

The Abridged & Illustrated

# Construction Documents for Climate Justice:

Democratic Design for Climate Resilient Communities



Based on a Master's Thesis by Dani Slabaugh, at California Polytechnic State University at Pomona, Spring 2020  
Written and Illustrated by Dani Slabaugh, Spanish translation by José Eduardo Sánchez of Antena Houston



This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.



Climate change will make big storms, droughts, and hazards like fires more common, and more destructive.



The harm caused by climate change doesn't impact everybody the same way. People who are poorer, who are elderly, who are women, and who are Black, Latino, and Indigenous face more obstacles to surviving disasters. People who are wealthy, which generally also means people who are white, have more resources to recover or avoid hazardous areas.

Environmental designers, the people who design and plan cities, have the job of preparing them for climate change. How can they do this in a way that supports justice and equity?



Social researchers as well as disaster experts and survivors say the same thing: good neighbors are everything! When disasters happen, instead of responding like horrible monsters in a horror movie, most people actually show up and help each other through hard times. Helping each other is a whole lot easier when you know each other, when you really love your community, and when you and your neighbors share an understanding of the little things about your neighborhood.

Those things tend to come from living in one place for a long time, and staying connected to each other. Social scientists have terms for these things.



How well you know and trust your community members is called **"SOCIAL CAPITAL"**.



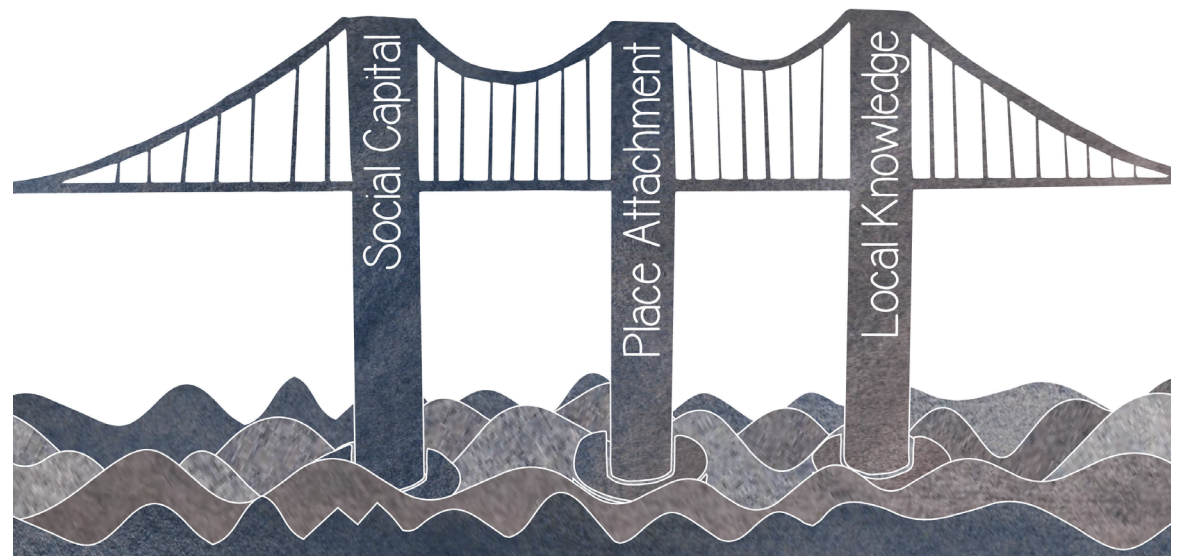
Love for the place you live is called **"PLACE ATTACHMENT"**,



and that close-up detailed knowledge of your neighborhood is called **"LOCAL KNOWLEDGE"**.

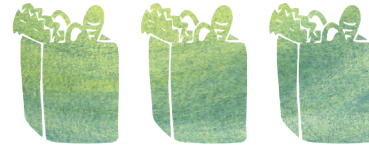
These three things are all shown through research to help communities come back strong from disasters.

We can think about them as a type of infrastructure that can be protected, destroyed, or strengthened through the planning and design process.

