HUMANITARIAN INFORMATION MANAGEMENT RESEARCH

How Researchers and Organisations Can Work Together

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BACKGROUND

Information is being produced, collected, and stored at a faster rate and in greater quantities than ever before, allowing organisations to amass vast amounts of rapidly and dynamically evolving data. There are a growing number of academic disciplines and humanitarian organisations dedicated to the study and practice of managing such data, and a new line of information management professionals are emerging in response. The opportunities and challenges related to the digital revolution are many. While information technology has enhanced the capacity of researchers studying humanitarian action broadly, and specifically in the role of technology in humanitarian research, there is a need to better connect and coordinate the activities in practice and in research.

Increasingly, disaster affected communities, donors, and humanitarian agencies are demanding clear evidence of the impact and outcomes of humanitarian programs. This requires that humanitarian aid agencies think seriously about embedding learning mechanisms or evaluation metrics into their program design (as a part of the program design itself and not merely as a tool to be employed after the program has been completed). Digital data collection tools, GIS-coded social media, imagery of various sorts, and other data sources also provide unique opportunities to speed population based research. These help provide humanitarian agencies with better contextual knowledge of the field operating environment and disaster-affected communities' perceptions of humanitarian assistance.

Such technological developments are likely to have a transformative effect on ongoing humanitarian responses as well as academic research. Partnership between academic or research institutions and aid organisations would enable institutions to create a standby research task force to deploy with an organisation when requested in order to optimally act on these new opportunities and leverage their potential to improve humanitarian operations. Information management is transdisciplinary by nature and establishing a formal collaboration between institutions and organisations will continue the trend of de-siloing academia.

BENEFITS TO ORGANISATIONS AND INSTITUTIONS

Why would an organisation benefit from a Humanitarian IM Researcher? Today, the information landscape is changing more rapidly and drastically than ever before. Researchers are on top of the trends in information management and can assist practitioners in the field in real-time to deliver services most effectively during the disaster as well as for research use after to inform future response. Researchers can provide guidance and feedback including:

- Co-development and co-design of tools, protocols, products, processes, and innovations for IM and other research domains.
- Support of real-time and post-emergency evaluation of products and tools.
- Facilitate organisational learning, keeping track of lessons learned, and providing a neutral stance for moderating innovation and change processes.
- Provide trainings and workshops for new deployments.

- Access to wider body of knowledge, from academia or other organisations, and research in other fields.
- Produce reports in-country and create comprehensive papers following the crisis.
- Act as another member of the team by participating in hands-on activities including programming, process design, or using other skills that the researcher has to add to the capacity available in the field.
- Serve as the front-line communicator with other researchers to provide and discuss data and findings upon request.
- Provide synthesised insights across deployments and contexts.

What benefits does this bring to a researcher and their institution? Disasters are increasing worldwide and the need for better information about how to manage response and deliver services is a growing field. Institutions collaborating with organisations will give both the institutions and researchers direct access to a growing field and the ability to have first-hand experience conducting research in real-time. Some benefits to researchers and institutions include:

- Increased credibility for institutions' disaster research.
- Complete access to raw data as it is being collected.
- Ability to monitor and advise groups of researchers.
- Capability to publish timely and relevant findings after the crisis.
- Position information management as an applied research field as other disciplines including epidemiology, anthropology, etc. have done.
- Gain a greater sense of community between Humanitarian IM Researchers and more opportunities to be published in the field.
- Ability to conduct routine live evaluations to monitor changes.
- Opportunity to practice continuous learning and share new ideas and findings with research colleagues.
- Capacity building via dedicated graduate and undergraduate programs and communicating calls for innovation back into the academic realm.
- Standardisation of taxonomies, sector-based or cross-sectional, to enable comparison of response across disasters.
- Further collaboration and synergy when combining research across multiple crisis location visits or disasters.

EXAMPLES OF HUMANITARIAN IM RESEARCH ADOPTION

Information Systems for Crisis Response and Management (ISCRAM) together with the ***Digital Humanitarian Network (DHN)*** have already begun discussions to introduce their own concept of a Digital Humanitarian Network Research Coordinator directly into DHN. The DHN Research Coordinator would have a two-to-four year commitment, would have full access to all information and data in any DHN activation, would advise based on past academic findings, would share information with other researchers (where possible), and would publish research findings in academic journals.

