centre for humdata

Virtual Geospatial Summit 2020 **GIS Response to COVID-19**

Javier Teran

Data Partnerships Team Lead, OCHA Centre for Humanitarian Data

April 8th, 2020 @humdata

OCHA

The mission of the Centre is to increase the **use** and **impact** of data in humanitarian response.

NEW YORK (USA)

THE HAGUE (NETHERLANDS)

COPENHAGEN (DENMARK)

GENEVA (SWITZERLAND)

BUCHAREST (ROMANIA)

NAIROBI (KENYA)

DAKAR (SENEGAL)

JAKARTA (INDONESIA)

Our Locations

Focus Areas for the Centre





PREDICTIVE ANALYTICS

Humanitarian Data

L. Data about the context of the crisis

- Baseline and preparedness development data;
- Damage assessments;
- Geospatial data

Data about the people affected and their needs

2.

- Daily caseload figures during an ebola outbreak;
- Profiling data for IDPs in a displacement tracking matrix;
- Overall caseloads recorded in Humanitarian Needs Overview

3. Data about the humanitarian response

- Who is Doing What Where (3W);
- Financial Tracking Data such as that collected by OCHA's Financial Tracking System (FTS)

HDX makes data easy to find and use for analysis

http://data.humata.org







HDX at a Glance





250+ ACTIVE **ORGANISATIONS**

12,000 Downloaders per month

Data Grid

Showing what critical data is available and missing so that all of us can be more focused with data sharing and outreach.

http://bit.ly/2X9iZig



Data Grid

Showing what critical data is available and missing so that all of us can be more focused with data sharing and outreach.

Affected People Coordination & Context **S DATASETS** 11 DATASETS _____ INTERNALLY-DISPLACED PERSONS **3W - WHO IS DOING WHAT WHERE** 🗵 Income Activitie Food Insecurity Yemen Displacement Da... International ... InterAction member acti.... InterAction Food Insecurity Yemen Education Cluste... Education Clu... **REFUGEES & PERSONS OF CONCERN** Food Insecurity Current IATI aid activitie... International... Demographics for UNHC... UNHCR - The ... Food Insecurity AFFECTED AREAS Food Insecurity RETURNEES ADD DATA Food Insecurity Yemen Displacement Da... International ... Food Insecurity CONFLICT EVENTS Yemen Assessment Data... International ... Food Insecurity Yemen CrisisInSight Cor... ACAP8 Food Insecurity HUMANITARIAN PROFILE LOCATIONS Yemen Displacement - D... International... Food Insecurity ADD DATA Yemen - Conflict Data HDX: 🐼 Yemen - Conflict Data Armed Conflic... CASUALTIES ADD DATA 🐼 Impact of the use of expl... EWIPA Comm... ADD DATA Yemen Displacement Da… International ... MISSING PERSONS HUMANITARIAN ACCESS ADD DATA ADD DATA Yemen : Hard-to-reach D.... OCHA Yemen FOOD PRICES Severity of Humanitaria... OCHA Yemen TRANSPORTATION STATUS ADD DATA DAMAGED & DESTROYED BUILDINGS ADD DATA Health & Education Population & Socio-economi... 2 DATASETS 2 DATASETS HEALTH FACILITIES BASELINE POPULATION Yemen-healthsites Global Health... Yemen - Age and sex stru... WorldPop Yemen - CSO 2017 Popul... OCHA Yemen EDUCATION FACILITIES **BASELINE POPULATION BY AGE & SEX** ADD DATA Yemen - CSO 2017 Popul... OCHA Yemen AFFECTED SCHOOLS POVERTY RATE Affected Schools in Yemen Education Clu... ADD DATA

Food Security & Nutrition

14 DATASETS

Geography & Infrastructure



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| Airports in Yemen | OurAirporta |

GLOBAL ACUTE MALNUTRITION RATE

SEVERE ACUTE MALNUTRITION RATE

Global Food Prices Data... WFP - World F...

