

Data preparedness in Malawi

The Netherlands Red Cross has a long-term partnership with Malawi Red Cross, working together on humanitarian response and Disaster Risk Reduction. In 2015 the shelter cluster was activated in Malawi during one of the worst floods in the history of Malawi that led to a severe food crisis.

The shelter cluster was there to co-lead the shelter response, part of which was setting up an inter-cluster rapid needs assessment to get more accurate data on who was affected where. Since such assessments cost time, responders were already making decisions based on incomplete data and had to deal with influencing factors such as political pressures, media coverage and access. During the response, the need for more data-driven decision making became evident, and to this point Data Preparedness is key.

In February 2017 three team members joined the Malawi Red Cross in a first of its kind Data Preparedness Mission. This blog post describes the results of this mission and explains how such a mission can be replicated in other countries.

What is data preparedness?

510 believes Data Preparedness should be an essential part of the preparedness activities that humanitarian organizations undertake together with communities at risk. It is about pre-staging data with sufficiently high data quality (that matches the prospective information needs of responders) and developing capacities to collect data with – and about – affected communities and areas once a disaster hits, to ensure a timely, efficient, and effective response. We developed a framework of five components to further describe which activities are part of Data Preparedness:



Data Sets: What data

in relation to disaster management does your organization collect? Do you use a framework with indicators for this and what are your information needs? Which gap is there between your information needs and the data that is available to you? Do you have an overview of those data providers that will be important for you once a disaster strikes?

For example, during the Typhoon Haiyan the international community did not have the automatic reflex to request data on cities from mayors.

Data Tooling and Services: Which tooling (software, hardware, but can also be paper-based) does your organization use to collect, analyse, and share data? Which tooling does your organization use for collaboration with other organizations and/or dissemination (like geospatial sharing platforms and collaborative digital tooling)? Which data services does your organization offer or rely on (like early warning information)?

Data Literacy: Do you have training programs for your employees in relation to data? Do you face obstacles in terms of lack of data literacy at several hierarchical levels within your organization? How do you assess the level of data literacy within your organization or possibly also of the partners you work with? Do you have an HR policy that attracts data literate staff?

Data Governance: What is the mandate of your organization in terms of data for disaster management and/or the business rationale? Do you have specific guidelines in place in relation to data collection, analysis and sharing? How do you safeguard privacy and ensure that sensitive data is handled responsibly? How are data harms prevented from occurring?

Networked Organizations for Data: With which organizations do you coordinate or collaborate in terms of data? With which organizations do you share data or get data from? Do you have an open data policy and are you actively sharing data online? Have you reached agreements with others for datasets that cannot be shared openly?

Remotely kick starting Data Preparedness

Already in 2016, we started with several activities regarding the above five components working remotely from The Hague with organizations in Malawi. We collected data on several risk indicators from a variety of data providers as risk is an important predictor of where the impact will be highest after a disaster strikes. Some data was easy to find such as the data that was online on Malawi's Spatial Data Platform, i.e. the MASDAP, or on the Humanitarian Data Exchange; other data required finding specific contact persons and directly asking them for the data. The figure below shows the indicators it was possible for us to find data for remotely.

INFORM Risk framework with sub-components

INFORM Risk framework with sub-components				Malawi	Weight
Risk	Hazards Exposure	Natural	Earthquake	Yes	3%
			Flood	Yes	3%
			Tropical Cyclone	Yes	3%
			Tsunami	Yes	3%
			Drought	Yes	3%
	Vulnerability	Human	Current conflict	No	8%
			Projected conflict	No	8%
			Development & Deprivation	Yes	8%
		Socio-economic vulnerability	Inequality	No	4%
			Aid Dependency	No	4%
		Vulnerable groups	Uprooted people	No	8%
			Health Conditions	No	2%
			Children Under 5	Yes	2%
			Recent shocks	No	2%
			Food Security	Yes	2%
	Lack of Coping Capacity	Institutional	DRR	No	8%
			Governance	No	8%
		Infrastructure	Communication	Yes	6%
			Physical Infrastructure	Yes	6%
			Access to Healthcare	Yes	6%

Data availability

In many cases, data was available but only at the national or district level. Data at the Traditional Authority level, i.e. closer to communities, was missing. To fill data gaps on vulnerable communities we are developing proxy indicators. One such indicator is the remoteness indicator as a proxy for vulnerability. The remoteness indicator is calculated on data in openstreetmap. To generate the data we held mapathons where about 1000 Dutch volunteers helped in mapping those parts of Malawi that were most relevant for the Malawi Red Cross. In a typical mapathon with 200 participants, one can map about 12000 houses.

