

21. Urban autonomous zones and the mitigation of climate disasters

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North American cities by virtue of their relative population density face exceptional challenges in adapting to climate change emergencies. Even in normal times, low-income neighborhoods struggle with overcrowding, shortage of green space, deteriorating infrastructure and indifferent government attitudes toward social protection (Ortiz-Ospina, 2016). A climate emergency like a heat wave, flood or hurricane can be particularly devastating to people living in conditions where subsistence and basic service delivery are already precarious.¹ To address some of their many unmet needs, marginalized urban communities have a history of creating collective, ‘open-source’² spaces such as squats and guerrilla gardens that provide some capacity for social and environmental resilience outside the dominant market system. These can also help mitigate both short and long-term effects of climate emergencies through informally created greenspace and an enhancement of relationality within the social sphere that can extend far beyond the initial participants. Though such unsanctioned initiatives often are at odds with official, expert-driven planning processes and the relentless pressures of commerciality, they can contribute vital support to those in the urban landscape most at risk from the effects of increasing climate extremes.

These (at times, chaotic-seeming) autonomous zones constitute a category of space quite distinct from those instigated by private real estate and expert-driven municipal planning. When left to their own devices, such self-organizing and participatory incursions by marginal populations into neglected urban territories can function as a kind of immune system, softening not only extremes of climate but also the extremes of capitalism and its attendant social ills of alienation and disenfranchisement.

In this chapter, I describe two such cases in which I was involved or witnessed. The first is a guerrilla garden in an industrial zone near the Downtown Eastside of Vancouver – Canada’s most impoverished neighborhood. The climate and social conditions experienced by this neighborhood are long-standing yet continually deteriorating. The second, more acute example was in the Lower East Side – the Loisaida – of New York City, a historically

low-income neighborhood struggling with gentrification and climate-change exacerbated coastal flooding and summer heat. In this case, pre-existing social networks of squatters and guerrilla gardeners were able to rapidly deploy in the wake of Superstorm Sandy, salvaging discarded food to feed the hungry and deploy bicycle-powered charging for mobile phones during the multi-day power outage that followed the hurricane.

In both cases the social formations that created autonomous zones were able to mobilize in ways that State institutions could not, with localized and participatory responses effectively supporting climate-stressed communities during their time of need.

As North American cities continue to be impacted by the synergistic forces of climate change and neoliberal economics, autonomous zones and the social movements that create them provide some hope to populations within the urban landscape who have otherwise been overlooked. The continued existence of these initiatives in the context of extreme capitalism allows us to imagine how American cities might repair themselves, compassionately and sustainably, through the agency of everyday people, regardless of their professional affiliation or social status, ensuring resiliency, social, and environmental justice for all.

BORN IN THE DUST: THE STORY OF COTTONWOOD

The Downtown Eastside of Vancouver (DTES) is a far cry from the squeaky-clean images of snow-capped mountains and azure beaches with which the city is commonly associated. The DTES has long suffered from extreme poverty and the associated ills of housing precarity, rampant drug addiction and social despair. For a period during the 1990s, the Downtown Eastside had the highest HIV infection rate outside of sub-Saharan Africa (Lupick, 2019), driven by widespread intravenous drug use and a largely unregulated, street-based, sex trade, whose workers often operated under dire circumstances. Similar to low-income neighborhoods elsewhere (Gerrish & Watkins, 2018), the DTES had the lowest green space per capita in what was otherwise a lushly vegetated city.

Against this backdrop, the city government, which in 1991 was controlled by a conservative-leaning, pro-development council, was moving forward with a plan to widen a road adjacent to the neighborhood's only large park, in order to expedite the movement of heavy goods vehicles in and out of the city core. This threatened to substantially increase the number of exhaust-spewing tractor trailers that passed through the neighborhood, which already was bifurcated by major arterial roads and suffered disproportionately from air quality impacts of vehicular smog. Between the existing road and the park boundary lay a 2.5-hectare right-of-way, a *terrain vague* which was being

used informally as a refuse dump, as the city wasn't enforcing its anti-dumping bylaws in the area. An eyesore, this site was strewn with garbage, abandoned cars and construction waste around several large piles of sand that were being stockpiled by the Parks Department for use on playing fields. The feeling was that of a wasteland, with dust and trash swirling through the air with every gust of wind, particularly during the dry summer months.