COVID-19 CRISIS PAGE

COVID-19 Pandemic Data on HDX

we have data on cases and deaths from WHO and Johns Hopkins University, global travel restrictions from WFP, global school closures from UNESCO, government measures from ACAPS, baseline health indicators from the World Bank, and more.

Map Legend Number of confirmed cases Ukraine 316 1 Afghanistan + occupied Palestinian territory Haiti Chad Sudan **Burkina** Fas Ethiopia Venezuela (Bolivarian Republic of) Somalia Democratic Republic of the Congo

This visual shows the number of confirmed cases and deaths from the coronavirus disease (COVID-19) in locations with Humanitarian Response Plans (HRPs) or other type of response plan. The COVID-19 data is sourced from the World Health Organization (WHO). The countries include Afghanistan, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Ethiopia, Haiti, Iraq, Libya, Mali, Myanmar, Niger, Nigeria, occupied Palestinian territory, Somalia, South Sudan, Sudan, Syria, Ukraine, Venezuela and Yemen. More countries will be added as needed.

COVID-19 Pandemic in Locations with a Humanitarian Response Last updated: Mar 23, 2020 | DATA



Global Figures: 375,498 total confirmed cases, 16,362 total confirmed deaths

COVID-19 CRISIS PAGE

COVID-19 Pandemic Data on HDX

we have data on cases and deaths from WHO and Johns Hopkins University , global travel restrictions from WFP, global school closures from UNESCO, government measures from ACAPS, baseline health indicators from the World Bank, and more. 💐 HDX 🔰 🤇

Q Search Datasets

DATA | LOCATIONS |

The Humanitarian Data Exchange

Find, share and use humanitarian data all in one place

WEBSITE

Centre for Humanitarian Data



Highlights

DATAVIZ

COVID-19 Pandemic in Locations

with a Humanitarian Response

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Novel Coronavirus (COVID-19) Cases Data by JHU

Case



BLOG

TIP SHEET ON THE RESPONSIBLE USE OF ONLINE CONFERENCING TOOLS

INTRODUCTION

Recent changes to working conditions laws increased the use of online conferencing tools throughout the burnaritation sorts. These conferencing conclusionization are included with the too-too-bars are toposable, but they also pure a significant bulkreation working and data protections that when not used responsibly. The International Committee of the field Comm (GRC) Data Protocolor-Office, the International Versionalistic of International Committee of the field Committee and the Control (GRC) Data Protocolor-Office, the International Versionalistic of International Committee and the Control for Remaintance Data Laws developed that itsy short to support the responsible use of online conferencing Laws by Internationalises areas of the works.

Tip Sheet On The Responsible Use Of Online Conferencing Tools

Population Density Maps

These high-resolution maps estimate not only the number of people living within 30-meter grid tiles, but also provide insights on demographics at unprecedentedly high resolutions. These maps aren't built using Facebook data and instead rely on combining the power of machine vision AI with satellite imagery and census information.

