INFORM GLOBAL CRISIS SEVERITY INDEX

Guidance note

BETA VERSION
Introduction and rationale

Improving the response to humanitarian crises and disasters requires a widely shared understanding of their severity. The INFORM Global Crisis Severity Index (GCSI) seeks to provide an improved method for quantitatively measuring crisis severity. It is a sensitive, regularly updated, and easily interpreted model that provides an objective measure of the severity of humanitarian crises. The primary advantage of the GCSI is it allows measurement of severity of humanitarian crises and disasters globally, against a common scale.

Development process

The GCSI was developed by a technical working group, guided by a larger group of organisations convened under the INFORM initiative - a multi-stakeholder partnership of humanitarian and development organisations, donors, and technical partners.

The process included a review of existing tools, an initial scoping workshop in April 2016 and resulting concept paper, a further technical workshop in December 2016, and work to develop a prototype method during 2017. During 2018, ACAPS analysts collected and cleaned data for a subset of 26 crises and extended testing and adjustment of the prototype model using that data.

The beta version of the GCSI covers all existing crises and will be published quarterly during 2019. The beta version will be used to test the process for GCSI production, refine the methodology, get feedback from users, and improve documentation and messaging. The results of the GCSI will be publically available during this time.

Objectives, principles and features

The aim of the GCSI is to help communicate the current status of crises in a systematic and objective way. It is applied at crisis level (i.e. it measures severity against a common scale for each crisis). It is not applied at sub-crisis level (i.e. it does not geographically differentiate severity within an individual crisis), although the approach could potentially later be applied within individual crises.

A good crisis severity model can (Figure 1):

1. Inform a shared and objective understanding of crisis severity – in line with Grand Bargain commitments, specifically on ‘strengthening data collection and analysis’ and ‘supporting joint analysis’.
2. Contribute to decisions on the allocation of resources in a way that is proportionate with crisis severity.
3. Justify and advocate for action, especially in the case of forgotten or unrecognised crises.

Figure 1: Objectives of the GCSI

Inform a shared and objective understanding of crisis severity globally to help ensure all people affected receive appropriate assistance

Contribute to decisions on the allocation of resources in a way that is proportionate with crisis severity so that resources are used most effectively

Justify and advocate for action for people affected by crises, especially forgotten or unrecognised crises

Monitor trends in crisis severity over time to promote sustainable solutions and understand the effectiveness of the response
We propose that any attempt to measure crisis severity should:

1. Cover all types of humanitarian crises, be regularly updated and sustainable, be dynamic to reflect recent changes in severity, and be easily integrated into the decision-making mechanisms of relevant actors.
2. Be a ‘open source’ regarding source data and results, with the methodology published and clearly communicated, including its possible limitations.
3. Measure crisis severity from first principles (i.e. the effect of crises on people) and not organised around humanitarian sectors or other response architecture.
4. We propose that any attempt to measure crisis severity should include three dimensions that tell us (Figure 3): the impact of the crisis itself (e.g. the geographical, human and physical effects), the conditions and status of the people affected, including information about the distribution of severity (i.e. the number of people in each category of severity within a crisis), and the complexity of the crisis factors that affect its mitigation or resolution.

Analytical framework

The term ‘analytical framework’ refers to the construction of the model in a conceptual sense - its components and hierarchy. Any analytical framework is a simplified and subjective view of reality. We propose that an analytical framework for measuring crisis severity should include three dimensions that tell us (Figure 3):

1. The impact of the crisis itself: the scope of its geographical, human and physical effects;
2. The conditions and status of the people affected, including information about the distribution of severity (i.e., the number of people in each category of severity within a crisis);
3. The complexity of the crisis factors that affect its mitigation or resolution.

Calculating the level of severity

The GCSI is a composite indicator, bringing together 31 indicators about the specific crisis or the affected country that directly or indirectly measure the components of the analytical framework (for example, the area affected, number of people in need and access situation).

All indicators are categorised on a scale of 1-5, where 5 represents a higher contribution to overall severity. This categorisation is based on thresholds developed through assessment of past crises and expert opinion.

Methodology

The GCSI is a composite indicator designed to measure the severity of existing humanitarian crises globally against a common scale. It aggregates data from various sources to categorise all crises into five levels of severity (very low, low, medium, high, very high). These terms are relative. Every crisis included in the GCSI is one in which people need humanitarian assistance.

