Mental Health, Climate Change, and Community Development: Strengthening Core Capabilities to Promote Community Resilience

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Climate change-related events, such as floods, hurricanes, wildfires, heat waves, and droughts, create cascading cycles of acute and chronic stress as they devastate communities. The direct and indirect impacts of climate change and their associated stressors affect physical and emotional health. In response to a worldwide increase in extreme climate events, governments, foundations, scientific research institutes, and business coalitions have sponsored comprehensive initiatives to address the impact of climate change on the health of communities.[1,2] The expertise and contributions of community development are featured in each of these initiatives. Community development has emerged as central to addressing the disruption of economic, social, and physical capital caused by extreme climate events.

This article explains how and why climate-related extreme weather events impact mental health, the restorative relationship between mental health and social capital, and the critical importance of social capital to other disaster-related community investments. We end with an exploration of community development's unique role in building the economic, social, and physical capital that increases community resilience to climate-related events.

The Impact of Climate Change on Communities

Scientists describe the weather as "short-term atmospheric conditions." In contrast, "climate" describes how the atmosphere behaves over long periods of time.[3] Over the past decade, and certainly since Hurricane Katrina in 2005, the nation has witnessed how extreme

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1   A. Chandra, A. Charles, P. Hung, A. Lopez, A. Magana, Y. Rodriguez, M. Williams. "Resilience Builder: Tools for Strengthening Disaster Resilience in Your Community" (Santa Monica and Los Angeles, CA: RAND Corporation and Los Angeles County Department of Public Health, 2015), http://www.laresilience.org/documents/resilience-builder.pdf.

2   A. Crimmins et al., "The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment," (Washington, DC: U.S. Global Change Research Program, 2016), http://dx.doi.org/10.7930/J0R49NQX.

3   NASA, "What's the Difference Between Weather and Climate?" (Washington, DC: NASA, 2005), https://www.nasa.gov/mission_pages/noaa-n/climate/climate_weather.html.

weather disrupts normal patterns of everyday life. Each year, more communities across the country are experiencing extreme climate events, which stretch out over longer periods of time. The Atlantic hurricane season now runs for six months of the year. In the West, wildfire season in the 1970s was five months long; by 2016, it lasted eight months of the year.[4] California, for example, has not seen a month without wildfires since 2012.

Climate events can be sudden, such as hurricanes, floods, wildfires, and heat waves, or they can be gradual, such as rising sea levels, changes in the life cycles of ticks and mosquitoes, and decreases in crop viability. These climate change disruptions and the chronic stress they produce can exacerbate such health issues as asthma, Lyme disease, cardiovascular conditions, and mental health challenges. Everyone is vulnerable to the impact of climate events. The disruption they cause systemically changes the built environment, economics, and emotional health of the community.

However, some populations are more vulnerable than others and will bear more of the burden as a result. For instance, inequities in recovery trajectories are more deeply felt by residents of neighborhoods in economically stressed areas, and in some communities of color. One example is the health impact of heat waves. In Fresno County, CA, African Americans were 8.6 times more likely and Latinos were 4.5 times more likely than whites to reside in high-risk areas that include "heat islands."[5] The heat island effect is found where structures are predominantly made from concrete, the majority of public spaces are covered in asphalt that absorbs heat, and there is a minimal amount of tree canopy. Chronic stressors tend to show up in clusters, and so the neighborhoods where low-income residents are less likely to have air conditioning are often the same neighborhoods whose residents are more likely to have multiple chronic conditions, which puts them at higher risk of heat-related illness.[6, 7] This example reminds us how climate events exacerbate existing inequities, such as inadequate employment opportunities, substandard housing, crumbling infrastructure, and lack of access to healthy food, parks, and clean air, that have already caused chronic mental and physical health challenges.

In 2018, Dr. Lucy Jones, a veteran seismologist, wrote a candid and hopeful reflection on how natural disasters shape communities and what can be done to manage their impact. In *The Big Ones,* she writes that "although natural hazards are inevitable, human catastrophes are not."[8] Her observation reminds us of how community development is well-positioned to work with stakeholders to build infrastructure that will not only change the immediate

