

TOOL N°2

# **HR PACK - PROGRAM DATA MANAGEMENT FOR HUMANITARIAN AID AND INTERNATIONAL DEVELOPMENT CSOs**

THE PROFESSIONAL FRAME OF  
REFERENCE PUT INTO PRACTICE

**SKILL BLOCK 3: ORGANISE AND IMPLEMENT  
DATA ANALYSIS, VISUALISATION AND  
DISSEMINATION ACTIVITIES**

## CARTONG

Created in 2006, [CartONG](#) is a French H2H/support NGO specialized in Information Management. Our goal is to put data at the service of humanitarian, development and social action projects. We are dedicated to improving the quality and accountability of field activities, in particular through better needs assessments and monitoring and evaluation. We act as a multidisciplinary resources and expertise centre, accompanying our partners' strategies and operations. Our staff and volunteers also support the community as a whole by producing documentation, building capacities and raising awareness on the technical, strategic and ethical challenges of digital technologies.

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## 1. SKILLS WITHIN THE BLOCK

**S3.1:** Ensure the production of graphical visualisations and preliminary analyses (via various IT tools) of quantitative data adapted to the needs of the teams according to industry standards.

**S3.2:** Ensure the production of preliminary analyses and visualisations of qualitative data adapted to the needs of the teams according to industry standards.

**S3.3:** Ensure the production of spatial representations and analyses through the establishment and use of a geographic information system.

**S3.4:** Provide support to other departments in their data analysis, usage and dissemination processes.




## 2. THE COMMON AIM OF THESE SKILLS






All of these skills are designed to provide the program [and M&E] with products **for analysing, visualising and disseminating** data **consistent with and adapted to their needs**, to help them understand the analysis, so that they may provide **a basis upon which to make operational decisions**.

**The skills forming Skill block n°3 are necessary when the program [and M&E] teams need support to perform data analysis, graphical or cartographic representations in order to make operational decisions informed by the collected data.** This can be applied on an ad hoc basis, to the conduct of a specific survey, or it can be part of an ongoing process, where the collected data feeds into analysis and representation tools on an ongoing basis.

### 3. ASSOCIATED KNOW-HOW AND THEIR APPLICATION




#### S3.1: ENSURE THE PRODUCTION OF GRAPHICAL VISUALISATIONS AND PRELIMINARY ANALYSES (VIA VARIOUS IT TOOLS) OF QUANTITATIVE DATA ADAPTED TO THE NEEDS OF THE TEAMS ACCORDING TO INDUSTRY STANDARDS




Skill 3.1		
Level of proficiency	Technical know-how	Methodological know-how
	<p>Perform simple calculations on Excel (averages, sums...).</p> <p>Make simple representations and graphs on Excel.</p>	<p>Be familiar with statistical analysis and graphical representation issues (e.g., data types, aggregation of data, choice of graphical representation according to available data).</p> <p>Apply an analysis plan.</p>
	<p>Perform complex calculations from formulas on Excel (e.g.: SUM.SI.ENS).</p> <p>Perform “advanced” analyses and graphical representations on Excel (using dedicated features such as pivot tables, dynamic graphs, segments).</p> <p>Aggregate data from multiple formats (xls, csv, json, etc.) and sources (using tools such as Access, Excel).</p> <p>Apply the following statistical concepts: workforce, average, median, frequency, standard deviation.</p>	<p>Support the program [and M&amp;E] in producing an analysis plan if this has not carried out prior to quantitative data collection.</p> <p>Interpret the needs of the program [and M&amp;E] in terms of statistical analysis and data representation.</p>
	N/A	<p>Be familiar with the comparative advantages of several data visualisation tools (in terms of technical possibility, durability and organisational compatibility, prerequisite skills, etc.), in order to make a choice.</p> <p>Question the most relevant modes of analysis, visualisation and</p>