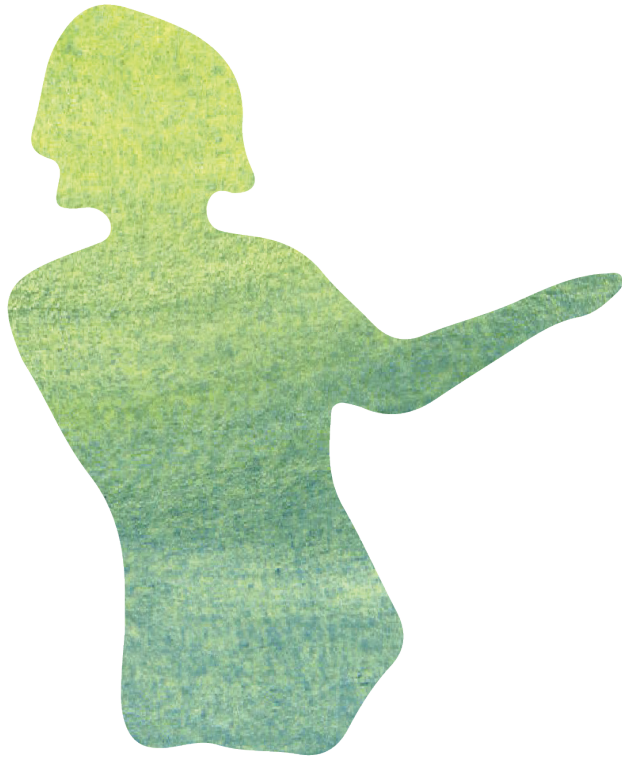
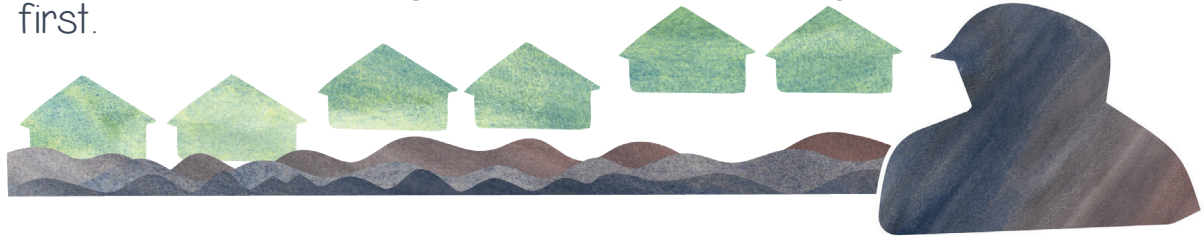




Relational infrastructure includes knowing which of your neighbors might need groceries delivered during COVID 19.



It could also be knowing which block in your neighborhood floods first.



Or knowing the stories about hurricanes your grandparents lived through, and how the wetlands used to absorb flood waters.



or just a love for your neighborhood and a desire to help it thrive.



I am giving these relationships to other community members and to the places we live a name: Relational Infrastructure.

Relational infrastructure helps people connect, share resources, provide emotional support, understand their shared challenges, and find effective ways to solve them during times of crisis.



Relational infrastructure, along with physical infrastructure (things like roads, buildings, levees, and fire breaks) contribute to resilience. These resources help communities survive and recover from disaster.

