Open Tech and Open Data

The Key to Whole Community Engagement

Devin Balkind @devinbalkind & Marie Irvine @disasterdane

Slides and additional resources at sarapis.org/iaem

Who We Are

Devin Balkind

Founder of Sarapis

Technologist

devin@sarapis.org

@devinbalkind

Marie Irvine

Director of EM, Sarapis

Stakeholder Engagement

marie@sarapis.org
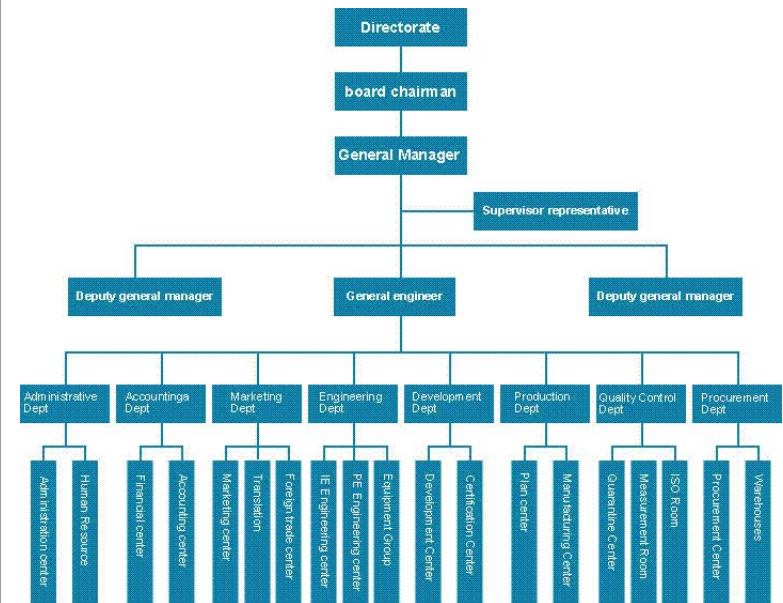
@disasterdane

Agenda

- Current Situation
- Open Aid Groups
  - Grassroots Disaster Relief Networks (GDRNs)
  - Volunteer Technical Communities (VTCs)
- Open Solutions
  - Open Tech
  - Open Data
- Conclusion

Current Paradigm: Hierarchy

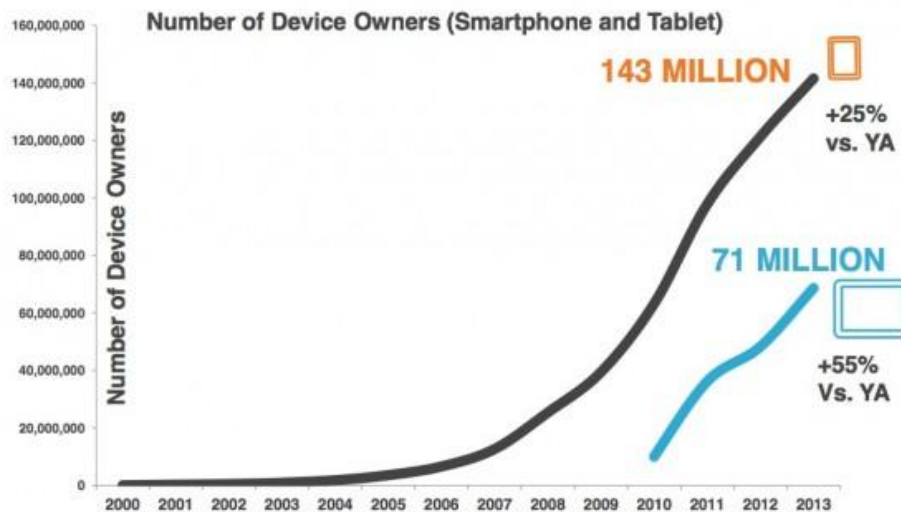| Incident Command	Corporate

Communications Drives Structure
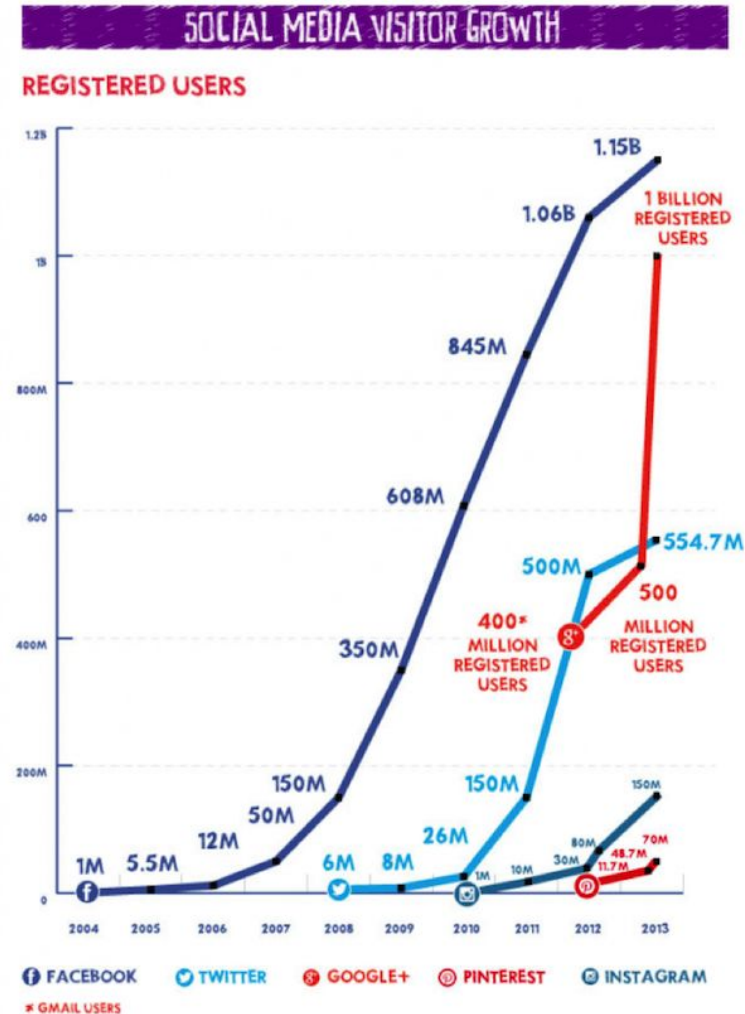
Communications Have Changed