		representation, based on the needs and means of an organisation.
	Develop static and dynamic dashboards using visualisation tools (such as Power BI, Table, Qlik sense, Zoho Analytics), and in particular, create visuals from multiple linked tables (relational tables).  Master statistical tools (e.g., Stata, R).	N/A
<b>In which situation is skill S3.1 applied?</b>		
In general, skill S3.1 is used		From the moment quantitative data is collected within the framework of a survey or for monitoring projects, and such data needs to be analysed to provide support for decision-making...
And more specifically for level A		...and when it is necessary to analyse this quantitative data on a project, in a single area, for monitoring and decision-making, and there is no need to centralise or harmonise the data.
And more specifically for level B		...and when it is necessary to harmonise and centralise the data collected in the framework of several projects or across several areas for common analysis.
And more specifically for level C		...and when the organisation wishes to direct which best practices and tools should be used for data visualisation, so that they may match the needs and resources available in a mission.
And more specifically for level D		...and when the analysis tool must be shared and updated simultaneously with several internal or external actors, for different purposes (monitoring, reporting, communication).  → Can be easily contracted out

### S3.2: ENSURE THE PRODUCTION OF PRELIMINARY ANALYSES AND VISUALISATIONS OF QUALITATIVE DATA ADAPTED TO THE NEEDS OF THE TEAMS ACCORDING TO INDUSTRY STANDARDS


#### Skill 3.2

Level of proficiency	Technical know-how	Methodological know-how
	<p>Apply the different stages of qualitative data analysis (such as transcription, coding, comparison of key topics, synthesis and extraction of relevant verbatim reports).</p> <p>Transcribe, summarise, and categorise elements from qualitative data collections.</p> <p>Know how to code manually and produce a synthesis with the onset of a “profiling” analysis.</p>	<p>Be familiar with issues related to qualitative data analysis (such as objectives, limitations).</p>
	<p>N/A</p>	<p>Support program [and M&amp;E] teams in producing an analysis plan prior to quality data collection.</p> <p>Interpret the needs of the program [and M&amp;E] teams in terms of qualitative data analysis and representation.</p> <p>Know how to analyse the coding outcome by highlighting complex trends and typical profiles.</p>
	<p>Use qualitative data analysis software (such as coding or lexicometrics software).</p> <p>Use transcription software.</p>	<p>N/A</p>






In which situation is skill S3.2 applied?	
In general, skill S3.2 is used	From the moment qualitative data is collected within the framework of a survey or for monitoring projects, and such data needs to be analysed to provide support for decision...
And more specifically for level B 	...and when these qualitative surveys such as Focus Group Discussions, open observations or interviews are carried out in limited numbers and draw a simple analysis from them.
And more specifically for level C 	...and when it is necessary to support the program in choosing qualitative analysis methods.
And more specifically for level D 	...and when vast amounts of “discursive” qualitative data are collected and require quantitative analysis.

### S3.3: ENSURE THE PRODUCTION OF SPATIAL REPRESENTATIONS AND ANALYSES THROUGH THE ESTABLISHMENT AND USE OF A GEOGRAPHIC INFORMATION SYSTEM





#### Skill 3.3



Level of proficiency	Technical know-how	Methodological know-how
	<p>Manipulate a mobile device to collect geographical data (GPS / smartphone...) and exploit data collected by these means.</p> <p>Use basic graphical representation modes (point, polygon, line, etc.).</p> <p>Produce simple maps on tools such as Google Earth or uMAP.</p>	<p>Understand basic geographical concepts such as GPS format, latitude/longitude, administrative data or geographically transposable addresses.</p>
	<p>Structure associated geographic and attribute data with the aim of producing maps.</p> <p>Import data into QGIS or ArcGIS (e.g., vector and raster layers, transform GPS data...), with data cleaning capability, and occasionally some simple spatial processing (e.g., Cross-referencing data, buffer zones...).</p> <p>Produce simple maps using tools such as QGIS or ArcGIS.</p> <p>Implement and technically support a simple GIS project using tools such as QGIS or ArcGIS.</p>	<p>Be familiar with and know how to apply the rules of graphical semiology (visual variables types and appropriate modes of representation) and geographical concepts (geodesy, projection, metadata...).</p> <p>Be familiar with all of the components of a map (e.g., title, legend, source, North arrow, scale, disclaimers...) as well as all of the types of maps (e.g., basemap, thematic...).</p> <p>Be familiar with best practices for structuring geographic data sets to ensure consistency.</p>
	N/A	<p>Coordinate the implementation of a comprehensive mission-wide geographic information system.</p>