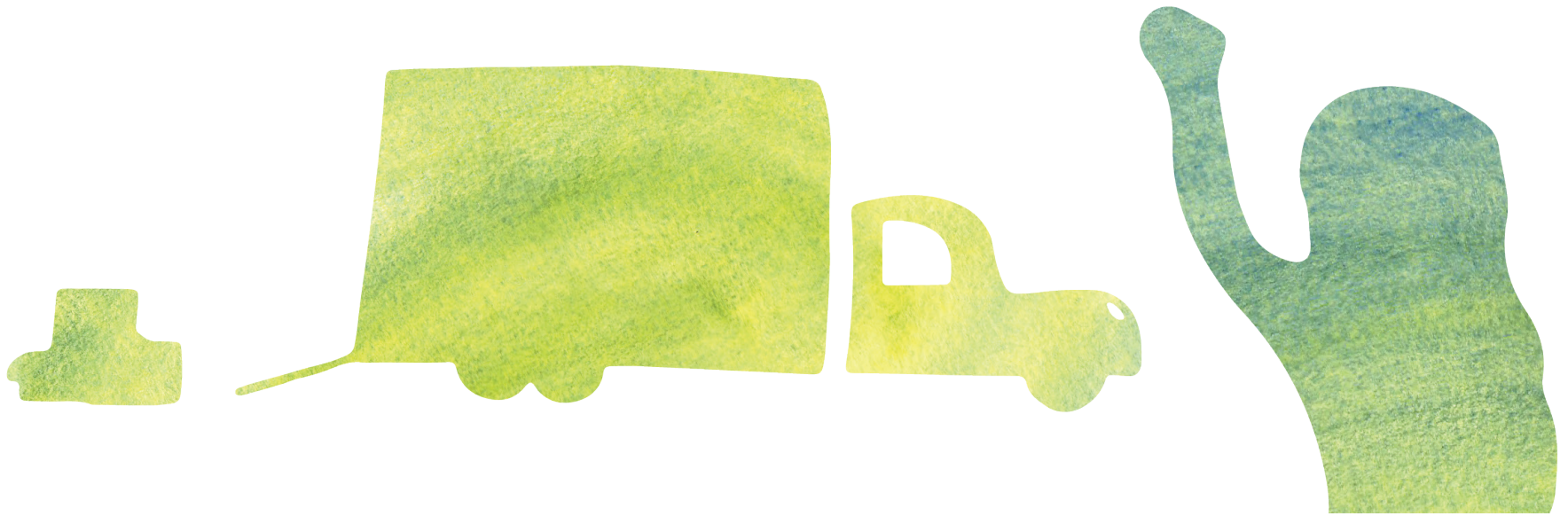
Most of the time when people, including professionals who design cities, talk about improving climate change resilience, they talk only about physical infrastructure. Very often these improvements to physical infrastructure leave out marginalized people.

For example, In Portland Oregon, rain gardens and bike lanes have reduced flooding in the city and improved life for mostly white and well-off Portland residents. Black and Latino neighborhoods in Portland didn't get these improvements often. When they did, these bike lanes and lush green street-side landscapes often came with real estate developments that caused rents in the area to rise, displacing low-income mostly Black and Latino neighbors and attracting higher-income, mostly white residents to the area.



What happened in Portland and many other cities is called “Green Gentrification”. Green Gentrification happens when improvements to environmental quality in a neighborhood cause property values to rise. Higher property value means higher rent, higher property taxes, and developers who want to cash in by creating housing and amenities for wealthier people who can afford to pay.

When these communities are displaced, they lose not only access to any physical infrastructure for resilience, but all of the relational infrastructure built into the neighborhood.