An overview of the methodology of the GCSI is provided below. The methodology is completely open and a more detailed understanding of it can be gained from examining the results spreadsheet, which contains all the data, metadata, and calculations used to calculate the GCSI.

Defining the concept

 Severity is a key parameter in humanitarian decision making. The function of severity as a concept is to inform priorities that guide decisions relating to humanitarian response.

Severity measurements condense, into a numeric or verbal scale, several elements that influence judgments on priorities. These elements comprise different types of information and come from different sources. For the purpose of the GCSI, the concept of severity and its elements are defined by the components of the analytical framework (Figure 3).

The GCSI also uses and provides information on the distribution of severity (i.e. the number of people that fall into different categories of severity within the same crisis).

What is excluded from the model?

We propose not to include pre-existing vulnerability because it does not measure the current status of a crisis and should already be factored in any assessment of the number of people in need (i.e. people in need will be those that are vulnerable and have been affected by a crisis). In addition, its inclusion may ‘blur’ the purpose of the model, when other tools are available that can tell us about risk and vulnerability (e.g. INFORM Global Risk Index).

We propose not to include capacity for response in the model, since it does not directly affect the severity of a crisis in real time. Furthermore, there is no universal concept of capacity to respond, since it depends on the actor/s responding. The model is designed so individual organisations can add a capacity dimension, which is tailored to their own circumstances and decision-making processes.

Figure 2. Application of INFORM principles to the GCSI

Figure 3. INFORM Global Crisis Severity Index beta version analytical framework

GLOBAL CRISIS SEVERITY INDEX

Impact of the crisis (20%)

Conditions of the affected people (50%)

Complexity of the crisis (30%)

Geographical

Human

% people in need

# people in need

In the affected area

Environment

Social cohesion

Rule of law

Safety and security

Humanitarian access

Population groups affected

Safety and security

Social cohesion

Rule of law

Humanitarian access

Population groups affected

Environment

Area affected by crisis

People in the affected area

Affected

Displaced

Injured/Illness

Killed

None / minimal conditions

Stressed conditions

Moderate conditions

Severe conditions

Extreme conditions

ACAPS: ‘Severity measures in humanitarian needs assessments’ August 2016. https://goo.gl/EYt8Wg
Measuring conditions of affected people

Most components in the impact and Complexity dimensions of the GCSI are measured from indicators available in comparable format for all crises. This is because they are either: 1) measured from first principles (e.g. area affected); or 2) from globally available indicators (e.g. the Ethnic Fractionalisation Index or GINI). An exception is Access to food. Due to the dynamic and chaotic nature of humanitarian emergencies and the lack of a globally systematic approach to data collection, imperfect information is necessarily used. Expert judgment is involved in deciding what data to include. A reliability estimate is provided for each crisis. The results spreadsheet contains metadata, showing the sources and dates of included figures, as well as key assessments or judgments made in their inclusion.

Data sources

The GCSI aggregates information from a range of credible, publicly available sources, such as UN agencies and other multilateral organisations, governments, and national and international non-governmental organisations. The country’s Humanitarian Needs Overview (HNO) is used if one is available.
Limitations and risks

Humanitarian crises are by definition extremely complex and therefore any attempt to model them is a simplification of reality.

Limitations come from the methodology for aggregating the data and from the source data itself. Two issues warrant special attention:

1. Results presented with a high level of precision could be perceived to be more accurate than they are. Therefore, we have chosen to present a categorisation of crises – all crises fall into one of five severity categories – very low, low, medium, high, very high.

2. In any crisis there will be a range of conditions experienced by the affected people. Some individuals will be extremely severely affected and require assistance, even in a crisis that is not assessed as extremely severe overall. Therefore, we attempt to provide information about the number of people in each category of severity within a crisis.

Risks associated with measuring crisis severity also come from the way the results are described and used.

The results need to be used in conjunction with other information and are only one input into the decision-making process. They do not automatically translate into priorities. Different actors will have different views of severity based on their capacity, mandate, focus, etc. or their additional analysis. The results are designed to be a shared baseline that can inform decision-making processes, and to which other modules (e.g. covering capacity, mandate, focus) can be added. They are not intended to provide an assessment that is universally accepted and used by all actors without adaptation or adjustment.

Each crisis in the GCSI has different types and quality of data available. Collection of this data and use in the GCSI follows a predetermined methodology. However, judgments must be made regarding what data to use and the comparability of indicators between crises. This may result in unintended bias or errors. The GCSI results or source data should not be considered more accurate than individual indicators for specific crises.

