

Guideline

COMMON OPERATIONAL DATASETS IN DISASTER PREPAREDNESS AND RESPONSE

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IASC Task Force on Information
Management

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IASC Guidelines Common Operational Datasets (CODs) in Disaster Preparedness and Response

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Introduction

1. The *IASC Guidelines on Common Operational Datasets in Disaster Preparedness and Response* has been developed to help national authorities and humanitarian organizations exchange data thereby improving the effectiveness of humanitarian response. A wide body of evidence supports the assertion that information management systems are an essential component of an effective response capacity¹. Numerous challenges in information management arise when responding to a major disaster or conflict: recording the damage to housing, infrastructure, and services; tracking displaced populations; distributing the massive influx of humanitarian supplies; and coordinating the work in and between clusters, as well as dozens of agencies outside the cluster approach. Baseline and post disaster information is collected and controlled by many autonomous actors, including national authorities, many of whom may be working together for the first time. Developing and implementing a basic framework that improves the interoperability of data collected before, during and after an emergency is essential to building better response capacity². This framework is based upon an agreed governance model for the management of Common Operational Datasets (CODs) to support operations and decision-making in the initial response to a humanitarian emergency.

2. These guidelines outline the common datasets needed for response in humanitarian emergencies, as well as the governance model for the management of the data (i.e. accountabilities and responsibilities). Key terms are defined to aid understanding of the guidelines; as well as the technical standards to support data quality and interoperability. These guidelines also recognize the primary role of the State affected by disaster to organize, coordinate and implement humanitarian assistance within its territory. To this effect, these guidelines aim to ensure that the CODs support national information systems and standards, build local capacities and maintain appropriate links with relevant Government, State and local authorities. In doing so, humanitarian agencies seek to strengthen, not replace or diminish national efforts, including those of institutions not part of the Cluster Approach or Government. The guidance is designed to be used in conjunction with the *IASC Inter-Agency Contingency Planning Guidelines for Humanitarian Assistance* and the *Operational Guidance on Responsibilities of Cluster/Sector Leads and OCHA in Information Management*.³

Purpose

3. The UN General Assembly Resolution 59/212 calls upon States, the United Nations and other relevant actors, as appropriate, to assist in addressing knowledge gaps in disaster management and risk reduction by identifying ways of improving systems and networks for the collection and analysis of information on disasters, vulnerability and risk to facilitate informed decision-making with a specific focus on data

¹ Samia Amin & Markus Goldstein (ed), *Data Against Natural Disasters: Establishing effective systems for relief, recovery, and reconstruction*, World Bank, 2008

² *ibid*

³ IASC- *Operational Guidance on Responsibilities of Cluster/ Sector Leads & OCHA in Information Management* (v3.0); Endorsed- December 2008

preparedness.⁴ Establishing a clear picture of needs and priorities based on available data in the first days and weeks of a relief operation is critical, yet this information often takes weeks or even months to compile. An absence of an agreed methodology or approach in defining the profile of the population affected by a disaster or conflict also inhibits agreement on the severity or scope of the situation.⁵ A lack of pre-existing datasets and predictable processes within humanitarian agencies to manage and exchange datasets also leads to wasted resources, duplicated efforts and missed opportunities.

4. The Hyogo Framework for Action 2005-2015 also recognized that an information management and dissemination system that facilitates the two-way exchange of pertinent technical and management information between internal and external stakeholders is a key component in preparedness planning. The Hyogo Framework also stressed the importance of data collection and management throughout an emergency in order to increase financial and end-user accountability, as well as support the identification of lessons for future responses.⁶

5. The primary audience for these guidelines are Humanitarian Country Teams, composed of Resident Coordinators/Humanitarian Coordinators, UN Agencies and other International Organizations, the International Federation of Red Cross and Red Crescent and national societies and NGO representatives, who are engaged in disaster risk management actions, particularly inter-agency contingency planning in order to increase their level of preparedness and enhance their ability to respond to emergencies. In applying these guidelines, Humanitarian Country Teams should do so based on knowledge of the planning, capacities and systems of national and local authorities and guided by the principles of neutrality and impartiality. The secondary audiences are humanitarian organizations responding to a humanitarian emergency that were not engaged in pre-event disaster risk management actions.

Definitions

6. **Common operational datasets** are predictable, core sets of data needed to support operations and decision-making for all actors in a humanitarian response. Some of the CODs, such as data on the affected population and damage to infrastructure, will change during the different phases of the response and therefore will need to be frequently updated and maintained. Other CODs, such as rivers and village locations, are likely to remain the same throughout the response. The CODs are proactively identified and maintained prior to an emergency as part of data preparedness measures and made available by the OCHA (or pre-agreed in-country alternate) within 48 hours of a given humanitarian emergency. All CODs must meet minimum criteria for format and attribute information in accordance with national standards.