HDX

Q Search Datasets

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Facebook

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| 7 MEMBERS 115 FOLLOWERS N Last updated on April 4, 2020 | ISIT WEBSITE | ter facebook |
| understand the impact of this data. Please | who have used these datasets to improve our products and be e consider taking this two-minute survey. Facebook's Data for G ied data on our platform, as well as tools that we develop More | ood |
| Datasets Activity Stream | Members Requested Data Stats | FOLLOW 📫 Add Dataset Edit 🅑 f 📼 |
| Data [201] Search all datasets | Show filter: | Show 25 50 100 ORDER BY Last Modified V |
| Refine your search: Clear all | Nigeria: High Resolution Population Density Maps + Demographic Estimates | The world's most accurate population datasets. Seven maps/datasets for the distribution of various populations in Nigeria: (1) Overall population density (2) |
| FEATURED: - | Facebook 700+ Downloads | Women (3) Men (4) Children (ages 0-5) (5) Youth (ages 15-24) (6) Elderly (ages 60+) (7) Women of reproductive age (ages 15-49). There is also a tiled version of |
| CODs [0] Sub-national [199] Geodata [187] Administrative Divisions [0] | Updated April 4, 2020 Dataset date: May 20, 2019 This dataset updates: As needed | this dataset that may be easier to use if you are More ZIPPED GEOTIFF ZIPPED CSV |
| Datasets on request (HDX Connect) [0] Datasets with Quick Charts [0] | United States: High Resolution Population Density Maps + Demographic Estimates Facebook | These high-resolution maps estimate not only the number of people living within 30-meter grid tiles, but also provide insights on demographics at |
| Datasets with Showcase [0]Datasets with HXL tags [0] | 600+ Downloads Updated April 3, 2020 Dataset date: Sep 19, 2019 This dataset updates: As needed | unprecedentedly high resolutions. These maps aren't built using Facebook data and instead rely on combining the power of machine vision AI with satellite imagery and census information. |
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| Afghanistan [1]Albania [3] | COVID-19 CrowdTangle Live Displays | To make it easy to see what content is being shared on social media about the |
| Algeria [3] American Samoa [1] | Facebook 10+ Downloads | virus, we've built a set of CrowdTangle Live Displays and made them public so everyone can have access. Use them to keep track of some of the biggest |
| Andorra [1] | Updated April 1, 2020 Dataset date: Apr 1, 2020 This dataset updates: As needed | content about coronavirus on Facebook and Instagram from local news outlets, |
| M | rns dataiet updates. As needeu | regional World Health Organization Pages, government agencies, More |

DATAVIZ

Rohingya Refugees Response

The Centre partnered with ISCG to use the **Displacement Tracking** Matrix (DTM) for this interactive dashboard.

https://goo.gl/qS59GN



DATA STORY

Displaced in South Sudan

This Data Fellows **Programme project** shows collaboration between OCHA South Sudan, OCHA policy and communications, IOM, and IDMC.

http://bit.ly/2Lp9J05

DISPLACED IN SOUTH SUDAN A journey of 1,000 kilometers

Conflict, hunger and disease forced nearly 700,000 people to flee South Sudan to become refugees in neighbouring countries in 2017. More than 70 percent of those fled in the first half of 2017, when multiple military offensives occurred in Upper Nile, Unity, Jonglei, and the Greater Equatoria region.

Since 2013, over 4.2 million people – about one in three South Sudanese – have been displaced within the country. More than 2.2 million people are now refugees in countries across the region, including Uganda, Kenya, Ethiopia, Sudan and the Democratic Republic of Congo.

search of safety,

Photo Credit: UNICEF/Phil Mo

SOUTH SUDAN

What happens when people are forced to abandon their land, homes, jobs and schools due to a civil war? Follow one family's journey of 1,000 kilometers (over 600 miles) as they travel the length of South Sudan in

DATAVIZ

Community feedback to inform **Ebola response** in DRC

Collaboration with IFRC for accurate, rapid qualitative analysis

Login details to be provided <u>https://ebola-feedback.ml/</u>

• HDX Community feedback to inform Ebola response in Democratic Republic of Congo 211 138 **Change language Ebola deaths Ebola confirmed cases** 🔘 en \bigcirc fr Top 5 categories at Beni Trend analysis Raw count Ebola_is_a_scheme_of_government_or_others 35% Туре 19.14% Critics_or_observations_of_health_system Rumors beliefs observations 18.18% Ebola_is_organized_business Category 11/11 categories Other_rumors_beliefs_observations 14.44% Number of categories 13.24% Critics_or_observation_of_the_response 10% 0% Beni Date range to 2018-08-21 2019-01-18 0 Health zone Beni Sample comments Pick a presentation to download 🔶 🔹 Sample com Category Komanda 31Dec-18Jan2019 IFRC comm -Ebola_does_not_exist Ebola does not 1 Ebola_is_organized_business it's a Congoles Download the presentation 2 Ebola_is_organized_business 3 many NGOs go i About Critics_or_observation_of_the_response NGOs created 4

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| the hospital are neglected | Beni |

Mapping Education Insecurity

This visual shows reports of attacks on education in Africa and the Middle East from the <u>Armed Conflict Location & Event Data Project</u> (<u>ACLED</u>) as well as social media posts from Twitter about education insecurity identified by the <u>Artificial Intelligence for Digital</u> <u>Response (AIDR)</u> platform. The blue circles represent the number of tweets about attacks on education; the orange triangles represent verified reports of attacks on education from ACLED.

