INFORM\(^1\) – Index for Risk Management

Brief on the Hazard & Exposure Dimension

INFORM is a composite indicator that identifies countries at risk of humanitarian crises and disasters that would overwhelm national response capacity. INFORM is a collaboration of the Inter-Agency Standing Committee Reference Group on Risk, Early Warning and Preparedness and the European Commission. Source: https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk/Methodology
1. Natural Hazard: Definition and Approach

Rapid-onset hazards (earthquakes, tsunamis, cyclones, floods) are treated differently from slow-onset hazards (droughts).
The primary metric for natural hazard risk in INFORM is the annual average exposed population (AAEP) within hazard zones.

1.1. Earthquake Component
Earthquake hazard is assessed using probabilistic hazard maps and intensity levels.
The hazard zone definition is expanded to account for internal variability of intensity.
Two hazard zones are considered: one with a lower minimum intensity (MMI VI) and another with a higher minimum intensity (MMI VIII).

1.2. Tsunami Component
Tsunami hazard is assessed using a hazard map indicating probable inundated areas.
The score for the Tsunami component is based on the exposed population for a 500-year return period.

1.3. Flood Component
Various sources of global flood hazard maps are available, based on hydrological simulations and modelling.
The GAR 2015 flood hazard maps are used in INFORM, with scores based on the AAEP risk metric.

1.4. Cyclone Component
Tropical cyclones (hurricanes/typhoons) are assessed based on cyclone wind intensity and storm surge hazard maps.
The Cyclone wind component's score is based on AAEP risk metrics, using Saffir-Simpson Hurricane Scale levels.
The Storm surge component's score is based on AAEP risk metrics, comparing expected surge levels with terrain elevation.

1.5. Drought Component
Drought risk is assessed through a combination of agricultural drought probability and historical impact.
Agricultural drought is defined by the Agriculture Stress Index (ASI) and considers crop stress over time and space.
Historical impact is measured by the number of people affected by droughts in recent years.
2. Human Hazard: Definition and Approach

Human-made hazards include both technological (industrial accidents) and sociological (conflict) events. Armed conflicts can have severe humanitarian impacts, leading to supply disruptions, refugees, and health service deterioration.

2.1. Conflict Intensity Component
The current intensity of conflict in a country or the future conflict probability is considered. Conflict intensity is determined by force usage and consequences and is classified into levels ranging from dispute to war. Different types of conflicts (e.g., national power, subnational, interstate) have varying impacts.

2.2. Projected Risk of Conflict Component
In the absence of violent conflict, the projected risk of conflict is estimated using the Global Conflict Risk Index (GCRI). GCRI uses structural indicators to assess a country’s risk of conflict based on various socio-political factors. The total risk score for Human hazard is the maximum of actual conflict intensity or projected intensity. The INFORM risk assessment system combines natural and human hazard components to provide a comprehensive overview of potential humanitarian crises and their associated risks. The system is designed to be scalable and adaptable to changing conditions and scenarios.

3. Way Forward

Other types of hazards could be included within the Hazard & Exposure pillar:

- **Biological hazards** such as epidemics and pandemics. They carry the potential for significant mortality, morbidity, and socioeconomic effects. Collaborative efforts between the World Health Organization (WHO) and the Joint Research Centre (JRC) are underway to incorporate an infectious disease outbreaks component into INFORM’s natural hazard category. Epidemics could be included in the Natural Hazards category in 2024.

- **Technological hazards**, stemming from technological or industrial accidents, intentional plans (terrorist attacks), human error, or natural events.