretation.

Analysis Framework | Source: DFS, 2023



DATA FRIENDLY SPACE

The Analysis Workflow - Key steps for robust and sound research in humanitarian settings

1. Starting the right way

Design and planning for quality/credible analysis

The design and planning phase precedes analytical processes and is about selecting the best strategies for capturing relevant and sufficient data and ensuring quality and credible analysis. It involves careful consideration of who will be taking the decisions, the key questions that need to be answered , the data to collect and sets out how analytical standards will be ensured and respected throughout the process

KEY ANALYTICAL QUESTIONS

1. What is known, in question or still unknown?
2. Who is the main audience? What inputs do they need and when do they need them?
3. What are the key questions and the depth/levels of analysis to cover (descriptive, explicative, interpretive, anticipative and prescriptive)?
4. What is the broader context of the analysis?
5. What will be measured and how will it be analysed to answer the key questions?
6. What data are required to answer the key questions and which sources and methods will be used to obtain them?
7. With whom, when and how to collaborate?
8. What types of end product(s) will work best?
9. What approaches and techniques will ensure analytical standards are respected?
10. What activities, resources and contingencies should be planned for?

OUTPUT

- A clear identification and understanding of the end-users, the specific decisions that will be informed by the analysis and the timeline for delivering conclusions
- An agreement about the key analysis questions to answer and the depth of analysis to go into (descriptive, explicative, interpretive, anticipative, prescriptive)
- An understanding ot the expectations and implications of the analysis and the precision that must be achieved in the presented results
- An analysis framework that will guide data collection and analysis
- An adapted analysis and data collection plan including the list of indicators to obtain, the data required and their source, how the data will be analyzed and presented
- An output template (report, ppt, et.c) aligned with the key questions and the analysis framework
- The strategies and procedures to mitigate the influence of cognitive biases on results
- A workplan and a list of resources (material, financial, human) required to carry the work

2. Acquiring the data we need

Collecting and collating unbiased data

Sufficient, relevant and trustworthy data must be gathered to provide the evidence that will support conclusions and key messages. The data collection and collation phase involves gaining access to usable and unbiased data (either primary or secondary), managing and safely storing the gathered information so it is ready for further analytical steps.

KEY ANALYTICAL QUESTIONS

11. What information is already available and relevant to the research questions?
12. What is missing, how to get it?
13. How to collect new, sufficient and unbiased information?
14. How to manage and safely store data and documents?
15. How to ensure the data is as clean and tidy as possible?

OUTPUT

- Repository of secondary data with all documents labelled YYMMDD ORG TITLE. Confidential documents are processed separately. Documents are stored in Dropbox.
- Questionnaires tested and translated if relevant
- Clean, reviewed datasets including a change log in case of modifications or corrections (where applicable)
- In the case a situation analysis is required, an updated Assessment Registry will be provided for the areas under assessment

3. Getting ready for analysis

Exploring and preparing data

Exploratory analysis is about getting more familiar with the available data, assessing its sufficiency and usefulness against the research questions, organizing it better and finding potential signals and stories that should be confirmed at later stages. It is an initial foray into the new data sources and a deliberate effort to prepare and transform the data for more targeted analysis to come.

KEY ANALYTICAL QUESTIONS

16. How could the data be better prepared for analysis?
17. How usable and trustworthy is the data?
18. How can we fill information gaps?
19. What interesting signals and stories are hidden in the data?
20. What are the main results so far?

OUTPUT

- Secondary information structured and tagged based on the analysis framework pillars and sub pillars.
- A list of preliminary results, assertions or statements, including main outcomes, issues, gaps or challenges coming out of the data
- A list of possible explanations and if-then statements to further confirm in further analysis steps
- A list of what is not seen/reported and should be there
- Agreed upon categories of analysis to use for further analysis steps, e.g. urban/rural, international/national NGOs, emergency/development, etc.
- A list of and definitions for codes used for refining or categorizing the data.
- A list of all transformations operated on the data
- A list of defensible and feasible units of reporting

DFS analysis workflow was inspired by and adapted from the work of Richard Garfield, Stephen Flew, Katherine and Randolph H. Pherson, Patrice Chataigner, Pat Bezeley, Andy Kirk, Ian Dey, Charles Kufs and J. Scott Long

4. Separating the signals from the noise

Making sense of data and drawing conclusions

Analysis is the process by which important stories and messages hidden in the data are identified and transformed into actionable insights. It is based on an iterative, controlled and structured sense-making process allowing to move from observations to current (and future) implications, formulate evidence-based conclusions, and provide proportionate and appropriate recommendations.