The OCHA Centre for Humanitarian Data created this visual in partnership with the Education Above All Foundation and the Qatar Computing Research Institute to increase access to timely data about education insecurity.

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DATA POLICY

Guidance notes

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| GUIDANCE NOTE SERIES | NITARIAN ACTION | | G |
| NOTE #1: STATISTICAL DISCLOSURE CONTROL | | | N |

KEY TAKEAWAYS:

- Statistical disclosure control (SDC) is a technique used to assess and lower the risk of a person or organisation being re-identified from the analysis of microdata.
- In the humanitarian sector, microdata is data on the characteristics of a population that is gathered through exercises such as household surveys, needs assessment or monitoring activities.
- The purpose of applying disclosure control to humanitarian microdata is to be able to share the data more widely in a responsible manner without harming affected people.
- An SDC process can lower the risk of re-identification to an acceptable level but the risk threshold may vary depending on the context where the humanitarian response is happening.
- To start using SDC, organisations should invest in (1) finding the right tool, (2) setting up a workflow, and (3) improving practice over time through continuous learning.

WHAT IS HUMANITARIAN MICRODATA?

Data on the characteristics of units of a population (e.g. individuals, households or establishments) collected by a census, survey or experiment is referred to in statistics as 'microdata'.¹ In humanitarian response, this type of data is gathered through exercises such as a Multi-Sector Needs Assessment (MSNA), household surveys, and other needs assessment or monitoring activities. Such data make up an increasingly significant volume of data in the humanitarian sector, and are evermore critical to determining the needs and perspectives of people affected by crises.² As such, it is essential that humanitarian organisations understand how to assess and manage the sensitivity of this data in order to ensure its full use and impact in different response contexts.

In its raw form, microdata can contain both personal data and non-personal data on a range of topics, including sensitive subjects such as exposure to gender-based violence, infectious diseases, and other issues that may be recorded in free text fields. Most humanitarian organisations acknowledge the sensitivity of personal data such as names, biometric data, or ID numbers and anonymise data sets accordingly as a matter of standard practice. However, it is often still possible to re-identify individual respondents or organisations by combining answers to different questions, even after such 'anonymisation' is applied.

Servey Design and Datisfund Methodology Metadata, Schwam and Standards Management Branch, Systems Support Design, United States Itumuu of the Centus, Washington D.C. August 1998, Section 344, page 20.

¹ At the line of settling, a search for the word anney/ on the Hamandarian Data Decharge seturoed 1100 results out of the 1005 datasets on the piolicem a way futer for meet assessment returned 1700 isouth.

In the humanitarian sector, data incidents are events involving the management of data that have caused harm or have the potential to cause harm to crisis affected populations, humanitarian organisations and their operations, and other individuals or groups. These events can exploit or exacerbate existing vulnerabilities.1 In some cases, they may also create new vulnerabilities that can increase the risk of future data incidents.



THE CENTRE FOR HUMANITARIAN DATA

GUIDANCE NOTE SERIES DATA RESPONSIBILITY IN HUMANITARIAN ACTION

NOTE #2: DATA INCIDENT MANAGEMENT

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KEY TAKEAWAYS:

· Humanitarian data incidents are events involving the management of data that have caused harm or have the potential to cause harm to crisis affected populations, organisations, and other individuals or groups.

 Examples of humanitarian data incidents include physical breaches of infrastructure, unauthorised disclosure of data, and the use of 'anonymised' beneficiary data for non-humanitarian purposes, among others.

