Technical Brief

Secondary Data Review

Sudden Onset Natural Disasters

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Introduction

In the immediate aftermath of a **sudden onset disaster**[1], also referred to as Phase I and II of assessments in an emergency, the humanitarian community and donors will need to make key decisions on how to respond. However, when such disasters occur, there is limited comprehensive information on its impact.

A Secondary Data Review (SDR) is a rigorous process of data collation, synthesis and analysis building on a desk study of all relevant information available from different sources such as the government, NGOs, UN agencies, media, social media, etc. An SDR builds on the logic that the severity of the crisis, the type, scope, scale of problems, and risks faced by the affected population can be estimated or projected with reasonable degree of accuracy by following a systematic and multi-disciplinary approach. An SDR is a meta–analysis used to inform preparedness measures and support strategic and operational decision making processes. It can further be used to design and inform detailed sector specific field assessments. An SDR can be updated regularly as more detailed data and information become available, strengthening situation awareness among humanitarian actors. More information on ACAPS specific approach to decision making and information flow in emergencies is available in Annex 1.

The aim of these guidelines is to describe the systematic development of an SDR during the initial days and weeks after a disaster. It is based on ACAPS' experience in developing Secondary Data Reviews for a number of Sudden Onset Disasters over three years.

The interaction between review of secondary data and primary data collection is not specifically discussed in this document. The importance of an SDR during the early stage of a sudden onset disaster and how it is used in combination with primary data collection is discussed at length in guidance documents such as the Multi-cluster Initial and Rapid Assessment. Its' importance and rationale has been largely documented through lessons learned of past coordinated assessments, highlighting the following points:

- Primary data during coordinated assessments in emergencies is not the main source of information, rather secondary data is the key information source during the initial days and weeks after a disaster.
- Primary data becomes more important over time as access to impacted areas and affected populations increases. Until it becomes the main source of information by the end of Phase II, primary data is used to validate and complement the secondary data, and not the contrary.

These guidelines are comprised of three parts:
- Part A is primarily for decision makers in organisations who are unfamiliar with the SDR process. This section introduces the general framework of an SDR, with its purpose, components, and overall process. It also includes and outlines the expertise needed within the team working on an SDR, the pre-requisite skills of team members, and possible team composition.
- Parts B and C are specifically for those planning to undertake an SDR. Part B details the different steps to be taken in developing an SDR, from the moment a disaster alert is received until the completion of the SDR process. Part B describes the tools used and gives guidance on several technical issues that might be encountered during an SDR.
- Part C, the annexes, contain examples of different tools to complement the steps outlined in Part B.

Throughout the document, red boxes provide practical recommendations for undertaking an SDR, and grey boxes provide additional documentation for those who want to go further in terms of methodology, concepts, guidance, and definitions.

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[1] For the purposes of this guidance, a disaster specifically indicates a humanitarian emergency caused by a sudden onset natural disaster. The SDR headlines and approach will differ for conflict, slow onset, protracted crisis, and complex emergencies.

Part A – What is an SDR and the Process Associated with it?

1. What is a Secondary Data Review?

External sourcing, different research objectives, and pre-analysis are the three core elements that can make data *secondary* for the user. These elements may be combined or separated, but one only will be enough to categorize a piece of information as *secondary*:

- External sourcing: secondary data has been generally collected by another institution, person, or entity.
- Different purpose: the rationale or objectives that led to the collection of the data is (generally) different from the objectives of your research (e.g. using the most recent census as basis for the estimation of the affected population).
- Pre-analysis: secondary data has (generally) undergone at least one layer of analysis prior to being used for the purpose of your research.

The objectives of an SDR are as follows:

- To verify information that can serve as a baseline for understanding changes resulting from a given shock, i.e. by identifying pre-existing conditions against which the impact of a disaster can be measured.
- To present an initial assessment of the situation, based on available information, which includes an overview of the scale and impact of the crisis, the likely priority needs of the affected population, their locations, and the short term sectoral risks the affected population is exposed to.
- To identify gaps in knowledge which serve to inform further assessment design (i.e. definition of depth and breadth of information required, formulation of appropriate research questions and instruments, and exclusion of information from the primary data collection process that is already available and does not require verification).
- To support strategic planning, response prioritisation and M&E (i.e. Include the same indicators in the current data collection that were analysed in previous studies, so that deviations from normal periods can be assessed).

The benefits of an SDR include:

- The existence or the absence of problems and risks, the geographic areas, sectors and subsectors impacted, and the affected and vulnerable groups can be quickly identified.
- The identification and use of lessons learned from past or similar experiences to understand historical impact and develop scenarios to help identify and mitigate emerging risks.
- It allows for triangulation of data collected through field assessments and highlights differences. It adds depth to primary data findings and provides another dimension to assessments findings. It broadens the database and may allow for a wider generalization of ideas.
- It provides larger and higher-quality baseline information than does primary data collection in emergencies. Pre- and post-disaster information per sector can be placed side by side to enable a fast and easy "before and after" comparison and deliver an integrated picture in support of shared situation awareness.
- It saves time and costs. Gathering new data can take a great deal of time and energy.
- It allows for a much greater breadth of data across sectors and time.
- It can be carried out quickly and remotely by experienced staff.

However, caution is necessary as a secondary data review is not without challenges:

- Too much information can drown analysts. Making sense of huge amounts of data poses problems in terms of comparability, reconciliation, and aggregation. On the other hand, too little information can paralyse them.
- Data may be seasonally specific and vary accordingly by calendar, such as harvest periods or "hunger seasons", malaria incidence and rainy seasons etc.
- Data can be contradicting or conflicting.
- Data is usually at national and, at best, provincial level. It is rarely geographically disaggregated to a level useful for the specific SDR research process.
- Numbers are often provided without specifying how (or when) they were collected.

- The age of data can be a serious issue. Secondary data is frequently outdated. Data should be as recent as possible and situations surrounding the data should be similar to be useful.
- Original sources from which data stems are sometimes difficult to trace.
- By definition, secondary data have been collected by other parties seeking answers to their own questions. This means that an SDR analyst is unlikely to have been privy to the design and data collection processes and is unlikely to have first-hand knowledge of how they were carried out (e.g. what levels of accuracy may or may not have been respected and how these may have affected the quality and reliability of the data gathered). This also means that, among other things, the key indicators selected, the geographic coverage undertaken (and sampling), the level of data disaggregation, and the variable definitions applied may not necessarily be in line with those required by the specific SDR analysis.
- Accuracy in secondary data should not be assumed. It is not unusual to find secondary data that has been manipulated from its original source, and/or fraught with errors and inconsistencies. Secondary data quite often comes from unreliable sources who have not conducted rigorous research. Looking closely at the data and the methods used to collect it is both mandatory and time consuming.

2. What are the SDR Principles?

Each SDR varies according to the type and depth of pre- and post-disaster information needs, available human resources, and time. Hence, each specific disaster will dictate the exact SDR process and outcome. However, a few fundamental SDR principles are universally applicable and make the SDR process simpler and more useful for stakeholders.

The key purpose of an SDR is to provide the right information to the right audience at the right time. Adherence to seven basic principles will increase the usability of the SDR:

1. Provide **timely** information and analysis to inform key decisions about response (e.g. Strategic Response Plan) as well as inform the design of subsequent primary data collection.
2. Use information that is sufficiently **adequate** to make reasonable decisions within the timeframe. Be willing to accept information that is *good enough* and do not seek more detail or precision than is necessary.
3. Provide information and analysis that is most **relevant** to decision making. Only data that can be used should be collected.
4. Collect data which provides sufficient **coverage** to address the scale of the problem. Data for the entire affected area should be collected.
5. Be explicit and **transparent** about the assumptions made and evidence relied on to reach conclusions. Facts that initially seemed irrelevant might play a role in future analysis. Be clear about the limits of accuracy of the data used.
6. Use a variety of sources when collecting and analysing information to provide **objective**, unbiased, and balanced perspectives to address problems and recommend solutions. An SDR must be comprehensive, systematic, and rigorous otherwise the results and conclusions of the review may not be reliable.
7. Provide **clarity** on and be consistent with essential definitions. Terms such as *affected, household* or *community* can mean different things in different areas for different stakeholders. Definitions may change over time and where this is not recognized, erroneous conclusions may be drawn.

3. Which Data Sources Are Used?

An SDR is based on three main types of information: pre-disaster information; post-disaster information; and lessons learned.

Pre-disaster information provides information about the location and the population of interest before the disaster occurred, including pre-existing vulnerabilities and capabilities. It includes: sex and age disaggregated population data; livelihoods and income sources; housing, land, and property issues and patterns of use; gender issues; child protection risks, etc.

Pre-disaster information main sources

- National institutions (ministries, research institutes, universities, etc.)
- Large surveys (DHS, MICS, census, etc.)
- International development institutions (i.e. World Bank, ADB)
- Baseline studies, sector fact sheets, e.g. WHO country epidemiological profile, public health and risk assessments reports
- National or municipal contingency plans
- Common operational datasets (COD), Fundamental operational datasets (FODs)
- UN, local, and international NGOs survey reports, UN global data sets or country portals
- Geospatial data, satellite images and aerial photography
- Online databases (i.e. EM-DAT, prevention web, CRED)
- Previous Flash appeals, CAPs, ALNAP, evaluation reports, After Action Reviews
- DevInfo, world development indicators, MDGs
- Analysis, economic or intelligence reports (military, business)
- Existing monitoring, early warning and surveillance systems

- Pre-disaster information is the most time consuming to collect (expect to dedicate up to 70% of SDR time collecting it), and data must be accessed through a huge amount of websites and contacts.
- For any given location, pre-disaster information can represent between 3,000-7,000 pages of reports, videos, documentation, and unstructured data (expect a folder of over two gigabytes of information).
- In the absence of preparedness, reasonable efforts must be made to store and structure this information in a user friendly way, without losing too much time.
- It is recommended to collect and organize pre-disaster information (i.e. building sectoral profiles) as a preparedness activity before the disaster strikes. Profiles can be updated once or twice a year for each disaster prone country/region.

Post-disaster information focuses on the impact of the disaster on the population, including information on the groups, location, and numbers of people affected, the humanitarian access, the basic sectoral needs of the population, etc.

Post-disaster information main sources

- National institutions, ministries, LEMA, etc.
- Media reports
- Assessment reports from local and international NGOs
- Funding Appeals, Strategic Response Plans
- Situation reports (OCHA, clusters, government)
- UNDSS, logistic cluster
- Humanitarian profile (CODs), 3Ws
- Geospatial data, Google Earth etc.
- Satellite images, aerial photography, UNOSAT or private providers
- Social media
- Crisis mappers, SBTF

- Post-disaster information collation requires a specific and systematic approach to ensure maximum usability and comparability with pre-disaster conditions (see tagging process described in Step 4).
- Post-disaster information drives the research for more in depth pre-disaster information (i.e. if refugees are reported crossing the border into Chad, existing conditions and patterns of movement in this particular area must be sought).

Lessons learned are actionable lessons learned from previous disasters in the area and similar disasters in other parts of the region and world. Lessons learned may include general issues about access, availability, use, quality of goods and services, and operational constraints. They can also be specific as in the case of looking at the impact of schools closing after a natural disaster: *children not attending school risk marrying earlier and having less healthy children (especially girls), having worse paid and more limited workplace opportunities, and are less able to participate in decision making at all levels[2].*

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[2] UNICEF MDGs, 2014. *Goal: Eradicate extreme poverty and hunger.* http://www.unicef.org/mdg/index_proverty.htm

4. What is the Process?

There are five main steps to an SDR. These are triggered by the decision to conduct an SDR and include: preparation; collation of data; data analysis; reporting and disseminating the findings; and the exit phase when the SDR is completed and the information shared and handed over.

Steps	Main activities
1. Prepare	• Build team, divide and assign tasks • Set partnerships and agree on timeframes
2. Collate	• Pre-disaster information • Disaster specific information • Lessons learned
3. Analyse	• Cross sector analysis • Scenario development
4. Report and disseminate findings	• Review • SDR report
5. Handover, update, and/or exit	• Exit or updates • After action review

5. What are the Key Questions that an SDR Should Answer?

What are the most affected areas? Identifies those areas that are most impacted and categorises them by administrative, economic, social, and/or geographic division. For example, the most affected area might be rural areas of the northwest where the Muslim minority is specifically targeted and the highest numbers of displaced people are reported.

Who are the most affected/vulnerable groups? Clarifies which groups have been most impacted by the disaster, taking into account pre-existing vulnerabilities. This may include, for instance, IDPs living with host families or older persons and persons with a disability who cannot access or who are excluded from humanitarian services, women and children under 5, etc.