The GCSI is wholly reliant on primary data generated in crises through various methods. It is not a mechanism for collecting or generating primary data and cannot improve it. Therefore the GCSI is only as good as – and certainly not a replacement for – this primary data, which must continue to be improved in terms of quality and standardisation.

Interpreting the results

The results of the GCSI are published in excel format on the INFORM website, as well as in ACAPS’ CrisisInsight.

The results are presented at crisis level. A crisis is defined as an event and a location. The definition of a crisis is dependent on the source data and how it is collected and published. For example, information about a new sudden-onset disaster like a cyclone usually clearly relates to that specific event (storm x in country y). In countries that have a long-lived and complex humanitarian crisis, the information may relate only to the overall humanitarian situation in the country (e.g. complex crisis in country y).

The results include the overall GCSI, its 3 dimensions (impact, conditions, complexity), its categories (e.g. geographical) and their components (e.g. area affected) shown in the analytical framework (see Figure 3). These are expressed as a number between 0 and 5, where a higher number represents a higher contribution to crisis severity.

Each crisis is assigned a severity indicator that represents the overall level of severity, on the following scale:

- 1 = very low (GCSI values of 0–1);
- 2 = low (GCSI values of 1–2);
- 3 = medium (GCSI values of 2–3);
- 4 = high (GCSI values of 3–4); and
- 5 = very high (GCSI values of 4–5).

The results also include all the underlying indicators, data and metadata used in the calculation of the GCSI.

Using the GCSI

All actors involved in providing humanitarian assistance make strategic and operational decisions about when, where, and how to respond. An improved and widely shared understanding of crisis severity can contribute to better decisions that result in better outcomes for populations affected by crisis.

The GCSI is designed to:

- contribute to a shared and objective understanding of crisis severity;
- contribute to decisions on the allocation of resources in a way that is proportionate with crisis severity;
- justify and advocate for action, especially in the case of forgotten or unrecognised crises;
- monitor trends in crisis severity over time.

The GCSI should be used to support decisions that require an understanding of the severity of crises globally. For example, to understand if globally deployed assets and resources are appropriately aligned with crisis severity. The GCSI can also be used to understand changes in crisis severity over time.

The GCSI should not be used for decisions about the detailed response to a specific crisis. All crises are different, with different levels and types of need and different response strategies and costs. Crisis-specific information should be used to support response decisions. The GCSI does not replace, and in fact relies on, this information.

The GCSI measures the severity of an existing crisis. It can be used alongside the INFORM Global Risk Index (GRI), which measures the risk of a humanitarian crisis or disaster in the future (0–3 years). Together, these indexes and trends can provide a longer-term picture of the status of a crisis and the underlying risks in a country.

The GCSI results are free and open to all. Anyone can use the GCSI, but it is primarily designed to be used by governments and organisations involved in humanitarian response at global level.

Implementing the GCSI

Results of the GCSI will be published as a beta version during 2019. This year will be used to test the process for production of the GCSI, refine the methodology, get feedback from users, improve documentation and messaging, and sensitise partners and others to the GCSI. The results of the GCSI will be publicly available during this time on the INFORM and ACAPS websites.

The GCSI will be updated every three months, possibly more often to include new crises. The GCSI will include all major crises and inclusion of a crisis in the GCSI will be based on pre-defined thresholds.

The methodology for calculating the GCSI (otherwise known as the model) has been developed through INFORM. In order to publish the GCSI on a regular basis, data about the status of crises needs to be constantly collected, analysed and inputted into the model. ACAPS – an INFORM partner – will be responsible for collection, cleaning, analysis, and input of data into the model and the production of the final results.

The development process for the GCSI methodology is a joint, consultative process and the methodology is agreed by a wide range of stakeholders through INFORM. There will not be a process for review and/or agreement of the results of the GCSI. The results come directly from the agreed methodology and will be provided raw and unedited. This ensures the GCSI is objective and based on data.

Future work

The following improvements, among others, will be made to the GCSI during the beta version:

- Review options for replacement / supplementation of some indicators with poor data coverage
- Test and adjust the category thresholds and weights for indicators used in the GCSI
- Test the final results, including statistical tests and ‘real-world’ testing with a group of expert users.

The GCSI will continue to evolve to take into account improvements and standardisation in needs assessment and severity classification and data.

