Humanitarian Knowledge Management

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ABSTRACT

International complex humanitarian emergencies present numerous challenges to aid organizations trying to manage data, information and knowledge about the situation or event. Humanitarian aid organizations should be able to identify what critical information they need, where to find it, what are the major gaps, and how best to share, present and disseminate this information. These challenges can be addressed through improved knowledge management. The faster and more efficiently humanitarian aid organizations are able to identify, collect, distill, analyze and manage the vast corpus of what they need to know, the more effectively they can plan for and respond to natural disasters and complex emergencies and the more lives are potentially saved.

Keywords

Knowledge Management, Crisis Management, Humanitarian Assistance, Complex Humanitarian Emergencies

WHAT DO AID ORGANIZATIONS NEED TO KNOW?

In any complex humanitarian emergency, there are certain questions that humanitarian aid organizations want answered. Certain background and situational information is needed by all humanitarian organizations: NGOs, UN agencies, governments and donors. Other types of information are more specifically needed by different personnel within these aid organizations. For example, humanitarian organization policy makers want "big picture snapshot" analysis in order to understand the issues, to make decisions on providing assistance, and to be alerted to problems and obstacles. Field personnel and project and desk officers in aid organizations, on the other hand, need more detailed operational and programmatic information in order to plan and implement humanitarian assistance and reconstruction programs.
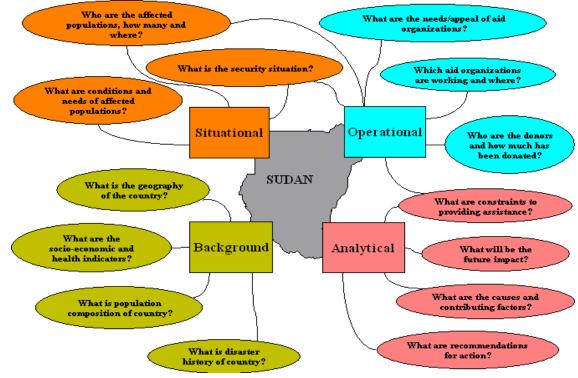

Figure 1. Knowledge Map: Questions that need to be answered

Most humanitarian information needs can be divided into four basic categories:

Situational awareness: Aid organizations need to know the latest about the situation on the ground and information about the conditions, needs, and locations of affected populations.

- What is the latest/current humanitarian situation in the country?
- What are the most recent severity indicators? (death tolls, mortality rates, malnutrition rates, economic impact, infrastructure damage, 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?
- What is the assessment of damage to infrastructure? (transport, buildings, housing, communications, etc)
- What is the latest/current security situation in the affected areas of the country?

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

- Where are and what are the conditions of the logistical access routes for delivering humanitarian assistance?
- Who's Doing What Where? What humanitarian organizations are working in the country, what are their programs, what are their capacities and where are they working?
- How is the host country/government responding and can it prov ide more?
- What are the programmatic/financial needs of the humanitarian organizations?
- What and how much is being provided to the humanitarian response organizations and who are the donors?

Background: 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 organizations in order to be able to compare the emergency situation and conditions to previous normal conditions.

- What is the country's population (national, province/state, city/town) and its composition (ethnicity, religion, age cohorts, urban/rural, political, etc)?
- What is the geography of the country?
- What are the country's past di sasters and natural hazards?
- What are the most recent annual baseline health indicators for the population? (Crude Mortality Rate, Infant/Child Mortality Rates, HIV adult prevalence, malnutrition, etc)
- What are the annual economic indicators? (GDP, GNP, a gricultural/food production, staple food prices, etc)

Analysis: Humanitarian information needs to be interpreted in context and related to other thematic information. Analysis can include evaluations of issues and responses, projections about the future, and recommendations for policies and actions.

- What are the causes and contributing factors of the emergency?
- What are the constraints to providing humanitarian assistance? (insecurity, inaccessibility, government interference, etc)
- How effective are humanitarian assistance programs and responses?
- What are the future impacts of the emergency?
- What are the options and recommendations for action?

WHAT ARE THE GAPS IN HUMANITARIAN KNOWLEDGE?

