A Systematic Review of the Humanitarian Research and Innovation System

Elrha

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Mapping the Data

Background

Humanitarian research and innovation (HRI) play a crucial role in ensuring that the humanitarian system is equipped to respond to emerging crises and challenges. The Global Mapping Exercise (GPE) aims to enhance transparency and public visibility of global investments and activities in the HRI space. This will help inform priority-setting and improve coordination mechanisms.

Based on a systematic review commissioned by Elrha and carried out by the American University of Beirut, this briefing paper seeks to map and characterise the global HRI landscape.

The review aims to identify, map, and characterise the:

- HRI **actors**, including those from academic and operational research, innovators, and humanitarian operational organisations,
- **Funders**, including initial donor organisations and grantees that subcontract research and innovation (R&I) production,
- The **outputs** of these efforts, including their coverage of crisis, thematic, and geographic focus areas.

Methodology

The overarching question that this work seeks to answer is:

Who is doing what, where, and funded by whom in the humanitarian research and innovation space?

This review involved systematic search in ReliefWeb and bibliographic databases for documents examining humanitarian and research or innovation, and published between January 1, 2017, to June 30, 2021. The title, abstracts, and full text were then screened against a list of inclusion and exclusion criteria. Records were deemed relevant and included if they comprised **humanitarian research** or were documents describing or reporting on **humanitarian innovation.**

Basic descriptive statistics were used to summarise key bibliometric data and humanitarian event types, specific humanitarian crises, geographies, thematic focus.

Findings

HRI Outputs

Outputs volume

A total of **2800** outputs related to R&Iwere identified during the period of 2017 to 2021. The majority of these outputs were published in **English**. Out of all the outputs, approximately **one-quarter** 24.5% (685) were related to innovation, whereas **the three-quarters** of the outputs, which is 75.5% (2,114), were related to research.

The overall volume of outputs **gradually increased over time**, with 512 outputs identified in 2017, and 705 in 2020.

Outputs coverage

This looked specifically at humanitarian events and their geographical location. Approximately 63.5% of the outputs focused on a **particular humanitarian event**, while the remaining 36.5%

addressed humanitarian issues or settings more generally. For instance, some records described the development of a humanitarian innovation without mentioning a specific crisis type.

Regarding crisis-focused outputs, **research mainly prioritised conflict and natural hazards**, with a limited focus on human-induced, non-conflict events such as economic crises. Notably, **certain humanitarian crises received more research attention than others**, with the Syria conflict being the most frequently studied, followed by conflicts in South Sudan, the Democratic Republic of the Congo, Myanmar, and Iraq. However, other contemporary conflicts resulting in significant morbidity, mortality, devastation, and displacement received less attention, such as conflicts in Yemen, were only covered in ten documents.

Outputs examining natural disasters were distributed more evenly, covering a range of specific disasters and geographic settings. Biological disasters were the most frequently examined category (39.8%), followed by geophysical (30.5%), hydrological (24.8%), climatological (22.2%), and meteorological (19.4%). In terms of innovation outputs, earthquakes, floods, and epidemics were the most commonly studied categories, with similar numbers of outputs dedicated to each.

Outputs thematic areas

The primary areas of focus for both R&I outputs were **protection, health, disaster management, and logistics**, with percentages of 37%, 30.5%, 13.6%, and 13%, respectively. Among the cluster-based thematic areas, the areas of nutrition, emergency telecommunications, and camp management and coordination were the least frequently examined. **The thematic areas of focus varied between R&I outputs and also varied based on the type of crisis.**

For research outputs, the most common themes were protection, health, food security, nutrition, and the humanitarian-development-peace nexus. On the other hand, logistics, disaster management, and health were the main focus of innovation outputs. In conflict settings, protection was the primary focus of research, whereas health was the main focus of innovation. In natural disaster settings, innovation outputs mainly focused on logistics and disaster management, while research outputs predominantly focused on health.

The level of research and innovation activities and funding varies significantly across clusters and humanitarian contexts. To effectively address the most

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pressing humanitarian issues, it is necessary to prioritise research and innovation needs and investments more strategically.

HRI Actors

During this review, a total of **3,799 actors** were identified as being involved in the production of R&I outputs. The majority of these actors were academic institutions, INGOs, and UN organisations. Conversely, national, local, and civil society actors produced **less than 2%** of the total R&I outputs identified in this review.

Additionally, the vast majority of actors were based in Europe and North America. The top 10 countries producing R&I were the US (1st), UK (2nd), Switzerland (3rd), Australia (4th), France and the Netherlands (5th), Canada (6th), Germany (7th), and India and Italy (8th).