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4   A. Kenward, T. Sanford, and J. Bronzan, "Western Wildfires: A Fiery Future," *Climate Central* (June 2016).
5   S. Shonkoff et al., "The Climate Gap: Environmental Health and Equity Implications of Climate Change and Mitigation Policies in California—A Review of the Literature". *Climatic Change* (2011) 109 (Suppl 1):S485–S50 DOI 10.1007/s10584-011-0310-7
6   P. English et al., "Racial and Income Disparities in Relation to a Proposed Climate Change Vulnerability Screening Method for California," *International Journal of Climate Change: Impacts & Responses* 4 (2) (2013).
7   C. J. Gronlund, "Racial and Socioeconomic Disparities in Heat-Related Health Effects and Their Mechanisms: A review," *Current Epidemiology Reports* 1 (3) (2014): 165-73.
8   Dr. L. Jones, *The Big Ones: How Natural Disasters Have Shaped Us (and What We Can Do About Them)* (New York: Doubleday, 2018).

impact of disaster but also improve quality of life before, after, and despite climate-related events. Dr. Jones and others remind us that when physical and economic infrastructure disappears, the quality of survival and recovery depends on the strength of the pre-existing social infrastructure. This insight suggests priorities for strategies that will lessen the impact of climate events on communities.

Chronic Stress from Climate Events Impacts Mental Health

The World Health Organization (WHO) recognizes that "there is no health without mental health."[9] The most prevalent chronic physical illnesses, such as cardiovascular disease, diabetes, and high blood pressure, are significantly associated with common mental health challenges, such as anxiety and depression.[10] Increasingly, scholarship is finding a link between chronic stress, physical ailments, and mental health.[11] Our physical bodies and our emotions have an intense symbiotic relationship not only with each other, but also with the social and economic environment that surrounds us.

Everyone is born with a unique "emotional geography," which includes strengths and weaknesses in temperament and resilience that help and hinder our ability to interpret and interact with the world. Central to mental health is self-efficacy, which is the experience of having "mastery" or "what it takes" to engage with and manage day-to-day life.[12] Each person's emotional geography is highly responsive to environmental and behavioral stimuli. This responsiveness is significant because everyone faces different social, economic, and physical environments that influence their physical safety and emotional health. These environments, ranging from very challenging to supportive, interact with our emotional geography and influence our daily experience of self-efficacy and, ultimately, mental health.

The WHO defines a population-based disaster, such as a climate event, as "a serious disruption of the functioning of a community or a society causing widespread human, material, economic, or environmental losses which exceed the ability of the affected community or society to cope using its own resources."[13] With this in mind, climate events first impact mental health through immediate experiences of loss and losing control—for instance, witnessing the disappearance of entire neighborhoods, or experiencing the personal loss of homes, jobs, access to water, food, electricity, and health. This level of stress can impact

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9   World Health Organization (WHO), "Mental Health: Facing the Challenges, Building Solutions." Report from the WHO European Ministerial Conference (Copenhagen, Denmark: WHO Regional Office for Europe, 2005).

10   K. M. Scott, "Depression-Anxiety Relationships with Chronic Physical Conditions: Results from the World Mental Health Surveys," *Journal of Affective Disorders* 103 (1-3), (2007) 113–120. https://doi.org/10.1016/j.jad.2007.01.015

11   B. S. McEwen, "Neurobiological and Systemic Effects of Chronic Stress," *Chronic Stress* (Thousand Oaks, CA) 1 (2017).

12   A. Bandura, "Self-Efficacy." In *Social Foundations of Thought and Action: A Social Cognitive Theory* (Englewood Cliffs, NJ: Prentice-Hall Inc., 1986), 390-449.

13   P. Koob, "Health Sector Emergency Preparedness Guide" (Geneva, Switzerland: World Health Organization, 1998).

mental health during the months and years following the climate event. For some people, experiencing the chronic stress of a deeply disrupted physical, social, and economic environment can be heightened by knowing that the threat of Category 4 hurricanes, wildfires, or heat waves may return seasonally to their neighborhood or to a neighboring community. The post-traumatic stress endured by survivors can be challenging.

The chronic stress of preparing for, coping with, and recovering from climate change events, experienced directly or indirectly, can create mental health impacts that range from transient distress to longer-term symptoms. Symptoms of anxiety, depression, or post-traumatic stress disorder (PTSD) can appear immediately or gradually (months or years later).[14] Populations who are vulnerable to the mental health impacts of climate events include: first responders and emergency workers; the elderly; children and youth; people with a physical disability, a mental health challenge or addiction; pregnant women; people who are institutionalized; and people with low-incomes or those experiencing homelessness.