Its relative shortage of vegetation results in the DTES being significantly hotter than more affluent parts of the city during the summer months (Vancouver Coastal Health, 2020). A large portion of the community resides in single-room occupancy, welfare hotels with little or no access to air conditioning. Heat waves, when they do occur in normally cool maritime climates such as Vancouver, pose a particular threat to marginalized inner-city populations, as their cramped living situations can amplify the effects. During a deadly 2003 heat wave, over 15,000 people died in France, many of them low-income pensioners overcome by heat in tiny, stuffy apartments (Parker, 2019). Retrofitting low-income housing to accommodate new extremes of heat is a capital-intensive undertaking, and yet heat-mitigating, vegetated landscapes incorporating informal gathering places for those seeking refuge can be rapidly implemented by community members themselves, if only they are allowed to do so. It was just such a bottom-up action that eventually transformed the inauspicious piece of Vancouver wasteland into a flourishing urban oasis.

The DTES historically suffered what might be called 'recreational apartheid', its few passive green spaces under-maintained and littered with dangerous debris such as used syringes and condoms. The few more formal parks were primarily dedicated to the use of commercially sponsored sports teams whose participants tended to travel in from elsewhere in the city and had few ties to the neighborhood.

Additionally, many residents of the DTES lived with chronic food insecurity due to being low-income, homeless, or otherwise underhoused (Laforet, 2020).

The city's plan to widen the road to create a truck route through the already struggling neighborhood seemed like the last straw in a history of neglect. It wasn't long before some push-back from local residents emerged, and it came to a head at a series of community meetings sponsored by the local area council.

I decided to stage a simple intervention, which surprisingly snowballed into a communal squatter movement that stopped the truck route and transformed the contested right of way into one of Canada's largest community gardens. It started out simple. On a late winter afternoon, I assembled two rectangular raised beds using salvaged stones and broken slabs of concrete and filled them in with decayed leaves gathered from the adjacent park. I erected some official-looking signs: '*soil testing area*' and came back every few days to pick up trash and start imagining what else could happen there. As the weather

warmed up, I sowed a cover crop of buckwheat and planted seed potatoes and continued tidying up around the site. It wasn't long before these activities garnered interest from several passersby, who detoured into the wasteland when they saw me working, enquiring if they too might be given some space to garden alongside me. Though I was sure to communicate the precariousness of the situation, these early pioneers were undaunted and began setting up their own garden plots, constructing composts and catching rainwater in plastic buckets to irrigate the crops they had planted in the coming dry season. Several in this original cohort were elderly Chinese who had immigrated from the Pearl River delta. Despite our mutual struggles with language, these generous and knowledgeable individuals shared many horticultural skills with me and introduced me to vegetable varieties I had never seen before. This little group was soon joined by more aspiring gardeners, a few of them affiliated with the Carnegie Center, a provider of community support services for DTES residents, young activists working with the *Environmental Youth Alliance*, and several individuals that were in recovery from drug and alcohol addictions and were eager for wholesome activities away from the distractions of the downtown streets.

Those first days were heady but also hard going. There was a daunting amount of garbage and construction debris as well as detritus from the neighborhood's thriving sex and drug trades – punctured cans of Lysol drained by terminal alcoholics, the aforementioned syringes and condoms, even a mud-encrusted handgun. To make matters worse, unscrupulous building contractors and low-end landscaping services continued to dump truckloads of their trash after it got dark, sometimes right on top of the garden plots we were trying so hard to establish. The city authorities at that time were conspicuously lax about enforcing existing anti-dumping statutes on Vancouver's East Side, as the district generally garnered few votes for the right-wing Non-Partisan Alliance then dominating council. The area had long been deprioritized when it came to the allocation of municipal resources.

The initial cleanup proved a monumental chore. The small group of guerrilla gardeners organized work parties engaging friends and neighbors and filling rented dumpsters with piles of refuse. The work got a bit easier when local churches and benevolent societies began to get involved, sending parishioners out on weekends to assist us with the onerous task. As progress became visible, local businesses began showing their appreciation, some making on-the-spot, cash donations toward purchasing wheelbarrows and shovels.

By the end of the first growing season, the squatters began calling the site 'Cottonwood Community Gardens' in recognition of the large cottonwood trees that encircled the nearby soccer field and could be seen for miles around. The dusty wasteland had visibly been transformed into a nascent guerrilla garden, with a network of paths, garden plots and common areas all laid out,

albeit in a rough-and-ready fashion. Yet there were those at City Hall who opposed the occupation, viewing what was going on as a dangerous precedent for unsanctioned re-purposing of public property. A political struggle soon ensued between those, primarily from the city engineering department, who wanted the gardeners evicted to facilitate their road building ambitions, and others, including the minority of progressive members still on council and a handful of Parks Board employees, who took a more emancipatory view and began helping the guerrilla action behind the scenes.