Communications are Accessible

- Smartphones
- Social media
- Collaborative documents
- Advanced open source software

Rise of Open Aid Groups

Local
Grassroots Disaster Relief Networks (GDRNs) ex. Occupy Sandy

Global
Volunteer & Technical Communities (VTCs) ex. Humanitarian OpenStreetMap Team
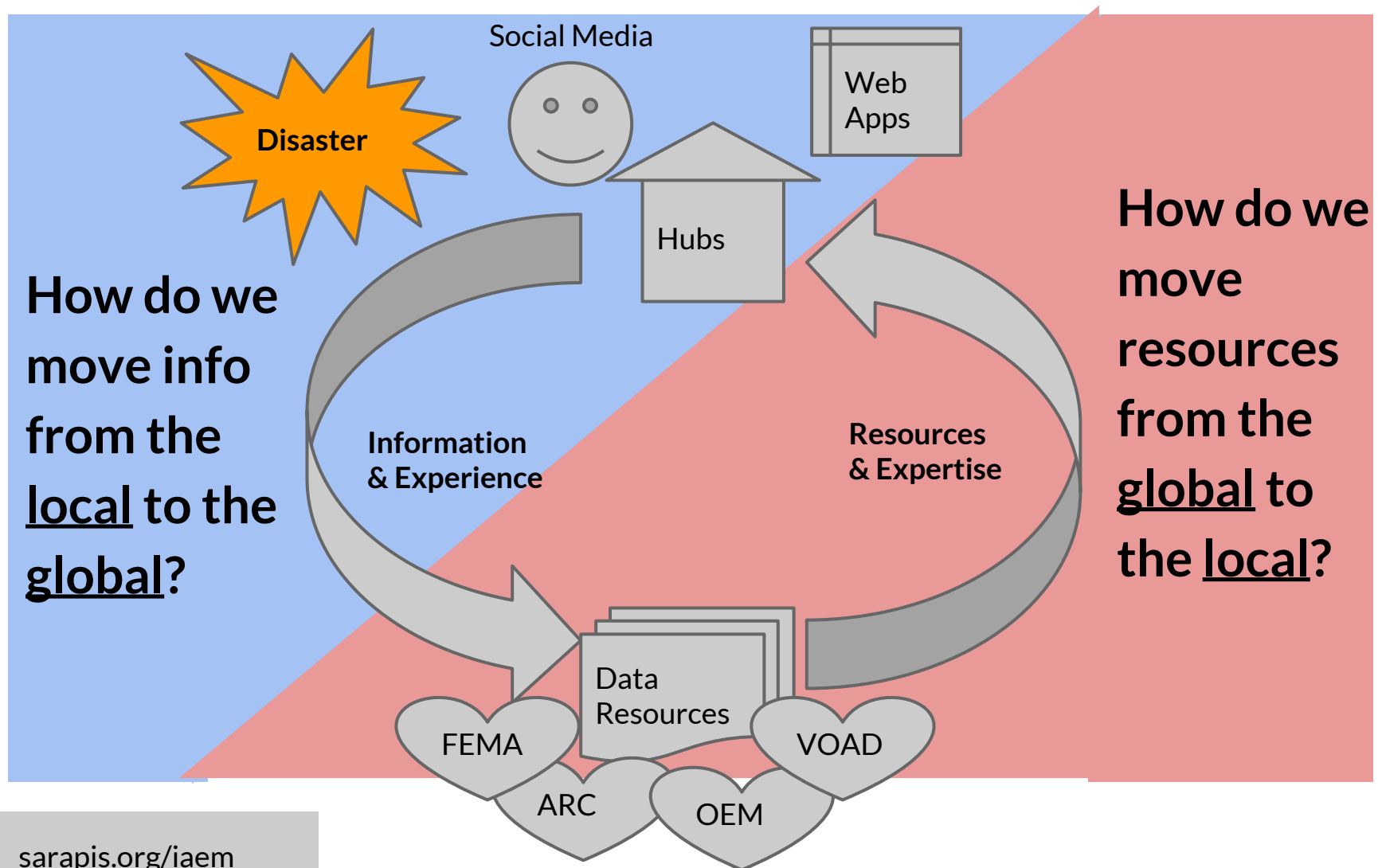
Characteristics of Open Aid Groups

- Often consist of "**ordinary people**"

- **Flexible, mostly horizontal** structures

- Form into larger **collaborative networks**

- Largely **volunteer-powered** with limited fundraising

- Heavy use of **social media for recruitment**

- Leverage **free and open source** software and data

- Can't operate without **open information flows**

- Sometimes become **nonprofits** but often don't

Mission: Enable Global to Support Local

Social Media

Disaster

Web Apps

Hubs

How do we move info from the local to the global?

Information & Experience

Resources & Expertise

How do we move resources from the global to the local?