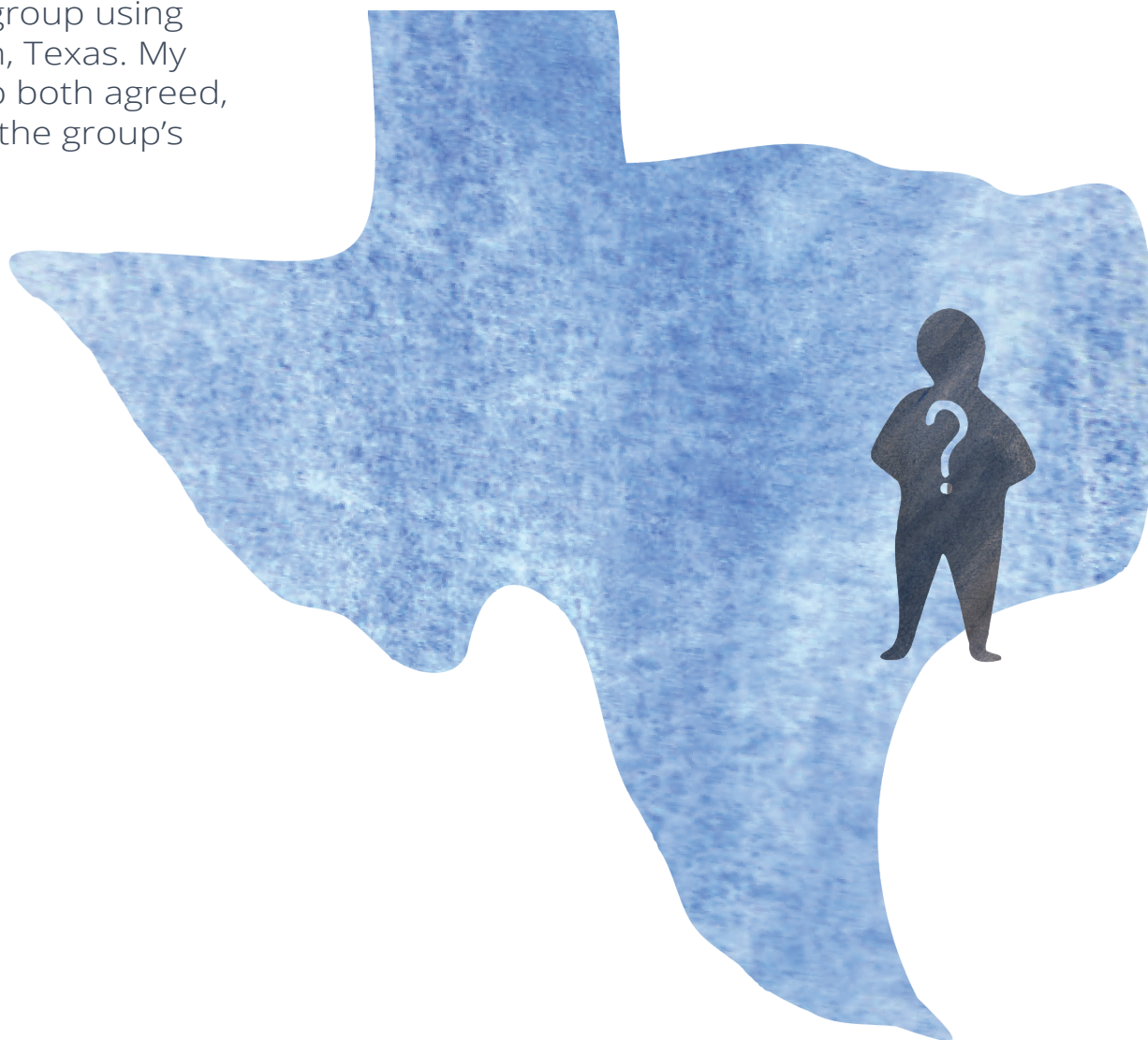
The memories, friendships, family ties, and strong emotional connection to their neighborhood - these things can't be packed into a moving truck and taken to the next location. Relational infrastructure is stuck in place. When physical infrastructure improvements displace people, our cities become less, not more, resilient.



So, what are the solutions?

What blueprints can environmental designers follow to achieve just and equitable design outcomes? As a graduate student, I had a hunch that community-based planning and design might hold some of the answers.

I asked permission to research those connections with a really wonderful community group using some of these strategies in Houston, Texas. My university and the community group both agreed, and I was able to interview many of the group's members.



I was also able to interview the facilitators later via video chat, about what they have done to address some of the challenges that very deep community-based planning and design projects often have.

The group formed almost a year after Hurricane Harvey. The facilitators of the group were all involved in a flood recovery organization, and knew community members that participated in the group because they had helped to rebuild their homes, in many cases.



What I learned was that yes, this organization's approach to neighborhood climate resilience had a positive impact on their relational infrastructure.

While they worked together, these facilitators and community members became friends. They shared frustration with the way this neighborhood has been neglected for decades and then left behind after the hurricane. Meanwhile other wealthier neighborhoods bounced back with both personal resources, flood insurance, and help from FEMA and the government.



They decided to form an organization both to try and find a way to be more resilient when the next flood happens, and to make their neighborhood less flood-prone.

