

*Peer Review Framework for Predictive Analytics
in Humanitarian Response*

MODEL REPORT: INFORM Risk Index

*Developed by the Inter-Agency Standing Committee
Reference Group on Risk, Early Warning and Preparedness
and the European Commission*

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OCHA CENTRE FOR HUMANITARIAN DATA



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Model Report:

INFORM Risk Index

1. Background

This document summarizes the documentation and findings of the peer review of the [INFORM Risk Index](#). The INFORM Risk Index is a global, open-source risk assessment for humanitarian crises and disasters. It can support decisions about prevention, preparedness and response. The objective of the INFORM Risk Index is to identify countries at risk of humanitarian crises that could overwhelm national capacity to respond. The model combines indicators of hazard and exposure, vulnerability and coping capacity into a composite indicator.

The review has been conducted between February and June 2023.

2. Main Findings and Recommendations

You can find all the documentation regarding the model, its application and the review process at the following links:

- The [Model Card](#) describes version 0.6.5 (31 August 2022) of the mode and was completed in February 2023.
- The [Model Evaluation Matrix](#) was completed in February 2023 by Mesfin Fikre Woldmriam, Assistant Professor of Information Systems at the Addis Ababa University.
- The [Implementation Plan](#) was completed in March 2023. It summarizes how the Index model contributes to the process of identifying priority countries to be recommended for funding through the Central Emergency Response Fund's Underfunded Emergencies window.
- The [Ethical Matrix](#) aims to identify all stakeholders and potential issues regarding the intended use of the model. The Ethical Matrix was completed in May 2023 by Doug Specht, Reader in Cultural Geography and Communication in the School of Media and Communication at the University of Westminster.

A summary of the main findings and recommendations is provided below.

Ethical Review

Lack of resources to support interventions

The role and position of the Index should be made clear and apparent. Cross-organization planning is needed to ensure that resourcing is available. Consider an 'intervention' index that weights for the kind of funding/resourcing available to a country before, during and after a humanitarian crisis. This can help better report on resourcing failures. See for example: Hunt, A., Specht, D. Crowdsourced mapping in crisis zones: collaboration, organisation and impact. [Int J Humanitarian Action 4, 1 \(2019\)](#).

Treatment of missing data

Conflict is given special weighting to account for missing data. Consider other areas where a change of weighting might be important to plug the gap of missing data. For example, where a country has not reported data due to an extreme non-conflict based humanitarian crisis, or where such a crisis might have skewed data significantly.

Suitability of the Index to capture rapidly evolving crises

The model does recognise that capacity and vulnerabilities can change rapidly as a result of conflict. The model does not appear to account for the potential for hazards and exposure data to change rapidly. It is worth noting the increase in natural hazards in much of the world and to ensure that the datasets being drawn upon recognize and account for increased risk of high-impact events, for example. Additional climate modelling data would help to strengthen the predictive power of the natural hazards data, which in turn may also support predictions in conflict data.

Index is used to stigmatise population leading to less support

The concept of risk might suggest a lack of autonomy or self-determination from the populations impacted. This can be detrimental or misleading in cases in which the risk factors are external (for instance in the case of sanctions or outside actors creating risk). The inequality of effects of humanitarian crises should also be noted, with inequality indexes forming a part of the methodology and caveats on data presented.

Biases in input datasets

The Index should link to the methodologies of all data collected. A detailed description of how each dataset was produced should operate alongside the methodology of how the data was weighted and used in the model. The flaws in the collection of the input data should be explicitly acknowledged and while this happens in the accompanying documentation, a reminder of the limitations with the tool and dashboards would strengthen the critical thinking that is needed to utilise this tool fully. See for example: Specht, D. (2021), The Technopolitics of Mapping Dar es Salaam: An examination of the technological and political motivations of the Humanitarian OpenStreetMap Team, [Espacio Tiempo Y Forma. Serie VI, Geografía, \(14\), 193–216](#).

Misuse of Index by non-humanitarian actors

While the majority of the data included within the Index is publicly available in other forms, the impact of bringing this data together into rankings and risk indexes in such a form can have negative as well as positive impacts. The ranking of countries presented can also lead to issues of perpetuating binaries around the 'developed' and 'developing' countries. This can enhance stereotyping and xenophobic policies in some countries.

The monitoring of the use of the Index by other actors should be carried out over the coming years. This could be achieved by tracing citations in policy, government and opposition documentation where possible, in order to establish the extent to which this data is used by 'bad actors.'

Missing sanctions index

Add data on sanctions - trade, economic, etc., and weight for their potential impact on the ability to respond to crises. It may also be useful to consider the actors involved in such sanctions and the extent to which this may impact on direct resourcing to support humanitarian crises.

Ill-informed choices made on the basis of biased quantitative data

Encourage critical thinking alongside use of data and ensure the potential biases in data, and missing data, remain explicit and at the front of the dashboards, etc. See for example '[The Masters Tools Will Never Dismantle the Masters House: New approaches to ethical issues in data](#)' or '[The way we use data is a life or death matter – from the refugee crisis to COVID-19.](#)'

Feedback

The Centre invites individuals and organizations working in the humanitarian, academic, research and private sector to engage with us on the peer review process. Please send feedback on the Framework to centrehumdata@un.org.