	<p>Produce advanced maps (e.g., significant number of layers, complex representation modes).</p> <p>Connect the GIS to external databases and transform data.</p> <p>Frequently perform advanced GIS processing (e.g., satellite image processing, raster data, etc.) and mass processing on the data.</p> <p>Implement and maintain a complex GIS (multi-layered, geographic and project) offline.</p> <p>Implement and maintain a dynamic online mapping platform.</p>	N/A
<b>In which situation is skill S3.3 applied?</b>		
In general, skill S3.3 is used	As soon as geographical data is available (GPS, place names) and a cartographic representation is desired...	
And more specifically for level A	 ...and which is in line with most of the needs required by more traditional projects having a geographical dimension and wishing to materialise it from time to time on a simple map.	
And more specifically for level B	 ...and when it is necessary to regularly produce (more than once a month) simple static maps potentially based on limited spatial treatments.	
And more specifically for level C	 ...and when it is necessary to evaluate, harmonise data and guide the choice of GIS tools on a mission.	
And more specifically for level D	 ...and when the geographical component is at the heart of the project/program (e.g., urban project, population movement analysis, natural hazards, mine clearance, etc.). → Easily contracted out	

**S3.4: PROVIDE SUPPORT TO OTHER DEPARTMENTS IN THEIR DATA ANALYSIS, USAGE AND DISSEMINATION PROCESSES**
**Skill 3.4**

Level of proficiency	Technical know-how	Methodological know-how
	<p>Produce communication materials.</p> <p>Create simple computer graphics from the data.</p>	<p>Ensure and guide the use of data and analysis (e.g., ability to stand back vis-à-vis data use, coordination with program teams, put collection and analysis needs / macro vision into perspective).</p> <p>Provide a framework (statistical limits, biases identified) for the interpretations made following data analysis.</p>
	N/A	<p>Guide best communication practices (identify target audience, simplify data).</p> <p>Decide which external communication media to produce.</p> <p>Produce coherent and harmonised data analysis and usage systems, meeting the needs of the program [and M&amp;E].</p>
	<p>Produce illustrations gathered from data analysis using dedicated software such as Scribus or Illustrator.</p>	N/A
<b>In which situation is skill S3.4 applied?</b>		
<p>In general, skill S3.4 is used</p>	<p>When other departments have trouble analysing and communicating the collected data...</p>	
<p>And more specifically for level B</p>		<p>...and when it is necessary to communicate internally with simple visual analysis.</p>

And more specifically for level C 	...and when it is necessary to communicate data and analyses externally.
And more specifically for level D 	...and only when it is necessary to produce external communication media in a frequent and recurring manner.

## 4. WHAT TO KEEP IN MIND WHEN RECRUITING

### Mastery of key concepts and tools

	Basic	Intermediate	Advanced
Quantitative analysis	<ul style="list-style-type: none"> <li>Excel (basic)</li> </ul>	<ul style="list-style-type: none"> <li>Excel (advanced)</li> </ul>	<ul style="list-style-type: none"> <li>Business intelligence tools: Power BI, Table, Qlik...</li> </ul>
Qualitative analysis	N/A	N/A	<ul style="list-style-type: none"> <li>Lexicometrics software: Nvivo, Maxda, Atlas Lexico 5, etc.</li> </ul>
Mapping	<ul style="list-style-type: none"> <li>Google Earth</li> </ul>	<ul style="list-style-type: none"> <li>Umap/OSM</li> </ul>	<ul style="list-style-type: none"> <li>QGIS / ArcGIS</li> </ul>
Communication	N/A	<ul style="list-style-type: none"> <li>Scribus/Publisher</li> <li>InkScape</li> </ul>	<ul style="list-style-type: none"> <li>InDesign</li> <li>Illustrator</li> </ul>

### Attitudes

- Creativity
- Ability to easily convey complex ideas
- Prioritisation of needs
- Ability to self-train on tools
- Welcomes feedback and criticism in a favourable light
- Ability to work with short deadlines
- Pragmatism: to be able to meet specific needs in a given context



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