Data Resources

FEMA

ARC

OEM

VOAD

Grassroots Disaster Relief Networks (GDRNs)

Case Study: Superstorm Sandy

Superstorm Sandy hit New York City on October 30th, 2012. 2nd most impactful in US history.
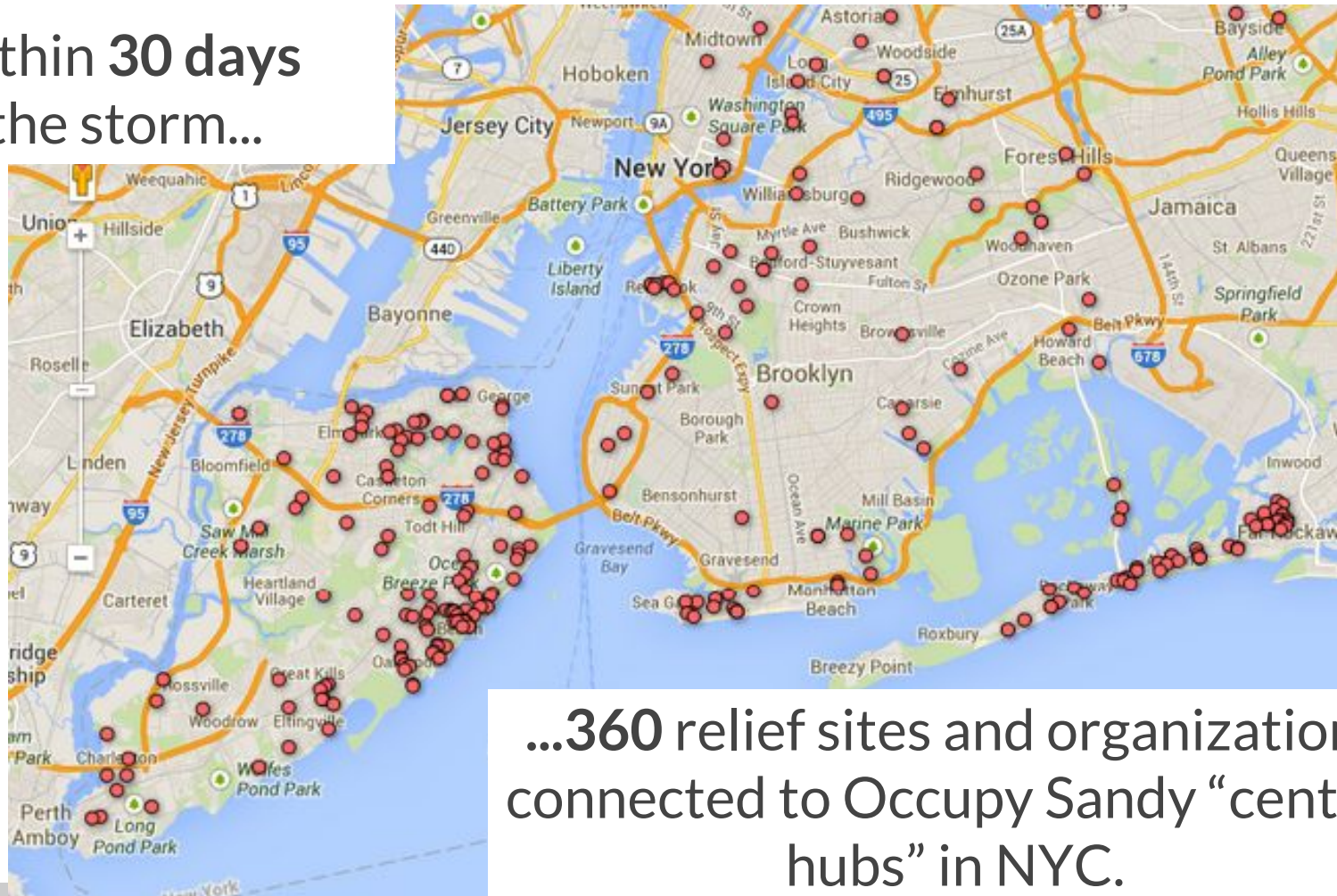

147 people died. 300k/750k homes affected in NYC/USA. $19B/$65B cost of damage in NYC/USA.

GDRN Response & Recovery

Within **30 days** of the storm...

...360 relief sites and organizations connected to Occupy Sandy "central hubs" in NYC.
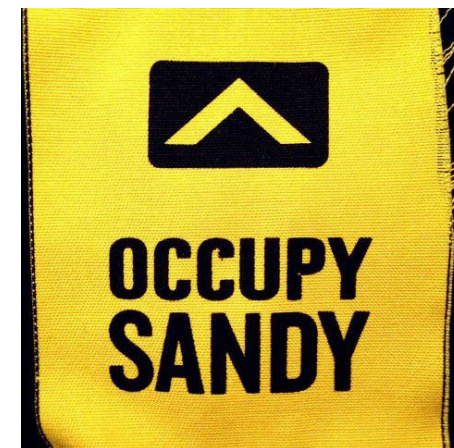
Case Study: Occupy Sandy's Impact

Within 48 hours
- Social network profiles
- Website and volunteer database
- First base of operations
- Cell phone mass communications

Within two weeks
- 3 main hubs producing 10k-20k meals/day
- Supplying approximately 20 relief sites

