

# Part II. Redefining Resilience:

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## Principles, Practices and Pathways

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# I. OVERVIEW

Movement Generation has embraced “resilience” as a central orientation of our approach to addressing ecological erosion, climate change, and social and economic injustice, which we see as simultaneously drivers and consequences of the ecological crisis. We are redefining resilience from an ecological justice perspective<sup>1</sup> — rooted in the governing principles of ecology with recognition of the role of human communities as an integral part of a healthy ecosystem. Resilience, we believe, can bridge mitigation and adaptation, economy and ecology. It can also help us create more holistic and systemic interventions.

Before we dive deeper into the emerging approach to resilience, it is important to take note that there are many legitimate critiques of resilience as a frame. Some argue that it is too easily reduced to

“surviving.” Others advocate for “restoration,” with emphasis on the **restoration** of human activity as an integral component of thriving, healthy ecosystems. Still others, who critique restoration for emphasizing a task rather than a relationship, advocate for a “**regenerative**” frame because it emphasizes the dynamic process of a constantly renewing ecosystem functionality in which humans play an active and complementary role.

We believe that these are all legitimate claims. Our conception of resilience, therefore, *depends* on restoration and *demands* regenerative practices — beginning with the restoration of human labor and cultures into ecosystems, while understanding that the heart of resilience is a *reflective, responsive and reciprocal relationship* to place.

## ***Creating a Future By Facing Our Past***

The visibility of ecological crisis is increasing daily. It is our view that humanity is up against the limits of nature’s ability to tolerate globalized industrial production, and has been for a long time. The growth imperative, which serves as the engine for the current economy, has led us into an untenable situation.

Rapid economic growth based on the extraction of resources *beginning with labor and culture*— which outpaces the *regenerative capacities of ecosystems*—has three simultaneous devastating consequences:

1. It eradicates biological and cultural diversity;
2. It outpaces ecological regeneration, thus undermining the life support systems of the planet (forests, water, climate); and
3. It (ironically) undermines the very basis of the economy by depleting the resources upon which it depends (peak oil, peak soil, peak water).

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1 Movement Generation. “Politics of Home.” Pg. 4. 2011.

The impacts are severe, especially for those with the least resources. In the last decade, we've seen families lose children, elders, and other loved ones in Typhoon Haiyan in the Philippines where the typhoon season has grown increasingly deadly. We've seen elderly and disabled tenants trapped inside high-rise apartment buildings without lights and elevators in New York City's Chinatown in the days following Superstorm Sandy. And we have seen residents of the poorest wards in New Orleans abandoned after Hurricane Katrina — watching bodies float by in the rising waters after the levees broke, displaced from their homes, jobs, businesses, and communities.

In this context of increasing ecological instability, Earth's systems are beginning to undergo dramatic transformations: acidifying oceans, retreating glaciers, super storms, and extreme fire and heat events. While scientists and lay people observe these changes with alarm, nobody as yet fully understands their mid- or long-term consequences, or how these changes will unfold and interact over time. In the face of these dramatic transitions, we only know that **“Systems change will be the defining feature of our century”** and that **“if we stay on our current course, that change will manifest as collapse.”**

These dramatic shifts, however, can also be an opportunity to bring about an intentional transition towards healthy, fair, and ecologically resilient human activity that addresses the root causes of ecological disruption. To achieve this vision, Movement Generation believes we must:

Firstly, have the courage to face the past and wrestle with the genuine source of the problems so that we can identify the **“real solutions”** that can effectively address the problems. And secondly, ensure that we do not confuse the symptoms with the problems or the consequences with the causes. Otherwise, we may unwittingly make the situation worse by advancing **false promises, bad policy, and half-measures** that treat the symptoms but exacerbate the root causes. (Carbon offsets and nuclear power promoted as “clean” energy are examples of such false solutions.)

Movement Generation argues that to be effective, any approach to addressing climate disruption must begin by recognizing the root causes. Industrialism, colonialism and capitalism disconnect human communities from the web of life. We are being alienated from land, food and water and from our ability to control, direct and benefit from our own work. This has forced most of us to live and labor in ways that destroy and degrade the rest

of the natural world upon which our collective survival ultimately depends. Hence, to understand the climate crisis we cannot simply look up at the atmosphere and count carbon. We must look down at the economy — at the erosion of seed, soil and story and the exploitation of land, labor and life. Simply put, the current growth-at-all-costs economy is deeply degenerative and in order to solve the climate crisis we must replace it with a regenerative economy — one that returns us to a reflexive, responsive, and reciprocal relationship to place. In short, we must reorganize **economy** (*management of home*), to be consistent with the principles of **ecology** (*knowledge and study of home*) and the goal of restoring human activity to its rightful place as a critical ingredient of healthy **ecosystems** (*relationships of home*). This in turn will build the resilience of both human communities and the ecosystems upon which we depend (see *Figure 1, pg. 22* for more detail).

# THE MEANING OF HOME

ECO MEANS HOME : ‘ECO’ COMES FROM THE GREEK WORD OIKOS, MEANING ‘HOME’



## ECO SYSTEM (“HOME” + “SYSTEM”)

Ecosystem means all the relationships in a home - from microorganisms, plants, animals and people to water, soil and air. An Ecosystem includes the terrain and the climate. An Ecosystem is not simply a catalogue of all the things that exist in a place; it more importantly references the complex of relationships. An ecosystem can be as small as a drop of rain or as large as the whole planet. It all depends on where you draw the boundaries of home.

