INFORM

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.

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Development process

The GCSI was developed by a technical working group,[1] 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.[2]

The process included a review of existing tools,[3] an initial scoping workshop in April 2016[4] and resulting concept paper,[5] a further technical workshop in December 2016,[6] and work to develop a prototype method during 2017.[7] 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.

1 ACAPS, US Centers for Disease Control and Prevention, DFID, European Commission Joint Research Centre, IDMC, Karolinska Institute, OCHA.

2 **www.inform-index.org**

3 Toward the development of a global severity index (ACAPS) **https://goo.gl/XwxrGN**

4 INFORM Technical Workshop on Crisis Severity, 21–22 April 2016: **https://goo.gl/9etAVr**

5 INFORM Technical Workshop on Crisis Severity, 5–7 December 2016: **https://goo.gl/jWDmbs**

6 Measuring the severity of humanitarian crises globally: concept paper **https://goo.gl/DxIrxo**

7 Measuring the Severity of Humanitarian Crises Summary paper – INFORM technical working group on crisis severity. Version 1: June 2017 **https://goo.gl/ghBkjw**

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.
4. Monitor trends in crisis severity over time.

Figure 1: Objectives of the GCSI

Figure 2: Application of INFORM principles to the GCSI

Methodology

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 '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.

We propose that the following principles should be followed in designing a methodology for measuring crisis severity:

1. The final output should be a categorisation (i.e. low, medium, high…) and not a ranking of crises
2. It should be possible to connect the severity categories to planning and programming
3. The method should include information about the distribution of severity (i.e., the number and or proportion of affected people in each category of severity within a crisis)

All INFORM products adhere to INFORM's general principles: **global**, **open**, **reliable** and **flexible** (Figure 2).

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.[8] 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.

[8] ACAPS 'Severity measures in humanitarian needs assessments' August 2016 **https://goo.gl/EYt8Wg**

Not all people affected by a crisis are equally affected and they have different levels of need that require a different response. This distribution is important for understanding the overall severity of a crisis. It is also important to capture and present this distribution, considering that crises having low overall severity will have some people who are severely affected.

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.

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 *de facto* be included 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).

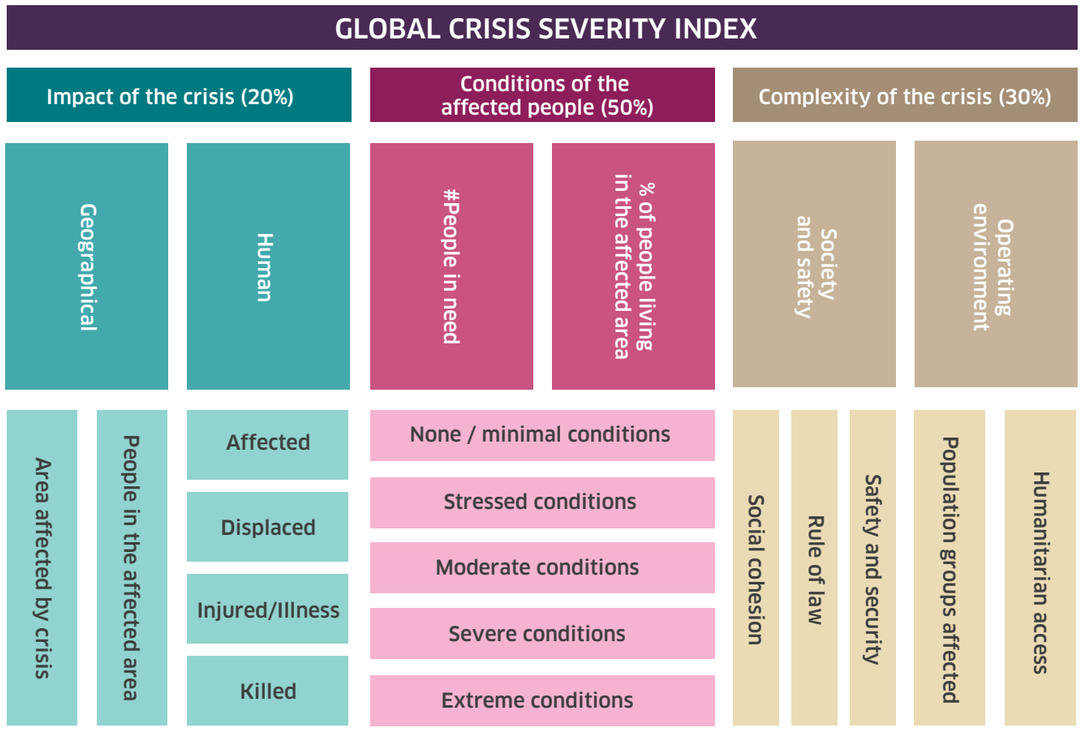
We propose not to include '**capacity**' for response in the model, since it does not directly affect the severity of a crisis in real time. Furthermore, there is no universal concept of capacity to respond, since it depends on the actor/s responding. The model is designed so individual organisations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