In Total*
- $2.5 million raised
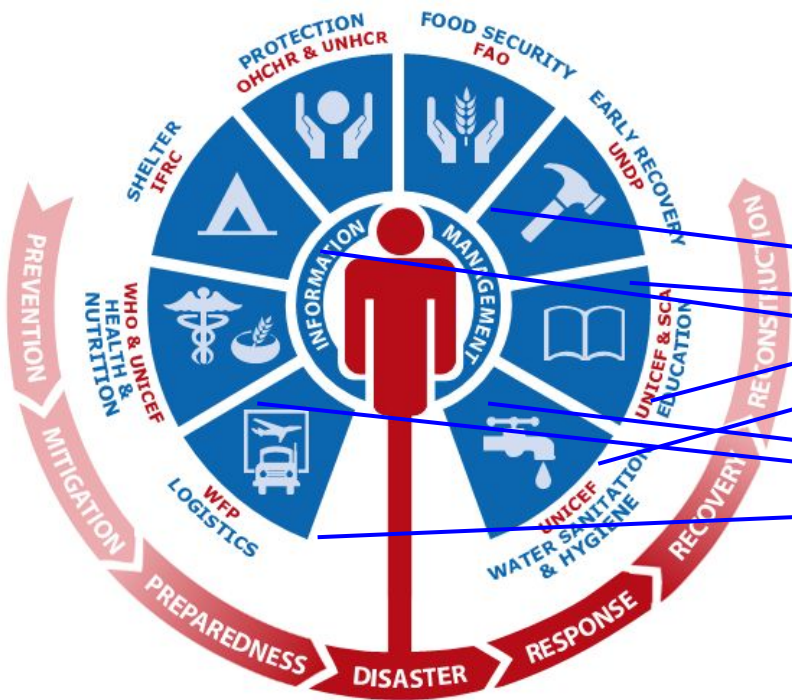- 12k signed in volunteers
- 60k volunteers mobilized

Guided by Anarchist Theory & Practice

"**Mutual aid** is a term in organization theory used to signify a voluntary reciprocal exchange of resources and services for mutual benefit." **
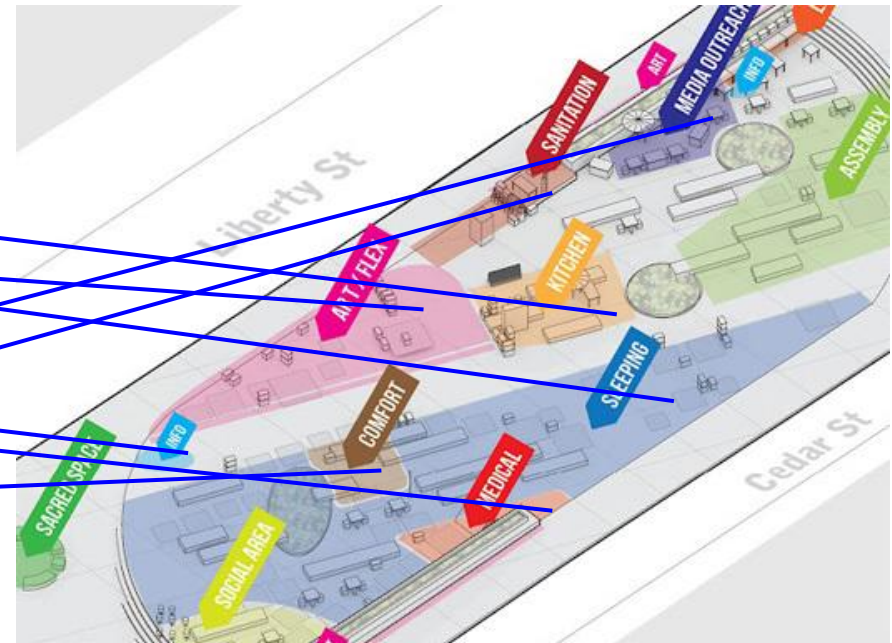
http://benjaminheimshepard.blogspot.com/2012/11/of-tropical-storms-and-tempests-fossil.html
** https://en.wikipedia.org/wiki/Mutual_aid_(organization_theory)

Encampments = Preparedness Training

**UN Cluster System**

Occupy Wall Street's Zuccotti Park

- Kitchen
- Comfort
- Logistics
- Medical Center
- Sacred Space
- Info
- Media

Leveraging GRDNs

- **Create a Directory** of local mutual aid groups using a spreadsheet or database.

- Publish a **process** GDRNs can use to submit needs information to emergency managers.

  - Online forms and printable sheets

- Published statement about the **expectations** GDRNs should have of your organization.
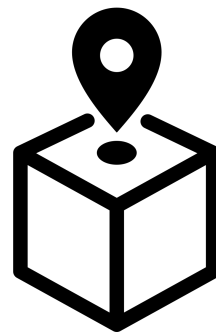
Volunteer & Technical Communities (VTCs)

Volunteer & Technical Communities (VTCs)

- **2010 Haiti earthquake** - 640 digital volunteers used social media to build maps.
- **2015 Nepal earthquake -** 10,000+ digital volunteers organized in 7 teams did NGO grade situational reports and mapping.
- Some VTCs have assisted in over 35+ disasters and regularly work with UN.
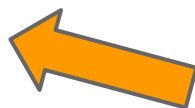
Volunteer & Technical Communities (VTCs)

Organized around core competency :