The gardeners stepped up their lobbying, drawing support from more established community gardens, social service organizations and ordinary people from across the neighborhood. After a tough fight culminating in a tumultuous city council meeting, the gardeners prevailed and the council agreed to grant a lease, subject to very few restrictions. With security of tenure, long-term planning became possible and I initiated a co-design process with the gardeners, based on permaculture principles, to develop a communal strategy for developing the sizable portion of the 1.2 ha site still needing to be remediated.

Through this process it became clear that local people were keen to have the opportunity to grow food in garden allotments but also that the site and its immediate surroundings faced significant climate vulnerabilities. The paucity of vegetation in the treeless industrial lands dominating much of the surrounding area exacerbated the urban heat island effect. Working on the site during the summer months proved a sweltering experience with the only shade furnished by a small grove of hardy black locust (*Robinia pseudoacacia*) trees that somehow had survived in the impoverished soil. Though Vancouver is known for temperate maritime weather, the city was beginning to experience extreme summer heat waves along with unprecedented periods of drought associated with global warming. The substrate of the property, essentially consisting of trash, construction debris and sand, had minimal water retaining capacity. To succeed with the plan of planting groves of fruit trees and creating shade-dappled gathering spaces, moisture would have to be conserved through rain catchment and an effort made to substantially increase the amount of organic matter in the soil.

The principles of permaculture proved vital to this enterprise and our small group of volunteers set about building a series of ponds and swales to store some of the abundant rainfall that in Vancouver tends to fall predominantly outside the growing season. In order to increase the soil's moisture-holding capacity, we started extensive sheet mulching – essentially laying down a base layer of waste cardboard covered with a thick blanket of wood chips, sourced free of charge from local tree service contractors. Within a couple of growing seasons, the acceleration of plant growth was striking. Trees that initially struggled, began to put on rampant growth as the water table was recharged and the soil beneath the mulch stayed moist, thanks to the tunneling of pro-

liferating earthworms and the wicking action of the extensive mycelial mats spreading out just beneath the surface.

The catalyzing effects of retaining moisture in the system became manifold. The increased tree cover created islands of shade which began noticeably to cool the microclimate. Moisture-trapping swales were planted with bamboo and other fast-growing plants that were harvested as mulch to furnish yet more organic material wherever it was needed, supplementing the large amounts of compost already being produced from waste that was being gleaned from the nearby produce wholesalers. Encouraging the growth of nitrogen-fixing trees like *Robinia* further increased soil fertility and soon provided a protective canopy for the shade-loving native plants we were keen to reestablish. Ponds lined in bentonite clay served to mitigate summer heat and provided enjoyment for humans and nonhumans alike, with ducks, frogs and aquatic insects suddenly appearing as if from nowhere.

Cottonwood soon became an oasis of biodiversity sandwiched between the rather sterile city park and the busy industrial zone of produce wholesalers. Along with increasing numbers of gardeners working their plots there was soon an influx of more passive users including dog-walkers and picnickers as well as primary school classes engaged in outdoor education. The ongoing restoration being carried out by motivated non-professionals was rapidly changing the once desert-like landscape into an increasingly attractive destination. In the past, winter rains resulted in a no-man's land of mud and standing water but now there were dry paths throughout the site, as the heavily mulched plantings efficiently absorbed excessive water and stored it to foster plant growth the next spring. Songbirds that hadn't been seen in years, reappeared, and perhaps most amazingly, a pair of bald eagles constructed a huge nest in the crown of one of the cottonwood trees on the periphery of the park's soccer field, and they could often be viewed soaring across the heat haze shimmering up from the factory roofs and railway lands. Eagles in an industrial wasteland? That is the power of the autonomous zone!