After talking about their goals together, they agreed that illegal dumping and littering in the neighborhood, combined with poor maintenance was causing the storm drains to clog. This made it almost impossible for floodwaters to move out of the neighborhood fast enough. They decided this would be a place to start improving their flood resilience.



They also identified underlying problems that made it hard to recover: lack of good grocery stores in their area and having to travel far without access to transit to get to a hardware store. They also shared concerns about a local landfill and what that might be doing to their air and water. Most of these issues wouldn't have been considered by engineers, planners, and environmental designers just concerned with flooding. They were a result of local knowledge.



They organized a community drain cleaning event and filled a giant dumpster with debris collected from their neighborhood. They invited city and county officials to join them, so that these officials could see what the community members knew about their drains, first-hand.



They also went together to a county commission and spoke about the problems in their community. The group is continuing to find ways to advocate for their neighborhood, and has had some successes after just a few months. Several drains have now been cleaned by the county because of the group, improving neighborhood drainage.

The relational infrastructure of the group was improved in several ways:



### **SOCIAL CAPITAL:**

Community members talked about the other members of the group as being “like family”. The group members have much more community social capital now. When tropical storm Imelda hit a year after they began meeting, the group gave each other support and helped each other through the anxiety of experiencing a second flood.



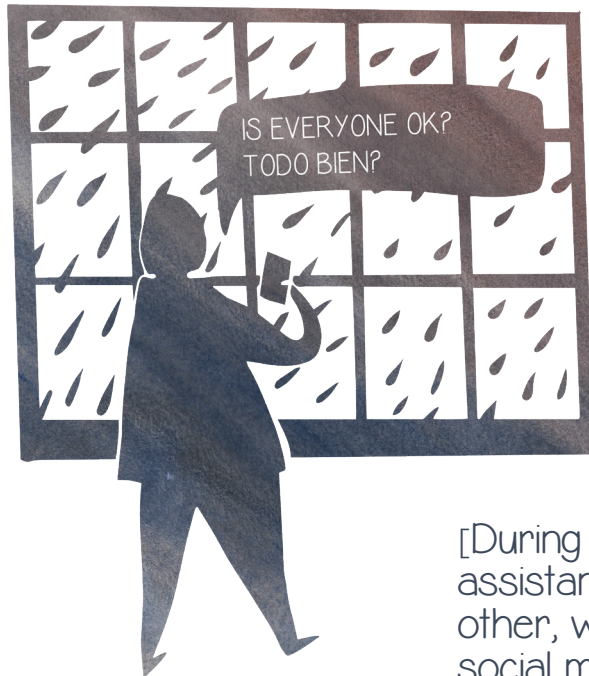
"When you're in community with people you feel less isolated. You feel both more powerful and happier, and so you're more likely to keep going."



"Every time - We got people having that post traumatic stuff when it start raining real hard. And I say, "look here I going to go over there and sit with you a while."



Improved mental health for disaster survivors might be one of the most important things that community members talked about.



[During tropical storm Imelda] "even though we didn't get any assistance whatsoever from anybody, at least, we were texting each other, we were sending WhatsApp, we were using all these different social media outlets to kind of calm the nerves."



[working with the group ] "has been beneficial to me because it's been therapeutic in a lot of ways [when I call people, mostly other Black women in their 60s and 70s] they were glad to hear from me because there wasn't nobody to call them to talk about [the flooding]."



The group is bi-lingual, and has bridged racial and ethnic divides in the community, bringing Black and Latino neighbors together. Now they have the power of numbers, a more united voice across the neighborhood, and increased social capital.

Relationships that often cross class and race with facilitators and with county and city officials have brought more resources to the neighborhood as well.



"I think the group can achieve a lot; we have a really good group. We've collaborated to learn, and learn about a lot of things that we didn't even know existed."



"I learn from all the others, you know, I sit back and listen and then I'm like, Oh yeah, we can do this!"



"My neighborhood is worth fighting for. Not just mine but all the rest of them. Because different communities, we just need to know who our friends are. If we don't get out and about and learn our neighborhood, we do ourselves an injustice. Yeah. There's a lot of people having these same thoughts, but they don't know the avenues. Once you start learning the avenues and everything, you'd be amazed at what you can do."