Providing feedback

We welcome all comments, experiences and questions relating to the GCSI. Please send them to contact@inform.index.org.
What is the GCSI?
The INFORM Global Crisis Severity Index (GCSI) is an improved, timely way of measuring the severity of humanitarian crises and disasters globally. The GCSI is a sensitive, regularly updated, and easily interpreted model for measuring crisis severity that can assist decision-makers and contribute to improved effectiveness and coordination in humanitarian action. The GCSI data are free and open to all.

Why do we need the GCSI?
Humanitarian actors make strategic decisions about which crisis to allocate resources to. The GCSI seeks to contribute an improved method for quantitatively measuring crisis severity, which can enhance the range and usefulness of information available to decision-makers. Existing methods of measuring crisis severity are not widely adopted and face a number of technical challenges. The primary advantage of the GCSI is that it allows measurement of severity against an objective, common scale.

Where does the data used in the GCSI come from?
The GCSI aggregates information from a range of credible, publicly available sources, such as UN agencies, governments and other multilateral organisations. This includes for example the Humanitarian Needs Overview (HNO) and Integrated Food Security Phase classification (IPC) where available. Expert judgement is involved in deciding what data to include. A confidence level estimate is provided for each crisis.

How is the GCSI score calculated?
The GCSI is a composite index, which brings together 31 indicators impacting severity, organized in three dimensions: impact, conditions of affected people and complexity of the crisis. All the indicators are scored on a scale of 1-5. These scores are then aggregated into the overall severity score.

What are the limitations of the GCSI?
Humanitarian crises are by definition extremely complex and therefore any attempt to model them is a simplification of reality. The choice of indicators to represent severity is subjective, the quality of data is variable and comparable data is not always available between crises. These limitations result in uncertainty, which limit the accuracy of the final result. Therefore, we have chosen to present a categorisation of crises – all crises fall into one of five categories. Secondly, in any crisis there will be a range of conditions experienced by the affected people. Some individuals will be extremely severely affected and require assistance, even in a crisis that is not assessed as extremely severe overall.

How should the GCSI be used?
The GCSI should be used to support decisions that require an understanding of the severity of crises globally. The GCSI can also be used to understand changes in crisis severity over time. The GCSI should not be used for decisions about the detailed response to a specific crisis. All crises are different, with different levels and types of need and different response strategies and costs. Crisis-specific information should be used to support response decisions. The GCSI does not replace, and in fact relies on, this information.

Who developed and publishes the GCSI?
The GCSI has been developed by a technical working group, guided by a larger group of organisations convened under the INFORM initiative. It is based on a review of existing tools, two technical workshops, development of a prototype in 2017, and data collection and cleaning of data for a subset of 26 crises and extended testing and adjustment of the prototype model during 2018. ACAPS – an INFORM technical partner – is responsible for collection, cleaning, analysis and input of data into the model and the production of the final results.

How often will the GCSI be updated?
The GCSI will be updated every 3 months, and possibly monthly to include new crises. The GCSI will include all major crises and inclusion of a crisis in the GCSI will be based on pre-defined thresholds.

What is the implementation plan for the GCSI?
Results of the GCSI will be published as a beta version during 2019. This year will be used to test the process for production of the GCSI, get feedback from users, make further refinements to the methodology, and improve documentation and messaging. The results of the GCSI will be publicly available during this time on the INFORM website and in ACAPS website.

What is the relationship between the GCSI with other INFORM products and the ACAPS Crisis InSight?
The INFORM GCSI measures the severity of an existing crisis. The INFORM Global Risk Index (GRI) measures the risk of a crisis or disaster occurring in a country in the future. ACAPS CrisisInSight combines the results of the GCSI with ACAPS qualitative analysis and a forward-looking scan for risks.

What is the relationship between GCSI and the Humanitarian Programme Cycle?
In countries where it exists, information generated as part of the Humanitarian Programme Cycle, especially the Humanitarian Needs Overview (HNO), is used in the GCSI. The HNO and resulting Humanitarian Response Plans (HRPs) include identified needs, agreed response strategies, and costs. They remain the primary source of information for response decisions about a specific crisis. In 2019, there are country-level HRPs and similar response plans covering 26 countries, whereas the GCSI covers over different 100 crises.

If you have comments or questions about the INFORM GCSI, you can send them to contact@inform-index.org.
INFORM is a collaboration of the Inter-Agency Standing Committee Reference Group on Risk, Early Warning and Preparedness and the European Commission.

INFORM Steering Group

For more information, go to www.inform-index.org.

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