What are the most affected sectors? Explains which sectors the disaster has impacted the most. In a typhoon where crops have been destroyed, the SDR may focus on food security and livelihoods. In a flood, the main affected sectors may be WASH, health and shelter.

What are the needs of the affected population? Through pre-crisis data, post-crisis information, and primary data input, this will identify the immediate basic needs of the affected population in light of the impact of the disaster. For example, an under-developed area impacted by poor food security, which is affected by water-logging, will experience reduced food security due to market disruption, but affected communities may also highlight health issues and education, due to clinic and school closures, as primary needs. Main issues (i.e. lack of health care) and their underlying factors (difficulties of access due to financial restrictions and security in the roads) must be clearly identified and communicated

What is the degree to which areas, sectors, and groups are affected (severity)? Severity ranking allows for multi-level analysis and the identification of the combination of factors that increase vulnerability and needs. A well-known system of severity ranking is the Integrated Food Security Phase Classification (IPC) which classifies a food security situations into categories defined as: none; stressed; crisis; emergency; or famine/catastrophe. Providing estimates of the number of people affected will also give an indication of the scale of the disaster. This gives readers and indication of the crisis intensity and the urgency, scope, and focus of intervention required.

What is the possible evolution of the crisis? Ways of exploring the possible evolution that the impact of a disaster may have is most commonly done through the development of scenarios and their potential humanitarian impact, such as continued flooding and displacement or continued food insecurity combined with an outbreak of conflict.

6. What are the Key Components of an SDR?

As previously noted, the composition of an SDR will depend on the context and the information needed for humanitarian actors to respond to the disaster. Some SDRs will contain multiple sector pages, while others will be sufficient with only a few. Some may have multiple detailed scenarios, while other have none. Similarly, some SDRs may have extensive stakeholder profiles, while other SDRs omit the profile altogether.

The following are key elements of an SDR:

Disaster overview	Key concerns/priorities
Operational constraints	Humanitarian profile
Information gaps and needs	Scenarios
Lessons learned	Displacement profile

The first 5-10 pages of the SDR should read as an executive summary or a stand-alone section, summarizing key issues, priorities, humanitarian caseload, and future projections.

Country, Poverty, Communication, Hazard, Demographic profile and seasonal calendar
Stakeholder profile

Context and background information can be provided by detailing the country/region and population characteristics, hazards and past disasters and providing a synthesis of main stakeholders.

WASH (pre- and post-disaster)
Health and nutrition (pre- and post-disaster)
Livelihoods and Food Security (pre- and post-disaster)
Protection (pre- and post-disaster)
Education (pre- and post-disaster)
Shelter and NFIs (pre- and post-disaster)

The sector pages aim to provide sector specialists with a situation analysis at the sector level, as well as pre-disaster baseline information. Cross cutting issues (gender, environment, DRR, etc.) are also included.

Timeline
Key resources
Annexes (Maps, datasets, others)

The document can be complemented with a timeline of key events, key resources used and region/disaster specific annexes as necessary and relevant.

The final SDR should be roughly 20 to 60 pages.

7. What are the Tools Available?

Each step in the SDR process has a set of tools, which can be used to facilitate and expedite the process[3].

	Step	Tools	Technical Briefs
1	Preparation	▪ Annex 2 Task Allocation and Tracking ▪ Annex 2 Contact list partners ▪ Annex 3 Briefing Note Template ▪ Annex 4 ToR SDR ▪ Annex 5 How to work with Dropbox ▪ Annex 6 Job Description	▪ Building an Effective Assessment Team
2	Collect data	▪ Annex 7 Daily Needs update ▪ Annex 7 Survey of Survey ▪ Annex 8 SDR Standard folder ▪ Annex 9 SDR Annotated Template	▪ Qualitative and Quantitative Research Techniques ▪ Rapid Estimation of Affected Population Figures ▪ Coordinated Assessments in Emergencies. What we know now: Key lessons from field experience ▪ Survey of Surveys ▪ Disaster summary sheets (Floods, tropical Cyclones and Earthquakes) ▪ Documenting data and methods in rapid needs assessments
3	Analyse data		▪ Quick Impact Analysis (Floods and Earthquakes) ▪ How sure are you? Judging quality and usability of data collected during rapid needs assessments ▪ Compared to what: Analytical thinking and needs assessment ▪ Scenario Development - Summary Brief ▪ How to Approach a Dataset (parts one, two and three) ▪ Composite Measure and Rapid Needs Assessments
4	Report and Disseminate Findings	▪ Annex 9 SDR Annotated Template ▪ Annex 10 SDR Style Guide ▪ Annex 11 Charts and maps request template ▪ Annex 12 Standard mail template	▪ Data visualization tip sheets (internal)
5	Complete SDR, handover, and/or exit	▪ Annex 2 SDR Key statistics ▪ Annex 2 SDR Lessons learned	

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[3] These materials can all be found on the ACAPS website: www.acaps.org or in the annex section of these guidelines.

8. Who Undertakes an SDR?

Secondary data usually forms the largest stream of available information in the first days and weeks after a disaster. Therefore, it is important to start collating and analysing this information as soon as possible and in real time. The SDR process requires careful planning for both time and human resources. It is often undertaken remotely, but experience has shown that having key personnel on site can improve the quality of information, clarify misrepresented information, and confirm secondary information through impressions and observations from the field as well as increasing buy-in and participation by stakeholders on the ground.

Because timeliness is essential for the initial SDR, it may be necessary to utilise less experienced people who can be available immediately. The collection and collation of information can be carried out by relatively inexperienced individuals with a multitude of backgrounds, providing the team is guided by an experienced Team Leader who provides regular and thorough feedback.

However, when it comes to performing the analysis, experienced staff is required. This is mainly because this activity involves the formulation of assumptions and use of expert judgement that only experienced personnel in emergency response can contribute. The three core competencies required of staff who are going to conduct secondary data analysis are people with assessment skills, people with general emergency programming skills and background, and people with good knowledge of the geographic areas being discussed. Previous experience creating SDRs is preferable for the whole team, but only obligatory for the Team Leader and the Gatekeeper.

Ideally, a review of secondary data starts immediately after a disaster occurs and, on average, a first report can be finalised within 72 hours. This time constraint strongly limits the possibilities for *ad hoc* recruitment and training. Ideally, there would be a pre-identified and prepared team for secondary data review on stand-by at country or regional level. Where such a team is not on standby, teams will need to be recruited immediately, preferably at the country level.

Four main roles have been identified for SDR:

Gatekeeper

- Decide to start/complete the SDR
- Give feedback on on-going activities
- Final critical quality check, act as devil's advocate

Skills required:

- Generalist, previous experience with SDRs.

Team leader (Lead analyst)

- Recruit, manage, and coordinate the SDR team (deadlines, tasks and responsibilities, etc.)
- Actively facilitate cross sector analysis and scenario development
- Edit templates

Skills required:

- Previous experience with SDRs
- Team management, especially of remote teams.

Information manager

- Collate/estimate affected population figures
- Develop the humanitarian profile
- Research and develop displacement profile, lessons learned, country and hazard profile, stakeholders, and disaster timeline
- Edit template
- Produce maps, graphs and tables. Ensure visual consistency across the document

Skills required:

- Strong IM skills
- Skilled in rapid estimation of affected population numbers
- Database management and number crunching.

Sector Specialists / Information Analysts

- Collate pre-disaster (including lessons learned) information and analyse incoming post-disaster information including operational constraints, lessons learned, information gaps and needs, and further assessments required
- Reconcile and interpret pre-and post-disaster sector information. Analyse sector specific information and develop key concerns section
- Compile key resources and complete sector survey of survey
- Liaise with external sector specialists as required

Skills required:

Sector specialist with knowledge of local context, analytic expertise and emergency programming experience.

Depending on the complexity of the situation and resources available, multiple functions can be performed by one individual, or one function by several people. However, it is of key importance that the Gatekeeper only performs the main tasks appointed to him/her, especially when carrying out the final quality check, as a fresh view on the document structure, logic and argumentation is critical to avoid unnecessary mistakes and pitfalls.

Depending on the volume of information to deal with and the timeframe allowed, additional profiles might be required, such as GIS officer, editor, etc.

General skills and competencies needed for all SDR team members include:
- Good knowledge of the humanitarian architecture and main humanitarian information sources
- Knowledge of the country/region
- Ability to collate, tag, and organise data
- Ability to analyse and interpret data while data collection is ongoing
- Strong analytical skills (the ability to draw patterns, detect trends, and identify extremes or emergency levels). High numeracy skills
- Ability to balance focused exploration on the one hand and open-mindedness on the other
- Structured and organized Internet research
- Proficiency with data extraction tools (HTML, PDF, Access, STATA, etc.)
- Ability to work effectively and collaboratively in a team
- Ability to work efficiently under pressure, manage multiple tasks, and meet deadlines, while maintaining attention to detail
- Strong written and verbal communication skills
- Skills navigating and operating within social media (crowdsourcing, blogs, etc.)
- Excellent working knowledge of Microsoft Office (Word, Excel).

Lessons Learned
- SDR analysts must work with the data which is available rather than with the data they would ideally like to have available.
- A team of four/five members is the most adequate/manageable for an initial SDR. Ensuing updates may require only one person part time. Larger teams may be necessary for big disasters with measurable data volumes to manage.
- SDR team members must follow a strict protocol to ensure that the review process is systematically undertaken, by using explicit and rigorous methods to identify, critically appraise, and synthetize relevant information.
- Close links with one or several field focal points (sector experts, people with experience of the context, universities, etc.), will ensure that information which is not publically available is incorporated in the SDR.
- For the initial SDR, members of the team must be employable immediately and be available for at least 72 hours without exception.
- If dedicated resources are not available at country level, an SDR can and should be undertaken remotely by experienced people, ensuring a strong linkage between field offices and the SDR back up team.
- Start writing as soon as possible. Writing involves drawing conclusions, making linkages, and allows for critical thinking. Through writing, meaning is discovered, which is the essence of analysis.
- Analysis is easier to facilitate and more dynamic when information managers and the focal point are in the same geographic location, office, or room.
- Final cross-sector analysis can be performed by people other than the information analysts, but they should not be completely separated from the analysis. This is particularly true when quick answers and/or clarifications are needed from the Team Leader.
- Conclusions must be validated by a person with local context knowledge, expertise and emergency programming experience.

Part B – How to Successfully Implement an SDR

While Part A outlined the general SDR framework, Part B provides a detailed step-by-step approach to carrying out an SDR. The five sections in Part B reflect the five phases in an SDR process. It is important to note that the phases are not always sequential. Order will depend on the available resources.

Steps

I	**Preparation**
1	Alert and briefing note
2	SDR trigger decision
3	Setting up the SDR team
II	**Data collation**
4	Collate pre- and post-disaster information, assess information quality
5	Defining /updating focus areas and disaggregation/resolution levels
6	Develop sector sheets
7	Humanitarian and displacement profile
8	Lessons learned
9	Country profile
10	Stakeholder Profile
11	Timeline key events
12	Operational constraints
III	**Data Analysis**
13	Scenario development
14	Information gaps, ongoing/planned assessments, further assessments required
15	Cross sectoral key priorities
16	Disaster overview
IV	**Reporting and dissemination**
17	Editing template
18	Data, maps and visuals
19	Dissemination for review and implementation of feedback
20	Final update of population figures/disaster specific information
21	Quality check and dissemination
V	**Handover, update, and exit**

Each section specifies the exact steps that need to be undertaken and identifies who is responsible for each. Throughout Part B, different coloured boxes (see legend) provide key recommendations and may identify accompanying tools and guidance. Many steps are taken parallel to each other. It is therefore recommended that this section is read in conjunction with the process management tools in Annex 2.

1. Preparation

There are two types of SDRs: those initiated by a trigger, such as a disaster alert for a sudden onset disaster; and those without a clear trigger, such as an SDR requested to support a deployment some weeks into a disaster response. The first steps of the SDR procedure depend on how the SDR was initiated. If there is a trigger, it must be decided whether an SDR is necessary, by taking steps 1 and 2. If the SDR is a request, step 1 and 2 can be disregarded.

Step 1: Alert and Briefing Note

Who: Team Leader and Gatekeeper	**Tools Available:** Annex 3 – Briefing Note
Duration: 24 hours	Template

Both the Team Leader and the Gatekeeper are required to keep track of new and existing disasters (i.e. using GDACS subscription).

When an alert is received, either the Team Leader or Gatekeeper must judge whether a disaster is severe enough to trigger an SDR. If this is not the case or if information is insufficient to decide, a Briefing Note should be developed, where a rapid estimate of the impact of the disaster is made and recommendations are given on the next steps.