#### PLACE ATTACHMENT:

Community members were mostly very attached to their neighborhood, very few said they would ever want to move. Several people suggested that they felt more hopeful about the neighborhood's future because of the organization, making their attachment to the neighborhood stronger!

## LOCAL KNOWLEDGE:

The group has been able to build a better understanding of their neighborhood's problems, and the neighborhood's needs by talking to each other and sharing information. They've also begun to convince county officials to listen to their knowledge about their neighborhood. This is no small challenge! Getting very highly trained people who may not think of what residents know as important information to listen can be very hard.

The facilitators of the group attributed the success to a few important things. The group has been bilingual from the start. They always have interpreters and have become very proud to be bilingual. Being inclusive of all members of the neighborhood has helped community members grow close to each other - and build beautiful connections where before there were none.



They had strong, trusting relationships with most of the members before they began meeting.



The group is open to anybody. New people, often friends and relatives of existing members, come all of the time.



The decision-making structure gives all of the control to the residents. The residents decide things together through consensus, which means everybody has to agree to make a decision final.

They have fun and make friends – the group is relaxed.  
They always play a game to start their meeting.



they eat together...

and they take a photo together  
after every meeting.



So what does this mean?



In this case study, the group felt they have had a lot of success because: they go out of their way to be inclusive;



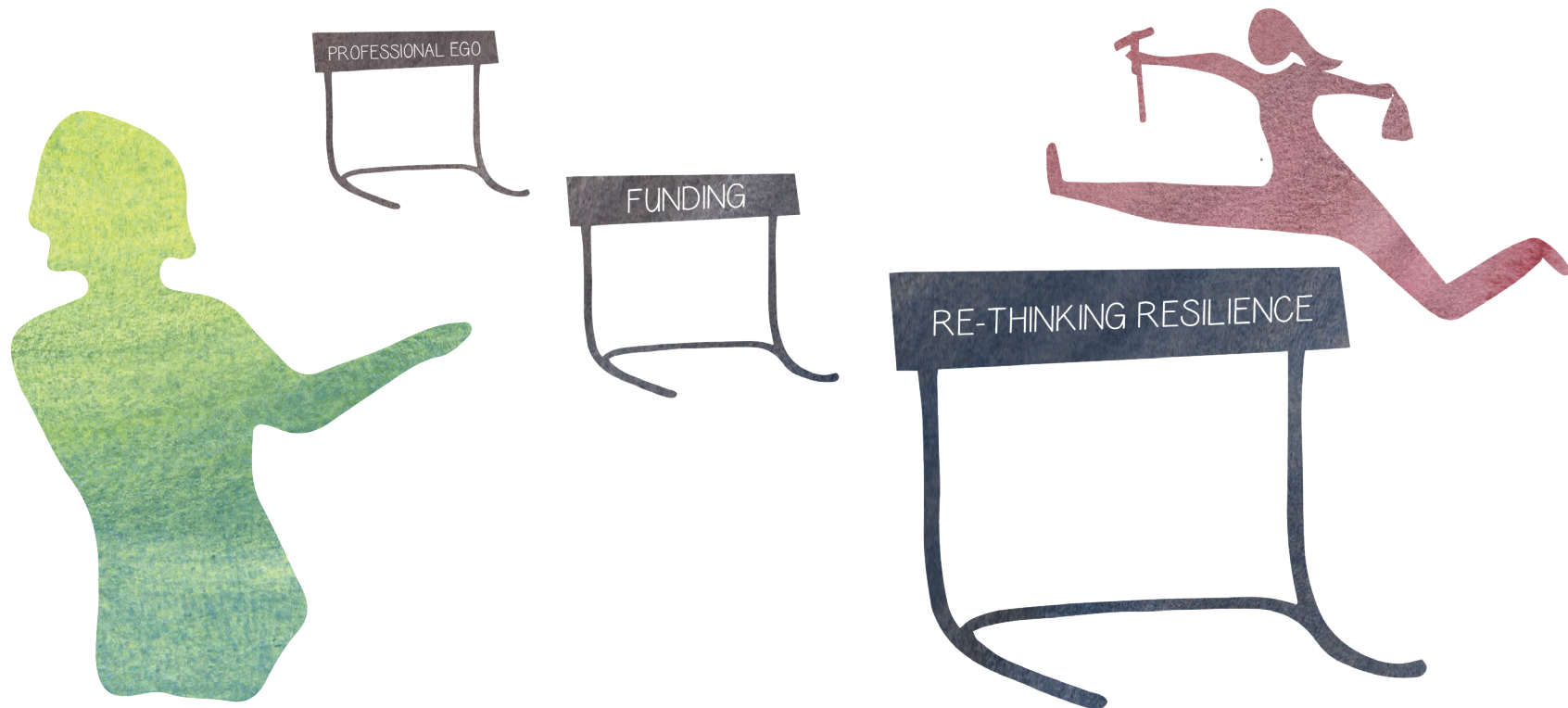
because residents control decision making; and because they work to find consensus – full agreement – when they make decisions about how to advocate for neighborhood changes.



