

Long-Term Plans

Moving away from its early exclusive focus on natural disasters, resilient architecture and design tackles the much tougher challenge of helping ecosystems regenerate.

By Stephen Zacks

Thirty years ago, as a high school student at the Cranbrook boarding school in suburban Detroit, I wrote a research-based investigative report on the environmental crisis for the student newspaper. I had been encouraged to do so by a faculty adviser, David Watson, who lived a double life as a radical environmentalist writing under the pseudonym George Bradford for the anarchist tabloid *Fifth Estate*. His diatribe *How Deep Is Deep Ecology?* questioned a recurring bit of cant from the radical environmental movement: Leaders of groups like Earth First! frequently disparaged the value of human life in favor of protecting nature.

Today, we hear some version of this more and more: Earth will continue to exist; nature will rebound, with or without people. *It* is resilient, *we* are not.

Resilience's rise as a framing discourse in the United States emerged out of the devastation Hurricane Sandy visited on New York City. Major weather events have continued to rack U.S. coastlines in the years since, as they have cities and countries elsewhere. In response, architects and engineers have devised plans for building littoral berms, mounds, and other artificial barriers to absorb the beating destined for coastal cities. The suggestion is a humbling one: Human habitats must be fortified because they, like ourselves, are vulnerable to the caprice of much larger planetary forces.

Of course, these projects take as their prerequisite levels of investment and political nerve that don't yet exist. America's network of "gray" infrastructure has long been in decline and is barely able to support expected behaviors, let alone repel storm surges. When Hurricane Harvey flooded Houston, storm management systems were easily overwhelmed. Freeways terminated in rivers; subdivisions half-disappeared under a thick layer of muddy brown. Similar images surfaced this past September, when Tropical Storm Imelda—

the fourth "500-year" storm event in as many years—emptied more than 40 inches of rain onto the Houston region. While municipalities have enacted measures to combat extreme rainfall and flooding, they cannot keep pace with the storms; as a partner of the design firm re:focus partners told the *New York Times* in October, "Implementation is going to take way longer than a single hurricane season."

But even assuming the necessary infrastructure were in place, the militaristic insistence on repelling and



WORKING WITH ECOLOGIES

Design With Nature Now revisits Ian McHarg's eponymous 1969 book and takes stock of current practices and projects in landscape design the world over, such as AECOM's Weishan Lake National Wetland Park in Shandong, China (this page), and OLIN and Gehry Partners' plans to restore the Los Angeles River (opposite).





energy efficiency, to the deeper social ones driving the climate crisis, such as providing access to fresh water and building resilient urban communities. (The most up-to-date thinking on resilience transposes the concept from disaster scenario to the realm of socioeconomics.) The final report, released in November, casts a wide net, pointing to 100 building works from Tanzania to Nepal, New York to Los Angeles. For example, the Koning Eizenberg-designed Arroyo complex demonstrates how SDGs and other mandates don't hamper but elevate design. The project, a 64-unit affordable multifamily housing development by the Community Corporation of Santa Monica, California, features thermal rooftop panels to heat water and high-efficiency cooling to conserve energy. The landscaped courtyard also sports an irrigation system and drought-tolerant plants to conserve potable water. Crucially, the development will link up with the new Expo light-rail line upon the latter's completion.

It's true that the literature underpinning SDGs emphasizes resilience over regeneration, while subsuming both under the more nebulous (and marketable) rubric of "sustainability." Perhaps a focus on the Paris Agreement is moot, given the Trump administration's recent move to withdraw from it. Instead, the Green New Deal, argue its proponents, offers the best hope for putting the United States on the

fast track toward economic and climate resilience. It promises to do this through a ten-year period of national mobilization propelled by massive public investment and innovative legislation. Funding would be allocated for "community-defined projects and strategies"; new construction would be regulated according to ecological mandates; and existing buildings would be retrofitted with energy-efficient technologies.

For the moment, the Green New Deal exists only as a hazy resolution, but its importance lies in its ability to galvanize activists and designers alike. There is, moreover, no reason why SDGs cannot be folded into such a "deal," as the CSUD itself suggests. Which is to say, the Green New Deal is open to further articulation. The current document, for instance, mentions regeneration only in relation to agricultural practices. But extending the concept to ideas already incubating in the realm of architecture and landscape design—one thinks of "sponge cities" and, yes, the fascination with artificial berms, mounds, and barriers—is necessary, says Iñaki Alday, the new dean of Tulane's School of Architecture. He advocates "[recovering] the connection to our geographic elements—to our rivers, to our topographies, to our forests or agricultural lands that surround the city," and we might add, contra the Earth First! activists of yore, to ourselves. **M**

WELL-ROUNDED PRACTICE

In November, the Center for Sustainable Urban Development at Columbia's Earth Institute launched the results of its Local Projects Challenge, a selection of 100 global projects based on criteria ranging from increasing energy efficiency to building resilient urban communities. This page: The Paul Pholeros Foundation's community sanitation center in Bhattedanda Village, Nepal, was cited for its attentiveness to "good health and well-being," "clean water and sanitation," and "decent work and economic growth."

Opposite: Designed by Koning Eizenberg Architecture, the Arroyo affordable housing complex in Santa Monica, California, also features on the list. The development, which takes its name from an erstwhile arroyo, provides excellent housing in a city in dire need of it and scored high in categories including "affordable and clean energy" and "reduced inequalities."