The Briefing Note should be completed by a team of two people in less than 24 hours. The process requires experienced people able to use pre-crises information to draw estimates (number of people affected, IDPs, etc.) and develop assumptions about the humanitarian caseload and the severity of impact, taking into account the specificity of the disaster, pre-existing vulnerabilities, and aggravating factors.

The Briefing Note forms the basis of the decision of whether to start an SDR or not. Possible recommendations from the report are:

- Abort - no further action is required.
- Monitor the situation – an SDR is not required at this moment, but the crisis could escalate in the future. The Team Leader continues to monitor the crisis.
- An SDR is required – the Team Leader starts identifying team member profiles and checking availability of potential candidates.

Recommendations

- When doubtful about the potential impact and scale of the disaster, trigger a Briefing Note. It is better to be wrong than to be late.
- Recognise that subjective (experienced) judgement can be as important as an evidence based decision when triggering a Briefing Note.
- Be prepared for inconsistent and limited information on the post-disaster situation. Pre-crisis information and past similar experiences will most likely be the main sources of information to develop the Briefing Note and determine findings.
- Go beyond the facts, use past experience and lessons learned to develop assumptions about the scale and scope of the disaster.
- Be transparent about estimates and the way projections are made.
- Provide ranges rather than point estimates.

Step 2: SDR Trigger decision

Who: Gatekeeper and/or Team Leader   **Tools available:** Annex 4: SDR ToR

Duration: 1 hour

The gatekeeper decides whether to undertake an SDR, while taking into account the findings of the Briefing Note. The following criteria can be used for decision making:

- GDACS Red Alert
- Lack of in-country information management structure
- Lack of comprehensive baseline information
- No multi-sector secondary data is planned
- Interest of actors or direct request
- UNDAC Team deployment
- Flash appeal or Strategic Response Plan

- Scale of disaster (e.g. number affected, area impacted).

An SDR can easily suffer from information overload and yield dispersive and inconclusive results. The decision to trigger an SDR and its objectives should be clearly documented in a ToR with the following:

- Organisation(s) requesting
- Documents (funding decision, Strategic Response Plan, Flash Appeal, etc.) that will be informed by the SDR
- Other initiatives or partners to link with (public health and risk assessment from WHO, CDC, MIRA, ICT4peace, IMWG, cluster lead, NGOs, field focal point, etc.)
- Field focal point(s), where relevant
- Time frame
- Sectors
- Geographic areas to cover
- Phase of the emergency to inform (lifesaving, re-establishing essential services, restoring livelihoods etc.)
- Timeframe to cover
- Financial and HR resources required
- Name of the Team Leader and members.

Recommendations

- Do not duplicate efforts: coordinate and inform other actors involved in SDR before starting. Join efforts when and if necessary. Link to other initiatives such as early assessments or funding decision processes.
- Make sure the timing of the SDR is adequate. Consider when the SDR will have the most added value and stick to the given timeframe.
- The SDR questions and objectives are defined by the context and must be clearly stated at the outset of the exercise to provide structure and focus to the analysts.
- If the SDR is a request from an external entity, make sure the SDR objectives are clear, and that expectations are managed regarding the final product. Objectives must be set before the data collection starts.
- In case of major changes in the disaster context, objectives should be reviewed and adapted accordingly to ensure comparative advantage and added value.

Step 3: Setting up the SDR team

Who: Team Leader	Tools available:
Duration: 2 hours	Annex 2 – SDR Process Management Tool
	Annex 5 – Work with Dropbox
	Annex 6 – Job descriptions

If an SDR is required, a team needs to be established. Section 8 in Part A outlines the different team members required.

When the team members are recruited, the Team Leader must ensure that there is a collaborative arrangement and outline the division of tasks between Information Analysts (Annex 6 – Job description) and the time schedule. Annex 2 – *SDR Process Management Tool* can be used as a basis for this collaborative arrangement.

A virtual collaborative space needs to be established, using for instance Dropbox or Google Docs, to facilitate the sharing of documents. Annex 5 - *How to work with Dropbox* gives guidance on Dropbox for those who have not worked with this software before.

Throughout this step, the Team Leader and the rest of the team should identify several (affected) regions/areas of interest and contact subject experts (sector specialists, former staff present in the affected country, etc.) who might be available to review the draft SDR (step 19) or share important documents to be included.

Recommendations

- Consider the volume and depth of information to collect and analyse. Plan for additional team members or additional days if the country is information rich (i.e. Pakistan, Philippines, or DRC). Check the availability of team members for the overall duration of the SDR.
- Two people can process information three time faster than one person alone. However, to be successful and timely, SDR compilation benefits from trained personnel performing at similar speeds and rates.
- Make sure all team members know how to use Dropbox and are familiar with the style elements used in the SDR (sourcing, hyperlink, template, archiving, font style and

size, etc.) to ease final reconciliation and editing of different sections.
- Decide on frequency of updates between analysts. Start with an update every 3-4 hours.
- Ensure all team members are aware of other team member's tasks and responsibilities, so information can be exchanged between them when data of relevance for other information analysts is identified by somebody.

The ACAPS Building an effective assessment team Technical Brief provides guidance on the profiles required for a successful assessment.

2. Data Collation

After the preparation stage, the SDR team can embark upon data collation. The objective of data collation is to ensure that all available relevant information is organised, tagged, and archived by the subject of the information, using the same method and nomenclature by all analysts.

Data collation is the most time-consuming step in the SDR process. Balance is the key here. It is vital to be able to search a broad range of information platforms and documents to identify all relevant information, but at the same time minimise duplication of hits or spend too much time chasing information of little value.

During an SDR, there is usually a large amount of data from different sources available. Data and information come in different types and formats (numeric, text, interview, video, photo, tabular, unstructured, etc.), are applicable to different timeframes (pre-crisis, in-crisis, or forecast) and require different degrees of verification, depending on the research method (quantitative or qualitative) used to obtain them.

A solid SDR should integrate quantitative and qualitative approaches to achieve convergence of results. Qualitative methods provide context to quantitative findings and ground them in a specific cultural context, and in this way provide a much broader and deeper analytical and interpretative framework than could be obtained from either of the two methods being used independently. At the same time, consulting and

interpreting qualitative data may provide new insights into areas traditionally assessed through other conventional and quantifiable perspectives, thus helping analysts to come up with new causal hypotheses, explanations and triggers for further investigation.

The ACAPS Qualitative and Quantitative Research Techniques Technical Brief provides guidance on how both qualitative and quantitative information is needed for a shared understanding of how people are affected by disasters. Quantitative data guides in understanding the magnitude and scale of a humanitarian crisis by providing a numeric picture of its impact upon affected communities. It addresses the questions: *how many* and *how much*. Qualitative data, on the other hand, focuses on determining the nature of the impact of a disaster upon affected populations. Qualitative data answers questions of *how* and *why* coping strategies have been adapted, or failed to be adapted, to the changed circumstances.

A systematic and rigorous approach towards data collation is needed to ensure comparability and usability of collected data and to facilitate the subsequent analysis process. Adopting a systematic approach to information gathering is essential to ensuring relevant information is not inadvertently missed, and that the analysis yields a comprehensive and unbiased report that considers all elements, conditions, and developments in the given context. It is also important that SDR analysts maintain focus throughout the process given the massive amounts of information available and the complexity of sectoral issues at hand. Steps 4 to 13 provide guidance on procedures, tools, and templates to effectively gather and categorise data needed for a SDR.

Step 4: Collate pre- and post-disaster information, assess information quality

Who: Information manager(s)	Tools available: Annex 7 - Daily Needs
Duration: Throughout the SDR process	Update and SoS templates Annex 8 – SDR standard folder

Pre-disaster information includes information on the situation in an area before the disaster occurred. Pre-disaster information also refers to background information or baseline data. Disaster specific information or post-disaster information contains data on the impact of the specific disaster.

Pre-disaster data should be gathered and used to establish a baseline snapshot of the affected area and population, including pre-existing vulnerabilities, traditional coping strategies, as well as exposure to specific threats, risks, or hazards. This data provides an overall background against which the impact of the disaster is measured. A solid SDR integrates both quantitative and qualitative data and approaches to achieve convergence of results.

Of the usually large amounts of data available on a specific disaster, only a small amount is immediately applicable to and useful for the SDR (around 10-20% of the data reviewed). It is recommended that the Team Leader appoint one Information Manager to keep track of all *disaster specific information* to ensure that new disaster-related dynamics are quickly identified and avoid multiple persons reviewing the same sets of materials. Disaster specific information can be stored and shared in the *Daily Needs Update* (Annex 7 - DNU).

The DNU is an Excel document where disaster specific information is shared and stored. Tracking incoming post disaster information in an Excel spreadsheet has multiple objectives:

- Data collection: the DNU provides an overview of what is happening, where, and to whom. The information collected in the DNU reflects all the information currently available on topics such as *disaster impact per sector, operational constraints, risks*, etc.
- Data sharing: collecting all available data and storing it in one document enables sharing the data with multiple users. Sharing can be done by regularly updating versions of the document on an information sharing platform such as Dropbox.
- Data analysis: By tagging collected data (for instance by labelling according to sector, geographical area, risk, or problem identified)

and using the filter function within Excel, all data regarding one sector, one particular geographical area, or an affected group can be filtered in one worksheet. Having all the applicable data in one worksheet simplifies analysis and allows for identification of geographic hotspots where a lot is being reported, or those areas about which nothing is being reported.

- Permutations: Excel worksheets can be easily turned into pivot charts, making it possible to show numbers and trends through different lenses or dimensions.
- Assessment tracking (Annex 7 - Survey of Survey): monitoring and documenting assessment activities across the humanitarian community after a disaster provides a comprehensive picture of assessments in a given disaster affected area and stores them for future reference. It is used to help ensure geographic and temporal synchronisation of assessments and may be a foundation for both assessment planning and shared analysis of those assessments that have been harmonized.

The ACAPS Survey of Survey (SoS) Technical Brief provides guidance on designing and managing a complete SoS.

Recommendations
- Time data collection carefully, and balance the importance or operational value of the data with the time/effort required to find it.
- Use different approaches to seek documentation. Seek advice on relevant reports or publications in a particular field or on a particular topic from key experts. Use snowballing: the references found in collected reports and documents can guide to further sources. Use keywords and proxies for internet research.
- Use/build your information network: identify key resources (at local, national, regional, and HQ level) that can support and contribute to data collation. Use country contact lists to identify key resources.
- Collect the minimum data necessary as a golden rule. The temptation is to seek too much information, which often means that poorer quality data are collected and there is

insufficient time to analyse the data. Collect only what you know you can use, and collect information most relevant to the decisions that have to be made.
- Focus on the value added of the information collected. Collect data that is *good enough*; do not seek more detail or precision than is needed or can be analysed.
- Customise archiving procedures using a standardised system to facilitate documentation retrieval. Each document name should reflect the date, source, and place of the information it contains. All Information Analysts should use the same archiving system and nomenclature.
- Identify and list the *known unknowns*, the information gaps.
- If you come across information that is of interest to other analysts, share it (operational constraints, stakeholder data, other sectoral information, etc.).
- Be prepared for information to come from multiple sources, through multiple paths, and in multiple formats.
- Tag sensitive information shared confidentially that cannot be sourced publicly.
- Be flexible and prepared to redirect data collation efforts as new information is gathered or becomes available.

In addition to updating the DNU, the information manager ensures that the team is aware of evolving dynamics of the disaster, typically through *Definition of inclusion and exclusion criteria* meetings (Step 5).

Throughout the data collection process, reliability and credibility of the data should be evaluated. Various pieces of information are often different and can even contradict one another. There are many reasons for this: the research generating that data may have been undertaken in a specific area or with a specific group of people, or sample, and is not generalizable to other areas; there might be flaws in the research design that affect its overall validity; figures might only be preliminary, etc. Sometimes, inconsistencies simply happen because the goal and purpose of the secondary data are not the same as yours.