- GIS and Mapping
- Statistical Research
- Social Media
- Network Analysis
- Meeting Facilitation and Networking
- Unmet Need Documentation
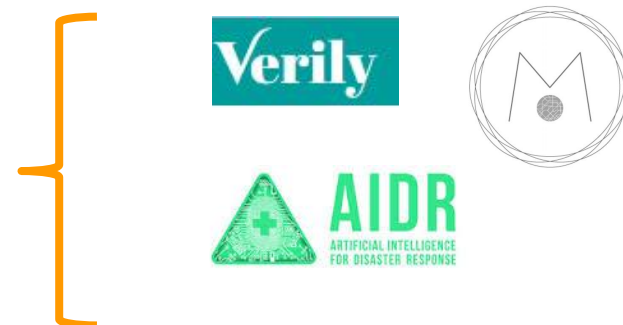- Drone Flying and Imagery Analysis
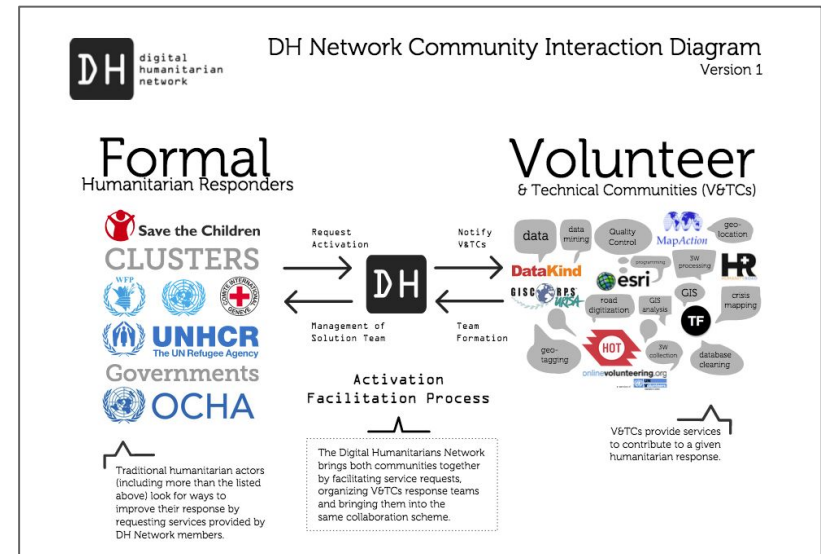
Case Study: Standby Task Force in Nepal

25+ organizations

Overall Operations

- 3 week deployment with 7 teams with over 416 participants.
- Deliverable: 3W Report (246pg) and Maps (513 orgs mapped)
- Provided data to 25+ NGOs

Public Data

Etc...

Leveraging VTCs

- Get familiar with **directory** of VTCs

- See if there are **local VTC members** in your community.

- After a global disaster, write a **report** about local VTC activity

- **Publish data** about community assets and vulnerabilities to your local open data portal. If there isn't one create one using CKAN or a file sharing service like Dropbox
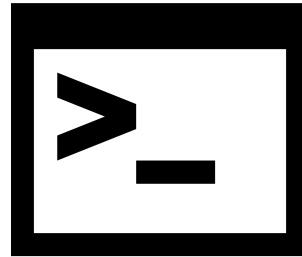
Open Tech

Definition: Open Tech

- **Free** software anyone can use (ex. Facebook)

- Software that gives your **data liberty (ex. Google Docs)**

- **Open source** software (ex. Sahana)

Definition: Open Source

- has crowdsourced innovation from a global community of users/contributors
- can legally own the software on your own computer system.
- you can see the "source code" so you know how the software works.
- you can modify the code and share those modifications with others.
- no licensing fees or restriction makes it cost effective for long-term projects.

Examples of Open Tech

Free to Use

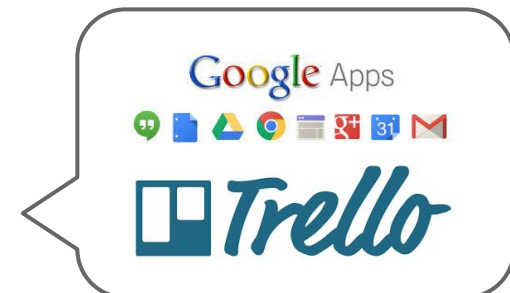## Open Source

Social Media
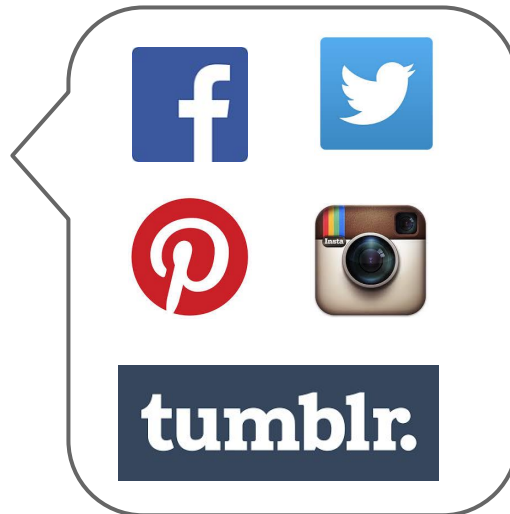
GIS & Mapping

Social Media Verification

Work Flows

Websites

Operating System

Productivity
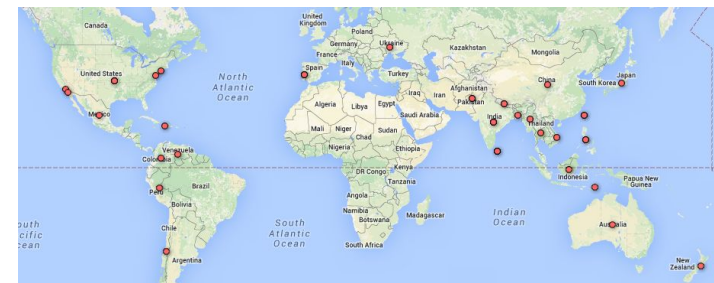
Data Mgt

Case Study: Sahana

- Open source EM application
- Over 20 modulars
- Managed by a nonprofit organization
- Improvements in one solutions are shared with othejrs
- Operational for over 10 years with deployments in over 20 countries
- IFRC, UNOCHA, Philippines, Nepal, LA, NYC

Contacts
Reports
News & Events
Services
Mapping
Volunteers
Facilities
Donations

Leveraging Open Tech

- **Conduct trainings** for staff interfacing with communities in freely accessible software solutions such as Google Drive & Docs.

- **Write a list of values** for your technology systems that can guide software procurement decisions.