There are ways to build climate resilience that support climate justice! The process, not just the product of design and planning work can support resilient communities.

Without attention to the design and planning process, resilience efforts can displace communities, fail to understand underlying disasters because of a lack of local knowledge, and miss an opportunity to build social capital and place attachment.

Unfortunately using these methods is a challenge with several barriers.



Most professionals still think about resilience in terms of physical infrastructure, but we all need to understand the importance of our relationships to each other and to the places where we live.

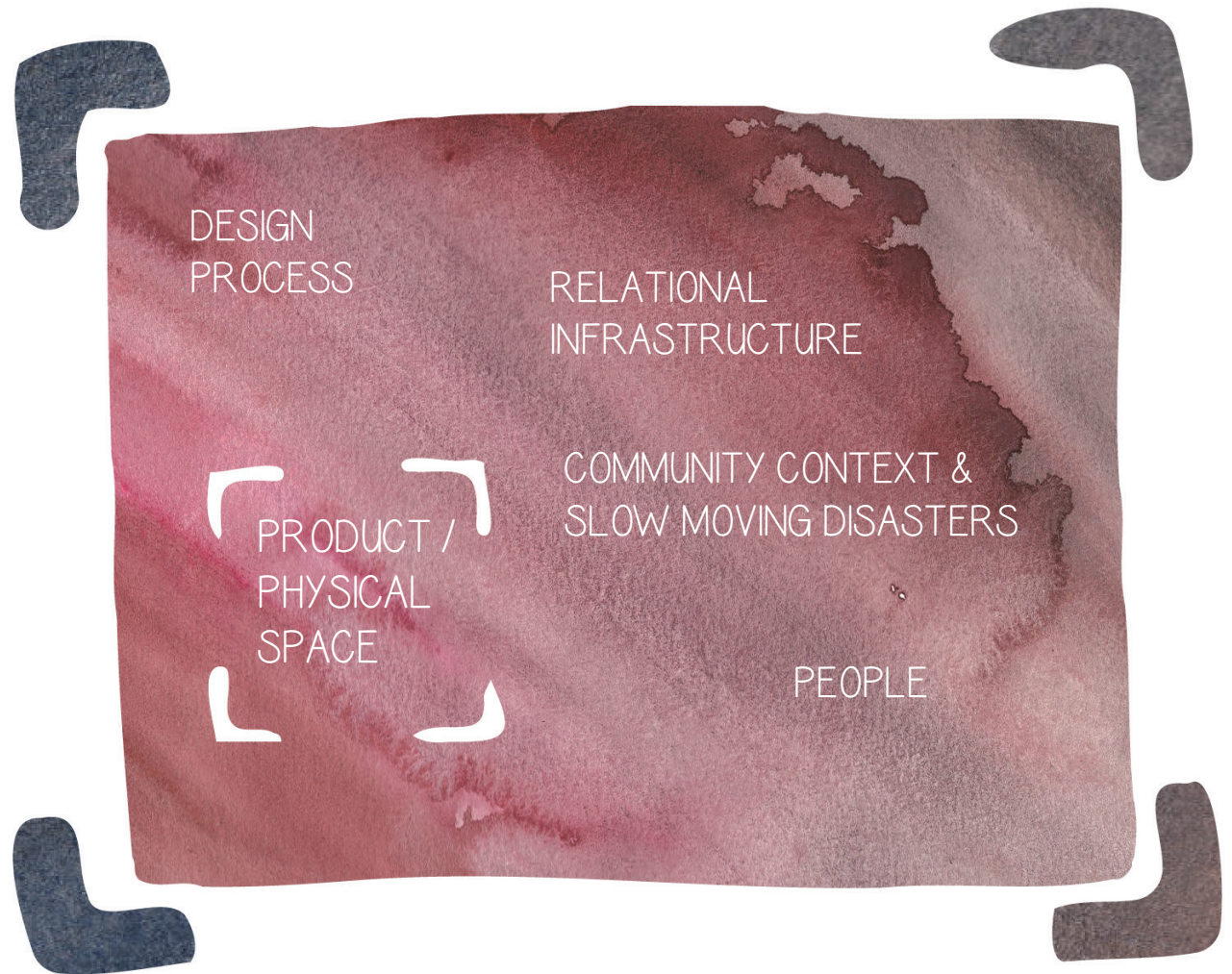
The way project funding works right now doesn't support these methods. For these ways of building resilience to become more common, organizations need to be able to have time and money to build community relationships so that community members can define the project goals and objectives themselves.