Recommendations

- Expect some results that do not fit in with your overall picture.
- Remember that any piece of information is only one part of a larger jigsaw puzzle and should not be viewed in isolation of other available information. It does not represent the whole picture, but merely contributes to a section of that picture and needs to be set in the context of other information.
- Evaluate the usefulness of the data. Ask if the information is sufficiently recent and timely. When was the research conducted? Are the results still relevant to current conditions? Does the sample make the research generalizable to the population of interest? Are the characteristics of the sample similar to those of your population? Does the purpose of the research relate to your work? Are the conditions of the research relevant to your data needs? Is the level of disaggregation sufficient? Is there the necessary metadata and references? Etc.
- Consider bias within data, including: organisational bias (mandate, project); environmental bias (seasonal, spatial and time of day); and individual and cultural bias (ethnicity, religious, gender, language).
- Assess reliability of the source. Does the source have the necessary qualifications, credentials or level of understanding to make the claim? Does the source have a reputation and positive track record for accuracy? Does the source have a motive for being inaccurate or overly biased? What motivations or bias may have influenced how the observation was made or reported?
- Assess credibility of your information. Is it a product of one's own observation or a result of unsubstantiated rumour? Have other people made or reported the same? What methods were used to collect and analyse the data? Are they sound and proven methodologies? In what circumstances was the observation made or reported?
- Do not rely on only one source. Obtain information as widely as possible to help avoid bias. Think outside the box and move away from conventional (and intuitive) information sources and data types. Check local media, blogs, academic papers, etc.

The ACAPs Technical Briefs How sure are you? Judging quality and usability of data collected during rapid needs assessments and Documenting data and methods in rapid assessments provide practical guidance on how to assess the quality of the information being collected during a SDR process and how to document the collected information.

Step 5: Defining/updating research criteria and disaggregation/resolution levels

Who: All team members
Duration: As often as needed

To ensure that the whole team is aware of the most recent dynamics of a disaster and can adapt the research accordingly, regular meetings should take place (in person or over phone/skype). During these briefings, the focus and depth of the SDR should be discussed and updated in light of new available information.

Inclusion and exclusion criteria: The team should agree and regularly update inclusion and exclusion criteria to assess which information should be incorporated into the review, and to ensure that only the information relevant to decision making for this particular disaster is included. Using agreed research criteria also helps improve both the transparency and the rigour of the review by ensuring the screening is conducted in a consistent manner. Key criteria that should be discussed are:

- Geographic areas of interest: Do we restrict the search to specific geographic areas? (I.e. regions, departments, districts, livelihoods zone, urban areas, etc.).
- Affected groups of concerns: Who are we looking at? One particular subgroup within a given population? (I.e. third country nationals, returnees, pastoralists, etc.).
- Sector impact: Are we looking at the impact or disaster outcome in a particular sector or sub sector? (I.e. GBV in camps, restriction of access to beneficiaries, etc.).
- Key metrics: Specify which outcome indicators will be considered and which will not. For example, for nutrition, you might be interested only in weight-for-age and not height-for-age.

- Cross cutting issues: mainstreaming in all sectors vs. specific sections (I.e. poverty, gender and age, environment, DRR, HIV/AIDS, etc.)
- Vulnerable groups of concerns (i.e. women heading households, older people, persons with disabilities, children, etc.)
- Time limit: Is there a time cut-off for studies or information included? For example, if you set the limit at January 2010, then information published before this date is excluded.
- Comparisons: What comparison parameters (if any) are we using to compare the outcomes of the disaster? Comparison parameters can be constructed on the basis of different social groups, different geographic contexts, different time periods, and so on (e.g. what are the impacts on sanitation in rural vs urban settings; before - after the disaster?).
- Language of the documents: Do we extend research to local language sources?

Disaggregation/Resolution level: Once all sources have been gathered and screened by information analysts, verify what is the most relevant and common level of disaggregation (i.e. information is consistently available at the province level, but very irregularly at the municipal level) available across sectors, and use this to determine which will be the level adopted for the SDR, conclusions and report as a whole. This choice should also be guided by:

- Discussions held early on with relevant stakeholders to ensure that what they need is addressed and provided by the report.
- Careful consideration of the trade-off between time and resources available for the SDR exercise and the amount of work required by greater data disaggregation. The work implications (in terms of time and precision) of gathering, manipulating, interpreting, and presenting data increase considerably as the level of disaggregation increases.

As much as possible, the level of resolution being sought within and across sectors should be similar, i.e. if it was decided to report only for the four most affected provinces, details should be sought and provided for at this level (only) within each sector.

By identifying the administrative breakdown to be followed throughout the SDR, and consistently positioning the individual data sets, observations and information consulted within that framework (to the greatest extent possible), the analysts can gradually create a composite picture for each area that can be used by decision makers to better identify, qualify, and quantify issues and risks. This also provides a framework within which information and data rendered by smaller studies and initial or rapid assessments can be more accurately integrated and interpreted (e.g., some assessments will be focused on specific districts or communes and their results will be more relevant to the SDR analysis when kept within the context of those districts or communes than if positioned within a larger provincial or national assessment). This approach allows for better integration of qualitative data or research that may be highly relevant and unique to smaller areas.

At the same time, striving for similar levels of disaggregation across differing data sets (and information in general) does not preclude the use of data that is disaggregated differently (other examples of useful levels of disaggregation can include by: agro-ecological zone, livelihoods zone and/or by sub-groups of people such as refugees and/or IDPs versus host population, men versus women, etc.). Rather, all efforts should be made to find areas of overlap so that information can still be reflected in the larger picture. In these cases, the analyst will need to clarify such differences across information sources so that it is clear to the reader that some basic assumptions in bringing the varying data sets together have been made.

What do we know, what do we not know, what's next? In addition, these team meetings should be used to update team members on the current state of knowledge. The Team Leader can use this opportunity to distribute new tasks and provide feedback or advice to analysts. A sample agenda for this meeting includes:

- Situation overview by DNU officer and information on new focus areas (10min). What is known and unknown, what requires additional research?
- Sector overview including percent towards SDR completion and schedule for draft review (10min). What is known and unknown, what requires additional research?
- Review on content presentation: spelling of names (towns, regions, etc.), resolution levels, new inclusion or exclusion criteria (What do we know, what is missing, what's next?), new key documents of general interest, instructions to store data, charting or archiving, timeframe revision, external contacts, etc.
- External resource persons to contact to obtain information, feedback or data.

Recommendations

- Be flexible. Expect to revise the inclusion and exclusion criteria multiple times, and expect to broaden the research when necessary. For example, if the research questions results in too few/too many search hits, the question may need to be broadened/reduced in scope.
- Conduct regular information sharing sessions. These allow for building shared situation awareness, as well as ensuring that new information can be used to confirm earlier hypothesis, revise earlier assumptions, or create new ones.

Step 6: Develop Sector Sheets

Who: Information Manager and Sector Specialists and Information Analysts **Duration:** 10 hours per sector sheet	**Tools available:** Annex 9: SDR template

A sector sheet consists of five main components:

- **Key/priority concerns** will emerge through analysis of pre-disaster information and disaster specific information, particularly as most affected groups, most affected geographic areas, and priority needs are identified per sector. Priority concerns are those which have the highest life threatening effect on the population and that affect the largest portion of the population. These key priorities form the basis of the cross-sector analysis (Step 13). Underlying factors behind main issues should also be clearly explained or hypothesized.

- **Pre-disaster information** provides an understanding of the sector specific situation in the area before the disaster occurred (i.e. a baseline to determine the impact of the disaster in light of pre-existing vulnerabilities). Pre-disaster checklists included in the annex 9 SDR Annotated Template can provide guidance on which indicators to look for per sector. Examples of key indicators that have to be looked for are: *the number of people using improved sanitation facilities (WASH sector page)* and *maternal mortality rates (Health sector page)*. However, specific resources and areas of focus will depend on both the impacted area and the type of disaster.

- **Disaster specific information** describes the impact of the disaster on each sector. Particular areas of interest will include which groups and which areas have most felt the impact of the disaster. Most raw data for this section can be found in the populated *Daily Needs Update* (Step 4).

- **Sector information gaps and needs** provides missing critical information (pre- or post-disaster) at sector level, that would help refine the analysis or indicate research that should be further conducted (i.e. school dropout rates, numbers of IDPs per province, ethnic distribution in affected areas, etc.).

- **Key document list** includes the top ten reference documents per sector that stakeholders should read to better understand the situation before and after the disaster.

Recommendations

- A given indicator often only has meaning when related to other pieces of data. Add location, geography, time perspective and population figures to information to give data context and further meaning. For example, there are five cases of cholera in town A. Contextualised: there are five cases of cholera in town A, inhabited by 24,000

people as per the census two years ago. According to pre-disaster information, there is limited capacity for medical treatment in this specific area combined with poor sanitation indicators, thereby increasing the potential for spread of the disease.

- Compare data to international thresholds, the pre-crisis situation, and other relevant information. For example, there are five latrines available for a population of 10,000 people. Comparison: there are only five toilets latrines for a population of 10,000 people. Sphere standards prescribe one toilet for every 20 people. Because people do not have sufficient access to latrines, open defecation is common, thereby increasing the potential for spread of cholera.

Step 7: Humanitarian and Displacement profile

Who: Information Manager	**Tools available:** Annex 9: SDR Template
Duration: 10-20 hours	

The humanitarian profile is an attempt to account for, on an ongoing basis, the number of people having humanitarian needs arising from a disaster. It is essentially a count of the impacted population and the different groups affected by the disaster (IDPs in public buildings, affected residents hosting IDPs, etc.). It includes the numbers of affected, missing, dead, and injured persons.
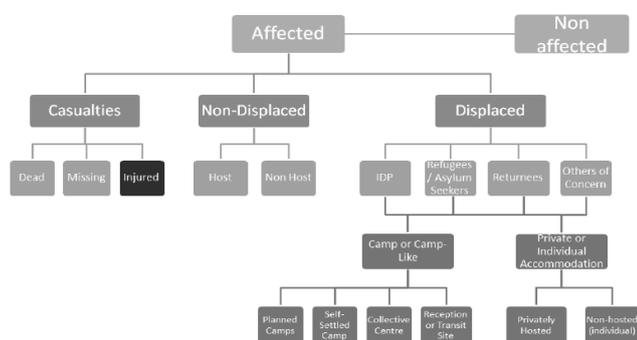
The Humanitarian Profile can be constructed using many possible schemas. Only the upper levels of the hierarchy have fixed definitions, which recognize that at the more detailed levels, the classification system may need to be adjusted to fit the operational realities of a given

emergency as shown in this adaptation for the Philippines Typhoon Yolanda in 2013:
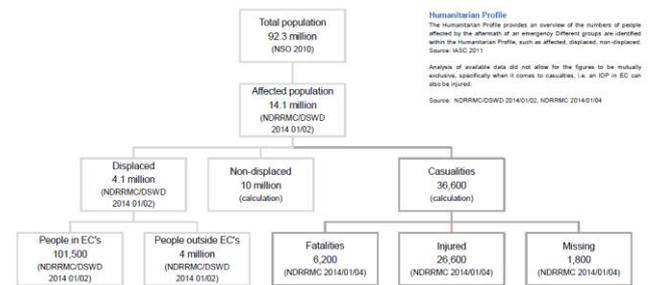
It may not be possible to obtain all these data, even as estimates, during the early phases of the emergency, but may be achievable as the emergency response matures.

It is important that the categories into which the affected population is disaggregated are mutually exclusive within the same level of the hierarchy. The sum of all people in each category at a given level in the hierarchy equals the number of affected people.

The Technical Brief on the Rapid Estimate of Affected Population Figures walks the reader through the process of how affected populations numbers can be estimated. It serves as a complement to the SDR template provided in Annex 9.

The displacement profile gives an overview of the displacement situation. It details both the displacements caused by the current disaster and includes information on historical displacement trends and causes of previous displacements. The Internal Displacement Monitoring Centre website provides comprehensive displacement profiles on most countries. A displacement profile is not required for every SDR as not all disasters cause significant displacement.

Recommendations
- Estimating and tracking population figures is both a science and an art, requiring skills and rigor. Ensure that the person in charge of the humanitarian profile has a high level of numeracy and experience in estimating population numbers.

- Use as many estimation methods as required, but always be transparent and explicit when documenting estimates.
- Go beyond official figures and use historical lessons learned and scenarios to provide further estimates.
- If not possible otherwise, use ranges rather than point estimates.

Step 8: Lessons Learned

Who: Information Manager	**Tools available:** Disaster Summary Sheets
Duration: 5 hours	

There are two types of lessons learned within the context of an SDR. First, there are lessons learned from previous humanitarian responses in the affected region, both for similar disasters and different disasters. These lessons learned provide information on what worked during previous responses, what were operational constraints that challenged access to the affected population, and which groups, areas, and sectors were most impacted. Resources for this type of lessons learned include humanitarian appeals[4] or assessments/evaluation reports from actors that have responded to previous crises[5].

The second type of lessons learned are lessons emerging from similar disasters in other countries, areas, or regions. Humanitarian appeals on similar crisis, former PDNAs, ALNAP lessons learned papers, and ACAPS Disaster Summary Sheets can be used as resources as can lessons learned workshop reports, after action reviews, and summary reports.