- **Evaluate your expenditures** of software licenses and explore whether open source solutions would be more cost effective.
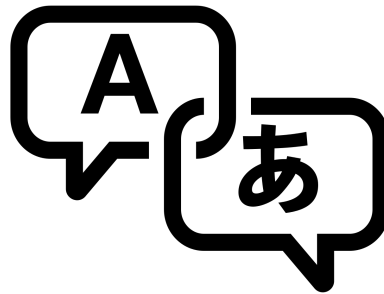
Open Data

Definition: Open Data

"Open data and content can be freely used, modified, and shared by anyone for any purpose"

- Global Open Data Initiative

Why?

- increases **transparency** and common understanding

- frees communities, networks, practitioners and government to **exchange and build** on common data

- promotes **accountability** and best practices
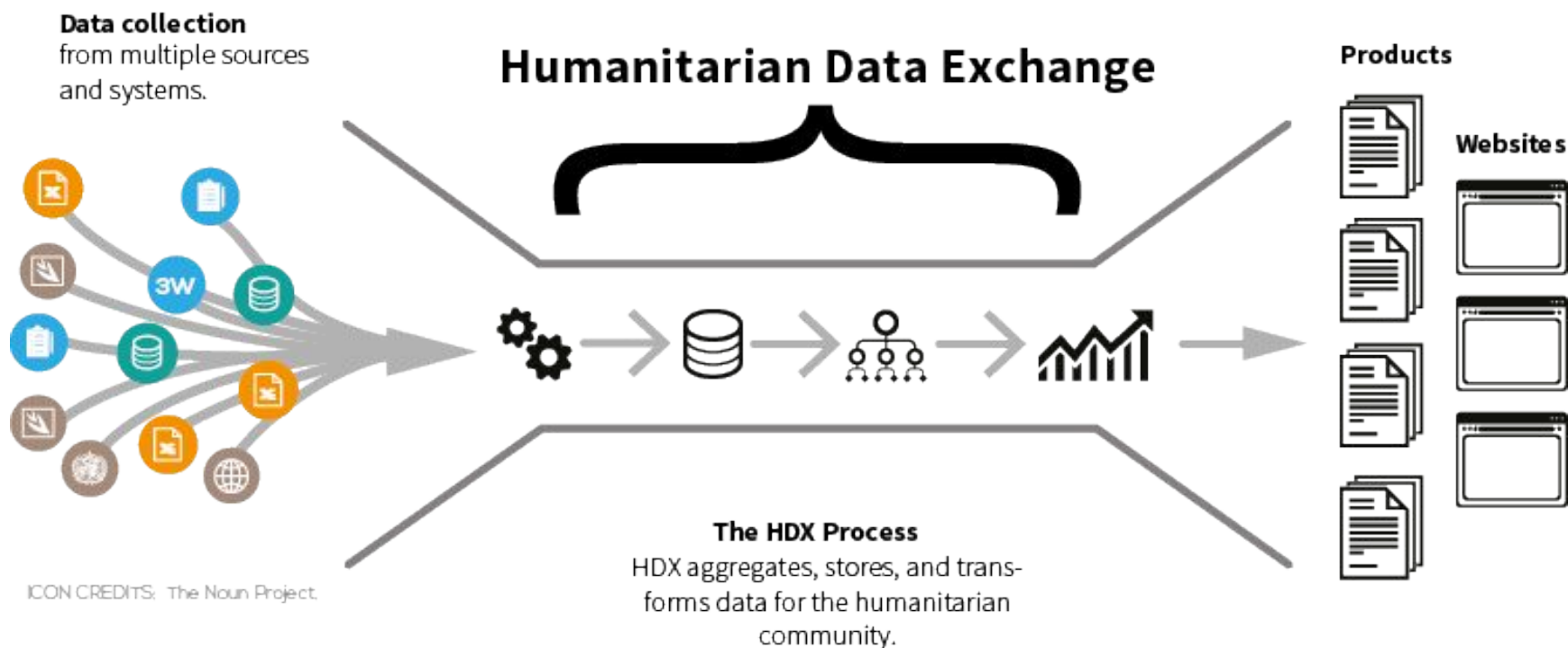
Case Study: HDX

- "Humanitarian Data Exchange"
- UN open-source **data repository**
- Launched in 2014
  - **180 organizations**
  - **80,000 users**
    - UN agencies
    - NGOs
    - Governments
    - Research institutions
  - **2100+ datasets**
- Launching #HLX Data Model
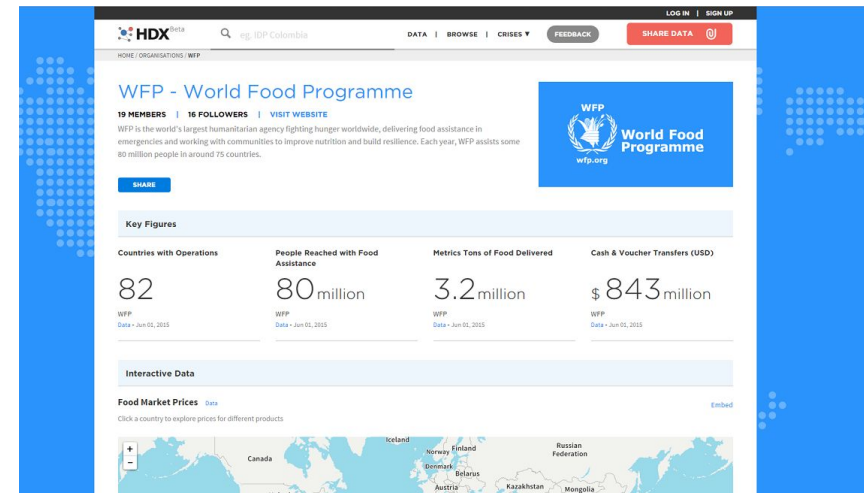
World Food Program HDX Organizational Page

Case Study: HDX

Allows participants to upload data in the most accessible file formats (ex. CSV) and then produces information products with it.