 A data incident has four aspects: a threat source, a threat event, a vulnerability and an adverse impact.

 There are five steps to responding to data incidents: notification, classification, treatment, and closure of the incident, as well as learning.

WHAT IS A DATA INCIDENT IN HUMANITARIAN RESPONSE?

Humanitarians have not had a common understanding of what comprises a data incident, nor is there a minimum technical standard for how these incidents should be prevented and managed. How the humanitarian sector develops tools and implements procedures for data incident management will play a significant role in the evolution of the ethical, human rights, technical, and professional standards of humanitarian operations.

> "If aid actors digitize more of their data and communications, they urgently need to increase their digital security efforts. Though some actors are developing promising protective tools, aid organisations overall might be well advised to listen to a quote from IT-security circles: 'There are two types of organisations: those who have been hacked, and those who will be."

Rahel Dette, Do No Digital Harm: Mitigating Technology Risk in Humanitarian Contexts

¹ A vulnerability is a weakness in an information system, system security procedures, internal controls, or implementation that could be exploited by a threat source.' NIST Special Publication 800-30 Revision L Guide for Conducting Risk Assessments. Available here: https://w/pubs.nist.gov/ nistpubs/Legacy/SP/nistspecialpublication800-30r1.pdf

The Centre for Humanitarian Data Connecting people and data to improve lives

DATA POLICY

Guidance notes



THE CENTRE FOR HUMANITARIAN DATA

GUIDANCE NOTE SERIES DATA RESPONSIBILITY IN HUMANITARIAN ACTION

NOTE #4: HUMANITARIAN DATA ETHICS

KEY TAKEAWAYS:

 Ethics is the study of what is morally right and wrong, or a set of beliefs about what is morally right and wrong. Ethics helps provide the foundation for norms, can be used to interpret established norms, and can be applied directly as guidance in situations for which norms, laws, and regulations do not provide direction.

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- Humanitarian ethics has developed as a principle-based ethics, grounded in the principles of humanity, impartiality, neutrality and independence that have been developed to guide the provision of humanitarian assistance and protection. Existing frameworks for humanitarian ethics must be expanded to enable staff and organisations to navigate the unique challenges and opportunities of the digital age.
- · Data ethics is the branch of ethics that studies and evaluates moral problems and offers normative guidance related to data, algorithms, and corresponding practices. Common ethical issues in data management include issues of fairness, validity, bias, ossification, transparency and explainability, anonymity, privacy, and ownership of data and insights.
- · In addition, a range of other ethical issues may arise in data-related projects in the humanitarian sector, including: potential harmfulness of humanitarian action, difficulties in association, complicity and moral entrapment, duties of care towards humanitarian staff, and the 'cost-effectiveness conundrum'.
- Humanitarian organisations can improve ethical deliberation and decision-making in data-related work by: establishing clear codes of conduct for ethical data management; supporting staff to identify, understand, and debate ethical issues using common tools; and introducing 'ethical audits' as part of standard practice.

INTRODUCTION

Data responsibility entails the safe, ethical, and effective management of data.¹ This note focuses on the ethical aspects of humanitarian data management, ranging from standard exercises such as field-level data collection and processing to more advanced applications of data science, such as predictive analytics.

This note aims to support humanitarian practitioners in effectively identifying, assessing, and addressing ethical concerns that arise in data-related projects. It begins with an overview of humanitarian ethics and data ethics, with a focus on the values that drive ethical decision-making in the two fields. It then introduces some of the persistent ethical challenges that humanitarians may face in data management. work by exploring common ethical concerns related to humanitarian action and data management. Finally, it provides recommendations for humanitarian organisations seeking to improve ethical deliberation regarding the use and impact of data in their operations.

¹ Working Draft OCHA Data Responsibility Guidelines: https://centre.humdata.org/wp-content/uploads/2019/03/OCHA-DR-Guidelines-working draft-032019.pdf.