7. **Data interoperability** is the ability to correctly interpret data that crosses from one information source to another (i.e. from one cluster to another, or from a cluster to national authority etc). For example: if we assume that the A cluster has information needed by B cluster, and that data in one cluster system is accessible and understood by the other system, then data can be compared. This means data interoperability.

8. **Fundamental operational datasets** are datasets required to support multiple cluster/sector operations and complement the common operational datasets.⁷ These datasets are characterized by thematic areas (such as education facilities) and are made available as soon as possible after the onset of an emergency given availability⁸.

⁴ A/RES/59/212, Fifty-ninth session, Agenda item 39 (a) 3 March 2004

⁵ D. Guha-Sapir, R. Below, P. Hoyois, *Data on disasters: Easier said than done*, Joint Session of Executive Board - UNICEF, UNDP, WFP, UNFPA, New York, 19 January 2006

⁶ United Nations, *Disaster Preparedness for Effective Response Guidance and Indicator Package for Implementing Priority Five of the Hyogo Framework*, Geneva, 2008

⁷ Concept of "Fundamental" is derived from "Fundamental Geospatial Data Sets for Africa" Craig Schwabe, Human Sciences Research Council (HSRC) 2005, but is expanded to non-geographic datasets.

⁸ Guidance on Fundamental Operational Datasets is pending the IASC endorsement of guidance on Common Operational Datasets.

Governance Model for Datasets

9. Through targeted disaster risk management actions, in particular through the *Inter-Agency Contingency Planning Guidelines for Humanitarian Assistance*, Humanitarian Country Teams will be able to use Common Operational Datasets as a given, and identify additional Fundamental Operational Datasets required to support their specific circumstances. This includes an estimate of the number of people that could be affected by a disaster or conflict. Through the development of scenarios, the Humanitarian Country Team can assess the possible implications of a hazard or threat on the population to determine the humanitarian profile of the population. This profile includes: displaced, non-displaced, host family/resident community, refugee, dead, injured, and missing. In close collaboration with national authorities, such preparedness actions will help establish a set of common datasets that will facilitate the interoperability of information collected during a response, as well as supporting the collection and analysis of needs assessment data.

10. In order to support the management of the common datasets agreed upon by the Humanitarian Country Team, an agreed global governance model should be applied to support the predictability of preparedness actions. There are three levels of governance for the datasets outlined in this guidance: Guardian, Sponsor and Source. The roles and responsibilities for each are outlined below.

- a. **Guardian:** OCHA is the “Guardian” of the agreed upon datasets and will facilitate the distribution of the “best” available common operational and fundamental datasets in emergencies while managing forums for updates and distribution communication.⁹ If OCHA is unable to provide this service in a specific country, a suitable substitute Guardian should be identified by Humanitarian Country Teams or equivalent decision-making body during contingency planning. Quality assurance for compliance with minimum format and data characteristics in datasets will be conducted by OCHA, or the substitute Guardian, prior to distribution. This will include assigning a GLIDE number to be associated with the dataset after the onset of a natural disaster.¹⁰
- b. **Sponsor:** Each dataset has a designated “Sponsor” who is responsible for identifying and liaising with relevant “Sources” to analyze, collate, clean and achieve consensus around a specific operational dataset¹¹. If possible dataset Sponsors will proactively identify and collate information prior to emergencies in the data preparedness phase in support of the contingency planning process. If this is not possible, Sponsors will be identified in relation to their specific dataset early in the emergency and will assume responsibilities related to their thematic dataset. OCHA will maintain lists of dataset Sponsors at the country and global levels and coordinate between data Sponsors.¹²
- c. **Source:** Each dataset will have designated source(s) or owner(s), such as: national authority/agency, Cluster, NGO, UN agency, International Organization, International Red Cross/Red Crescent that agrees to be fully responsible for the development, maintenance and metadata associated with a dataset and control distribution restrictions.

11. The Guardian, Sponsor and Source for the common operational datasets should, in addition to mandatory data characteristics, adhere to the “Dublin Core” minimum metadata standards (see mandatory data characteristics in table below).¹³

⁹ Guardian: Entity responsible for chairing forums for achieving overall consensus across defined datasets, collating Sponsor information, and distributing the CODs through an appropriate mechanism.

¹⁰ GLocal IDentifier Number (GLIDE) is unique ID code for disasters - (<http://www.glidenumbers.net/>)

¹¹ Sponsor: Cluster, Agency, or National entity responsible for identifying and liaising with relevant “Sources” to analyze, collate, clean and achieve consensus around a specific dataset.