**Data collection** from multiple sources and systems.

Humanitarian Data Exchange

Products

Websites

The HDX Process
HDX aggregates, stores, and transforms data for the humanitarian community.

ICON CREDITS: The Noun Project.

http://docs.hdx.rwlabs.org/

Case Study: HDX

"Can our issue be solved by agreeing on the top row of a shared spreadsheet?"

Qui?	Quoi?			Où?	
Organisation	Secteur	Code du secteur	Activité	District	P-code du district
#org	#sector	#sector +code	#activity	#adm1	#adm1 +code
UNICEF	Alimentation	NUT	Distribution de rations	Côte	D001
Croix rouge	Logement	SHL	Distribution de tentes	Côte	D001
OMS	Santé	HEA	Vaccinations antirougeoleuses	Montagnes	D005

http://docs.hdx.rwlabs.org/

Leveraging Open Data

- **Publish an open data policy for your organization** outlining what information should be accessible to the public.

- **Maintain information sharing templates** (data models) that people can use to make data accessible to your agency.

- **Work with local civic tech groups** to organize events that bring together "techies" and emergency management personnel together around specific shared data sets.
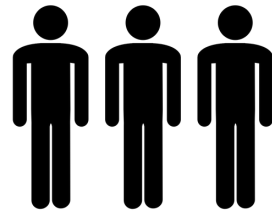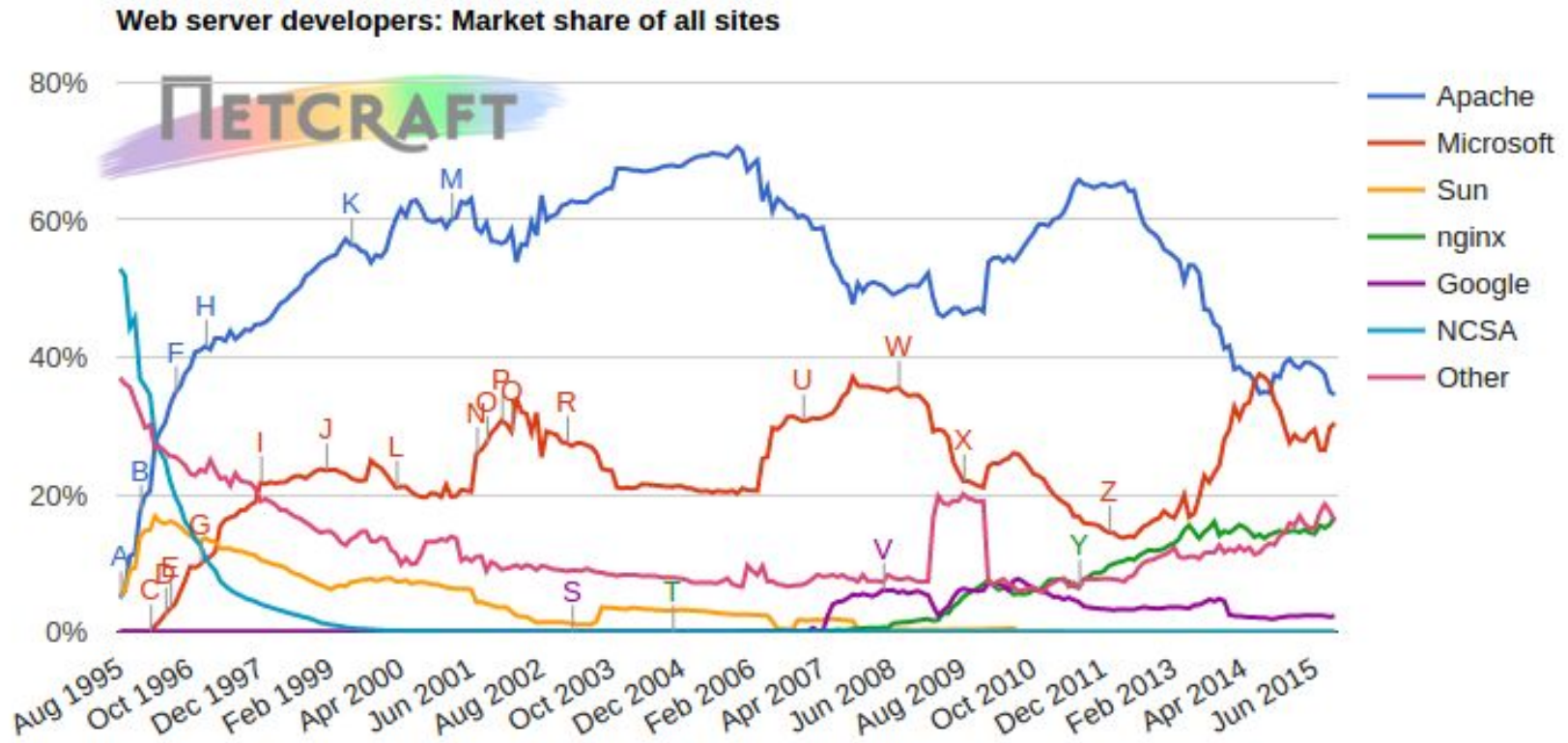
"If you want to go fast, go alone. If you want to go far, go together."