5. Conveying messages effectively

Communicating and sharing findings

Communicating and sharing is about ensuring the final products are relevant to end users, meet their needs, answer the key questions and is transparent on limitations and is clearly and easily linked to decision making.

KEY ANALYTICAL QUESTIONS

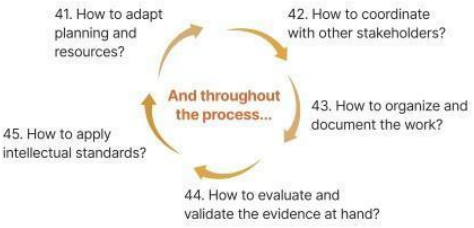
21. How to group and best summarize the data?
22. What consistent patterns, trends or anomalies emerge from the data?
23. How much evidence we have in support of each result or statement?
24. What factors and causal mechanisms combine and interact to create or aggravate outcomes?
25. What is the strength of the relationships?
26. Are they other alternative hypothesis that could explain what we see?
27. What is important/urgent and why?
28. What are the priorities?
29. How confident are we about our conclusions?
30. What will happen next if nothing changes?
31. What else might happen?
32. How does this change our main conclusions, priorities and key messages?
33. What are the objectives and targets?
34. What set of actions and sequences will have the greatest impact and benefits?
35. What are the main assumptions, risks and possible synergies across the response?

36. How can we present our case in the most effective and compelling way?
37. How can charts and/or maps best support our messages?
38. How and when to communicate uncertainty?
39. How to ensure our product is as good as it gets?
40. How to document data and methods?

OUTPUT

- Summary statistics and statements for each category and unit of reporting (geographical area, affected group, sector, etc.), including absolute numbers/percentages
- Information about the number and type of evidence available
- Main confirmed patterns, trends, theories, messages and stories
- Key assumptions checklist to challenge assertions and identify faulty logic, weak evidence or flawed analysis
- Theories, best explanations, guesses and conjectures as to what is related or leading to what
- A fishbone diagram or problem tree representing causal mechanisms and which ones are contributing the most to humanitarian outcomes
- A list of focal issues the recommendations should adress
- A list of rival or alternative hypotheses
- Updated key assumptions checklist to challenge explanations and identify faulty logic, weak evidence or flawed analysis
- Key findings and messages
- Key priorities
- Confidence in main conclusions and statements
- Updated key assumptions checklist to challenge explanations and identify faulty logic, weak evidence or flawed analysis.
- Baseline scenario
- Alternative scenario and drivers
- Current and forecasted priorities
- A list of recommended response options, modalities and their weighted benefits
- A set of assumptions and requirements that underpin the response sucess
- A list of risks that would impact the viability of the response
- A list of areas for collaboration or synergies that would increase impact and success

- Tailored, relevant and readable analysis outputs, providing solid cases and reasoning, reviewed by subject experts;
- Clear and explicitly communicated limit of knowledge and how it impacts confidence in the results;
- Accessible and safely stored products, data, documents and methodology for audience seeking more details or intending to replicate findings.



DATA FRIENDLY SPACE

DFS's Analysis Spectrum

Key steps for deeper insights and a more effective response

4. ANTICIPATORY ANALYSIS

What if, what else, what then? Predict and forecast

Anticipative analysis identifies the probability of future events and outcomes at a specific time, based on current and historical data. It combines predictions (What will happen under current conditions?) and forecasts (What else might happen?). Anticipative analysis goes beyond current conditions and provides an assessment and best estimates on what might happen in the future, in addition to what will happen in the future. This prolongs the shelf-life of the analysis by integrating a forward-looking perspective into the analysis of the current situation.

KEY ANALYTICAL QUESTIONS

- What will happen next if nothing changes?
- What else might happen?
- How does this change our main conclusions, priorities and key messages?

OUTPUTS

- Baseline scenario
- Alternative scenario and drivers
- Current and forecasted priorities

TOOLS

- Analysis Framework
- Probability and impact scales
- Risk matrix

5. PRESCRIPTIVE ANALYSIS

What are the most appropriate and proportionate course of actions? Suggest and advise

Prescriptive analysis translates the previous findings into a feasible plan and provides recommendations and advice about policy, strategy and interventions. It determines the response options available, the objectives to plan for and their alignment with more desired outcomes. It also articulates what choices are not possible and why, detail opportunities and risks and show the implications of decisions or the absence of decisions.

KEY ANALYTICAL QUESTIONS

- What are the objectives and targets?
- What set of actions and sequences will have the greatest impact and benefits?
- What are the main assumptions, risks and possible synergies across the response?