The Disaster Resilience Lab (DRL) brings together researchers from the Centre for Integrated Emergency Management (University of Agder, Norway), Tilburg University (The Netherlands) and supporting research institutions including the Ecole de Mines Albi (France). The goal is to connect researchers, practitioners, and volunteers working in disaster response in the field and to improve disaster resilience through understanding the needs for sensemaking and decision making during crises. Research teams are deployed to the field during humanitarian response and are supported continuously by remote experts in order to conduct relevant, scientifically sound, and rigorous methodologies for disaster response.

Pennsylvania State University (USA) and ***NetHope*** are collaborating on a research project supported by the United States National Science Foundation titled RAPID: Socio-technical systems and Big Data Analytics in the Ebola Response. The interdisciplinary team is comprised of computer and social scientists, information, emergency response and public health specialists in both research and practitioner roles. The research project examines the organisational and technical aspects of the use of big data in Ebola response organisations with a focus upon its role in decision-making. The goal is to better understand how, when, and where big data analyses can be useful, guiding organisations to better leverage analytic outputs in decision making during crisis response.

CHARACTERISTICS OF COLLABORATIVE HUMANITARIAN IM RESEARCH

In order for humanitarian information management research to be successful, there are certain characteristics the individual and sponsoring organisation must have. It is important that both are flexible, open to learning, and recognise the value of collaboration.

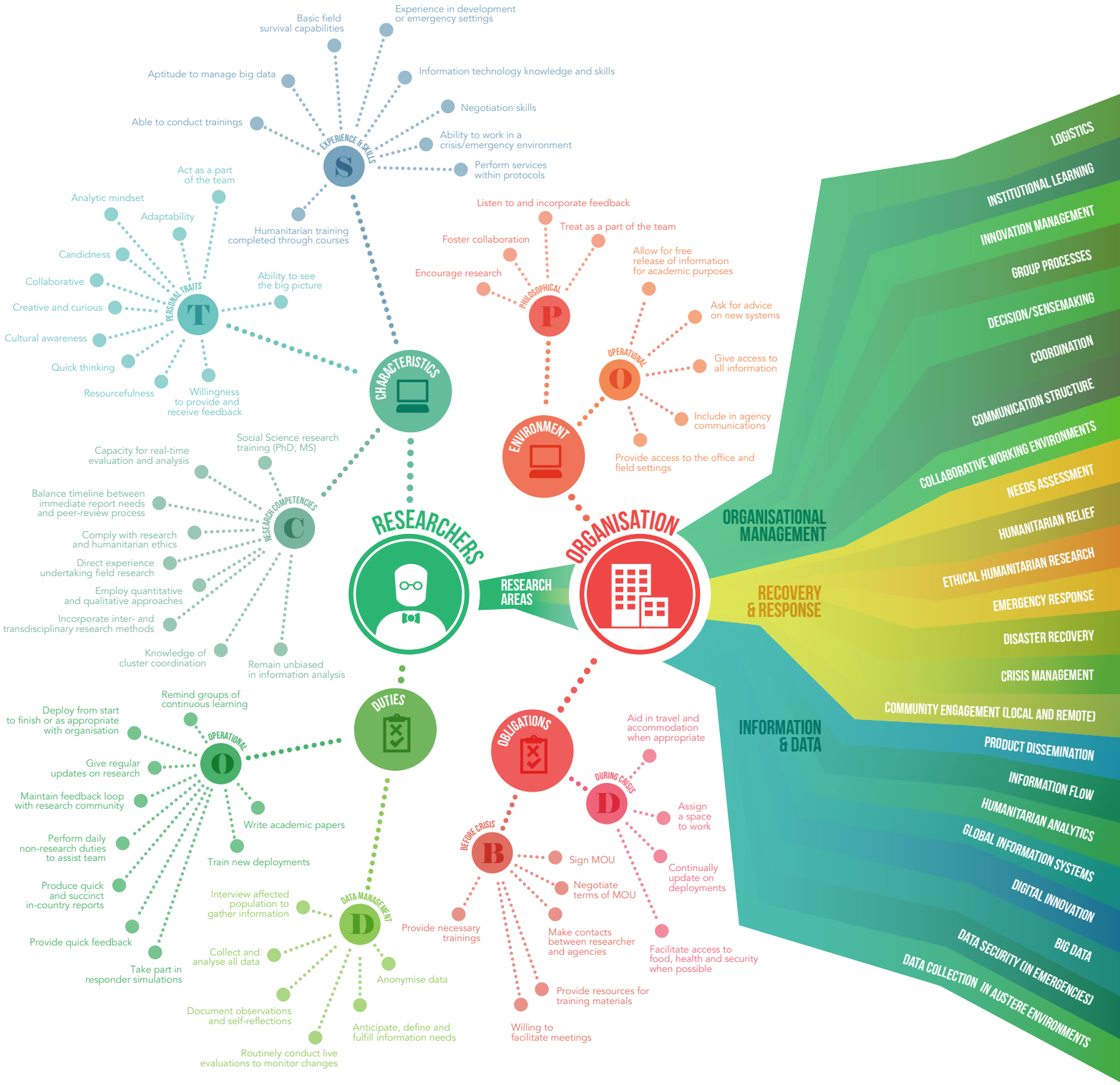
Some examples of important traits of a researcher are knowledge of humanitarian relief skills such as real-time evaluation and cluster coordination, preferably as a result of direct field experience, and the aptitude to manage data and information. To deepen knowledge, they should participate in trainings and simulations to prepare themselves for work in the field. They would be expected to use their skills not only in research, but to act as a part of the team and fulfill daily non-research duties where needed.