With such positive impacts on the microclimate and biodiversity rapidly accruing, community life flourished in the garden along with horticultural plantings, enhancing social resiliency through fostering bonds between people from a wide range of cultural and economic backgrounds. Such strong social networks along with ready access to easily deployed tools such as wheelbarrows, shovels and pickaxes can prove vital in the immediate aftermath of a climate emergency or other disasters such as the earthquakes to which the British Columbia coast is prone. By cutting down the distance between where their food was grown and where it was consumed to almost zero, Cottonwood's gardeners contributed, in a small way, to the reduction in emissions from the long-distance transport and refrigeration of produce, which judging by the steady flow of refrigerated trucks in and out of nearby

warehouses, might prove more substantial if such guerrilla gardening was able to proliferate at scale. And if food transport links ever were disrupted, even temporarily due to a climate-precipitated event such as flooding, landslide or wildfire, Cottonwood's allotment gardens and communal food forests might provide valuable backup to tide inner-city dwellers over for the crucial first few days before conventional supply chains got reestablished. Additionally, some of the more resourceful gardeners regularly gleaned salvageable food from the wholesalers' waste bins, composting what could no longer be eaten and thereby reducing pressure on landfills where putrefaction of food has been shown to emit substantial quantities of potent greenhouse gases such as methane (Gies, 2016).

Though doubtlessly small in overall climate impact compared to the immense footprint of the global food system, Cottonwood's juxtaposition to Vancouver's 'Produce Row' proved paradigmatic. The sight of gardeners tending their plots while refrigerated trucks idled beside them on the street, their diesel-powered coolers roaring continuously while waiting to unload what were often the *same* vegetable varieties gardeners cultivated just a few meters away, proved an object lesson on the increasing insecurity of the fossil-fuel dependent food system at a time of runaway climate change.

Over the nearly thirty years of its existence, Cottonwood has been a powerful catalyst in promoting more enlightened environmental policy in Vancouver. Though most started out as unsanctioned 'guerrilla' gardens, community gardens, at one point regarded as threats to public order are now formally recognized and even *encouraged* by British Columbia's municipal and provincial agencies. Recently the BC government declared community gardens an essential service during the COVID-19 pandemic (City of Vancouver, 2020). Though such official acknowledgment is surely a big step forward, it remains vital for these participatorily designed spaces to maintain their autonomy so as not to be overwhelmed by the regulatory burden of even a well-meaning bureaucracy, which might threaten their nimbleness to respond to rapidly emerging challenges. This is a theme to which I will return in the following example.

HURRICANE SANDY HITS AVENUE C

Superstorm Sandy hit New York City in late October of 2012 causing catastrophic infrastructural damage. As the floodwaters receded from the streets, the Lower East Side (Loisaida), along with other low-lying neighborhoods throughout the five boroughs, found itself in darkness. The electrical grid got knocked out when the storm-driven waters of the East River inundated the nearby Con Edison power plant, an event marked by a spectacular explosion. With food spoiling in their refrigerators, their elevators stalled, and boilers

flooded, people milled about the streets by the light of their fading mobile phones in a surreal, post-apocalyptic atmosphere. Grocery stores stood shuttered, their inventory ruined by the flooding or the subsequent thawing of their coolers due to the power cut. ATMs, banks and restaurants were shut down. A few 'bodegas' or corner stores stayed open to hawk nonperishable goods for cash by candlelight, but it was clear many of the area's low-income people were about to face a crisis of nutrition. Great drifts of debris lined the streets as residents and businesses started clearing out their carpets, lamps, sewage-sodden IKEA furniture disintegrating into sawdust, and other unsalvageable goods of all descriptions. The subway infrastructure in the tunnels beneath the East River was rendered inoperable by the incursion of saltwater, eliminating a large portion of the city's 24/7 transit system.

The mayor's office declared city buses free and suggested people in flood-ravaged Lower Manhattan travel to unaffected areas uptown to deal with their food needs. Yet this wasn't a realistic option for the significant portion of Loisaída's population who lived hand to mouth and didn't have the cash on hand to patronize restaurants or purchase groceries sure to spoil in their dark apartments where the power remained out and, in the taller buildings such as the public housing towers along FDR Drive, the water stopped running, making even improvised cooking impossible.