## ECO LOGY (“HOME” + “KNOWLEDGE”)

Ecology means knowing, reading and understanding home – and by definition, the relationships of home.

## ECO NOMY (“HOME” + “MANAGEMENT”)

**Economy means management of home.**

How we organize our relationships in a place, ideally, to take care of the place and each other. But “management of home” can be good or bad, depending on how you do it and to what ends. The purpose of our economy could be turning land, life and labor into property for a few, or returning land, life and labor into a balanced web of stable relationships.

Economy does not mean money, or exchange or financial markets, or trading or Gross Domestic Product. These are simply elements or tools of specific economies. Economies (“how we manage our home”) can be measured in many ways: How healthy are the soil, people, water, animals? How much wealth is generated? Who owns the wealth? What even constitutes wealth? Is it money? Well-being? Happiness?

**All economic activity has ecological consequences.** That doesn’t mean that those consequences are always bad. The economic activity of peoples who have developed long relationships with the ecosystem they are a part of have tended towards balance. This traditional evolved knowledge of place is held in language, food, culture and story.

Other human communities have mismanaged home, and have created ecological consequences that are not beneficial to a sustainable relationship with the web of life. But when a people outstrip their resource base, or create damage to an ecosystem in such a way that it can no longer sustain them, they move on or die off – hopefully learning some lessons. Mother Earth has been sufficiently resilient to recover from these paper-cuts. But...

**If you globalize the economy, you globalize the ecosystem.** The scale and pace of globalization combined with the power imbalance in decision-making has made it virtually impossible for people to read and respond to the changes fast enough – and in fact, we have not. If you globalize the ecosystem and you have a destructive economy (mismanagement of home) then the consequences can be big. Very Big.

The current globalized economy is compromising the life support systems of the planet: destroying biodiversity, exploiting labor, killing cultures, polluting water and disrupting the atmospheric-hydrologic cycle.

## ECOLOGICAL JUSTICE (“HOME” + “JUSTICE”)

Ecological Justice is the state of **balance between human communities and healthy ecosystems** based on thriving, mutually beneficial relationships and participatory self-governance. We see Ecological Justice as the key frame to capture our holistic vision of a better way forward.

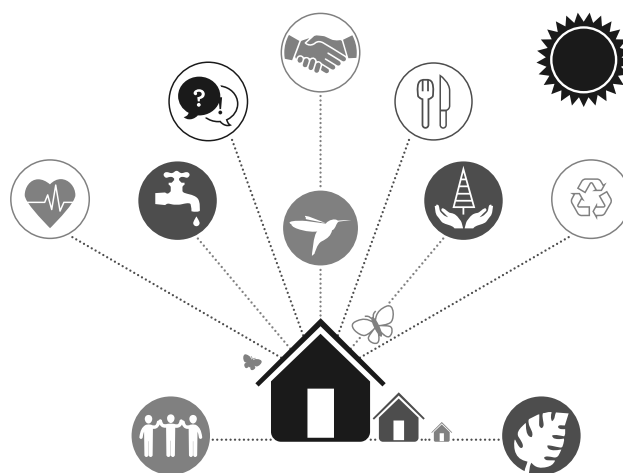


Figure 1. Adapted from *The Meaning of Home* (Movement Generation, 20XX year of publication)

## ***Remaking Home: A Vision of Resilience and the Next Economy***

Given that the dominant economy has generated so much social inequity and environmental devastation, we ask ourselves: “What is the vision for shifting us out of this situation?” “What does that vision look like in the communities that have experienced the deepest impact from the limitations and consequences of the current economy?” “Is it possible to make a transition from the old economy to the **Next Economy** — one defined by national and global networks of ‘local-living economies’ that are place-based, ecologically resilient, socially equitable, deeply democratic, and linked through mutually beneficial relationships of exchange?”

The process of getting from our current economy to the **Next Economy** is called the **Just Transition**.

Nature will no longer tolerate globalized industrial production, therefore change is inevitable. If we stay on our current course that change will eventually manifest itself as a collapse — of the economy and also of biological and cultural diversity as we know it. Alternatively, with intentional and coordinated action, we can make that change a thoughtful transition towards a more healthy, fair and ecologically responsible world.<sup>2</sup>

The exciting news is that this **Just Transition** is already underway

### ***Beyond Adaptation or Mitigation***

The dominant discourse on climate action settles within two domains of activity: **mitigating** the causes of climate change, and **adapting** to the consequences.

**Mitigation** within the mainstream of the climate discourse has come to mean *reducing the amount of green house gases emitted into the atmosphere*, and to a lesser degree, *increasing the capacity to sequester carbon (sinks)*. It is important to note that this view of mitigation does not distinguish between reducing the sources of emissions terrestrially and reducing atmospheric loading through technological interventions, such as geo-engineering or carbon

in communities around the US and across the globe. People experiencing the worst of the environmental and social impacts of the old economy are articulating a new vision for healthy and resilient communities and taking action to build an economy that brings into balance human communities and healthy ecosystems.

These communities have a deep and complex vision of resilience that is guiding and driving their concrete efforts to: (a) respond to the current effects of climate disruption, (b) prevent new impacts, and (c) remake their relationships to each other and the natural world in ways that are deeply rooted in place. This vision come from an ancient wisdom that says economic activity — if it is to be sustainable — must be subordinated to the governing principles of living systems, as it has been for most of human history.