Yet the onset, duration, and intensity of mental health symptoms for any one person is often determined by their resiliency and hardiness, combined with the availability of resources in their environment, such as a safe community and access to affordable housing, income, transportation, healthy food, and positive social ties.[15] Mental health, like physical health, is socially produced. Vulnerability to the health consequences of climate events is heightened when people experience economic, political and social inequities.[16]

Research demonstrates that positive social support is an essential factor in building and maintaining physical and mental resilience for people in all states of health—from robust to highly symptomatic.[17] Social support is developed in the context of meaningful roles within social or family groupings and within communities. Community development initiatives create the social and physical "spaces" where positive social support can develop for people from diverse socio-economic backgrounds. Examples include neighborhoods, schools, places of worship, public markets, and parks, as well as events and activities that bring people together, such as community planning projects, festivals, and sporting and arts events.

Research from Katrina, Irma, and other disasters has shown that the majority of "just-in-time" emotional support comes from neighbors, family, and volunteers who share resources and stories. Peer support has been shown to be effective in helping survivors make meaning of tragic experiences, and it tends to take a trauma-informed approach, which shifts the conversation from "What's wrong with me?" to "What happened to me?" This shift reduces self-stigma and leaves room to engage with the survivor's internal strengths

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14   Chapter 7 Behavioral Health. Institute of Medicine. 2015. *Healthy, Resilient, and Sustainable Communities After Disasters: Strategies, Opportunities, and Planning for Recovery.* Washington, DC: The National Academies Press. doi: 10.17226/18996

15   M. Compton and R. Shim, "The Social Determinants of Mental Health" (Washington, DC: American Psychiatric Association, 2015).

16   J. Allen et al., "Social Determinants of Mental Health," *International Review of Psychiatry* 26 (4) (2014): 392-407, http://dx.doi.org/10.3109/09540261.2014.928270.

17   D. Umberson and J. K. Montez, "Social Relationships and Health: A Flashpoint for Health Policy," *Journal of Health and Social Behavior* 51 (S) (2010): S54-S66.

and gifts needed to mobilize healing. Although professional help aids in recovery after a disaster, the anchor for healing often lies within the stories shared by the community that survived the climate event.[18]

Mental health recovery, as understood within the public mental health community, acknowledges that people can learn how to manage mild, moderate, and severe challenges while continuing to live a meaningful life. The motivation and willingness to work through challenges is anchored in hope.[19] Healing trajectories are dependent upon the level of social and financial resources held at the personal and community level, combined with past experience of traumatic events. Populations who exist at the vulnerable end of the social gradient during the climate event will be at risk for poor outcomes. With enough resources, however, most residents who experience mental health challenges from climate events will, over time, show a stable trajectory of emotional healing.[20]

Yet, it is also recognized that people who have faced adversity can also be the ones who have developed the mastery and the social networks required to survive the initial traumatic shock of the climate event. Having experience with living under conditions of scarcity, uncertainty, and powerlessness, while maintaining a positive sense of self-efficacy, is a skill that supports survival during and immediately after a trauma. Community survival, as defined earlier in this section by the WHO, is dependent upon recognizing and leveraging the core strengths of all community members to build social, physical, and economic capital for the entire community.

Community Resilience and Social Capital

In 1897, French sociologist Emile Durkheim introduced the concept of social capital in a classic study that elevated the importance of social forces on health. Durkheim observed that suicide rates stayed high even as people entered and left communities. He concluded that the social organization of groups affects patterns in suicide rates.[21] Current research suggests that the resilience of individuals interacts dynamically with community resilience[22] and that a community's resilience is anchored in access to human, political, economic, and social capital.[23] This has important implications for community development strategies developed to address the impact of climate events.

18   R. L. Hawkins and K. Maurer, "Bonding, Bridging and Linking: How Social Capital Operated in New Orleans Following Hurricane Katrina," *British Journal of Social Work* 40 (6), (2010): 1777-93.

19   S.J. Onken, J.M. Dumont, P. Ridgway, D.D. Dornan, R.O. Ralph, "Mental Health Recovery: What Helps and What Hinders? Phase II Technical Report" (Alexandria, VA: National Technical Assistance Center for State Mental Health Planning, National Association of State Mental Health Program Directors, 2002).