Part of the remote work was also developing priority index models for Floods in Malawi. In a separate blogpost, we will describe how we are predicting the areas that are most affected by floods using only data from before and up to 24 hours into the disaster.

In-country: A Data Preparedness review for and with the Malawi Red Cross

The remote activities go hand in hand with activities in the given country. Only through being in the country and through co-creating national and local capacities, can Data Preparedness truly become a part of humanitarian aid

processes. Consequently, the objectives of our mission to Malawi were to get an in-depth understanding of where the Malawi Red Cross currently is in terms of Data Preparedness, to increase awareness of the importance of Data Preparedness and to ignite and catalyze corresponding activities. In addition, we worked with Malawi Red Cross staff to learn how the priority index model and the remoteness indicator could be used in development of programs and humanitarian operations.

In the first week, an interactive workshop with participation from nearly all departments within the Malawi Red Cross was organized. Participants rotated across tables and discussed extensively each of the Data Preparedness components. This helped us in identifying key barriers and ways to overcome them. Essential for embedding Data Preparedness in an organization are the Planning, Monitoring, Evaluation, Reporting (PMER), and IT officers. A first prerequisite is having an IT infrastructure that enables data sharing. Secondly, it is important that data can be easily shared among projects baselines and M&E. Over the course of two weeks, we held over 25 semi-structured interviews with a wide variety of stakeholders, ranging from government (such as the Department of Disaster Management, Department of Surveys, National Statistics Office), international organizations (World Bank), universities up to NGOs both in the capital Lilongwe and in the southern part of Malawi (i.e. Blantyre, Zomba and small villages close to the border of Mozambique). A very tangible result was many useful datasets were shared with us. Often data was on the individual laptop of the person we spoke to and he or she simply was not aware of the possibility of uploading it to a geospatial sharing platform or was refrained from doing it due to technical difficulties, among which a very slow internet was the main one.

Of course, it was not always possible to get relevant data remotely, but by meeting in person this was easier. Explaining the humanitarian purpose and showing the type of analysis we were doing is paving the way for future data sharing.

Implications at an organizational and country level

The Data Preparedness mission was a good learning experience for Malawi Red Cross and ourselves. It increased our understanding of the strengths and weaknesses in terms of data in Malawi. During our interviews with other stakeholders, it became evident that some other organizations were ahead in terms of being data-driven, and the Malawi Red Cross realized the urgency of stepping up the pace and strengthening their data- and IT-infrastructure. Malawi Red Cross also expressed that their 33.000 volunteers in 33 branches across the country are an enormous asset for data collection and sharing at grassroots level, especially when supported with training on tooling such as OpenMapKit and Mapillary.

At a country level, it was evident that data relevant for humanitarian response is scattered among many different organizations with sometimes overlapping mandates and roles. Hereby NGOs have usually very patchy data (of their project areas), whereas governments often have data only on paper or cannot open up their data that easily.

Local government agencies expressed the risk of data being misrepresented or misunderstood at national level, given the political implications this might have. Therefore, data sharing is also political and thus a time consuming and complex process. Even for simple data collection, aimed at starting a mapping activity in a community, one must get approval from the local government, and a key point is what one can offer in return to the government.

A challenge hereby is that there is often a time lag between the data collection and the actual application of the data for humanitarian programming or research, further complicated by the digital divide. Communicating the results back to local communities cannot be done through a nice interactive website if there is no IT infrastructure and a lack of digital literacy, but has to be done mainly offline.

The way forward

The Netherlands Red Cross and the Malawi Red Cross are well-positioned to continue work on Data Preparedness through several projects that will start in the coming months. Most recently, a project on Data for the Sustainable Development Goals (SDG) has been approved by the Global Partnership for SDG ([link](#)), where the objective is to create a national data collaborative in Malawi through which organizations can share data that can be used to monitor and report on the SDGs (especially WASH and health) in Malawi. The Netherlands Red Cross will also continue working on Data Preparedness with other national societies, whereby the elements from the approach used for the Malawi Data Preparedness serve as a blueprint that will be contextualized together with each individual national society. Last but not least, the Malawi Red Cross is assessing how they can build up within their organization a structure similar to the one of the 510 team: a unique and powerful mix of data savvy volunteers, professional staff and students. The discussions with the many stakeholders during the Data Preparedness mission have helped to identify potential strategic partners for doing so.

Our champions