This approach to resilience stands in contrast to many of the dominant approaches to addressing climate disruption, in particular to the frames of adaptation and mitigation that we are about to explore. Movement Generation believes we should reconsider and challenge some of the underlying assumptions of these frames if we are to respond effectively to the impacts of climate disruption.<sup>3</sup>

capture and storage. It simply refers to the reduction in atmospheric concentrations of greenhouse gases.

Many technological interventions, as currently conceived, require high levels of concentration and control of resources and therefore, tend to exacerbate social inequality. In many instances, they also cause or exacerbate other ecosystem disruptions, such as with emerging geo-engineering technologies and synthetic biology. There are interventions that don’t require this level of concentration and control while at the same time, advancing justice and innovation (proposed later in this paper).

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2 Movement Generation. “Politics of Home.” 2011.

3 Movement Generation. “Recipe for Resilience.” 2012.

**Adaptation** is the process of responding to the impending or inevitable consequences of the climate disruption already set in motion that, due to lag-effect, cannot be avoided or reversed.<sup>4</sup> As policy and practice consistently fail to curb atmospheric loading and ecological erosion, the need to take seriously the implications of climate disruption on communities and ecosystems has become a growing concern. Central to the adaptation frame is the concept of “vulnerability” along a host of vectors, including:

- Geographic (island nations and coastal cities)
- Demographic (indigenous peoples, people of color, seniors, socially isolated individuals, immigrants)
- Sectors of economic life (such as, the vulnerability of California’s industrial agriculture due to drought and climate change).

For human communities and natural systems to restore balance and vitality, and for us to address the disproportionate impacts of climate disruption experienced by vulnerable communities, we must address the limitations of the mitigation and adaptation approaches within the climate discourse. The following are a few of the problematic assumptions embedded in these frames that limit political strategies and even lead to false solutions:

- **EITHER/OR:** The prevalent assumption in the climate action discourse is that *mitigation and adaptation are separate domains of activity and can be done independently*. The questions, “Will this mitigation strategy compromise our ability to adapt?” and “Will this adaptation strategy exacerbate future emissions?” are assumed to be part of the calculus of strategies but are most often neglected.

The driving question should be: “Given scale, pace and resources, what are the most effective ways to conduct mitigation and adaptation so that they reinforce one

another?” In other words, we must conduct mitigation activities in a way that increases our adaptive capacity and vice versa.

- **CARBON FUNDAMENTALISM:** The either/or assumption, in part, has roots in the underlying “carbon fundamentalism,” or “carbon myopia,” that has come to define climate discourse. Currently, climate change is narrowly defined by “atmospheric loading of greenhouse gases.” Unfortunately, it is *not being defined* as the *interlocking ways in which different forms of ecological erosion are disrupting planetary systems that sustain life as we know it* — atmospheric, hydrological, terrestrial, and oceanic. Nor is it being defined by the shared root cause of the erosion — i.e., the global organization of an industrial economy, which both uses resources in ways that are not regenerative, and produces a wide range of harmful human and ecological impacts. Consequently, mitigation strategies have tended towards technological solutions that accommodate the non-regenerative dimensions of the existing economy.<sup>5</sup>
- **DON'T DISRUPT THE ECONOMY:** Since it is the very organization of the economy that is at the root of climate disruption, the thinking that mitigation and adaptation activities should be accompanied by the least amount of disruption to the economy further reinforces the problem. An argument is often made across the political spectrum to ensure the least amount of economic harm to individuals and corporations. There is an underlying assumption that a solution can and must be found without transitioning from ever-increasing industrial development because that notion is either inconceivable or undesirable. Another assumption is that economic consolidation and globalization, along with the continued concentration of capital in the hands of a few, is a social virtue. Furthermore, the current global economy is often framed as timeless,

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4 Lag effect is the common term for the scientific finding that the impacts of carbon dioxide on the earth’s climate and hydrologic systems are not experienced for approximately 40-50 years after they are emitted into the atmosphere. The lag effect of other greenhouse gases, such as methane is shorter but still present. [R]

5 In fact, within the United Nations Framework Convention on Climate Change, the principle that there should be the least amount of economic disruption possible when working to advance mitigation and adaptation strategies (i.e. returning to 350ppm or restricting mean warming to two degrees, neither of which are now possible) has allowed for the dominance of “false solutions” from geo-engineering to carbon markets. [R]

immutable and monolithic. Nothing could be further from the truth. *The current economy is not forever.* As noted earlier, economic growth that outpaces or erodes the capacity of ecosystems to regenerate undermines the very basis of the system. Economic growth will become increasingly unstable and eventually unravel if we follow the TINA (There Is No Alternative) train of thought.