20   G. Bonnano. "Loss, Trauma and Community Resilience- Have We Underestimated the Capacity to Thrive After Extremely Adversive Events?". Copyright 2004 by the American Psychological Association, Inc. 59(1) 20–28 DOI: 10.1037/0003-066X.59.1.20

21   E. Durkheim, *Suicide: A Study in Sociology* (Glencoe, IL: Free Press, 1951).

22   J. W. Smith, D. H. Anderson, and R. L. Moore, "Social Capital, Place Meanings, and Perceived Resilience to Climate Change," *Rural Sociology* 77(3), (2012): 380-407.

23   M. Emery and C. Flora. "Spiraling Up: Mapping Community Transformation with Community Capitals Framework," *Community Development* 37 (1) (Spring 2006).

Conversations about how community development can build the community resilience required to manage climate events typically take one of two paths. The first path suggests how the individual or community can return to the status quo that existed before the disaster by improving skills, knowledge, and resources. This strategy may be a good fit for social, economic, or physical environments that are predictable. However, returning to a status quo runs the risk of replicating the vulnerabilities that may have caused the inequitable impacts of the climate event. The second path focuses on how the disaster or trauma provides an opportunity to reevaluate the circumstances that created these inequities and to develop the knowledge, skills, and resources required to redesign the community. This second path, sometimes called "bouncing forward," asks us to "eradicate the inequities that magnify vulnerability to disaster, and to distribute opportunities more fairly—so that all people have a chance to adapt and thrive in a fast-changing world."[24]

This second pathway is based on a framework called socio-ecological resilience.[25] This framework views communities as "complex adaptive systems" that expand, stabilize, and deconstruct within dynamic environments. Cascading physical, social, and economic events create the preconditions for this growth cycle to repeat over and over again.[26] When applied to disaster management, this framework recognizes that community resilience also rises and falls in adaptive cycles.[27] For instance, communities in a growth phase adapt easily to change. Gradually, resources are locked into arrangements that become rigid. The rigidity causes the system to break down under financial, social, or environmental pressures (such as a climate event), which begin another regenerative cycle.

Awareness of this community growth cycle can help us design systems that will maintain flexibility in the face of pressure. The socio-ecological resilience perspective includes a toolbox containing effective strategies for community development. One principle, for instance, is redundancy, which ensures the availability of options when a disaster disrupts the accessibility of community resources. Examples might include encouraging many kinds of transportation (e.g., cars, bikes, walking paths, and light rail) or a distributed energy grid to preserve community mobility or access to electricity.

Community resilience to the impact of climate change is dependent on the dynamic interplay between social capital and physical and economic resources. Similarly, the degree of an individual's resilience to mental health stressors results from the interplay of personal social capital, physical and economic resources, combined with one's own self-efficacy or "mastery." With this in mind, the next two sections will illustrate how community develop-

24   Island Press and The Kresge Foundation, "Bounce Forward: Urban Resilience in the Era of Climate Change." Strategy paper (Washington, DC, and Troy, MI: Island Press and The Kresge Foundation, 2015).

25   S. Davoudi, "Resilience: A Bridging Concept or a Dead End?" *Planning Theory & Practice* 13 (2) (2012): 299–333.

26   B. Walker and D. Salt, *Resilience Thinking: Sustaining Ecosystems and People in a Changing World* (Washington, DC: Island Press, 2006).

27   A. Cavallo and V. Ireland, "Preparing for Complex Interdependent Risks: A Systems Approach to Building Disaster Resilience" Prepared for the Global Assessment Report on Disaster Risk Reduction (Geneva, Switzerland: United Nations Office for Disaster Risk Reduction, 2015).

ment strategies affecting social, physical, and economic capital can be leveraged to produce mental and physical health.

Learning from National Experiences

Below are four observations about the contribution of social capital to community resilience and mental health based on the United States' national experience with the past 15 years of extreme climate events.

Social, Economic, and Political Capital Builds Health in the Face of Disasters

Between 2005 and 2010, the Gulf Coast communities of Texas, Mississippi, Louisiana, Alabama, and Florida experienced significant trauma from multiple climate events and disasters. University researchers based in these communities worked with survivors to identify the adaptive capacities that might help residents reduce the impact of disaster-related chronic stressors on their health. This research produced a Resilience Action Framework that identified a range of community-based resources linked to survival and recovery. These resources included human capital (physical health, self-efficacy, emotional regulation); community capital (social networks, human services, spiritual communities); economic capital (savings, job stability, credit); and political capital (relationships with community leaders).[28]

In 2015, the U.S. Department of Homeland Security Mitigation Framework Leadership Group (MitFLG) was established to respond to national disasters by developing guidance that would build a culture of preparedness by addressing risk and resilience.[29] MitFLG's aim as an interagency council was to suggest how federal and state resources might align to support local, community resilience by "building and protecting the public and private assets and services that assure sustainability, livability, and equal access for all." In alignment with community participatory engagement principles, the original report was developed through a literature review and a national stakeholder process. The effort produced a taxonomy of community resilience indicators. The June 2016 findings from this report suggest seven categories of community development investment that will foster resilience in communities threatened by a catastrophic event. These seven categories, identified by MitFLG as "core capacities," are featured in the final section of this article.