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.

Figure 3: INFORM Global Crisis Severity Index **beta version** analytical framework



These scores are then aggregated into components, the three dimensions (Impact, Conditions, Complexity), and the overall severity category based on the analytical framework. The three dimensions have been weighted according to their contribution to severity: impact of the crisis (20%); conditions of affected people (50%); complexity (30%). The weightings are currently a best estimate and will be refined using expert analysis and statistical methods.

Indicators often have a relative and absolute component. This is intended to recognise that the relative size of a crisis in comparison to the size of the country (or the number of people in need relative to the total number in an affected area) is an important consideration in assessing severity.

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.

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.

Measuring conditions of affected people

Most components in the Impact and Complexity dimensions of the GCSI are measured by 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 constraints, which is measured using a specific methodology.[9] Information about the Conditions of Affected People is not consistently or systematically available across crises. The overall number of people in need (PIN) figure is often provided. However, the breakdown of that figure into different conditions of severity faced by people in need (e.g. how many have moderate, acute needs) can vary.

Different frameworks are used to measure severity in different contexts and the quality and level of detail of the information varies considerably. Therefore, at the core of the GCSI is a methodology that enables us to use PIN and severity information from different crises. Essentially it:

1. Allows mapping of different severity categorisations to one common, five-level scale (Figure 4);
2. Allows the use of additional information to make judgments about the distribution of severity in an affected population where none is provided.

Level 5

Extreme humanitarian conditions: People are facing extreme shortages or availability and accessibility problems in regards to basic services. Deaths are directly caused by the current conditions and there is widespread mortality. People face a complete lack of food and/or other basic needs and starvation, death, and destitution are evident. Acute malnutrition may be widely reported. They may face grave human rights violations.

Level 4

Severe humanitarian conditions: People are facing life-threatening conditions and significant shortages and/or availability and accessibility problems in regards to basic services causing high level of suffering and irreversible damages to health status. People may face severe food consumption gaps and have started to deplete their assets or already face an extreme loss of assets. This may result in very high levels of acute malnutrition and excess mortality. Presence of irreversible harm and heightened mortality as well as widespread grave violations of human rights.

Level 3

Moderate humanitarian conditions: People are facing shortages and/or availability and accessibility problems in regards to basic services that cause discomfort and/or high level of suffering which can result in irreversible damages to the health status, but they are not life-threatening. Significant gaps are visible or people are marginally able to meet minimum needs only with irreversible coping strategies. As a result of shortages and disruption of services, may face potentially life-threatening consequences if not provided assistance. People may also face malnutrition. There may be physical and mental harm in populations resulting in a loss of dignity.

Level 2

Stressed humanitarian conditions: People are facing some shortages or/and some availability and accessibility problems in regards to basic services but they are not life-threatening. Needs are more increased but are still not life-threatening. The affected population can meet their need by applying copying strategies. There may exist localised/targeted incidents of violence and/or human rights violations.

Level 1

None/Minor humanitarian conditions: People are facing none or minor shortages or/and accessibility problems regarding basic services, such as food, health, shelter, and WASH. People are able to meet basic needs without having to apply to irreversible coping strategies. There may be some needs but they are not life-threatening.