Providing the answers to these questions is not easy. Natural disasters and humanitarian emergencies are, by their very nature, complex and dynamic situations. They are multi-sectoral and multi-disciplinary, incorporating both the physical and social sciences. *Information* is constantly changing, comes from a multitude of sources and is often incomplete or contradictory. In some cases, there is an overload of information and, in other cases, there are complete gaps in what we know. Collecting information is often difficult, if not impossible, because of inaccessibility to the affected areas due to natural hazards, insecurity or government restrictions. Furthermore, much of the "available" *data* are actually estimations, based on selective sampling or extrapolations of dated statistics, such as census information, projected growth rates, and proxy indicators.

There is also a certain amount of misinformation and disinformation generated about natural disasters and humanitarian emergencies. Governments and aid organizations may publish inflated or high estimate dat a about a natural disaster or humanitarian emergency in order to appeal for higher amounts of international humanitarian assistance. Furthermore,

governments may purposely conceal information about the situation in a country in order to mislead the international community.   Decisions about providing humanitarian assistance in response to natural disasters and humanitarian emergencies often must be based on the best available information and insufficient *knowledge*.

Another problem is the inconsistent use of standardized *meta-data* when collecting and providing humanitarian information. All incoming and outgoing data and information should include the source and the date or time-stamp, so that other users can determine the credibility and currency of the content. Likewise, it is important to make sure that ambiguous terminology is clearly defined and methodologies and indicators explained, so that others can use the data and information correctly. Finally, data and information should be geo-referenced to include the latitude/longitude, geo-code, gazetteer place name, administrative unit, etc., so that the data can be entered into a Geographic Information System (GIS) and mapped. If these standards are followed, data and information provided by many different humanitarian organizations can be effectively pooled, compared, contrasted, validated and used for analysis and mapping.

WHERE CAN HUMANITARIAN ORGANIZATIONS FIND WHAT THEY NEED TO KNOW?

The emergence of the internet in the last ten years has revolutionized the availability and dissemination of humanitarian information. E-Mail has greatly facilitated the transmission of information between the headquarters of the humanitarian aid organizations and the personnel, teams, and programs located in the emergency-affected countries. The World Wide Web provides a vast, virtual library of information to users with internet access. At the same time, the internet has added to the overload of information and the increasing difficulty in locating, extracting and verifying the answers to the critical questions.

Situational information is reported in the news, but more directly in the situation reports and field assessments from the humanitarian response organizations working in the affected countries. These humanitarian organizations also produce and issue appeals, proposals, and project monitoring documents that provide operational and programmatic information. Useful background/baseline information can be found in country profiles, maps, databases, and chronologies. Analysis is derived also from evaluations, lessons learned, research studies and policy recommendations.

Not everything that aid organizations need to know, however, can be found in databases, documents and visual products. There is also *tacit knowledge* that is usually not documented, but derived from expertise, collaboration and field experience. This knowledge is often imparted from briefings, discussions, and first hand observation. "Seeing it for oneself" adds a great deal to one's knowledge and understanding of any humanitarian emergency.
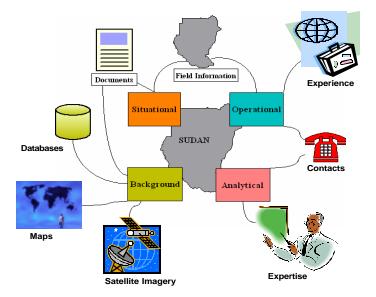

Figure 2: Knowledge Map: Where is knowledge located?

WHAT IS HUMANITARIAN KNOWLEDGE MANAGEMENT?

Knowledge Management is the systematic process and strategy for finding, capturing, organizing, distilling and presenting data, information and knowledge for a specific purpose and to serve a specific organization or community. In complex humanitarian emergencies, there is usually an overload of information in the form of reporting, but there is a lack of systematic collection of standardized data that is stored in retrievable databases. There is also a lack of documentation of knowledge and application of lessons learned and best practices for decision-making. The challenge of humanitarian knowledge management is compiling and synthesizing the accumulated data, information and knowledge, storing and organizing it so it can be easily retrieved and disseminated, and then presenting and sharing it using effective methods and systems.