ACAPS disaster summary sheets provide a general profile of the potential impact of a natural disaster, based on experience and lessons learned from previous medium and large-scale disasters. There are three natural Disaster Summary Sheets available: tropical cyclones, floods and earthquakes.

The value of referring to previous lessons learned is in identifying actionable lessons learned which could be applied during the current disaster. These lessons learned can be used to focus data collection, contribute to a better understanding of the impact of the disaster on pre-existing vulnerabilities, and support assumptions in the case of information gaps.

Recommendations
- Focus only on actionable lessons learned and those historical elements that can inform the current situation, existing risks or threats, and/or support projections in the future. For instance, when typhoon X affected this region last year at the same time, displaced people who sheltered in public schools were evicted when the school year started so students could resume classes.
- Use lessons learned to cover information gaps and support assumptions: *we have no information on GBV in camps A, B, and C, but considering the incidents already reported in neighbouring camps X, Y, and Z, we should expect an increase of GBV in the coming weeks if IDPs continue to arrive at current rates.* Use also lessons learned to provide context: *enumerators reported the use of irreversible coping mechanisms which have not been employed since the 2005 drought, registered as the most severe drought of the last 20 years in this region.*
- Avoid generalities and only refer to lessons learned when it is possible to contextualise them to the current disaster.

Step 9: Country Profile

Who: Information Manager	**Tools available:** Annex 9: SDR template
Duration: 7-8 hours	

The country profile is comprised of:
1. **Key characteristics and key indicators** which provide a general overview of the well-being of the population and the political, economic, social, administrative, geographic and climate characteristics of an area as well as background information on the population with regard to language, lifestyle, religion, governance, etc. Always provides point of comparison when detailing key characteristics (*i.e. the affected area is twice the size of France*, *the unemployment rate is six times higher than the regional average*, etc.).

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[4] http://ochaonline.un.org/humanitarianappeal/webpage.asp?Site=2011&Lang=en
[5] These reports can be found for instance on: www.alnap.org

2. The **demographic profile** provides baseline and basic population figures and denominators throughout the report. Demography is the quantitative study of populations. Demographic data, in their simplest form, refer to six interacting dimensions: Births, deaths, migration and resultant growth (change), age, and sex distribution (structure). Accurate demographic data are often difficult to gather. Globally, about one third of births, and two thirds of deaths, are not properly recorded. Population data can be found in national censuses or through projections. Priority metrics include:
   o Total population which provides a denominator and an overall framework for further calculations
   o Birth rate which is used to calculate births and plan needs for birthing services
   o Death rates, including total death rates and those for children <5, which are used to judge how acute the disaster is
   o Population age/sex structure, especially for children <5, people aged 60+, women of reproductive age (15-49), which can be used to plan for meeting basic needs including food, vaccinations, contraception, etc.
   o Household size, and structure (i.e. male vs female headed households), which inform shelter and WASH responses, amongst others.

3. The **poverty profile** answers questions such as (WB 1992): Does poverty vary widely between different areas? Are the most populated areas also the areas where most of the poor live? How is income poverty correlated with gender, age, urban and rural, racial, or ethnic characteristics? What are the main sources of income for the poor? On what sectors do the poor depend for their livelihood? What products or services do the poor sell? To what extent are the rural poor engaged in agriculture? In off-farm employment? How large a factor is unemployment? Underemployment? Which are the important goods in the consumption basket of the poor? How high is the share of tradables and non-tradables? How is income poverty linked to malnutrition or educational outcomes? What are fertility characteristics of the poor? To what public services do the poor have access? What is the quality of these services? How important are private costs of education and health for the poor? Can the poor access formal or informal credit markets? What assets—land, housing, and financial—do the poor own? Do property rights over such assets exist? How secure is their access to, and tenure over, natural resources? Is environmental degradation linked to poverty? How variable are the incomes of the poor? What risks do they face? Are certain population groups in society at a higher risk of being poor than others are? Households that are at a high risk of being poor, but are not necessarily poor now, are considered to be vulnerable.

4. The **communication profile** provides comprehensive and detailed information on the media and telecommunications landscape in the affected area. In the immediate aftermath of an emergency, an "information needs and access assessment" can be undertaken to verify whether the channels of communication outlined in the profile are still functioning.

5. The **hazard and disaster management profile** provides an overview of the type of disasters the area is prone to, a list of relevant past disasters with humanitarian impact in the same area, notes the disaster management structures in place at country level, and outlines relevant applicable laws or national policies.

6. A **seasonal and critical events calendar** indicates upcoming events, such as harvest season, rainy season, religious festivals, school exams, etc. The WFP Seasonal and Hazard calendar can be adapted and included in the SDR report and can be complemented with other crop calendars or key upcoming events such as elections. The following is a sample seasonal calendar for South Sudan, February 2014.

Key seasonal data	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Average rainfall precipitation 1990-2009 mm	0	2.1	7.3	23.3	38.3	54.6	91.1	104.8	62	38.2	7.9	2.1
Average temperature 1990-2009 Celsius	22.7	24.3	27.1	30	31	30.7	29.6	29.3	29.2	28.8	25.9	23.4
School year												
Rainy Season	Dry season					Main rainy season					Dry season	
Rainy season Greenbelt & hills and mountains zones				First rainy season in Greenbelt & hills and mountains zones			Second rainy season in Greenbelt & hills and mountains zones					
	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec

Step 10: Stakeholder profile

Who: Information Manager
Duration: 5 hours

This section is only applicable if insecurity or conflict existed in the affected area prior to the disaster or if conflict emerges from the disaster.

The stakeholder profile describes the main armed factions or parties to the conflict. It provides details on each important group or individual in the conflict, identifying their stated positions, interests, needs, issues and sources of power. It also shows the relationships among the different groups and individuals involved, and helps to understand how the different actors interact with each other. Useful resources are the websites of _International Crisis Group_, the _Small Arms Survey_, _Human Rights Watch,_ and _Amnesty International_.

Step 11: Timeline key events

Who: Information manager
Duration: 3 hours

A timeline of key events can be useful in putting a specific event into context, especially in the case of a protracted crisis where multiple events over a long period of time still influence the current situation (such as elections, peace agreements, etc.). Timelines produced by news agencies such as the _BBC_ or _Alertnet_ can be used as a basis for this section.
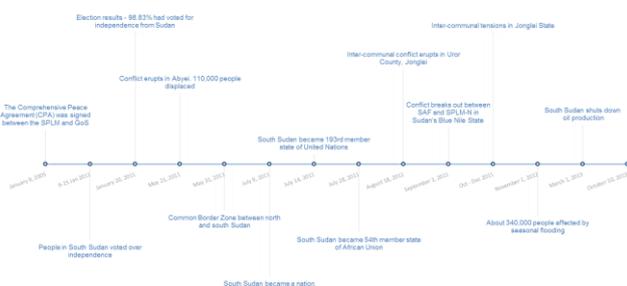
Key upcoming events with potential humanitarian consequences should also be noted (i.e. elections, withdrawal of peacekeeping forces, etc.). These will be used later to develop scenarios and assumptions.

Step 12: Operational Constraints

Who: Information Manager
Duration: 1 hour

Operational constraints include all factors that hamper relief operations:
1. Humanitarian access of relief agencies to the affected population:
   o Impediments to entry into the country or certain areas or regions, including: disproportionately heavy taxation or fees, delays or denials of visa, and special permissions, etc.
   o Restriction of movement, both challenges to freedom of movement and/or administrative restrictions.
   o Interference in humanitarian activities.
   o Violence against personnel, facilities, and assets including attacks, violence, kidnappings, abductions, theft, looting, and threats against humanitarian actors.
2. Access of the affected population to humanitarian aid:
   o Denial of needs or entitlements by powerful groups or persons.
   o Restriction and obstruction of access to aid.
3. Security and logistical constraints:
   o Active hostilities, such as armed confrontations, security operations, indiscriminate violence, collateral damages or risk thereof.
   o Presence of mines and improvised explosive devices.
   o Physical environment, such as climatic or seasonal events, inaccessible areas, logistical, and telecommunications related constraints, obstacles related to terrain, lack of infrastructure, etc.

There are two main sources for the operational constraints: the populated _Daily Needs Update_ (Step 4), and Lessons Learned about operational constraints that have hampered relief operations in previous disasters (Step 9).
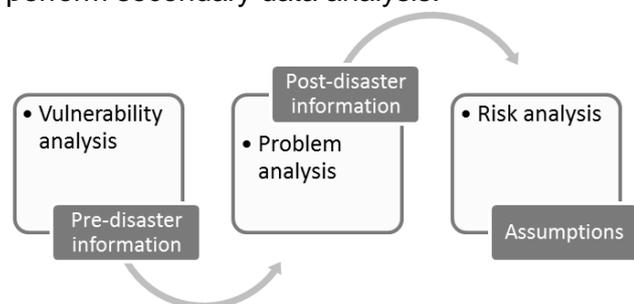
3. Data Analysis

While data collection is the most time consuming part of an SDR, data analysis is the most important step. Analysis takes place throughout the data collection process and after collection has ended. Because emergency situations can change rapidly, it is important to analyse data while information collection is ongoing. Ongoing analysis further ensures that previously defined subjects such as affected areas and groups remain accurate. Analysis can also highlight gaps in understanding, which, if identified early enough in the process, can be addressed, providing sufficient information is available. The final cross sectoral/geographic/group analysis takes place after the data collection has ended. Steps 14-17 outline the process by which data is converted into valuable information.

Adopting a risk lens throughout the SDR process allows the team to account for problems that do not specifically result from a confirmed deficit (i.e. lack of access to…), but represent threats with various degrees of impact and likelihood. It also takes into consideration the associated negative consequences that might be incurred by not attending to these problems.

The risk approach builds on what is known about a situation before the crisis, what is known about the current situation, and based on this, explores the different ways the situation could unfold. In other words, what can *yesterday* and *today* tell us about *today* and *tomorrow*?

Three incremental steps are necessary to perform secondary data analysis:

- • Vulnerability analysis
- Pre-disaster information
- Post-disaster information
- • Problem analysis
- • Risk analysis
- Assumptions

1. **Vulnerability analysis**: Pre-crisis information provides an understanding of the situation prior to the disaster impact and describes existing vulnerability and risks that may be exacerbated as a result of the disaster. This will provide an overview of what the vulnerabilities and threats are, who the most affected people might be, where they are located, and the type of risks they might face now or in the future.

2. **Problem analysis**: Analysis of pre-disaster information will only give an idea of the pre-existing potential weaknesses. However, there is also a need to understand what other factors contribute to the current crisis. Analysis of post-disaster information determines the scale of the impact of the disaster and whether or not the humanitarian situation is critical. These in-crisis factors are the reasons why the situation has gone from *normal* to being an emergency situation, and they will enhance an understanding of what happened, and how it affects (or will affect) the people, directly or indirectly. Use of coping mechanisms can also contribute to estimating the severity of the crisis.

3. **Risk analysis**: Scenarios are developed to describe alternative futures that could occur and outline additional threats and risks the affected population could be exposed to (e.g. winter cold, elections, population displacement, etc.). By combining vulnerability and problem analysis and by analysing potential future risks, specific drivers that can influence the direction that the future may take can be identified (e.g. future risks and opportunities, resilience and vulnerability of affected people, in-country capacity, etc.). Informed assumptions can later be developed with an estimation of how groups are likely to be affected, what priority needs there will be, and what operational constraints may emerge.

The following flowchart summarises the different typology of issues, problems or risks that are typically accounted for when undertaking an SDR and the type of operational recommendations they can lead to.
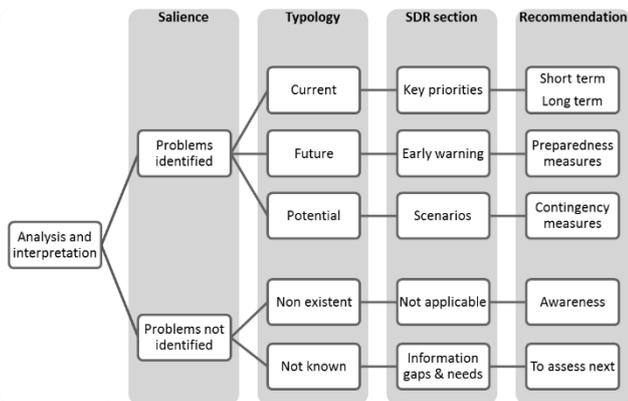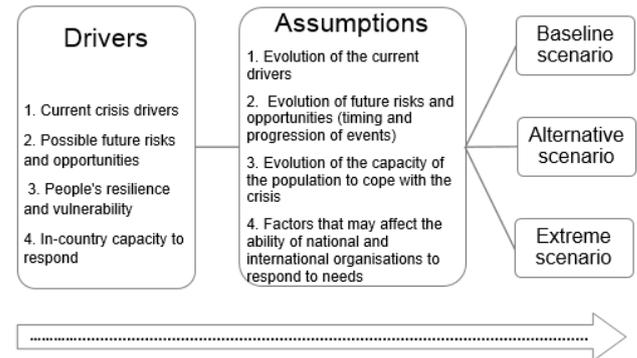
Source: ACAPS 2012

Step 13: Scenario Development

Who: Team Leader and Information Manager **Duration:** 4 hours	**Tools available:** Technical Brief – Scenario building

A scenario projects alternative ways in which a situation might evolve. Building scenarios involves speculating about an uncertain future, envisaging different possible outcomes for a given initial situation, and planning for possible future humanitarian crises and needs.