Figure 4: **Levels of conditions of affected people used in the GCSI**

[9] ACAPS 'Severity measures in humanitarian needs assessments' August 2016 **https://goo.gl/EYt8Wg**

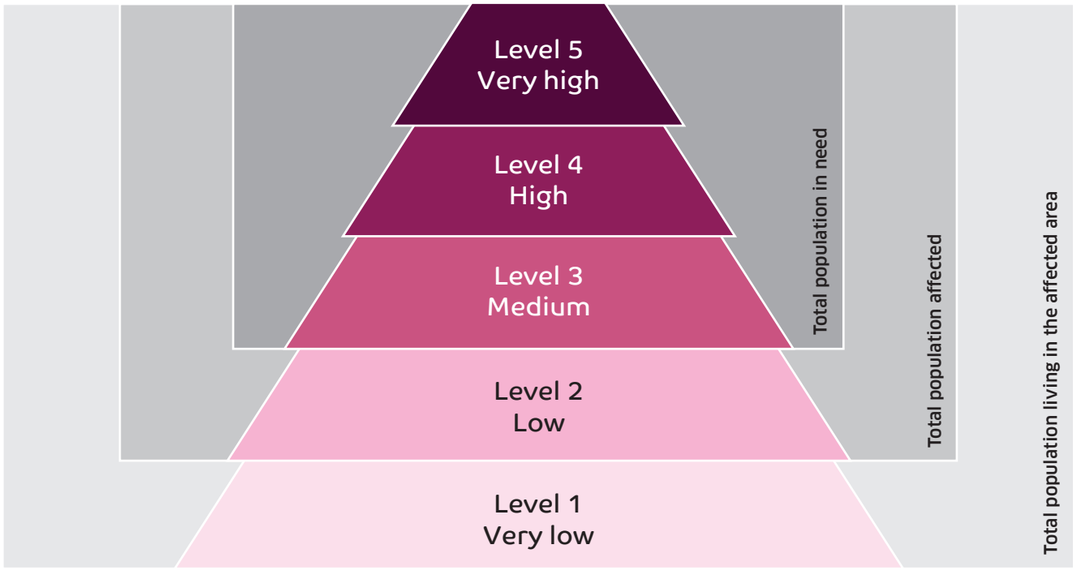


Figure 5: Translating information about people in a crisis-affected area into the GCSI. All people living in the crisis-affected area are included at Level 1 or higher. All people affected are included at Level 2 or higher. People with identified humanitarian needs are included in Level 3–5, depending on the severity of their needs

Two main methods – or a combination of them – are used to translate existing figures and other information into a 'distribution of severity', i.e. the number of affected people at each of five levels of severity. The method used takes into account current best practice, but can accommodate other common practices, and is flexible to reflect improvements in affected people's situation at field level.

1. **Severity framework mapping**. Where information about severity distribution at the crisis level is available, it can be used in the GCSI. However, adjustments may need to be made to take into account different frameworks. Ultimately this seeks to follow a fixed protocol for which severity frameworks (e.g. OCHA severity assessment, Integrated Food Security Phase Classification) can be used, in what order of priority, and what adjustments may need to be made in order to make them into a comparable 5 level scale for use in the GCSI. Levels 1 and 2 include the total number of people living in the affected area and the total number of people affected, respectively. Levels 3–5 represent different levels of identified humanitarian needs (Figure 5).
2. **Combining qualitative and quantitative information.** When there is information on PIN but no further assessment on levels of severity is available, the PIN figure must be combined with other relevant qualitative and quantitative information to create an estimated distribution of severity.

The above examples make clear that each crisis is a unique situation, and different information is available for each crisis. Therefore, the GCSI uses a set of procedures to cater for the spectrum of situations. However, each crisis analysis needs to be individually catered for and this ultimately relies on analyst judgments for this part of the process. Furthermore, the GCSI often relies on primary data that has been generated with sub-optimal procedures. It will therefore reflect any inadequacies in this data. Over time, as humanitarian actors work to improve reporting and standardisation of severity, the information available will become better. These improvements will be reflected in the GCSI. More detailed protocols will also be developed as the best approaches to common informational situations can be established.

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);
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 publically 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**.

INFORM Global Crisis Severity Index (GCSI)
Beta Version

Frequently Asked Questions

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 publically 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

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

INFORM Partners

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

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