- **VULNERABILITY IS A CONDITION, NOT A CONSEQUENCE:** Conventional approaches to adaptation and mitigation *view vulnerability as a characteristic or condition of groups of people* and not as a circumstance or consequence of the ways social groups have been historically and systemically marginalized and excluded from opportunity. As a result, the policy and practices that have been brought to bear don't address the underlying historical roots of vulnerability. In fact, they often exacerbate vulnerability by denying communities the chance to address economic disparity when leading adaptation and mitigation efforts. These conventional approaches and views often reinforce the exclusion of these groups from democratic decision-making. They also exclude them from having a voice in setting policy priorities or allocating resources to address the issues. We believe that rather than being viewed as victims to be protected and saved, vulnerable communities should instead define, develop and drive the solutions.
- **THE SCALE OF THE PROBLEM DICTATES THE SCALE OF THE SOLUTIONS.** Because climate disruption is a global phenomenon and the dominant economy is globalized, our observation is that disproportionate energy and resources are put into international and national arenas — from the United Nations Framework Convention on Climate Change (UNFCCC), to federal climate policy. Despite the tremendous resources that have gone into them, these strategies have produced very few results, apart from advancing false solutions such as: REDDs (Reducing Emissions from Deforestation and Degradation) and carbon markets. We absolutely need international, national and subnational policy and coordination aimed towards restoring ecosystems and creating resilient communities from the local level on up with a focus on *realigning the scale of primary economic activity and governance with ecological boundaries.*

Movement Generation believes that *while the scale of*

*the crisis of climate disruption is global, the solutions must fundamentally be local and regional.* Scale is achieved not by creating a single big approach but rather by aggregating defining solutions appropriate to place. The notion that the problem is only one of “the atmosphere” has clouded our vision as to where interventions are required to create the greatest impact in the least amount of time. Furthermore, at the national and international levels, economic and political power is currently concentrated in the hands of corporations and elites who (at least for now) benefit from the ecological erosion and will not rethink the economy. *Remaking economy and governance towards democracy and resilience can best happen at the local and regional levels where there are the greatest opportunities for increasing democratic power in all the major arenas that impact daily life.*

## Resilience: Where Mitigation and Adaptation Meet

Resilience has emerged as a new frame within the climate discourse, providing an alternative to the more mainstream mitigation and adaptation frames that have become the domain of failed climate policy and false solutions. There are many ways to talk about resilience, but at the heart of all resilience definitions is the idea of “bounce back.” Resilience describes the capacity of a system (whether a community or an economy) to maintain an intact core identity in the face of change and a state of dynamic balance within which change can be avoided or recovered from without a fundamental transition to a new form. The degree to which change is fundamentally disruptive is inversely related to resilience.

We have embraced and are redefining resilience from an ecological justice perspective<sup>6</sup> rooted in the governing principles of ecology, which recognizes the role of human communities as integral to a healthy ecosystem.

Resilience, we believe, can bridge mitigation and adaptation, and economy and ecology, and can help us create more social cohesion, inclusion, power and participation and more holistic and systemic interventions.

### Defining Resilience

*Resilience describes the capacity of a system (whether a community or an economy) to maintain an intact core identity in the face of change, and a state of dynamic balance within which change can be avoided or recovered from without a fundamental transition to a new form.*



Adaptation + Mitigation  
+ Thick / Deep Democracy = Resilience

## The Dimensions of Resilience

We have distilled the core aspects of resilience to five key factors that can be applied as principles of organization and as evaluative criteria for the resilience of a system<sup>7</sup>. They are inspired by ecological systems thinking and based on prolonged and thoughtful observation of the world around us. These principles interact and overlap, supporting and reinforcing each other. We treat them individually here for the sake of simplicity.

- 1. RESISTANCE TO DISRUPTION.** Resistance is the capacity of a system to fend off a potential disruption. The immune system is a great example of resistance. A healthy immune system increases one’s resistance against viral threats. Intact Gulf Coast wetlands provided resistance against storms by dissipating their impact before they reached dense human settlements, making human settlement possible in the hurricane-prone areas of the world. Of course, resistance is limited and by itself does not create sufficient resilience.
- 2. LATITUDE TO ACCOMMODATE CHANGE.** Latitude, or elasticity, is the capacity of a system to stretch and accommodate change without it being disruptive. Latitude complements resistance. When something cannot be stopped, then flexibility becomes key. A strong, dense, unbending tree is resistant to winds up to a point, but the rigidity eventually becomes a point of stress and failure. A tree that can sway will have more latitude against such a threat. Similarly, in much of the western world, we build houses to be permanent and withstand as much as possible. In places where there are monsoons, people build their houses such that they can be easily rebuilt. They also build a culture around regularly rebuilding roofs and houses in order to accommodate a change that would otherwise be more disruptive.

As we think about the built environment, public infrastructure, and how to remake those systems in the face of climate

6 Movement Generation. “Politics of Home.” Pg. 4. 2011.

7 There are many other frameworks of resilience in both economy and ecology. In “The Resilience Imperative,” authors Michael Lewis and Pat Conaty identify seven principles. Within the world of ecology, there are four core principles, which we have expanded upon.



change, the principle of latitude may guide us again. This principle leads us to maintain and restore living and dynamic marshlands, instead of building static and rigid sea walls with a defined lifespan that will eventually lead to failure. Or it may guide us to build human dwellings with locally sourced materials in order to reflect the wisdom of how humans can dwell in their climates with the least amount of external energy needs.

Latitude is also the key feature determining whether a non-native species functions as invasive or not. If an ecosystem has a lot of latitude, then a new species can find a niche (make home) without being disruptive to the core of the system. When a system lacks latitude, then a non-native species has the potential to become “invasive” and fundamentally transform the ecosystem identity. In other words, whether a species is invasive or not, has more to do with the total latitude of the system than with the species itself.