In exchange, the organisation is expected to create a collaborative team environment and provide researchers with the same information and resources as other staff. Additionally, the organisation must take responsibility to negotiate important roles and responsibilities of both parties in a Memorandum of Understanding (MOU) before deploying. Topics should include: the prioritisation of how information will be collected and used, managing the dual roles of the researcher and aid worker, overcoming potential conflicts of interest, and other relevant considerations.

For more specific traits and duties of a Humanitarian IM Researcher and the obligations of a good humanitarian organisation, refer to the Humanitarian IM Research diagram below.

HUMANITARIAN INFORMATION MANAGEMENT RESEARCH

HOW RESEARCHERS AND ORGANISATIONS CAN WORK TOGETHER



RESEARCH AREAS

Organisational Management

- Collaborative working environments
- Communication structure
- Coordination
- Decision / Sensemaking
- Group processes
- Innovation management
- Institutional learning
- Logistics

Information and Data

- Big data
- Data collection in austere environments
- Data security (in emergencies)
- Digital innovation
- Global information systems
- Humanitarian analytics
- Information flow
- Product dissemination

Recovery and Response

- Community engagement (local and remote)
- Crisis management
- Disaster recovery
- Emergency response
- Ethical humanitarian research
- Humanitarian relief
- Needs assessment

RESEARCHER CHARACTERISTICS

Experience and Skills

- Ability to work in a crisis/emergency environment
- Able to conduct trainings
- Aptitude to manage big data
- Basic field survival capabilities
- Experience in development or emergency settings
- Humanitarian training completed through courses
- Information technology knowledge and skills
- Negotiation skills
- Perform services within protocols

Personal Traits

- Ability to see the big picture
- Act as a part of the team
- Adaptability
- Analytic mindset
- Candidness
- Collaborative
- Creative and curious
- Cultural awareness
- Quick thinking
- Resourcefulness
- Willingness to provide and receive feedback

Research Competencies

- Balance timeline between immediate reports and peer-review process
- Capacity for real-time evaluation and analysis
- Comply with research and humanitarian ethics
- Direct experience undertaking field research
- Employ quantitative and qualitative approaches
- Incorporate inter- and transdisciplinary research methods
- Knowledge of cluster coordination
- Remain unbiased in information analysis
- Social Science research training (PhD, MS)

DUTIES

Operational

- Deploy from start to finish or as appropriate with organisation
- Give regular updates on research
- Maintain feedback loop with research community
- Perform daily non-research duties to assist team
- Produce quick and succinct in-country reports
- Provide quick feedback
- Remind groups of continuous learning
- Take part in responder simulations
- Train new deployments
- Write academic papers

Data Management

- Anonymise data
- Anticipate, define, and fulfill information needs
- Collect and analyse all data
- Routinely conduct live evaluations to monitor changes
- Document observations and self-reflections
- Interview affected population to gather information

ORGANISATION ENVIRONMENT

Philosophical

- Encourage research
- Foster collaboration
- Listen to and incorporate feedback
- Treat as a part of the team

Operational

- Allow for free release of information for academic purposes
- Ask for advice on new systems
- Give access to all information
- Include in agency communications
- Provide access to the office and field settings

OBLIGATIONS

Before Crisis

- Make contacts between researcher and agencies
- Negotiate terms of MOU
- Provide necessary trainings
- Provide resources for training materials
- Sign MOU
- Willing to facilitate meetings

During Crisis

- Aid in travel and accommodation when appropriate
- Assign a space to work
- Continually update on deployments
- Facilitate access to food, health, and security when possible