Recognizing many in their neighborhood were in urgent need, the denizens of *C-Squat*, one of the few surviving squat buildings in Loisaída, quickly mobilized. Embodying the very definition of an 'autonomous zone' as they lived in a building they had liberated from capitalism, the squatters had strong links to *Occupy Wall Street*, which had mounted a multi-month anti-capitalist occupation in Zuccotti Park the previous fall. Sharing the building with *C-Squat*, the *Museum of Reclaimed Urban Space (MORUS)* occupied the ground floor and served as an archive of New York's squatting and guerrilla garden history. *MORUS* was a key partner to the nearby *Plaza Cultural* and *Green Oasis* gardens, hosting their garden meetings, organizing tours of the neighborhood's guerrilla gardening history and staging regular work parties, musical and theatrical performances in the gardens. Loisaída's guerrilla gardens themselves started out as squats, with local people occupying and gardening rubble fields in what was once (in the 1970s and 1980s) a blighted neighborhood, abandoned by businesses and government alike. Along with horticultural plantings, these gardeners nurtured a strong culture of self-reliance and anti-authoritarianism, heightening during the years of Mayor Giuliani's administration when the gardens lay constantly under threat of demolition and the squatters with eviction. Sadly, many of these spaces were lost during that time but those that remained increased their resolve to assert their place within the urban landscape.

With Sandy's flood waters subsiding and government relief agencies nowhere in sight, the *C-Squatters* and members of the *Occupy* community made use of the skills they had honed during *Occupy Wall Street's* time in Zuccotti Park, setting up barbecue stations on the sidewalk outside their building to cook food they salvaged from the local supermarket whose freezers had failed when the power went out. The meals they served up were free to anyone in need, and long queues soon formed in what was a surprisingly good-natured atmosphere. Spontaneous musical performances broke out and knots of neighbors shared their stories about getting through the night the hurricane struck, trading tips on what stores were still open and how to access services.

The United States of course is famous for its broken infrastructure and Loisaída's outdated and vulnerable copper-based telecommunications lines proved no exception, quickly being obliterated by the hurricane-driven salt-water. As a result, landlines and internet services in the neighborhood were down for what turned out to be months. During the first days after Sandy, even mobile phone service was spotty and, with no ability to recharge, handsets inevitably began to run down, rendering their owners incommunicado at a time of mounting urgency. Using a design first perfected at *Occupy Wallstreet*, *C-Squat* set up a bicycle-powered charging station next to the food serving area, where more energetic bystanders were encouraged to pedal for a while, recharging the banks of depleted phones that were plugged into power strips as the hot meals continuously got dished out onto paper plates to feed the long line of the hungry.

This autonomous and highly sustainable bicycle-powered technology came about as a response to the prohibition placed by the New York City Fire Department on Zuccotti Park's *Occupy* protesters, barring them from using gasoline powered generators on site, despite such generators being routinely used by construction sites, film sets and food vendors all across the city (Deprez & Mead, 2011). Yet this selective and draconian enforcement garnered a sustainable innovation, and the resulting bike-powered generators proved a boon to the Loisaída in the chaotic aftermath of the storm, ensuring ordinary people access to communication at a time of great need.

It was several days before city authorities and the *Federal Emergency Management Agency* (FEMA) were visible anywhere in the neighborhood. Were it not for the rapid response of this subaltern community of squatters, who had perfected their survival skills with their explicitly anti-capitalist life-style, the short-term prospects for many of the more marginalized in the community could have been much worse. It should be acknowledged too, that local Pentecostalist and Baptist churches dispatched young volunteers door to door, even while the streets were still drying out, offering up free cleaning supplies and bleach so residents could promptly disinfect walls, floors and household possessions tainted by the influx of sewage-contaminated flood-

water. These were not wealthy congregations and yet they stepped up for their community when they were needed the most, their timely and generous response doubtlessly helping reduce the spread of infectious disease.

As with many climate disasters, Superstorm Sandy highlighted a troubling inequity between rich and poor in the longevity of its impact. In Loisaída, *New York City Housing Authority (NYCHA)* buildings close to the East River were particularly badly hit and the mostly low-income inhabitants, many in crowded multi-generational households, went without power, heat and hot water for weeks and endured damaged building infrastructure for months and years, all the while waiting for government agencies to approve repair budgets and award contracts (NYCHA, 2020). As this low-lying area of Manhattan remains particularly vulnerable to climate change driven storm surges and sea level rise, work has recently begun on a significant infrastructure initiative, the *East Side Coastal Resiliency Project (ESCR, 2020)* whose dominant feature consists of an earth berm piled on top of (and obliterating for several years) the heavily used East River Park. When completed, the project promises to afford at least some protection to the adjacent FDR highway and the densely populated housing projects clustered behind it. Nevertheless, even this will be a temporary fix as the sea level rise around New York is steadily on the increase (Sea Level Rise, n/d).