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28   D. Abramson, L. Grattan, B.Mayer, C. Colton, F. Arosemena, A. Rung, "Resilience Activation Framework: A Conceptual Model of How Access to Social Resources Promotes Adaptation and Rapid Recovery in Post-Disaster Settings," *Journal of Behavioral Health Services Research* 42 (1) (2015): 42-57.

29   U.S. Department of Homeland Security Mitigation Framework Leadership Group (MitFLG), "Community Resilience Indicators." In *National Preparedness Goal Alignment -Alignment to a Community Resilience Indicator Categorization Taxonomy* (Washington, DC: MitFLG, 2016), 8-15.

Social Capital Mitigates the Impact of Climate Events

Several studies demonstrate how social capital is essential to survive severe climate events, rebuild lives, and reconstruct communities.[30] In his study of New Orleans families, Robert Hawkins found that leveraging social capital brought residents peace of mind that was based on their identification as part of the community. Even as the physical infrastructure disappeared with wind and water, residents' felt sense of "place" was held in the personal relationships negotiated using social capital.[31]

The best chances for survival, across the social gradient, lie in combining three types of social capital. First, connecting with a network of people who are similar (bonding social capital) was critical to engage immediate support and build resiliency. Second, building relationships with people who are dissimilar (bridging social capital) provided access to new ideas and resources by connecting across geographic, social, cultural, and economic lines. Finally, relationship-building with people and organizations who have authority (linking social capital) is critical to solving systemic problems faced by residents. Examples of linking social capital include government agencies, foundations, or universities that can support initiatives and programs designed to solve such challenges as housing, transportation, communications, and food safety. Additional research found that bonding capital and bridging capital were resources that reversed the downward spiral of loss after a disaster by giving residents opportunities to reconnect with meaningful roles in the community.[32]

Build Positive Social Networks Before the Climate Event Occurs

Creating ties with neighbors and knowing the name of the block captain or local fire chief can be more important in surviving a crisis than depending solely on stored provisions of food and water in one's home. For this reason, resilience must be based on forming strong social networks with entities that will participate in the response and recovery effort.[33] These social networks include community-based organizations, faith-based organizations, block associations, and other neighborhood-level groups. Building resiliency involves fostering neighbor-to-neighbor ties and encouraging multisector partnerships between government, business, and community organizations. Finally, community resilience also depends on incorporating equity and social justice considerations into preparedness planning—engaging residents in planning and making support services accessible to everyone, particularly the most marginalized residents.[34]

30 K. Brown and E. Westaway, "Agency, Capacity and Resilience to Environmental Change: Lessons from Human Development, Well Being and Disasters," *Annual Review of Environmental Resources* 36 (1), (2011): 321-42.

31 Ibid. R. L. Hawkins and K. Maurer, 2010.

32 Ibid. M. Emery and E. Flora 2006.

33 D. P. Aldrich and M. A. Meyer, "Social Capital and Community Resilience," *American Behavioral Scientist*. Published online 1 October 2014 . DOI: 10.1177/0002764214550299

34 Ibid., r A. Chandra, A. Charles, P. Hung, A Lopez, A. Magana, Y. Rodriguez, M. Williams. 2015

Build Community Resilience and Mental Health by Engaging Residents in the Development of Economic, Political, and Physical Capital

Mobilizing communities to plan for or recover from climate events initiates a virtuous cycle of sharing stories of resilience while engaging in problem solving and implementing solutions.[35] Pre- and post-disaster community planning offers opportunities for residents to strengthen their attachment to each other and to their community as a shared social space. For instance, the physical layout of neighborhoods and housing complexes impacts the creation of social capital. One pathway to resident involvement is sharing decision-making power over the design of communities and their architectural structures before a climate event occurs.

