

# InnovationLab

Further your understanding of disaster risk



GLOBAL FACILITY FOR DISASTER REDUCTION AND RECOVERY **GFDRR**

## Open Data for Resilience Initiative (OpenDRI)

### Increasing resilience through open data

Started in 2011 by the Global Facility for Disaster Reduction and Recovery (GFDRR), the Open Data for Resilience Initiative (OpenDRI) applies the concepts of the global open data movement to the challenges of reducing vulnerability to natural hazards and the impacts of climate change. OpenDRI supports teams to build capacity and long-term ownership of open data projects with countries that are tailored to meet specific needs and goals of stakeholders.



## Suite of complementary programs

**Open data platforms** To increase public access to risk information, OpenDRI engages in *dialogue with governments* on the value of open data through working groups and pilot projects that evolve into long-term locally-owned open data projects. OpenDRI provides *technical solutions and assistance* for the project implementation through GeoNode ([www.geonode.org](http://www.geonode.org)), a free and open source data sharing platform.

Open data platforms allow for the *storing, analyzing and managing of data* that is critical for planning, policies, and decision-making. Partners can collate and share layers of geospatial data, combine those layers into visualizations, and exchange both the raw data and collaborative maps.

**Community mapping and crowdsourcing** To engage communities in the *creation of accurate and timely data* about the rapidly evolving urban and rural environments in the place they live, OpenDRI works with governments and local communities to utilize simple and collaborative crowdsourcing mapping tools such as OpenStreetMap ([www.openstreetmap.org](http://www.openstreetmap.org)).

Often using OpenStreetMap, OpenDRI's community mapping projects *mobilize residents* to collect and maintain geospatial data about their built environment and its exposure to natural hazards. Mapping projects also take advantage of remote mapping and crowdsourcing by *engaging the international community* through partnerships with development organizations and universities.

**Risk communication and analysis** To communicate risk more effectively to decision-makers in *planning, preparedness, and response activities*, OpenDRI worked with the Indonesian and Australian governments to develop InaSAFE software ([www.inasafe.org](http://www.inasafe.org)). By combining data from scientists, local governments, and communities, InaSAFE *provides insights* into the likely effects of disaster events.

InaSAFE is a targeted, flexible tool that can provide *targeted impact calculations to disaster scenarios*, ultimately engaging communities and decision-makers by advancing their understanding of risk. With a consistent and easy-to-use interface, InaSAFE allows users, with minimal training, to load new data for analysis.

**Photo:** Specialists receive training on the award-winning InaSAFE platform.  
Photo credit: The World Bank





## Case study Malawi

Malawi is particularly vulnerable to droughts and severe flooding. Recognizing a need to better understand the country's disaster risk, supported by GFDRR and the World Bank, the Government of Malawi has undertaken a series of improvements to use risk data effectively. In particular, OpenDRI has been engaging the government to ensure datasets are used and shared to better prepare for floods.

To help ensure historical and current data remains accessible and useful, the OpenDRI team supported the Shire River Basin Management Technical Team and Malawi's Department of Disaster Management Affairs to launch the MASDAP GeoNode ([www.masdap.mw](http://www.masdap.mw)), an open data platform. This online platform has given the Government of Malawi, the public, and other key stakeholders access to information about their environment and their disaster risk.

It has been extremely difficult for the Government of Malawi to prepare and plan for the impact of flooding, as there has been limited information about people and infrastructure risk in this area. To support this need, community mapping activities were undertaken to collect data about the built environment for a flood risk modeling exercise and planning and preparedness activities. The data collected was uploaded on OpenStreetMap and made available on the MASDAP GeoNode to complement existing data.

All figures in US\$ dollars.

**Photo:** Malawi community mapping.  
Photo credit: Emma Phillips

In January 2015, Malawi experienced the most devastating in a century, affecting 638,000 people and causing \$81 million in damages. Following this flooding, the data that had been consolidated and documented through the OpenDRI work was used to support recovery activities. This was done in combination with information about the extent of the flooding gained from new satellite imagery and InaSAFE. InaSAFE enables both ex-ante and ex-post scenario assessments in Malawi.

📄 **More info at** [www.opendri.org](http://www.opendri.org)



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