OUTPUTS

- A list of recommended response options, modalities and their weighted benefits
- A set of assumptions and requirements that underpin the response sucess
- A list of risks that would impact the viability of the response
- A list of areas for collaboration or synergies that would increase impact and success

TOOLS

- Analysis framework
- Response analysis matrix
- Response trees or theory of change
- Logical and strategic framework

3. INTERPRETIVE ANALYSIS

What does it mean? Conclude and build your case

The focus of the interpretation stage is to bring everything together, build an integrated and cohesive picture of what was found and answer the original research question(s). Interpretive analysis aims at drawing well-supported conclusions through careful argumentation, an evaluation of the strength of the evidence and attention to plausibility in context.

KEY ANALYTICAL QUESTIONS

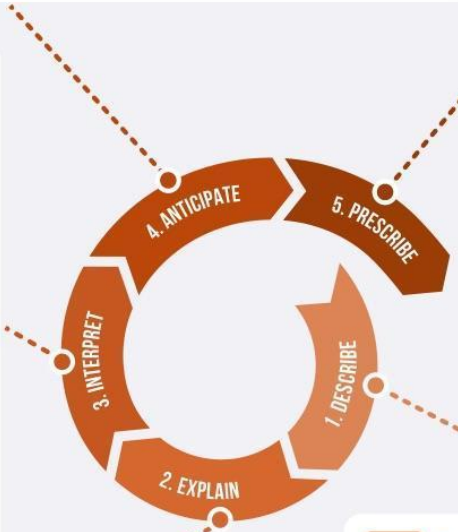
- What is important and why?
- What are the priorities?
- How confident are we about our conclusions?

OUTPUTS

- Key findings and messages
- Key priorities
- Confidence in main conclusions and statements

TOOLS

- Analysis framework
- Interpretation sheet
- Severity scales and confidence ratings
- Updated key assumptions checklist to challenge explanations and identify faulty logic, weak evidence or flawed analysis.



1. DESCRIPTIVE ANALYSIS

Compared to what? Contrast and summarize

Descriptive analysis is about grouping, summarizing and comparing data. To effectively interrogate a large amount of data, analysts break it down into manageable chunks and summarise the information into various dimensions of interest, e.g. a particular affected group, geographical area or time period. Comparing and contrasting these summaries helps to identify and confirm similarities and differences between or within dimensions; further investigation allows the identification of meaningful patterns, trends or anomalies.

KEY ANALYTICAL QUESTIONS

- How to group and best summarize the information?
- What consistent patterns, trends or anomalies emerge from the data?
- How much evidence we have in support of each result or statement?

OUTPUTS

- Summary statistics and statements for each category and unit of reporting (geographical area, affected group, sector, etc.), including absolute numbers/percentages
- Information about the number and type of evidence available
- Main confirmed patterns, trends, theories, messages and stories
- Key assumptions checklist to challenge assertions and identify faulty logic, weak evidence or flawed analysis

TOOLS

- Analysis framework
- Key assumptions checklist to challenge assertions and identify faulty logic, weak evidence or flawed analysis
- Information gaps matrix

2. EXPLANATORY ANALYSIS

Why is it like this, how come? Connect and relate

Explanatory analysis looks for the reasons behind why the current situation exists. It asks about the drivers of the crises or issues and the factors and underlying vulnerabilities that contributed to the situation. Explanatory analysis attempts to answer these questions by looking for associations, correlations and causation and to use these to formulate and refine causes and effects hypothesis and theories. It is based on the careful investigation of relationships, underlying processes and causal mechanisms.

KEY ANALYTICAL QUESTIONS

- What factors and causal mechanisms combine and interact to create or aggravate outcomes?
- What is the strength of the relationships?
- Are they other alternative hypothesis that could explain what we see?

OUTPUTS

- Theories, best explanations, guesses and conjectures as to what is related or leading to what
- A list of focal issues the recommendations should later adress
- A list of rival or alternative hypotheses

TOOLS

- Analysis framework
- A fishbone diagram or problem tree representing causal mechanisms and which ones are contributing the most to humanitarian outcomes
- Updated key assumptions checklist to challenge explanations and identify faulty logic, weak evidence or flawed analysis

DFS's spectrum was inspired by and adapted from the work of Richard Garfield, Stephen Flew, Katherine and Randolph H. Pherson, Patrice Chataigner, Pat Bezeley, Andy Kirk, Ian Dey, Charles Kufs and J. Scott Long

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This project and report are made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of Data Friendly Space and do not necessarily reflect the views of USAID or the United States Government.

Get in touch with us

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