



*Risk community map created together with the community in Playones
Credit: Felix Rugama, Plan International*

Who are we?

The Zurich Flood Resilience Alliance (ZFRA) is a multi-sectoral partnership focusing on finding practical ways to help communities in developed and developing countries strengthen their resilience to flood risk.

Our definition of resilience:

The ability of a system, community, or society to pursue its social, ecological, and economic development and growth objectives, while managing its disaster risk over time in a mutually reinforcing way.

Vision: Floods have no negative impact on people's and businesses' ability to thrive.

Goal: To increase social, political, and financial investment in community-based flood resilience-building through public, private, and third sector partnerships.



Minor flood protection measures implemented by the community of Kilaca during storm Amanda. Sandbags are used to reduce the impact of flooding on houses. Credit: Local Community Committee

Impact of flooding in Nicaragua

Nicaragua ranks as the country fourth most vulnerable to flooding and other natural hazards globally. This already high level of vulnerability is increasing in magnitude and intensity because of changing weather conditions as a result of climate change. Floods cause severe impacts on people’s livelihoods in rural and urban communities and indirect damage to the production of goods and services, resulting in a decline in Nicaragua’s national economy. The most recent flood in the communities where the project is being implemented occurred in October 2018.

In the event of a flood, affected communities are engulfed by streams of water, sand, soil, and collapsed trees. Colossal landslides can be triggered on the slopes of the country’s many volcanoes and hills, ruining roads and bridges.

In the event of a flood schools are often used as shelters and remain closed. Children, especially girls, are sometimes required to stay at home to support their families even after schools have re-opened. Their education can be impacted over a prolonged period of time, which puts children under serious distress. Sometimes children become separated from their families during a flood and may be in need of special protection. Due to these and other factors, children may be especially at risk in natural hazard events.

ZFRA partner working in Nicaragua



Plan International (Plan) has been implementing community programmes in Nicaragua since 1994,

including in the areas of disaster risk management, resilience, and humanitarian action. Plan is also an implementing partner of the government in disaster risk management and in climate change adaptation and mitigation measures at the local and municipal level.

Plan is a children’s rights organization with key expertise in gender equality. Community development projects with children and adolescents are at the heart of its work. Plan supports the rights of boys and girls from birth until adulthood. Plan supports community members, including women and children, in disaster risk management to prepare them in the event of a flood. Together with local partner organizations, Plan implements several different activities in its intervention communities. These include founding community response committees and training them in first aid and



Interview during FRMC baseline survey in Mechapa Credit: Plan International

evacuation techniques; developing communal risk response maps; and constructing and signalling evacuation routes. Plan also supports small-scale infrastructure projects so that local assets are better protected in the event of a flood.

ZFRA objectives in Nicaragua:

- Enhance flood resilience in flood-prone communities by piloting the Flood Resilience Measurement for Communities (FRMC) to derive interventions and track changes in flood resilience over time.
- Capture learning and best practices in communal flood response measures as potential solutions towards flood resilience.
- Influence resilience policies at the national level, based on the learning generated at the community level, which is shared with stakeholders through a range of different outputs.

The communities we are working with

Many resilience-building actions can be taken at community level as communities often know best how and where they need to build resilience. Working with communities we can demonstrate tangible impact on people’s lives and learn from best practices which can help to shape policy at a higher level.

Plan works with approximately 1,500 direct and 2,750 indirect beneficiaries in four communities in the municipality of El Viejo, department of Chinandega. Based on information from the Disaster Risk Management unit in the municipality, we have identified that these four communities are located in an area that floods on an annual basis and have been seriously affected by these floods over the past ten years. As a result of climate variability rainfall is increasing. According to the Nicaraguan Institute of Territorial Studies (INETER) these communities are located between 0 to 35 metres above sea level. Their proximity to sea level whilst being surrounded by mountainous areas of much higher altitude creates vulnerability as flood waters flow down from the mountainous areas to the low-lying populated areas, causing destruction. The intervention communities are also vulnerable because of factors including high levels of poverty and lack of consciousness about flood resilience.



Members of INETER and Plan International Nicaragua visit a family in Kilaca to ask them about the impact of flooding on water and sanitation in the community
Credit: Plan International

Duration of the Nicaragua ZFRA programme: July 2018 – June 2023



Runoff water affects the main access to the communities Mechapa and Paniquines
Credit: Felix Rugama, Plan International

The Flood Resilience Measurement for Communities



Analyzing results from FRMC baseline study with community members in Kilca
Credit: Plan International



The Flood Resilience Measurement for Communities (FRMC) framework comprises two parts: The Alliance's framework for measuring community flood resilience and an associated tool for implementing the framework in practice.

Uses of the FRMC:

- As the first measurement of resilience to be applied on a large scale; fully integrated into community programming
- To help analyse problems before seeking solutions
- To support impact measurement
- To generate data for empirical evidence on flood resilience

The Flood Resilience Portals

The Alliance's Flood Resilience Portals are online spaces for sharing practical knowledge about why and how to build community flood resilience. They bring together the knowledge generated and exchanged through the Zurich Flood Resilience Alliance and beyond.

-  www.floodresilience.net
-  www.foinundaciones.com
-  [@floodalliance](https://twitter.com/floodalliance)



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