The most practical, flexible, and recommended method for scenario building is *the chain of plausibility* approach. Compared to more traditional approaches (*most likely case, best case,* and *worst case* scenarios), this method helps integrate potential events into a plausible and realistic narrative, rather than just sorting them by a differentiated order of intensity or impact. It works by identifying drivers that are likely to trigger a chain of events that lead to each scenario, and develop informed assumptions about a given situation.

For the purpose of scenario building, assumptions are defined as judgments about the anticipated type, magnitude, and timing of future events or conditions. Assumptions are the product of an analysis of current conditions (e.g. rainfall patterns to date), past experiences (a reference period, or how a similar series of events unfolded, such as a previous drought), official or unofficial estimates or projections, and/or expert judgment. By gradually combining and modifying the drivers and assumptions, it is possible to analyse different potential outcomes from the baseline (projection of the current situation) to the most extreme.

Chain of Plausibility

Source: ACAPS 2011, Scenario development summary brief

- For slow or sudden onset emergencies, when the degree to which the future situation may change is not too diverse, and when response planning needs to be more detailed, 2-3 scenarios are recommended.
- Do not base scenarios on factors that are certain, select drivers that are genuinely variable and are thus subject to change.
- Include support and review from selected key informants and local experts in the scenario building process.
- The focus of the scenarios should be on their predicted impact on affected people, on their livelihoods, and related needs.
- Prioritize scenarios that are needed to move forward with planning instead of trying to develop all possible scenarios.
- Include just enough detail to permit planning, and communicate to others the anticipated conditions and needs of the affected population.
- Acknowledge that the scenarios developed will never exactly predict the future and therefore will never be completely right.

The ACAPS Scenario Development Summary Brief helps team leaders and information managers develop or facilitate plausible and credible scenarios with regard to the disaster's evolution.

Step 14: Information gaps, ongoing and planned assessments, data quality issues and further assessments required

Who: Team leader, information manager and information analysts
Duration: 2 hours

After analysing pre- and post- disaster information, it will become clear as to which significant pieces of data are missing regarding disaster affected areas, groups, and sectors.

Review and assess data regularly to identify quality issues (i.e. bias, seasonality, frequency of update), information gaps (sector, geographic or thematic gaps), and *known unknowns*. This is critical information, not only because it can feed into further assessment design and planning, but because it indicates the extent to which the information available on the disaster is actually representative of the situation on the ground.

For instance, if the bulk of post-disaster information available is from two of five affected provinces, it is not only obvious that an assessment is needed in the other provinces, but it is also apparent that current information is not sufficient to draw conclusions on the whole scale and impact of the disaster. When this is the case, the limitations of the findings must be explicitly stated in the SDR to avoid readers from inaccurately extrapolating findings across the whole disaster affected area.

When information gaps are identified, a short list of large ongoing and planned assessments should be included. The DNU and the Survey of Survey will provide an overview of assessments accessed as well as ongoing and planned assessments). The objective of stating this information is to avoid duplication of assessments, identify where information should be collected next and what should be assessed, and to enhance data sharing.

Discussion on data quality, frequency of update, and potential bias or over focus can also be discussed to provide readers with guidance on how to interpret correctly the available information. Guidance for further assessments should be given noting that current gaps in

information could be filled by rapid or in depth, sectoral, or multisectoral assessments. These recommendations should be generic and not stakeholder specific.

For lessons learned globally, refer to the ACAPS Technical Brief on <u>Coordinated Assessments in Emergencies: Key lessons from field experience.</u>

Step 15: Cross Sectoral Key Concerns

Who: Team Leader and information analysts
Duration: 2 hours

Once all sectors have been studied, their respective sections completed, and their key issues identified, it is necessary to step back and look at the overall picture that emerges. The key concerns are cross sectoral and cross cutting by definition and are formulated by taking into consideration current, potential and future problems, their severity, and their confirmed or expected outcomes.

Cross sector key concerns are the core of the SDR and provide answers to the questions:
- Which are the most affected groups, areas, and sectors?
- What are the most important issues and risks and their underlying factors, now and in x weeks/months from now?
- Who are the most vulnerable groups?

Although this analysis is based on key concerns on a sector level, it should not be just a repetition of these. Key concerns on a cross-sectoral level, should clearly prioritise the life-threatening problems.

ACAPS has developed a series of technical briefs, which give direction on a variety of analytic challenges during needs assessments:
- <u>How sure are you?</u> Judging quality and usability of data collected during rapid needs assessments.
- <u>Compared to what?</u>: Analytical thinking and needs assessment.
- How to Approach a Dataset (parts <u>one</u>, <u>two</u> and <u>three</u>).
- <u>Composite Measure and Rapid Needs Assessments</u>.

Recommendations

- Ensure there is enough time to turn data into information.
- Adopt a risk approach: Ask what the needs were yesterday, what they are today, and what they will (or might) be tomorrow.
- Build on sector specific key priorities to perform cross sector analysis.
- Use proxy information when data is not available or too old to be relevant (e.g. coping mechanisms as a proxy for the severity of the crisis).
- Refer to similar recent crises impact (same area, country, or region) to guide analysis.
- Keep going back to the original research questions to keep the analysis focused. Identifying needs per affected areas and sectors first. In later phases, and as more information is available, data can be analysed by affected groups.
- Ensure that "what is happening" and "where it is happening" is explained as well as "why it is happening" (underlying factors). Be sceptical when dealing with associations and relationships; correlation does not mean causation.
- Use assumptions, judgement, and educated guesses. Ensure a *more or less* type of analysis. Which groups are more affected? Which are less affected? Which areas are more affected? Which areas are less affected? Which sectors require immediate interventions? State clearly when assumptions are made.
- Assess the results as a whole rather than as individual or sectoral values. Many factors may interact with others (i.e. health and WASH issues), while other less evident factors may bear more weight in determining humanitarian needs (i.e. lack of food diversity in the markets contributing to malnutrition).
- Highlight what is important; what changes over time, the patterns; what differences exist between subgroups or places; what stays the same when everything else changes; and what differences are bigger than the imprecision in measuring them.
- Assess plausibility of conclusions and claims. Be sure that the findings make sense.

Step 16: Disaster Overview

Who: Team leader and Information Manager
Duration: 1 hour

The disaster overview attempts to answer the basic questions about any particular event: who; what; when; where; why; as well as how; and so what? The disaster overview summarises into a few paragraphs the current situation and the background causes leading to the disaster. This is the first, and sometimes only, thing users will read. In a few sentences, the scale, scope, and extent of the disaster needs to be summarized to provide the reader with the main outcomes of the crisis and its most likely evolution over the coming months.

Recommendations:

- The disaster overview should form a small storyboarded narrative, including key figures and qualifying the type and severity of the crisis (i.e. a protection crisis, a major food security crisis, a minor socio-economic impact, etc.)
- Always provide a map on the Disaster Overview page.
- Be sure to enhance its visual presentation, so that it reads like a snapshot.

4. Reporting and Dissemination

The main objective of reporting is to clearly communicate results to maximise the added value of the SDR and ensure that stakeholders have a shared situational awareness of the disaster's impact.

An SDR is limited with regard to time and information available. As a result, the SDR only provides an overview of the situation in the affected areas, not a detailed picture of all affected localities. Taking this into account, the most appropriate level for reporting is usually the governorate or provincial level. Data on villages can still be included, for instance by transforming statements of findings from *in village A and B, people have to walk 24 hours to the closest hospital,* into *in province A, there are reports of villages where people have to walk more than 24 hours to reach the closest hospital.*

The SDR should focus on identifying the range of issues, risks, and problems faced by the affected population. It is vital to avoid missing important issues across various sectors and geographic areas, and to identify the *known unknowns* that need to be explored in further assessments.

Recommendations:
- Keep the information as simple as possible. Be explicit, precise, and double-check figures.
- Avoid repeating information.
- Record sources of information and other metadata.
- Be clear on definitions. Imprecise terminology, or different interpretations of it, can cause confusion. What is an *affected* person? What does *damaged* mean?
- When possible, avoid generalisation of size, scale, time, and numbers to avoid confusion. Do not use phrases such as: last month, large scale, and many people.
- Report limitations that emerge from the interpretation phase, either in written form (be explicit and honest about limitations), in the final report, or in verbal presentations (be prepared to discuss limitations).
- Know the claims you cannot make and help readers understand the limits of the data and analysis so they do not misuse the results. Communicate clearly about uncertainties in your findings and results
- Avoid jargon and technical language. Only use acronyms that have been explained.
- Use assumptions, but note when they differ from facts or sufficiently verified information.

Step 17: Editing Template

Who: Team Leader or editor	**Tools available:** Annex 9: SDR Template
Duration: 5-10 hours	Annex 10: SDR Style Guide

The separate components of the SDR will need to be compiled into one template. As formatting the template can take more time than expected, it is important to start as early as possible and to identify mistakes or inconsistencies so analysts can correct them earlier in the process.

Common issues, which are time consuming to address at the editing phase, are:
- Number formatting and spelling.
- Chart numbering (not recommended if you are in a rush).
- Inconsistent source referencing. Be consistent using (Source, YY/MM/DD).
- Incorrect and/or inconsistent spelling of administrative names.
- Contradicting use of font type, size, and colours.

The essential and most interesting elements of a SDR are in the executive summary (first 5-10 pages including the cross sector analysis, the humanitarian profile and the scenarios), with specific sectoral information following in order of diminishing importance. This structure enables readers to stop reading at the end of the executive summary and still come away with the essence of a story. It allows readers to explore a topic or sector to the depth that their curiosity takes them, without the imposition of sectoral details or nuances that they could consider irrelevant, but still making that information available to more interested or specialist readers.

ABCs of SDRs:
- **Accuracy**: Information can be interesting or compelling, but if it contains errors, it is worthless. Humanitarian actors need unbiased information to make informed decisions.
- **Brevity**: Each word in the SDR should do a job. If not, take it out. Be precise and do not repeat information. Do not use a long word or phrase when a short one will do. Avoid repeating the same words in a paragraph.
- **Clarity**: Clarity starts before you write with complete, competent reporting. Avoid jargon. Explain points that might not be obvious to the non-specialist. The more information gathered means more time spent sifting through it to determine what belongs in the narrative. The more you know, the harder it is to tell it quickly and simply. Good reporting is never easy.
- **Context**: Be sure readers have an understanding of the context to which the information refers.

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Filter information: It is the information analyst's job to find out what is going on and to choose only those facts necessary to give the reader a clear and concise picture of the most important events and information. But for analysts to make that judgment, they must learn everything possible about the subject, knowing that many less important facts (up to 80-90% of data reviewed) will never reach the SDR.

The SDR captures and analyses information with confirmed or potential humanitarian impact and implications. It also intends to provide the main causes or underlying causes leading directly or indirectly to problems or that might create new risks. The editor should make sure that information contains at least one of the following characteristics relative to the intended audience:

- **Impact/consequences** are determined by the number of people affected, the proportion of IDPs compared to the total population, etc. The more people affected, the more IDPs, the bigger the humanitarian impact and consequences will be.
- **Relevance** refers to how the information affects or may affect the reader. If there is no impact or interest, consider removing it.
- **Usefulness** determines how the reader can use this information for decision making. The SDR should provide only information and context that should trigger a reaction or a set of operational recommendations.

Recommendations:
- The editor needs to ensure that SDR formatting and tone is communicated to and respected by all analysts. Check earlier drafts from analysts to detect mistakes or inconsistencies and correct accordingly, especially if the team is new to SDRs.
- Ensure that copies of the master document are archived regularly, so earlier versions can be retrieved if necessary.
- Ensure that all pieces of information have sources, graphs, and maps included.
- One person and one person only (at a time) in the SDR team should control the master document. The information manager must ensure that nobody works at the same time on the same documents so as to avoid conflicting copies.
- Avoid confusion between pre-disaster information and the current situation. While it is interesting to combine the two into one paragraph, clearly use past tense or other dates to indicate which data refers to pre-disaster information.
- Editing will be ongoing until the last minute. Ensure tight control over versions, reviews, and changes to avoid losing information.
- An SDR template is a constant fight for space. Ensure no information is truncated or sense is removed when editing and scrapping text to win space.
- The writing style in the SDR should be consistent across the entire document.
- Think of the editing process as comparable to telling a story, explaining how the pieces of observation address and shed light on determining the impact of the disaster on the population.