**3. REDUNDANCY OF ROLES AND FUNCTIONS.** Within any system there must be redundancy of key roles. Primary ecosystem functions should be served by multiple elements in the system in different ways. For example, pollination is a key ecological function for the long-term health and resilience of an ecosystem and is, therefore, best performed by many different species at once, in different ways. If an ecosystem has only one pollinator, then a threat to that species would wipe out a core ecological function — leading to an identity shift and a new state. An example is utility-scale power generation. If a large-scale generating station goes down due to a storm, a blackout occurs over a large area because there are no alternative sources of power. But if power generation is distributed across many smaller generating facilities (e.g., micro wind and rooftop solar) and there are different ways of getting energy for different uses, that redundancy will likely result in a lower impact across the grid in the face of disruption.

**4. DIVERSITY OF ORGANIZATIONAL FORMS.** Within a system, there should be diversity of scale, form and organization across elements, so that a threat to a particular structure does not compromise the integrity of the whole system. Some species are organized in colonies, some in families, some as networks, some as lone individuals congregating only to reproduce. For example, if every species in a system were organized into colonies, with one queen and multiple drones, then something like an estrogen disruptor that wiped out queens would wipe out everything in the whole ecosystem. The interplay between redundancy of roles and diversity of form creates the backbone of latitude and resistance. An additional aspect of this diversity of forms is how these elements relate to each other within the system to avoid a domino effect if one element is threatened. One of the key vulnerabilities of the dominant economy is that there is a tendency towards a single form of organization of banks and business, trade and exchange. They are all dependent on one organizational form and tethered to a speculative market, which makes all the institutions vulnerable to the same threat — i.e. speculative bubbles that burst. If there were greater diversity of size, scale and organization of financial institutions, and if so much of economic life were not tethered to a few interlinked markets, the effects of a market disruption would not ripple through the whole global economy.

Having more diverse forms of economic activity can make a community more economically resilient than one that is dependent on a central industry. This is especially the case if a community is economically dependent on an extreme energy industry, such as a coal mine, oil refinery or power utility. A diversity in the forms of economic activity and in the forms of ownership and control can create an economic resilience that is the foundation for other dimensions of community resiliency. An example to the contrary is the way that the food system has become increasingly vulnerable to threats, such as rising oil prices, drought and soil erosion as

## The Dimensions of Resilience

- **RESISTANCE:** *The capacity of a system to fend off disruption.*
- **REDUNDANCY:** *Overlapping of roles and functions in distinct niches.*
- **PRECARIOUSNESS:** *Describes how vulnerable (close) a system is to losing its core identity and transitioning to a new state.*
- **LATITUDE:** *The capacity of a system to accommodate change without letting the change be disruptive.*
- **DIVERSITY:** *A diversity of scale, form and organization across elements that protect the integrity of the whole system.*

food production has transitioned from small scale producers (farmers) using diverse cultivation methods to grow diverse crops suited to specific places, to a system of ever increasing agribusiness consolidation and the mono-cropping of a handful of major crops. The same is also true for meat production.

- 5. PRECARIOUSNESS.** Precariousness describes how vulnerable (close) a system is to losing its core identity and transitioning to a new state. As diversity is eradicated through disruption (reduced variety of form and functions; loss of redundancy, resistance and latitude) a system becomes increasingly vulnerable to any change. Some systems are in a delicate balance between a few interdependent elements and while stable, are precarious. Mono Lake is a good example. This hypersaline lake is an extremely simple but delicately balanced ecosystem that is extremely precarious because of the paucity of diversity upon which it depends. The introduction of just a moderate amount of pollution or the elimination of fresh water flows to the lake could force the system into a new state. In the current economic system, an individual without resources, such as extended networks and multiple sources of support to fall back on, who lives month-to-month on his/her income is in a precarious condition. An unexpected expense, such as a health care emergency, could mean an inability to pay housing or transportation expenses and compromise his/her ability to hold a job, causing his/her whole way of life to collapse. Precariousness is at the heart of the vulnerability that makes climate impacts so severe in key communities and is one of the core factors that needs to be reversed to establish resiliency.

When we use these dimensions to assess the resilience of the dominant economy against the threat of climate disruption and ecological erosion, we can see how our dominant economy is extremely vulnerable and has a long-term resiliency that is deeply compromised. In the dominant economy, redundancy of roles and structural diversity are viewed as inefficiencies. Mono crop agriculture eradicates diversity in the food system, just as mergers and acquisitions eradicate diversity in the economy. As more and more of the human population is forced into cities, we decrease our latitude to absorb the impacts of extreme weather. As we eliminate natural buffers, such as mangroves and wetlands, we compromise our resistance. Most importantly, as globalization compromises cultural integrity worldwide, we lose the diversity of forms and experiences needed to survive.

We need to reorient our strategies towards strengthening the dimensions of resilience by rethinking the scale at which primary economic activity should happen. “Too Big To Fail” is not resilient. If it is too big to fail, it is too big to exist—unless we want to increase the frequency and intensity of shocks, slides and systemic collapse. The dimensions of resilience, combined with principles of ecology, lead to a set of criteria for reorganizing the economy and, we believe, a set of strategies to advance a **Just Transition**.