Successful community building involves rediscovering and mobilizing resources already present in the community, including the skills, knowledge, and experience of all residents; the power of voluntary associations; and the assets present in the physical infrastructure of the community and in the local economy. Relationship-driven planning frameworks, like assets-based community development,[36] can be used to connect residents with the strengths of their community—with the goal of building social capital to protect both mental health and community resilience.[37]

Building Community Resilience: A Good Fit for Community Development

The U.S. Department of Homeland Security Mitigation Framework Leadership Group (MitFLG), the federal interagency council mentioned in the previous section, developed a Community Resilience Indicator Taxonomy. This taxonomy outlines the building blocks required to marshal federal, state, and community resources to build a culture of preparedness in the face of disasters. MitFLG identified a set of "core capabilities" that are "intrinsic community functions critical for absorbing, rebounding, and adapting to hazard risks; reducing long-term vulnerabilities; and enabling post-disaster community recovery and redevelopment."[38] These core capabilities are already a part of the community development toolkit. The list below includes examples of how investments in core capabilities build the community resilience required to meet the challenge of climate events. This framework resonates with the "bounce forward" concept of improving community living conditions and social capital before and despite climate-related events.

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35   Ibid. D. Abramson L. Grattan, B. Mayer, C. Colton, F. Arosemena, A. Rung ,2015.

36   J. P. Kretzmann and J. L. McKnight, "Discovering Community Power: A Guide to Mobilizing Local Assets and Your Organization's Capacity" A Community-Building Workbook from the Asset-Based Community Development Institute, School of Education and Social Policy (Evanston, IL: Northwestern University, 2004).

37   K. Ebi and J. Semenza, "Community-Based Adaptation to the Health Impacts of Climate Change," *American Journal of Preventive Medicine* 35 (5) (2008).

38   Ibid.s. U.S. Department of Homeland Security Mitigation Framework Leadership Group (MitFLG), "Community Resilience Indicators." 2016

Core Capability 1: Housing

- Improved quality (weatherization, energy efficiency) mitigates the impact of climate events

- Increased affordability reduces financial insecurity and strengthens emotional resilience; expanded availability of housing improves resilience when climate events cause housing disruptions

- Implement anti-displacement policies before community improvements are made to mitigate residential displacement (which harms physical and mental health and decreases community ties)

Core Capability 2: Planning

- Integrated land use/development policies and financing mechanisms that plan for climate disruptions and help develop long-term strategies for protecting communities

- Healthy retail uses including grocery, keeping "eyes on the street" through appealing public spaces and improving safety will increase mental health and healthy behaviors

Core Capability 3: Environmental Health

- Share land use decision-making with communities (zoning and siting), particularly low-income communities and communities of color that are more likely to be exposed to environmental toxins

- Incentivize green building and use of non-toxic materials; adopt municipal policies shifting to renewable energy and clean transportation

Core Capability 4: Economic Development & Recovery

- Policies that increase income and strengthen the safety net, build adaptive capacity to prepare for, respond to, and recover from disasters

- Promote quality full-time jobs with benefits, local hiring, and small business development, as employment can provide economic security, self-esteem, and social cohesion, which strengthens mental health and builds resilience to climate change impacts

Core Capability 5: Infrastructure

- Design streets for connectivity and build redundancy for critical infrastructure such as transportation, water supplies, and electricity

- Prioritize infrastructure for walking, cycling, transit and universal design to improve health and resilience

- Zoning and building codes with high standards for withstanding climate impacts

Core Capability 6: Natural Resources

- Invest in green infrastructure, such as greywater systems, low impact development and community greening to improve physical and mental health

- Create plans, zoning codes and development standards that foster and preserve natural infrastructure and greening

Core Capability 7: Social Capital

- Create spaces for social interaction (e.g. parks, trails, gardens and public markets) which is critical to community resilience capacity. Isolation increases vulnerability to climate impacts and mental health impacts

- Create inclusive events and services that facilitate social networks and trust, which empower people to help one another after a major climate event and connect to critical recovery services

Conclusion

Due to past inaction in reducing greenhouse gas emissions, many climate-related events are inevitable. This upending of natural systems creates unexpected devastation and chronic stress across our nation and the world. To restate Dr. Lucy Jones's wise observation however, human catastrophes can still be avoided. The rich expertise of community development, and its ability to contribute to the core capacities of community resilience is central to this message of hope.

Community development practitioners can reduce harm and build mental health in the face of climate events by creating the conditions for human settlements to "bounce forward." Averting human catastrophe is possible when the gifts and strengths of all residents are engaged in the development of strategies that build social capital and reduce inequities—in service of community resilience.

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