Step 18: Data, maps, and visuals

Who: Information manager	**Tools available:**
Duration: 30min to 2 hours per map. 10-20min per graph.	Annex 11 – Charts and Map Request templates

Graphs, charts, maps, and tables can be either copy pasted from documents directly into the SDR or can be (re)created in a charting software (Excel, Tableau Desktop, etc.) when the original data is available. Sources must always be included.

Charting templates are available in Annex 11, to ensure that a minimum visual integrity can be respected by information analysts when creating graphs in Excel. For each graph used in the SDR, an Excel table should be provided including the original data, its title, and source, so the Information Manager can replicate the graphs and ensure visual integrity and consistency across the document. When relevant, the tables in an Excel format should be made available to the end users with the final SDR document (i.e. through a link to a Dropbox folder).

Whether it is necessary for the SDR team to develop maps depends both on the quality of the maps available and on the expertise in the team. As making maps is time consuming and requires specific skills, the decision to develop maps internally instead of using maps from other sources should be taken as early as possible by the Information Manager.

A template is available in Annex 11 to specify the characteristics and features to be included in the maps. On average, five to ten maps are usually included in an SDR, one for the overall affected area and other individual maps for sector sheets.

Recommendations for visuals:
- People will look at the visuals before they read text, if they read it at all. Graphics must be self-contained. Put conclusions in the caption and the narrative.
- While colour in graphs and maps can be used to convey additional layers of meaning and emotion, black-and-white may be more cost-effective and more readable in disaster affected areas. Colour disappears when photocopied or printed in black-and-white. Be sure the colour palette varies sufficiently in intensity, as some readers may be colour-blind.
- Keep visuals simple. What is omitted is as crucial as what is retained. Every piece of information added to a visual competes with other elements. Ask whether everything in the graph or chart is vital to communicating the information.
- Show comparisons, contrasts, and differences. This is both a vivid way of displaying information and helps the reader to perceive, contextualise, understand, and remember information better.
- Use clear and easy language and a legible font. The size and style of text can also convey information, but should not be at the expense of clarity. Use clear titles.
- Use clear documentation. Hyperlinking data sources makes data authoritative and verifiable.

Recommendations for design
- Data visualization design is all about choices. Everything presented in the graph should be thoroughly planned, understood, and reasoned to ensure that the graph serves the intended purpose and meets the needs of the audience. The inclusion or exclusion of every single mark, characteristic, and design feature must be done for a reason.
- Attention to detail is critical, and perceived lack of it can call the entire analytical process used into question.
- A visual design is good if it communicates a lot with little. Some ink in the graph or table represents actual information and some does not (e.g. supporting components like grid lines or ornamentation that play no role in presenting the data). Remove all unnecessary data from your graph to increase the impact of the remaining data; select content that is essential and trim everything else away.
- De-emphasize and regularise the remaining non-data ink. Tables and graphs consist of three visual layers: data elements (data series, etc.) as the top or prominent layer, non-data elements (grids, etc.) as the middle layer, and the background as the surface on which the data and supporting components reside. Make sure these three layers do not compete and keep all visual clutter to a minimum.
- Emphasize the most important data ink. data values are encoded differently in tables and graphs. In tables, they are encoded in verbal language as words and numbers, but in graphs they are encoded in visual language as points, lines, bars, and boxes. Visual attributes that are useful for emphasizing data ink in tables and graphs include: width, orientation, size, enclosure, hue, and colour intensity.

Data (pre- or post- disaster) will come in different formats: PDF, excel, Access, Word, etc. and will need to be extracted and formatted before usable. The following list presents a set of tools currently used by ACAPS to support data extraction, storage, and visualization. The list is neither exhaustive nor based on a critically thorough review of existing software and tools.

- Extract data from PDF: This is difficult, as PDF is a language for printers and does not retain much information on the structure of the data displayed within a document. Recommended software are PDF Solid Converter and Tabula (extract tables to excel or word) and PDF Fill for PDF reformatting.
- Extract data from websites: During screen scraping, the structured content from a normal web page is extracted with the help of a scraping utility or by writing a small piece of code. While this method is powerful and can be used in many places, it requires a bit of understanding about how the web works. Recommended software are: Outwit Hub, Chrome scraper, and Google spreadsheets. In version 2013 of Excel, power query can be used to easily extract data from the web in a tabular format.
- Store data: Spreadsheet use is recommended to store, manage, and filter data. Typical software or applications include Excel and Google docs.
- Clean data: Specialized applications have emerged in the past years to support data cleaning, such as Openrefine, Data Wrangler, and Excel.
- Visualise data: No real data analysis can happen until visualisation is used, and no efficient data display can be used without understanding the best practices in the field of data visualization. The best available software used to explore data and communicate efficiently the findings are Tableau software, Google chart, or Fruition from Juiceanalytics. If no other option is available, Excel can be used for charting and graphing, but not without considerable effort and skill.

Step 19: Dissemination for review and implementation of feedback

Who: Team Leader
Duration: 5 hours

Ideally, individuals with either specific knowledge of the impacted area, emergency programming experience, or sector specific expertise will have been contacted throughout the SDR process to assist with review of the SDR.

If a multitude of actors are available for the review, assign different parts of the report to different individuals for review, taking into account their specific expertise. This will accelerate the review process and ensure that every page is thoroughly reviewed.

Recommendations:
- Keep external reviewers informed of the completion timeline for the SDR so they can set aside time for review.
- Make clear that information analysts will ultimately take the decisions regarding inclusion or not of received comments, particularly regarding contradictory feedback.
- Keep track of comments received and decision taken regarding them (i.e. why a specific comment was or was not included).

Step 20: Final update of population figures/disaster specific information

Who: Information manager
Duration: 30 minutes

In a dynamic situation, key facts and figures may change during the review process. As a result, the DNU must be maintained throughout the entire SDR process. Before the SDR is disseminated, a final update of key facts and figures needs to take place. Special attention should be given during the final review process to figures, numbers, and percentages so that inconsistencies, contradictions, or differences are avoided.

Do not forget to update other parts of the SDR with reference to key figures. To ease the final update, those key figures should be highlighted in another color (i.e. yellow) throughout the writing process, so it is easy to identify which figures may need a last check before the final release.

Step 21: Quality check and dissemination

Who: Gatekeeper
Duration: 3 hours

After the final update, the Gatekeeper, who has not been part of data collection or analysis, should check the SDR to see whether the

findings make sense and whether the SDR is of sufficient quality to share publicly.

The Gatekeeper should play the role of devil's advocate by asking the right questions *"are you really saying this is a MAJOR food crisis?"* and ensuring the tone of the document is in agreement with the content.

After this final check, the report can be reviewed and further disseminated during a meeting with key stakeholders, by e-mail, and by publishing it on a website.

5. Handover and Exit

Who: All	**Tools available:**
Duration: 1 hour	Annex 2 – SDR lessons learned and Key statistics

Every SDR ends with an *exit decision*. Three types of decisions can be taken:

- **End the SDR process:** No further action required. However, it is possible that comments will be received after publication of the SDR, which will need to be considered, and the SDR potentially updated. Ensure an email address is available where feedback and comments can be received.
- **Update the SDR:** Monitor the situation by updating the DNU. Share the time schedule for the updated SDR with key stakeholders and note this publicly on the applicable disaster information website(s).
- **Handover the SDR:** For instance if SDR will be updated at field level. In case of a handover, ensure that all documents and tools are transferred to those in charge of the update (i.e. share a link to the dropbox folder).

At the end of the process, the team leader needs to facilitate a discussion with the team members and capture challenges and opportunities. The Annex 2 – SDR lesson learned form and the SDR key statistics form needs to be filled to allow for capture of key statistics (time, number of team members, etc.) and identification of key recommendations for further improvement of the methodology, speed, and accuracy of the information contained in the SDR.

6. Classic Mistakes When Undertaking a SDR

Lack of preparedness. The quality of secondary data dictates the scope of primary data collection: in countries where secondary data is good and regularly collected, primary data may be largely limited to verifying secondary data, or to merely filling in the gaps left from the literature review. In complex humanitarian situations characterized by population displacement, it is unlikely that sufficient current and updated secondary data will be available. Given the time and resources required for conducting assessments, it is essential that every effort be made to collect secondary data beforehand to streamline the process and provide the essential contextual information that can orient primary data collection. Example of preparedness Secondary Data Review can be found for Bangladesh Here.

Underestimating the volume of information. Analysis is an iterative process, and the amount of information that analysts can absorb is limited. The more information rich a disaster location is, the more human resources and time will be required to undertake and finalise the SDR. Plan accordingly.

Confusing description and interpretation. The value of an SDR lies in providing readers with trends, patterns, associations, underlying factors, assumptions, and interpretation. Anyone can analyse data, but few can effectively interpret results. Budget sufficient time to go beyond the simple description of facts. Do not only provide tables of indicators, but, for example, provide trends over the last five years, compare between geographic areas, between affected groups, regional averages, or international thresholds. Do the maths for the readers and synthetize findings into key priorities and issues.

Not knowing when to stop. Stick to the deadlines and the agreed timeframe. Analysis is an endless process, questions call for other questions, and data will keep coming in. Make sure the Team Leader or Gatekeeper has the authority to stop the SDR research process.

When engaging with partners, be firm on deadlines and the number of permitted feedback or rounds of reviews. Consider the timeliness of the document for optimal added value.

Confusing problem and response analysis. The temptation to go beyond needs and provide operational recommendations is huge. The scope of the SDR is not to make programme or intervention recommendations (these will be identified in a later phase of the Response Analysis process building on SDR findings). It is therefore important to separate *problem* and *response analysis*. The SDR team's job is to describe issues and risks with confirmed or potential humanitarian impact. Providing operational recommendations (i.e. food for work, vaccination campaigns, etc.) goes beyond the scope of an SDR and should only be done by in-country experts such as cluster or sector leads/specialists.

Spending several hours chasing a document. An SDR is a time limited exercise. Adopt a *good enough* approach; proceed with rigor, but do not spend overdue time chasing one single piece of information. Balance the time needed to get the information with the anticipated value of the information.

Engaging in response capacity analysis. Capacity at the early stages of a disaster is extremely difficult to measure. Look for obvious gaps or the excessive presence or focus of humanitarian actors, but do not engage in estimating the quantities and quality of assistance provided, as it proves nearly impossible and challenging even several months after disasters.

The more aggregated the data, the more invisible the people. The level of disaggregation is of particular importance for comparing data from different sources. Generally, the level of data disaggregation varies across or between political, socio-economic and geographic units. Secondary data should be *gathered* and *stored* at the lowest possible level of disaggregation to ensure comparability in the future with data collected at similar levels. However, be cautious about not

reporting at the lowest level, as it can prove challenging and time consuming.

Missing the resolution level. Make all possible efforts to provide information at the affected area level, but do not go too deep as the volume of information to deal with it and the effort needed to find it increases exponentially as soon as you go down governorate/province levels. Be aware that aggregated national indicators will most likely not be useful to describe the situation in the affected areas.

Not citing sources when capturing data. All SDR statements should have an attached source. During the editing process, information bullets will be moved around the SDR. It is vital to be rigorous and systematic about recording sources for each data point so that valuable time is not wasted in re-tracking sources at the end of the SDR process.

Avoid keeping the writing for the end. Start writing and structuring the narrative as soon as possible. Begin writing with reference to the most recent documents and go backward. Every five or ten documents, stop and organize the data, categorising by main section and regrouping like with like. Try to extract key messages from the available information. This helps to identify what is important and encourage further exploration where necessary. Then continue the research process and add new pieces of information. Alternate between stream and batch processing as this help refine the understanding of the big picture as more information comes in.

Not distinguishing the wood from the trees. It can be difficult to write up analysis in a way that balances broad synthesis and summary with empirical and contextual detail. This is not to say that the two are mutually exclusive, but rather that doing both well in the same document can be challenging. Think of layers of information and how readers will access them. Ensure that key messages are summarised at the beginning of each section. Provide your interpretation as they will most likely be interested by the analysis, as long as they can distinguish assumptions from facts.