Collaboration with local actors

The review investigated several indicators of leadership in HRI, including the location of actors and lead authors. The analysis revealed that fragile and extremely fragile countries contribute very few documents as lead authors (4.8% and 1.3%), and generally contribute to a limited number of documents (14.6%).

The majority of records were contributed by lead authors from high-income countries (76.3%), while lead authors from upper- and lower-middle-income countries contributed 14.8% and 10.7% of records, respectively. In contrast, lead authors from low-income countries contributed the least, only 1.7% of records.

These findings suggest that institutions based in high-income countries continue to hold most of the leadership roles in humanitarian research and innovation.

HRI Funders

The review identified a total of **745 unique funding organisations,** with the government/public sector in donor countries funding the majority of outputs (55.9%). The UK(via FCDO) and the US

(via USAID) were the locations of the primary funding organisations. Fragile and very fragile countries contributed very few funding organisations (4% and 1%, respectively).

Among the top 20 funders, non-governmental organisations such as ODI, Wellcome, and Elrha (an intermediate funder) were present. The top UN agencies funding R&I were UNICEF and UNHCR. In addition, the governments of Australia, Canada, Germany, the Netherlands, Norway, and Sweden, as well as European Union intergovernmental entities, were among the top 20 funders.

Most of the research and innovation resources were provided and received by actors in high-income countries. More efforts are needed to shift funding allocations to partners closer to where humanitarian needs are most directly experienced.

Comparison with the 2017 Mapping Report

It is important to note that a direct comparison of results with the 2016-17 mapping exercise is not possible due to differences in methodology and scope. However, some key trends have been identified and examined. In the present analysis, the average annual number HRI documents exceeded that of the 2016-17 mapping exercise. Several factors may explain the differences, such as actual growth in humanitarian literature, increased attention following the 2016 World Humanitarian Summit, increased funding to the humanitarian sector, or methodological differences in searching a greater number of databases.

The findings of this review are generally in line with those of the 2016-17 mapping report, which also showed a disproportionate representation of authors and institutions from high-income countries in authorship, research leadership, and funding of HRI. The review identified health and logistics as among the most frequently examined thematic areas, consistent with the 2016-17 findings. However, food security and early recovery were not major focuses of innovation work for the period 2017-mid-2021, accounting for only a small percentage of all innovations described in the database, unlike in 2016-17.

Recommendations

There are several recommendations that can be made to improve the prioritisation and funding of R&I in the humanitarian sector:

Better prioritisation for research and innovation: To address the disparity in R&I outputs, it is crucial to prioritise research and innovation needs and investments more effectively by involving stakeholders who are closer to the humanitarian needs at the forefront of setting the agenda for R&I. Furthermore, it is important to gather more evidence to determine where and when research and innovation can have the greatest impact, this will ensure that R&I capabilities and investments are directed towards addressing the most pressing humanitarian issues.

Promote collaboration: Increased collaboration between actors in high-income countries and those in low- and middle-income countries can help to bridge the gap in R&I outputs. Collaboration can facilitate knowledge-sharing, resource-sharing, and skills-building and it will ensure that R&I outputs are more relevant and effective.

Develop policies and adapt new practices to incentivise funding to local and national actors: R&I funders should develop policies to incentivise funding to actors closer to where humanitarian needs are mostly experienced. This can include requirements for partnerships between high-income and low- and middle-income actors or setting targets for funding allocations to these actors.

Improve data transparency: There is a need for more comprehensive and accurate data on R&I activities in the humanitarian sector. This can help identify gaps and opportunities for investment, as well as track progress towards achieving more equitable and effective outcomes.

Overall, these recommendations can help improve the effectiveness and equity of R&Iin the humanitarian sector and ensure that resources are directed towards the most pressing needs and innovative solutions.

About Elrha

We are Elrha. A global charity that finds solutions to complex humanitarian problems through research and innovation. We are an established actor in the humanitarian community, working in partnership with humanitarian organisations, researchers, innovators, and the private sector to tackle some of the most difficult challenges facing people all over the world.

We equip humanitarian responders with knowledge of what works, so that people affected by crises get the right help when they need it most. We have supported more than 200 world-class research studies and innovation projects, championing new ideas and different approaches to evidence what works in humanitarian response. Elrha has two successful humanitarian programmes: Research for Health in Humanitarian Crises (R2HC) and the Humanitarian Innovation Fund (HIF).

About the Global Prioritisation Exercise for Humanitarian Research and Innovation (GPE)

The Global Prioritisation Exercise (GPE) aims to improve outcomes for people affected by crises by amplifying the impact of investments in research and innovation. The GPE provides an overview of the progress and performance of the humanitarian research and innovation ecosystem with a clear set of priorities for research and innovation funding and attention.

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