## ***Fidelity, Integrity and Identity: Understanding What We Are Working to Protect***

In order to apply the dimensions of resilience to the development of strategy and practice, we must first *describe* the system in question. We need to ask, “What is the core identity of the system that defines the boundaries past which it has a new identity?” For example, city neighborhoods are often defined by their historic residents (i.e. a historically black neighborhood). Rezoning, urban renewal and gentrification present a threat to the core identity of established communities. As the system of land speculation brings in new people and forces out historic residents, the community’s identity changes and at some point it no longer is a “black community.” A city government, which wants to increase revenues and spur economic development, most often defines the community by its geography, not its historic residents. It creates and/or privileges geographic borders rather than social boundaries and thus, displaces the “black identity” as a core element of the place. Because cultural connection and social cohesion are what make communities strong, the failure to

attend to this core aspect of identity is a key factor in weakening resilience. Indeed, building resilient communities requires that we understand the diverse character and identity of the community we are working to strengthen and preserve. And it is critical that community development that is done through the lens of increasing climate resilience preserve cultural connection and not promote displacement.<sup>8</sup>

Once the system has been described, a second, equally important order of business is to define the boundaries of the system. An “ecosystem can be as small as a drop of rain, or as large as the whole planet; it depends where you draw the boundaries of home.”<sup>9</sup> And, of course, all ecosystems are interdependent. Resilience plays out at different scales and all scales are interdependent on each other — from the planetary to the bioregion to the human community, clan or family.

## ***Principles of Action and Organizing to Create Community Resilience***

Movement Generation argues that there are five core principles of organization of economic activity needed in order to foster true ecological and economic resilience. These principles apply to both the processes and the solutions. Guided by a resilience framework, we are looking for ways to *diversify, democratize, decentralize, reduce, and redistribute* at every step. These criteria manifest in different ways within different sectors of the economy in different places but when applied, drive us towards resilience.<sup>10</sup>

**DIVERSIFY:** Learning from one of nature’s key organizing principles, communities must develop a diversity of structures, relationships and roles in the economy. The old lesson of the Irish potato famine applies from seeds to energy systems. When only one or two varieties of a food crop dominate, a disease, pest, or change in weather pattern can wipe out the entire

crop. Farmers in the global north are relearning that diversity is our best defense. Just as sustainable farms plant a wide variety of crops to support a healthy ecosystem rich in beneficial insects and soil microbial life, a regional food system must include a diversity of producers, production methods, relationships, structures of organization, and distribution channels.<sup>11</sup> Such an approach supports resilience because no single structure, participant or vehicle can cause a major disruption to the overall health and functioning of the regional food system.

Similarly with other aspects of the economy. No one would use a chain saw to cut a tomato, so it makes little sense to use a nuclear power plant to make a smoothie. From bike-powered blenders to small-scale water wheels to passive solar, different energy solutions should be applied to different uses and based

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8 Causa Justa :: Just Cause. “Development without Displacement: Resisting Gentrification in the Bay Area.” 2014.

9 Movement Generation. “Eco Means Home.” 2012.

10 These principles are inspired by many other people, most notably, Vandana Shiva and her work. Shiva, Vandana. *Earth Democracy*. Pg. 5. South End Press, 2005.

11 Braffman, Ori. “The Starfish and the Spider: The Unstoppable Power of Leaderless Organizations.” 2006.

on local contexts. Examples of this principle in action can be found in Kerala, India, where communities have fought against mega hydroelectric and nuclear plants that threaten their land and livelihoods. As a result, the government has initiated policies to devolve power, decision-making and resources to the local level. This has led to an increase in diversified, decentralized, distributed energy solutions, such as rural communities investing in and building their own micro-hydro, small-scale solar, biogas digestion, and other renewable energy initiatives.<sup>12</sup>

Another example of diversity in action can be seen more recently in the context of transit planning in the U.S. where planners have begun to identify the value of assessing a wide range of transportation needs and their contexts, which allows them to take into consideration the most appropriate transit options rather than defaulting to the decades-old auto-based transportation approach. These principles can be seen in action in many third world countries, where people use a combination of buses for long distance, informal ridesharing or hitchhiking for trips along major highways to nearby towns, minibuses for trips within a city, and walking or biking for local daily needs.<sup>13</sup>

**DEMOCRATIZE:** Solutions that foster resilience ensure that people will have direct democratic control over the decisions that affect their daily lives and those most harmed by the systems that have brought us here have the opportunity to lead the way to solutions. In the Indian state of Kerala, for example, the state-sponsored “People’s Campaign for Decentralized Planning” led to improved healthcare delivery, education, access to services, and other social welfare indicators.<sup>14</sup> In the semi-autonomous Zapatista communities in Southern Mexico and those of the Landless Workers Movement (MST) in Brazil, participatory self-governance has engaged those whose lands, livelihoods

and cultures have been compromised but who hold the evolved knowledge of place (the stories and cultures) in remaking the economy.<sup>15</sup> In the domestic context, it is the democratic engine of grassroots community organizing which ensures that the communities most often left out are at the table and guiding community planning processes, public policy and electoral power building — to ensure that community need and innovation drive the remaking of cities and communities.

**DECENTRALIZE:** The principles of resilience lead to the practice of decentralization, a core pathway to remaking economies. Local energy production should not only be spread out (distributed solar generation), ownership and control also should not be concentrated. When users are closer to the producer, they will be better equipped to make decisions that support regeneration and resilience.