In contrast to the \$1.45 billion ESCR (ESCR-FAQs, n/d) project, Loisaída's autonomously created guerrilla gardens offer climate-emergency moderating infrastructure at a minimal cost. In addition to fostering social resiliency and offering people some respite from the concrete jungle, it has been recognized through the Gardens Rising initiative (Gardens Rising, n/d) that such gardens substantially mitigate storm water flooding in their immediate vicinity. During times of intense rainfall, their mulched and planted landscapes absorb storm water, infiltrating it into the soil, instead of flooding the streets and overwhelming New York's outdated sewer system. Recognizing such porous landscapes are in short supply within the predominantly impervious surface of the built environment, gardens throughout the district have taken up the challenge to construct bioswales and rain gardens to further amplify their storm water buffering capacity. Unlike the ESCR megaproject, Gardens Rising is proceeding incrementally, working within the autonomous and idiosyncratic governance structures of each participating garden to foster site-specific climate resiliency at a neighborhood scale.

As extreme climate events become more frequent, large-scale, state-funded climate mitigating infrastructure such as the ESCR project will likely become more necessary, if coastal cities as we know them are to survive. But the block-by-block responsivity of autonomously governed spaces such as community gardens and squats confer an adaptiveness to their surroundings that goes far beyond mere hydrological or thermal contributions. The communities

coagulating around these autonomous zones are bound by a strong sense of place and multi-valent social ties, enhancing the ability of neighborhoods to weather the vital first few hours and days after a climate disaster before State emergency agencies are able to deploy resources and respond. Such nimble, resilience-building capacity is also exportable, as is evidenced by the *Occupy Sandy* initiative, which bootstrapped the social networks and skill-sharing it forged during the previous year's occupation of Zuccotti Park, to send *Occupy* volunteers, many of them on bicycles, to help with the cleanup of the hurricane-ravaged outer boroughs, well in advance of mainstream aid agencies (Feuer, 2012).

Despite their unarguably positive impact, autonomous zones and the social networks that constitute them are constantly under threat by forces of enclosure. They are viewed as an anathema by the State as well as the private sector who consistently try to quell their influence on the public sphere. This repression can range from brutal (the mass arrests at Zuccotti Park being a prime example; Martin, 2012) to more subtle, as in the case of the lease agreements (LUNGS, 2019) now being demanded from Loisaida's community gardens by the NYC Parks Department under its Green Thumb program. These leases place a range of new constraints on garden autonomy, effectively concretizing bureaucratic control over them, despite the fact they emerged from the rubble during the period in the 1970s and 1980s when New York City's municipal institutions had essentially collapsed, abandoning entire neighborhoods to fend for themselves. The gardeners' response to these lease demands has been mixed, with some groups recognizing this as an unabashed power grab and others, less steeped in the neighborhood's radical history, more compliant, with the view that cooperating with the city is in their long-term interest. At a series of heated community meetings held during 2019, it was clear the lease issue was by no means settled, but Green Thumb's pressure has been relentless. Increasingly it has become clear that autonomously governed spaces are an annoying loose end for city administrators in their never-ending quest for complete control. It would be a shame, however, if the creativity and occasional bumptiousness of Loisaida's autonomous gardens and squats were further subsumed by bureaucratic entanglement. These unique spaces are embodiments of a radical spirit that keeps their neighborhood vital and resilient. They continue as indispensable platforms for a vibrant co-creativity outside the strictures of capitalism and entitled political power, their alterity ever more important in ensuring life goes on in the face of the many storms, heat waves and deluges that surely are to come.

CONCLUSION

Operating outside official channels, informal, autonomously governed and community-created spaces such as guerrilla gardens and squats constitute vital socio-natural systems that can contribute substantially to climate change resilience and neighborhood sustainability within the North American city. Though not designed or managed by experts, they demonstrate an impactful ability to address community needs, due largely to their sensitivity to locality and participatory governance structure – that is, if they are left to their own devices. These protean and resourceful initiatives offer up a useful counterpoint to business-as-usual, top-down planning orthodoxies and suggest that allowing a bit of ‘un-planning’ here and there might make cities more responsive to the needs of their inhabitants as they face the worsening and more frequent effects of rapidly changing climate.

NOTES

1. The so-called ‘climate gap’ in America is well documented see: Morello-Frosch, R. et al. (2011). *The Climate gap: environmental health and equity implications of climate change and mitigation policies in California – a review of the literature*. University of California.
2. By this I mean self-organizing, communally created, and continuously evolving.

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