Knowledge management places a high value on *collaboration* as a means of capturing and sharing knowledge. Collaboration networks are created for common interest communities that include participants who belong to different organizations, separated by time and location. These collaboration networks facilitate the sharing of working-level data, information and knowledge through instant messaging, expertise directories, calendars that announce upcoming briefings, on-line webcam meetings and threaded discussions on specific topics and issues.
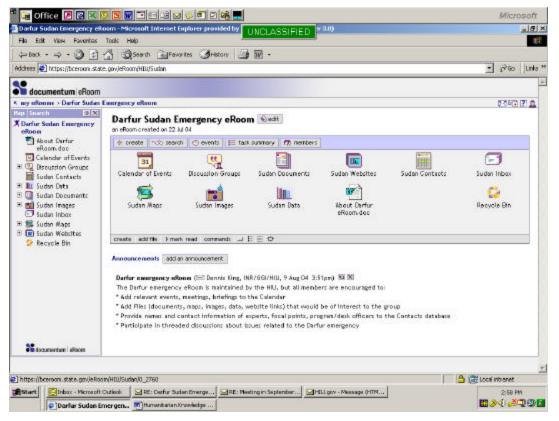

Figure 3: Sample Collaboration Community of Interest

The sharing of information is critical for humanitarian emergencies because no single entity can be the source of all of the necessary information. Making critical information widely available not only reduces duplication of effort, but also enhances coordination and provides a common knowledge base so that critical information can be pooled, analyzed, compared, contrasted, validated and reconciled. Collaboration networks should be designed to dismantle institutional stovepipes, facilitate the sharing of information among organizations, capture lessons learned and best practices, and provide a common knowledge base for the community of interest.

Another important knowledge management tool is *visualization*. Visualization is used to display and convey data, information and analysis in an effective and easy-to-comprehend picture. Graphs, charts and timelines are ways of visualizing aggregated data in order to see relationships, contrasts and patterns. Geographic Information Systems (GIS) enable the viewer to select and display geo-spatial data and answer the "where" questions. *Knowledge map*s, such as the two used in this document, are often pictures depicting the knowledge resources in an organization. These visualization tools can enhance the presentation of narrative or verbal information and analysis.

WHAT ARE SOME HUMANITARIAN KNOWLEDGE BEST PRACTICES?

- Conduct an assessment of information needs and existing knowledge resources in advance, and identify the gaps in data, information and knowledge.
- Provide standardized meta-data (source, date, geo-reference, definitions) along with all collected and shared information, so that it can be pooled, compared, verified, mapped, and used for analysis.
- Establish and use collaboration networks to create communities of interest among individuals in multiple organizations as a means to capture and share tacit knowledge and dismantle organizational stovepipes.
- Employ visualization to represent complex data and information, display patterns and relationships, and depict a geo-spatial common operating picture.
- Demonstrate the practical applications of new information tools and technologies and use collected data and information to answer questions and respond to identified information needs.
- Recognize the value of tacit knowledge gained from field experience, collaboration and learned expertise.
- Promote the use of new tools and technologies, such as Personal Digital Assistants (PDAs), Global Positioning Systems (GPS), Geographic Information Systems (GIS), and virtual collaboration networks and provide advance training in order to ensure that personnel use them effectively and routinely in their work.

CONCLUSION

Effectively collecting, compiling, analyzing and disseminating timely and relevant information is one of the primary challenges for humanitarian organizations. Better humanitarian information and knowledge management can improve the effectiveness of humanitarian response and assistance. The faster humanitarian organizations can identify, collect, analyze and disseminate critical information, the more effective the response becomes and the more lives are potentially saved and human suffering reduced.

APPENDIX: DEFINTION OF TERMS USED IN THIS DOCUMENT

Collaboration: the process for capturing and sharing tacit knowledge, derived from group interaction, shared expertise, and collective wisdom.

Data: a collection of related facts usually organized in a particular format, such as a table or database and gathered for a particular purpose.

Information: data that has been interpreted, verbalized, translated, or transformed to reveal the underlying meaning and context.

Knowledge: the internalization of information, data, and experience. **Tacit Knowledge** is the personal knowledge resident within the mind, behavior and perceptions of individual members of the organization. **Explicit Knowledge** is the formal, recorded, or systematic knowledge that can easily be accessed, transmitted, or stored in computer files or hard copy.

Knowledge management: the systematic strategy to collect, store and retrieve knowledge and then help distribute the information and knowledge to those who need it in a timely manner.

Knowledge Mapping: Locating important knowledge in the organization and then publishing a list or picture that shows where to find it. Knowledge maps typically point to people, documents and databases, showing users where to go when they need expertise.

Meta-data: Data about the information that provides source, date, location, definitions, methodology (who, when, where, how, what, etc.)

Visualization: the process of representing abstract data and complex information as images that can aid in understanding the meaning.

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