

2020 floods in Tabasco: Lessons learned for strengthening social capital



Sharing health information and delivery of hygiene kits following the 2020 floods in Jonuta, Tabasco.
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This report is based on the Zurich Flood Resilience Alliance's Post Event Review Capability (PERC) methodology, which was used to analyze flooding in Tabasco, Mexico, in 2020. This brief, based on key informant interviews and desk research, presents lessons learned surrounding flood resilience. More information on PERC can be found at: www.floodresilience.net/perc; more information on flood resilience can be found at: www.floodresilience.net

Between October and November 2020, four cold fronts and two tropical storms (Eta and Iota) affected the state of Tabasco, Mexico, in an extraordinary way. The convergence of these events triggered large floods that left 14% of the state under water and which impacted 800,000 people, resulted in 10 deaths, damaged 200,400 homes, flooded thousands of hectares of crops and damaged more than 2,000 kilometers of roads. In addition, drainage systems and urban infrastructure suffered damages of USD 37 million and USD 93 million, respectively.

Since the late 1990s, the federal government has focused on developing important infrastructure projects to control and reduce flood risk in the state (Instituto Mexicano de Tecnología del Agua, Instituto Politécnico Nacional, Colegio de Postgraduados, 2008). The Mexican government has also invested in building and developing the capacities of the National Civil Protection System. In the 2020 floods, risks and impacts were reduced through flood mitigation infrastructure, such as the flood gate of the Macayo dam, along with protection and response systems. However, these

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It's about knowledge, not just infrastructure.

- Key informant, PERC interview

alone are not sufficient; additional risk reduction elements are needed for flood-prone communities.

Investing in communities

Connecting people to their community and external stakeholders, making them aware of the risks and improving their knowledge of actions to take can help them to act, both before and after an event, to protect themselves and their communities. These efforts should be accompanied by continued investments in infrastructure and flood response, and should specifically address gaps or residual risk inherent in infrastructure and response systems. Specifically, the findings from PERC research regarding flooding in Tabasco indicate the need to:

- Invest in human capital. Develop the knowledge, education, skills, and health of people in the community to address flood risk with far-reaching projects that work with the population in a preventive manner.
- Develop social capital. Strengthen social relationships and networks among community members—these are the links that support collaboration—and build connections between flood-affected communities and external support actors and organizations to support the exchange of and access to ideas and resources.

Addressing these two needs will provide communities with the resources and capabilities needed to protect themselves during flooding and support their recovery. These actions will also help build community resilience

to other hazards such as COVID-19 and development challenges, such as managing community support or training.

Evidence that community investment works

PERC research found clear evidence of how investment in social and human capital made a difference for communities during the 2020 floods. This was demonstrated with examples at the local scale in some suburbs of Villahermosa, where neighbors organized to purchase flood insurance, which helped reduce financial losses.

Examples of more sustained involvement are also relevant; for example, in some communities in Tabasco, the Mexican Red Cross supported the formation of community brigades as part of the flood resilience program, funded by the Z Zurich Foundation through the Zurich Flood Resilience Alliance. The program trained 184 *brigadistas* who directly support their communities, with a combined population of approximately 7,500 inhabitants. The brigades are a group of organized community volunteers trained to respond to floods or other challenges, providing support until outside help arrives. These brigades are in communication with each other and with key stakeholders, including local government and



Meeting with community brigade members of Jonuta to coordinate flood preparedness activities. © Paulo Cerino, Community Technician, Red Cross Mexico



Civil Protection. During and after the 2020 floods, communities with brigades in place responded with specific flood risk management practices that helped them reduce impacts and facilitate recovery, something neighboring municipalities without brigades did not implement. A total of 95 *brigadistas* supported their communities in taking preventative measures to protect their assets, and managed and facilitated access to support from government and humanitarian organizations for some 9,500 inhabitants during the recovery process. These examples, from small to large scale, clearly illustrate the positive cost-benefit of investing in social and human development.

The brigades developed Damage and Needs Assessments that were shared with Civil Protection of the State of Tabasco to request relevant and needed assistance, generating community confidence.

Paths to follow

Climate change is exacerbating flooding in Tabasco and, as the 2020 floods illustrated, physical infrastructure can only mitigate part of the risk. Considering these factors, governments, communities and other stakeholders must develop complementary risk reduction capacities, in particular the human and social capacities of communities. Opportunities to increase social and human capital in communities at risk of flooding in Tabasco include:

- Recognizing that building human and social capital in communities requires investment. In addition to support for physical infrastructure projects, disaster risk reduction funds should be allocated to finance capacity-building efforts at the community level.
- Establishing a broad network of community brigades and strengthening existing ones. The brigades will strengthen the social fabric among community members and forge links between communities and external support organizations that are critical to disaster management and response, such as Civil Protection and the Red Cross. Both types of social capital will strengthen community resilience to flooding and other hazards and challenges.

Investing in and building social and human capital within communities will enable them to act in their own best interests, mitigating losses and reducing the investment required for response and recovery, whether in human resources or financial support. This is not only a win-win scenario for communities, but also for the government and the economy as a whole.

References

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Meeting with Community Brigadistas in Santa Rita for the organization of post-flood activities.
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