African Proverb

Open is Winning around the World

http://news.netcraft.com/archives/category/web-server-survey/
http://www.businessinsider.com/iphone-v-android-market-share-2014-5

Open is Winning around the World

Web server developers: Market share of all sites

http://news.netcraft.com/archives/category/web-server-survey/
http://www.businessinsider.com/iphone-v-android-market-share-2014-5

Open is Winning around the World

Integration is Coming

Source: tinyurl.com/relieftech
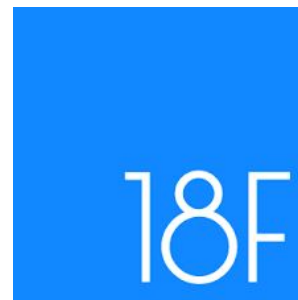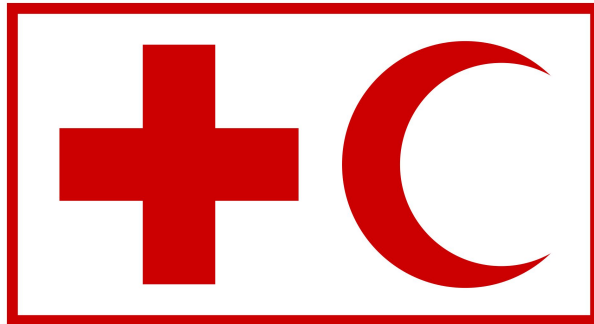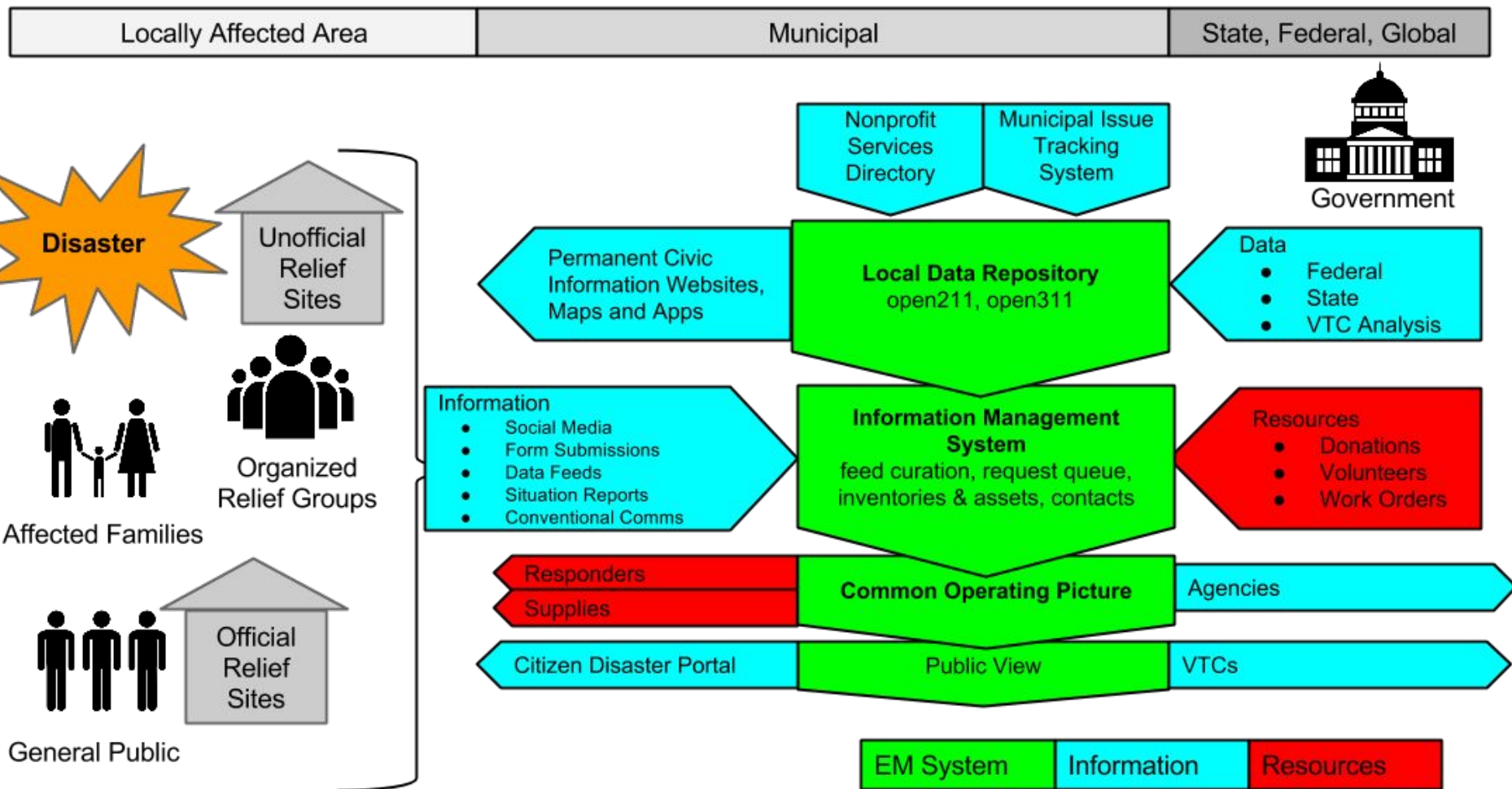
How Will the <u>Emergency Management</u> Community Leverage Open?

Let us know.
sarapis.org/iaem

Connect with Us

Devin Balkind

Founder of Sarapis

Technologist

devin@sarapis.org

@devinbalkind

Marie Irvine

Director of EM, Sarapis

Stakeholder Engagement

marie@sarapis.org

@disasterdane

SARAPIS
OPEN SOLUTIONS TO LOCAL CHALLENGES

Open Needs You!

Open Aid Groups use accessible technologies to effectively mobilize communities.

Innovation

You pressure your institutions to utilize them and adopt their better practices.

http://upload.wikimedia.org/wikipedia/commons/2/2a/G-clamp.jpg