Environmental design professionals and city officials need to understand the importance of listening to local knowledge, and support organizations that bring that knowledge to them. When local knowledge is combined with technical knowledge, better and more appropriate solutions can be found.



The facilitators of the Houston group use the Jemez principles to guide their work. The Jemez principles are guidelines to effective environmental justice organizing that came out of an environmental justice conference in Jemez, NM in 1994. A lot of the ideas of the Jemez principles are reflected in what the facilitators say has been successful.

These ideas are also reflected in the principles of Design Justice developed by the Design Justice Initiative. Using the Design Justice framework might be another way for environmental designers to support development of relational infrastructure.



By thinking about both the process and product of resilience design, we can help shift resilience design efforts to be more effective for marginalized communities on the front lines of climate change. We can advocate for funding for these design models, support partnerships between designers and community organizers, and reframe the resilience conversation to include relational infrastructure.

## Resources for further learning:

Arnstein, S. (1970) A Ladder of Citizen Participation. *Classic Readings in Urban Planning: An Introduction*. (ed. Jay M. Stein). McGraw-Hill.

Boone, K., (n.d.) Black Landscapes Matter. Ground Up Journal of the Department of Landscape Architecture and Environmental Planning, UC Berkeley.

Brown, A. M. (2017). *Emergent Strategy: Shaping Change, Changing Worlds*. AK Press. Chico ,CA.

De la Pena, D., Allen, D.J., Hester, R.T., Hou, J., Lawson, L.J., McNally, M.J. (2016). *Design as Democracy: Techniques for Collective Creativity*. Island Press.

Design Justice Network (2018). Design Justice Principles. <https://designjustice.org/read-the-principles>.

Gould, Kenneth Alan, and Tammy L. Lewis. *Green Gentrification: Urban Sustainability and the Struggle for Environmental Justice*. London ; New York, NY : Routledge, 2017.

Hester, R. T. (2010). *Design for Ecological Democracy*. MIT Press.

Fithian, L. (2019). *Shut it Down: Stories From a Fierce, Loving Resistance*. Chelsea Green Publishing. White River Junction, VT.

NRDC (2016). The Principles of Environmental Justice. <https://www.nrdc.org/sites/default/files/ej-principles.pdf>

Solnit, R. (2010) *A Paradise Built in Hell: the Extraordinary Communities That Arise in Disaster*. New York : Penguin Books.

Wilson B. (2016). *Resilience For All: Striving for Equity Through Community-Driven Design*. Island Press. Washington, DC.