

Better planning might have limited flood damage in Brazil. But would it have been enough?

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Historic rainfall in southeastern Brazil has created deadly floods and widespread destruction in a region that was experimenting with "more progressive" planning and zoning policies than most, says Northeastern political science professor Thomas Vicino, who studies metropolitan development and housing in Brazil.

Had they been fully realized, could those policies have reduced some of the destruction in Belo Horizonte wrought by the storms?

"Many people—and we see this in India as well as Brazil—live in [informal settlements](#) that are often built in precarious places, like mountainsides" Vicino says.

These communities are typically not zoned or overseen by any government agency, and they crop up as piecemeal settlements as a result of people moving from rural areas of the country closer to urban areas for work, he says.

"They are very susceptible to [natural disasters](#)," says Vicino, who is a professor of political science, [public policy](#), and urban affairs at Northeastern. In 2013, he led a Dialogue of Civilizations program in Belo Horizonte.

"Resilient, sustainable regional planning and approaches to development certainly help," says Vicino, who spent a year in Belo Horizonte as a United States Fulbright Core Scholar, where he contributed to research on urban planning. "But the core issue is a political question: Does society have the political will to confront the realities of climate change?"

It's been raining in the Brazilian state of Minas Gerais for nearly a month, and Belo Horizonte, its capital, registered last week the heaviest rainfall in the city since it started measuring 110 years ago.

Cities and towns in the region have been washed out by landslides and floods, and thousands of people have been displaced from their homes.

Brazilian officials blame inadequate housing policies in part for the storm's particularly high death toll, they [told the New York Times](#).

The destruction underscores the need for cities around the world to implement "more resilient policies and more resilient [neighborhood] planning," Vicino says—policies with which Belo Horizonte was in the early stages of exploring.

City officials had created a number of programs to bring those informal housing settlements (called favelas) into the fold by applying appropriate zoning regulations and adding municipal sewer systems, roads, and public services such as police and schools, Vicino says.

"This makes them more sustainable places to live," he says.

But it's not just these communities that are susceptible, Vicino says.

He says that "resilient planning" also involves officials creating fixed boundaries around development zones to protect open space and natural land. Paving over too much of the landscape or burying rivers and creeks in order to build over them, means that these natural water collection systems—soil and rivers—cannot do their jobs, Vicino says.

"It makes an acute event, like the storms we are seeing in Brazil, even more acute," he says.

The sorts of long-term planning policies that Belo Horizonte and other parts of Brazil are implementing require support and funding that spans elected officials and administrations, Vicino says—support that can be difficult to achieve.

Any interruption to the process, including natural disasters, political upheaval, economic downturn, and social unrest, can derail it, he says.

"What we know is that we need more resilient policies, and more resilient planning for all types of neighborhoods and all types of people,"

Vicino says.

Provided by Northeastern University

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