The decentralization principle must be held in concert with democratization (and the other principles), so that the shifts towards clean power or regional food production, for example, address the broader needs for food and energy, rather than devolving into an “every person for themselves” scenario. Moving towards concentrated ownership of distributed energy, where a single company or utility owns all the “distributed” rooftop solar — a plausible trajectory as fossil fuel companies and finance institutions invest more in solar energy — violates the principles of resilience because it eradicates diversity and robs communities of the economic benefits that come with direct ownership and control of the systems needed for them to thrive.<sup>16</sup>

**REDUCE:** Organizing towards resilience demands that societies in the highly industrialized and rapidly industrializing worlds reduce consumption. Continued economic growth requires

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12 Greenpeace India. “Taking Charge: Case Studies of Decentralised Renewable Energy Projects in India in 2010.” <http://www.greenpeace.org/india/Global/india/report/2011/Taking%20Charge.pdf>

13 Litman, Todd. “Introduction to Multi-Modal Transportation Planning: Principles and Practices.” Victoria Transport Policy Institute, 2012. [http://www.vtpi.org/multimodal\\_planning.pdf](http://www.vtpi.org/multimodal_planning.pdf)

14 Heller, Patrick, Harilal, K. N., Chaudhuri, Shubham. “Building Local Democracy: Evaluating the Impact of Decentralization in Kerala, India.” World Bank, 2007. Elamon, Joy, Franke, Richard W., Ekbal, B. “Decentralization of health services: the Kerala People’s Campaign.” Montclair State University, 2004.

15 Starr, Amory, Martínez-Torres, María Elena, Rosset, Peter. “Participatory Democracy in Action: Practices of the Zapatistas and the Movimiento Sem Terra.” 2009. <http://www.trabal.org/texts/democracy.pdf>

16 Center for Social Inclusion. 2013. “Community-Scale Energy: Models, Strategies and Racial Equity. A Scan of Community Innovation Around Efficiency and Renewable Energy.”

intensive resource extraction and produces pollution that cuts against ecosystem health at every level — from the individual human body to the local watershed to global climate systems.<sup>17</sup> Despite the great potential of alternative energy to limit the impacts of resource extraction and reduce carbon emissions, without deep reductions in consumption, urban communities in the industrialized world will be unable to create truly clean energy systems that meet the current demand levels without compromising the ecosystem health of another community elsewhere. In other words, unless we combine the shift to clean energy with significant reductions in overall consumption and energy use, the economies in the industrialized world will continue to drive instability and greater vulnerability in communities on the margins in the U.S. and around the world.

**REDISTRIBUTE:** The massive social inequity currently present in the U.S. and the global economy must be addressed explicitly in order to foster resilience. Social inequity is a form of ecological imbalance. Left unchallenged and unchanged, it will continue to erode ecosystem health as people are forced to compromise their land, water, food, and air for survival. Hence, the solutions forged in this period must redistribute both wealth and power; and the processes of implementing these solutions must also redistribute resources and decision-making. The economic activity generated to address climate adaptation and mitigation offers real opportunities for communities usually excluded to lead and participate in these efforts in ways that increase economic equity and establish clear social cohesion.

We argue that the application of the principles of *ecological justice in action* itself generates *the just transition to resilient communities*. Just transition, therefore, is the most direct pathway to resilience.

## ***Building Resilient Communities***

We believe the framework presented here can lead to a vision of what we need to do to re-orient the economy, in particular, cities and bioregions, towards the greatest resilience. In addition, it can guide us as we rethink and remake all the key domains of economic life: energy, transportation, food, water, waste, work, housing, and finance. While we can re-design environments to adapt to the impacts of climate disruption (economic and environmental) and try to reduce emissions, it is only through a rethinking of the key domains of economic life will we be able to do both simultaneously.

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<sup>17</sup> For a well organized explanation for the limits and failures of the dominant economy, read Jerry Mander's "The Capitalism Papers: Fatal Flaws of an Obsolete System" (2012).