Thinking only of categories and boxes to fill. No SDR is exactly the same as another. The key indicators selected, the geographic coverage undertaken (and sampling), the level of data disaggregation, and the variable definitions applied may not necessarily be in line with those ideally required by the analyst team. Ultimately, the type of information, its completeness, quality, and volume is what will determine the analysis options. This can vary significantly from one disaster to another. SDR teams must work with available data, rather than with the data they would ideally like to have available.

Under/over consulting. It is essential to discuss the SDR objectives with key stakeholders before embarking on the information gathering and analysis tasks. Early discussions with field operators may significantly impact how (and which) information is sought and how the analysis is approached. If the SDR must be validated and discussed with clusters or sector specialists on the ground, be sure to budget the time required for peer review and consultation in your planning (often twice the time of that required without formal consultation), and be firm on the revision schedule. Do not sacrifice speed of release over precision or details. Better to be less precise than to be late.

Considering that all data is of equal quality and pedigree. Data points are not like your children: you don't have to like them equally. It is not unusual to find secondary data that has been manipulated from its original source, fraught with errors and inconsistencies. It is always best to use the original data when possible. Secondary data often comes from unreliable sources that have not conducted rigorous research. The best way to be sure is to look closely at the (source) data and methods used to collect it. If you are not satisfied, discard it.

Coping with inconsistencies: When collecting data for an SDR, it is common to come across data that disagrees or contradicts each other. To help overcome this problem, triangulate findings. As a general rule, verify important information by comparing inputs from different sources. These sources should be as diverse as possible. If several different sources provide the same information, it is probably accurate. Decide quickly whether the inconsistency will affect the assessment conclusions. If the discrepancy is not critical, try to resolve it but do not spend much time on this. If you cannot resolve it, make a judgement and include a note explaining this in the report. If the inconsistency significantly affects final conclusions, resolve it by considering why the information differs, or estimate the confidence you have in each of the sources (perhaps one source is more credible than another).

Key indicators vs. profiles. In the past five years, pre-crisis information has become more easily accessible. Large country databases are now publically available on the web rendering access to baseline information easier. Two different sets of information can be distinguished: key indicators and country/sector profiles. Key indicators are generally provided through large country databases (World Bank, UNICEF, UNSTATS, etc.), while country profiles are generally based on country indicators and provide both key indicators and interpretation /situation analysis at a given date. The most useful of these are country/sector profiles based on census: DHS, MICS, CFSVA, etc. Key indicators provide a useful snapshot but if not contextualized, tell little about the situation and pre-existing vulnerabilities in a country. Profiles provide background, interpretation, and context around the key indicators. Teams should seek to build profiles in an SDR and not provide long tables of indicators, which leave the interpretation and analysis to the reader.

Part C - Annexes

Annex 1 Decision making and information flow in emergencies

We are living in the "information age". In complex large-scale systems, such as humanitarian emergencies, relief workers are severely challenged in bringing all the available information together, and recognising key pieces of information, in a form that is manageable for making good decisions in a timely manner. There is simply more information than any one person can handle, and not enough time to track, compile, and process it all.

In light of this information overload, many feel less informed than ever before. There is a huge gap between the data being produced and disseminated and our ability to locate vital data and process them with other data to arrive at the actual information needed. Moreover, it seems even harder to find out what we really want or need to know. As a result, it is widely recognized that more data does not equal more information.

Better information systems and products are required to harness information in new ways, and new approaches are necessary to allow people to effectively manage information. A person's situation awareness becomes the key feature dictating the success of the decision process in most real time decision making. Decision makers in complex settings must do more than simply perceive the state of their environment to have good awareness. They

must also understand the meaning of what they have learned in light of their goals or decisions.

The ACAPS secondary data review (SDR), called the Disaster Needs Analysis (DNA), has been designed to answer this need. Rather than displaying all available information, the SDR integrates only relevant information in ways that fit the goals and needs of humanitarian decision makers. A goal directed methodology is used to determine which data or element of the environment people need to be aware of, how that data needs to be understood relative to humanitarian goals, and what projections need to be made to reach these goals.

Information Needs

In any humanitarian emergency, there are certain questions that humanitarian decision makers need answered. Most humanitarian information needs can be divided into four basic categories (adapted from Dennis King, 2005):

Situational: Aid workers need to know the latest information about the situation and about the conditions, needs, and locations of affected populations.
- What is the latest/current humanitarian situation in the affected area? What type of crisis is it (i.e. protection, food, complex, etc.)?
- What are the most recent indicators? (Death tolls, mortality rates, malnutrition rates, food insecure people, economic impact, etc.)
- Who are the affected populations (refugees, IDPs, children, and other vulnerable groups, resident populations, etc.), how many are there, and where are they located?
- What are the conditions and humanitarian needs of the affected populations? Are there potential risks?
- What is the assessment of damage to infrastructure (transport, buildings, housing, communications, etc.)?
- What are the parties influencing or contributing to the crisis?

Keywords: Magnitude, scale, scope, humanitarian profile, damages, impact, needs, risks, conditions, status, stakeholder profile.

Operational/Programmatic: Information necessary to plan and implement humanitarian assistance programs.

- What is the latest/current security situation in the affected areas? Are there specific security threats and risks faced by humanitarian actors or the affected population?
- Where are and what are the conditions of the logistical access routes for delivering humanitarian assistance?
- Who is doing what where? What humanitarian organisations or other institutions (government, private sector) are working in the affected area, what are their programs, what are their capacities, and where exactly are they working?
- What are the existing coordination structures?
- How are populations coping with the situation?
- What are the programmatic/financial needs of the humanitarian organisations? What and how much is being provided to the humanitarian response organisations, and who are the donors?
- What are the perceptions of the affected populations, donors, public, and media regarding the crisis and international aid?

Keywords: Constraints, response capacity, 3W, funding, coping mechanisms.

Background and context: Background information is needed to provide knowledge about the unique history, geography, population, political and economic structure, infrastructure and culture of the country. Baseline data are also necessary for aid organisations to be able to compare the emergency situation and conditions to previous (*normal*) conditions.

- What is the population (national, province, state, city, etc.) and its composition (ethnicity, religion, age cohorts, urban/rural, political, etc.)?
- What is the geography of the country?
- What are past disasters, epidemics, and natural hazards?
- What are the skillsets of the population?
- What are the past history and patterns of displacements?

- What are the most recent annual baseline indicators for the population (crude mortality rate, infant/child mortality rates, HIV adult prevalence, malnutrition, food security, access to water and sanitation, protection, etc.)?
- What are the annual economic indicators? (GDP, GNP, agricultural/food production, staple food prices, etc.)?
- What are the population's livelihoods and income sources?

Keywords: Demographics, population, hazard, livelihoods, area profile, baseline, displacement patterns.

Analysis: Humanitarian information needs to be interpreted, contextualized and related to other thematic information. Analysis can include assessment of issues (potential or confirmed), risks and responses, projections about the future, and recommendations for policies and actions.

- What are the triggers and contributing factors of the emergency?
- What are the main constraints to providing humanitarian assistance? (Insecurity, inaccessibility, government interference, etc.)
- How effective are humanitarian assistance programs and responses?
- What can be learned from similar past disasters?
- What are the future potential impacts of the emergency?
- What are the options and recommendations for action?
- What is known and unknown? How sure are we?
- What are the key priorities in terms of geographical areas, sectors and affected groups?

Keywords: Severity, priorities, scenario, recommendations, humanitarian constraints, lessons learned, information gaps and needs.

Decision making in emergencies

Various studies (ODI 2003 and 2009, ALNAP 2013, Tufts 2013, DHN 2012, ACAPS 2011, Von Schreeb 2011) suggest a number of features common to individual decision making in emergencies:

- Decision makers with limited time tend to rely heavily on the judgment of people they trust, both in constructing the humanitarian narrative for a given crisis and in defining response options.

- Succinct presentation of information is a key factor in influencing decisions. 'Killer facts' are cited as being highly influential (e.g., very high reported levels of acute malnutrition) even where these were speculative. Less dramatic facts, such as significant changes in underlying indicators, tend to go unremarked unless presented as part of a case for action.

- Information that is presented in a concise manner, so that it is easily understood by non-technical decision makers, is preferred. Presenting large quantities of raw data is often overwhelming for non-specialist.

- The interpretation (and interpreter) of information is just as important as the source. Information can be used as evidence to support a case for action, but somebody generally has to make the case and structure the information in a way that supports it. Hence the need for sense-making rather than a simple description of the facts.

- Judgement on the validity of the process depends partly on the reliability of the information, partly on the credibility of the person presenting the evidence, and the case that is made using it.

- Most decision makers tend to use rules of thumb or mental models when processing information presented to them. They will have an idea, for example, of what constitutes an unusual or significant figure in relation to mortality rates in a country and will use this to gauge the significance of what they are hearing. They will also have a sense of what constitutes the appropriate response given a combination of different factors. These tend to be implicit rather than explicit analytical models and tend to be highly individualized.

- The scope for individual decision making is often highly constrained by (previously) established mandates, frameworks, priorities, and practices. Organisational decisions are equally not made in a vacuum, but are made partly with reference to what others are doing and to joint commitments, e.g., as part of a cluster or other coordination processes. Thus, the basis for decision making is multi-layered and combined with biases and assumptions in addition to external evidence.

Who needs what… and when?

Not all actors need the same level of information. Information needs vary according to one's function, geographic or sector area of interest, and responsibilities within the humanitarian architecture. Certain background and situational information is needed by all humanitarian organisations, NGOs, UN agencies, governments and donors alike. Other types of information are specifically needed by different personnel within these organisations.

For example, humanitarian organisation policy makers want "big picture" analysis to understand the issues, make strategic decisions on providing assistance, and be alerted to problems and obstacles. Field personnel, project and programme officers, on the other hand, need more detailed operational and programmatic information to plan for, and implement, humanitarian assistance and reconstruction programs. This calls for information strategies that differentiates the levels, depth and scope of information required, in order to only present the right information needed by types of decision makers.

However, deciding who needs *what type* of information and for *which goal (decision)* has proven challenging, not to say nearly impossible, for the following reasons:

- In a dynamic environment, information systems or providers are challenged to accurately detect just which tasks and information are needed at any particular time for any level of decision or function. During the course of most operations, decision makers must rapidly and frequently switch between goals and decisions as circumstances dictate, often with very rapid responses required.

- Individuals do not instantly understand what is happening in a situation simply by looking at presented information. It takes a certain amount of time to orient oneself to a situation and ascertain the key factors and their critical features.
- Furthermore, the dynamics of the situation (how much and how rapidly things are changing) are important features that are lost with this approach. Information filtering concepts always place the decision makers in the role of being reactive rather than proactive, which severely limits performance effectiveness. The ability to project ahead and be ready for upcoming situations is lost.

This issue is further complicated when time dimensions are processed into the information delivery processes (*which information* is needed at *what moment* or in *which phase* of the disaster). Traditional information systems build on task analyses to ensure that the system provides the data needed to support user tasks in the order of their use. This has proven unsuitable for complex systems in which users need to pursue a variety of (sometimes competing) goals over the course of time and where no set sequence of tasks or actions can be prescribed. In this type of settings, information systems need to be designed to support the changing goals of the decision makers in a dynamic fashion. Optimal information systems need to be designed to support multiple goal processing.

Filtering information is also challenged by the theory of context accumulation: the incremental process of relating new data to previous data and remembering these relationships. In other words, you can understand something better by taking into account the things around it. For example, a stand-alone puzzle piece can be difficult to evaluate for importance when staring at the piece by itself. However, by first comparing the puzzle piece to the whole puzzle to see how it relates to the previously seen puzzle pieces, the observer can better understand the bigger picture and make a better prediction.

How does this translate into choosing the right information for decision making in humanitarian context? ACAPS' experience in designing DNA suggests that, for optimal decision making, **the scope of information needs will never change and needs to remain intact.** Delivering only certain types or fragments of information (i.e. operational / programmatic) to certain types of decision makers (i.e. UN agencies) or decision levels (i.e. HQ) will inevitably lead to suboptimal decisions due to a lack of situation awareness and context.

However, what needs to be adapted based on the type of decisions to be made is the **breadth and depth** of the information provided. Certain decision makers (i.e. donors, country directors) need to access information pre-processed at specific levels of aggregation rather than having all the details.

Conclusion

- Decision making processes are subjective and influenced by the accuracy, precision, and availability of information when presented compellingly.
- Information systems need to be designed to be user centred and goal oriented.
- Providing data points separated from their context will inevitably lead to flawed decisions.
- Instead of truncating information by assuming that a certain set of information is only useful to a certain type of decision makers at certain points of time, providing access to multi-layered information levels with different intensities of details and breadth of information can ensure optimal situation awareness.

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