¹² Source: Owner of a specific dataset charged with its development, maintenance, metadata and distribution restrictions.

¹³ “Dublin Core”- ISO Standard 15836: 2009 (<http://dublincore.org/metadata-basics/>)

12. **Distribution and Management Mechanisms.** All datasets will be managed and distributed via a suitable mechanism appropriate for the country or context, taking into account national systems and capacities. Mechanisms could include an information kiosk, mobile platforms, web platform, or through digital transfer in an OCHA and/or UNDP office. If necessary, hardcopy tables and derived products such as maps and information graphics will be provided through OCHA operations in the affected country. Best efforts are to be made to make the CODs available in the language of the affected country, especially if the emergency occurs in a region or country that does not use any one of the UN's official languages.

Common Operational Dataset List

13. The following table outlines the minimum list of common datasets that should be included in a Humanitarian Country Teams Contingency Plan. With the exception of the Humanitarian Profile dataset, which will be an estimate developed through scenario development, and the Population Statistics datasets, all other datasets are geographic.¹⁴ Post event, the Humanitarian Profile dataset is initially derived from proxy indicators, rapid assessments and remote sensing analysis. This dataset will need to be revised and updated as more comprehensive needs assessment information is collected and made available. The purpose of the Humanitarian Profile dataset is to help determine the level of relief assistance that may be required. Relief assistance being defined as: ‘the provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term, or protracted duration.’¹⁵

14. Following an event triggering a humanitarian emergency, the datasets and their governance arrangements should be widely disseminated through national, regional and global channels to support the interoperability of information pertaining to the emergency. This should be as soon as possible and no later than 48 hrs after the event. .

15. The importance of maintaining the CODs post event is also emphasized. The CODs will support the disaster risk reduction and risk analysis work of the Global Risk Identification Programme (GRIP) led by UNDP as well as the Post-Disaster Needs Assessment and Recovery Framework.¹⁶

¹⁴ Coordinate and attribute data for location-based features, usually in the categories of point (e.g., a well), line (e.g., a road), polygon (e.g., a forest), cell (e.g., a raster-based “rectangle”), or coordinates (e.g., the latitude-longitude of a point on the ground).

¹⁵ International Strategy for Disaster Reduction, *Terminology: Basic terms of disaster risk reduction*, <http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm> [accessed 15 June 2010]

¹⁶ For more information on GRIP and PDNA see; <http://www.gripweb.org> & <http://www.recoveryplatform.org/pdna/>

Dataset	Recommended Governance	Mandatory Data Characteristics
Humanitarian Profile (disaggregated by admin level and populated place)	- Guardian: OCHA - Sponsor: OCHA - Source: Government, Assessments, UNHCR, IOM	- Internally Displaced ¹⁷ - Non-displaced affected - Host family/resident community affected - Refugee ¹⁸ - Dead - Injured - Missing
Population Statistics	- Guardian: OCHA - Sponsor: OCHA, UNFPA (Other potential sponsors could include UNDP, Government agencies or INGOs) - Source: Government	- Total population by admin level (Individuals) - Total population by admin level (Number of Households) - Age - Sex - Average family size by admin level - Unique identifier
Administrative Boundaries (Geographic) admin level 1 admin level 2 admin level 3 admin level 4	- Guardian: OCHA - Sponsor: OCHA (Other potential sponsors could include UNDP, Government agencies or INGOs) - Source: Government	- Unique identifier (P-Code) - Name
Populated Places (Geographic)	- Guardian: OCHA - Sponsor: OCHA, (Other potential sponsors could include UNDP, Government agencies or INGOs) - Source: Government	- Unique identifier (P-Code) - Names - Size classification - Population statistics - Status if capital of administrative division - Type (Village, spontaneous settlement, collective center, planned settlement)
Transportation Network (Geographic)	- Guardian: OCHA - Sponsor: Logistic Cluster - Source: Government	- Roads (Classified by size) - Railways - Airports/helipads - Seaports
Hydrology (Geographic)	- Guardian: OCHA - Sponsor: OCHA (Other potential sponsors could include UNDP, Government agencies or INGOs) - Source: Government	- Rivers (Classified by size) - Water bodies
Hypsography (Geographic)	- Guardian: OCHA - Sponsor: UNOSAT - Source: Remote sensing, Government	- Elevation - Resolution

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Communications and Information Services Branch (CISB)/OCHA¹⁷ As defined in the UN Guiding Principles on Internal Displacement UN Doc. E/CN.4/1998/53/Add.2¹⁸ As defined in Refugee: Article 1, The 1951 Convention Relating to the Status of Refugees