# The Principles of a Just Transition to Resilient Communities

*Form follows function: Scale and process*

## PRINCIPLES OF A JUST TRANSITION TO RESILIENT COMMUNITIES

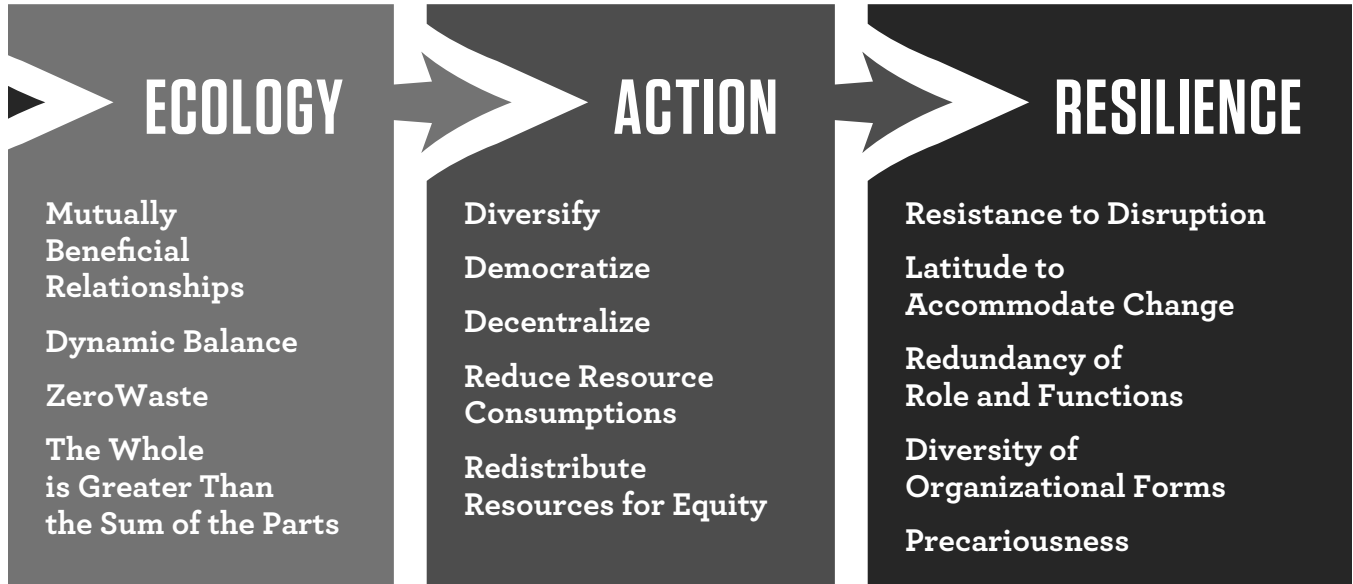


Figure 2. Principles of a Just Transition to Resilient Communities

While these principles — diversify, democratize, decentralize, reduce, and redistribute — are essential, they do not necessarily guarantee the right answer. We believe the right answers will come from communities innovating and experimenting with solutions, first at the micro level, then scaling out and identifying the appropriate scale of governance as they go along.

For instance, in the Bay Area, Greywater Action spent several years experimenting with different greywater systems with dozens of households and community institutions. They trained hundreds of new greywater technicians in the process of building out these systems and conducted research to assess the social, economic and ecological impacts of the systems years after they had been installed. They created a co-learning lab that engaged multiple neighborhoods in small-scale build outs and in the process, identified a plumbing code barrier that made many of the systems “illegal.” Residents were informed of this but decided to make the installations anyway on the principle that “if it’s the right thing to do, we have a right to do it.”

Working with community users of greywater, Greywater Action advocated to change the state code to allow residents to install these safe, simple and effective systems without a permit. Some of these greywater technicians are now active in applying these principles in Los Angeles and testing them out in a very different region. Ultimately, the scale of governance for water is at the watershed level (of which there are smaller and larger sheds). By developing relationships between communities living in the watershed, people can identify the rules that need to be broken or established in order to restore and safeguard fresh water supplies.

At present, we need a diversity of interventions in different arenas of the economy. In the case of resource exchange, communities need to intervene from the smallest scale to the largest. At the individual, family and neighborhood scale, examples include: childcare coops and informal barter and gift economies. At the community scale, examples include: local currency, time banks and revolving loan funds. At the city and regional level, participatory budgeting would provide an important and appropriate model of intervention. And at the state, national and international

levels, public finance and joint funds would be appropriate for collecting, redistributing and devolving resources to the local level and towards equity as part of the transition.

In fostering transition from the current system to resilient communities, questions of scale abound: “How do we ‘scale up’ quickly from small individual solutions to the economy at large?” “Why should we focus on ‘local’ or bioregional over national?” “How do we get more people involved?” “How do we tip the scale of public debate towards a just transition?”

The most important principle in addressing questions of scale is that *form follows function*. The scale of governance and the scale of organization are determined by what they are supposed to do. So we ask: “What is being organized or governed?” For example, the scale of governance for trade is a “trade-shed” — the

region in which trade can be conducted. This is different from the scale of governance for production, which might be a shop floor in conjunction with a community that utilizes what is being produced. Though they are related, these two “scales” serve different functions, and hence take on different forms/structures that correspond to different scales of governance.

Of critical importance to where we’re going is how we get there. The process of shifting systems must engage people in the project of applying their own labor to meeting community needs in ways that foster resilience. As they do this, they are building the mechanisms for democratizing a deep relationship to (and understanding of) the decisions that need to be made. As the greywater example indicates, communities that participate in the process of transition are more likely to end up with solutions that can be sustained and scaled up.

## II. CONCLUSION

Rather than being a *characteristic* of social groups and communities, vulnerability is a *consequence* of the historical and systemic exclusion of groups from access to resources and political power. This root cause of vulnerability must be directly addressed in order to foster resilience. The pathway to resilience is for those communities that bear the brunt of the root causes, impacts and false solutions to the ecological crisis to lead the remaking of economy. As described in this paper, the root cause of the ecological crisis is the dominant economic system in which growth through extraction outpaces the regenerative capacities of ecosystems. Vulnerable or ‘frontline’ communities have a stake in ensuring that the solutions and strategies employed do not exacerbate existing vulnerabilities or create new ones — including economic and political inequality.

The frontline communities are best positioned to lead a just transition to resilient ecosystems in which human labor and cultures are reintegrated into a thriving, regenerative web of life.

A reorientation towards resilience along the lines outlined in this paper can help align policy, planning, organizing, and movement-building toward regional reinvention of the economy. Through trans-localism, where autonomous, place-based organizing and interventions are connected across communities through a unified vision, shared strategies, and common frames, we can address the scale of the problem not by choosing a single intervention but by aggregating scale. With leadership from communities on the frontlines, we can weave the fabric of the next economy now, while expanding and practicing democracy. ■