The Centre for Humanitarian Data

THE CENTRE FOR HUMANITARIAN DATA

Humanitarian organisations regularly partner with the private sector initiatives that increasingly relate directly or indirectly to information and communications technologies (ICTs)¹ and data. Such public-private partnerships (PPPs)² offer humanitarians access to new areas of expertise and technologies with the potential to improve the efficiency and speed of response. For the private sector, humanitarian partnerships offer access to new markets and contribute toward corporate social responsibility objectives, among other benefits.3 Alongside these expected benefits, however, these partnerships present a range of distinct risks related to data management.



GUIDANCE NOTE SERIES DATA RESPONSIBILITY IN HUMANITARIAN ACTION

NOTE #3: DATA RESPONSIBILITY IN PUBLIC-PRIVATE PARTNERSHIPS



KEY TAKEAWAYS:

 Public-private partnerships (PPPs) in the humanitarian sector increasingly involve the use of information and communications technologies (ICTs) and data. The most common types of PPPs in this domain involve financial contributions, provision of technology, in-kind technical advisory support, joint technology development, and data sharing and collaboration.

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 Data responsibility entails the safe, ethical, and effective management of data. This is often overlooked or insufficiently reflected in the design of partnerships between humanitarian organisations and the private sector.

 Existing frameworks for collaboration with the private sector should be enhanced with additional considerations and practical measures to uphold data responsibility in partnerships focused on ICTs and data.

· Common challenges related to responsible data management in PPPs include reputational risk, effectiveness of technology, data sensitivity and use, uncertainty about new data sources, intellectual property, and dependency and deference.

· Five steps for improving data responsibility are to develop shared goals, conduct robust due diligence, perform a risk-benefit assessment, structure partnerships through appropriate agreements, and design technology responsibly.

PUBLIC-PRIVATE PARTNERSHIPS IN HUMANITARIAN ACTION

¹ ICTs are defined by the United Nations Development Program as "information-handling tools - a varied set of goods, applications and services that are used to produce, store, process, distribute and exchange information." Source: UNDP, Information Communications Technology for Development, available here: http://web.undp.org/evaluation/documents/essentials_5.pdf

² While there is no single definition of PPPs, this note considers all types of partnerships between humanitarian actors and commercial private sector partners, as described in the OCHA - DHL Deutsche Post report "Combining Capabilities". Available here: https://reliefweb.int/sites/reliefweb.int/ files/resources/ocha-dpdhl-group-ppp-report.pdf

³ For more on the private sector incentives to engage in humanitarian response, see. https://www.unocha.org/es/themes/engagement-private-sector

COVID-19 CRISIS PAGE

FAQ on Data Responsibility in the **COVID-19** Response

The ongoing response presents a range of challenges and opportunities around the safe, ethical, and effective management of data. This resource will be updated regularly as we receive additional questions and feedback.

FAQ on Data Responsibility in the COVID-19 Response

The members of the IASC Sub-Group on Data Responsibility (co-led by the OCHA Centre for Humanitarian Data, IOM, and UNHCR) have developed this FAQ to support organizations and staff around the world working with data in the COVID-19 response. The ongoing response presents a range of challenges and opportunities around the safe, ethical, and effective management of data. This resource will be updated regularly as we receive additional questions and feedback.

- take in the COVID-19 response?

- of individuals and groups before publishing data?

- transferring data in a secure way?
- models in the COVID-19 response?
- health emergencies?
- health programming?

What are some basic health data management precautions that all organizations should

What constitutes sensitive data generally and in the health sector specifically?

What are some common types of sensitive data in the COVID-19 response?

What measures can I take to uphold data privacy and reduce the risk of re-identification

What are the existing standards for surveillance and case definition and reporting?

Where can I find the latest data about the ongoing COVID-19 emergency?

How can I determine the most appropriate method and/or tool for sharing or otherwise

What are the different licenses available for data sharing and what do they cover?

How can my organization ensure responsible data practice when developing or using

What policies and guidelines currently exist to inform the management of data in public

Where can I learn more about data responsibility in humanitarian situations and in public

Thank you

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