Reclaiming Broken Places: Introduction to Civic Ecology
edX Massive Open Online Course (MOOC)

Glossary

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Environment: Our surroundings, including plants, animals, humans, and other life, as well as soils, air, water, and other non-living things.

Physical Environment: the soil, rocks, air, water, buildings, and other non-living things that surround us.

Social Environment: the human influenced aspects of our surroundings. Poverty, war, and built-up cities are all examples of the social environment.

Stewardship: The act of caring for our rivers, streams, vacant lots, parks, wildlife, neighborhoods, and other aspects of our environment. Stewardship implies responsible use and management of our surroundings. We can be stewards of our environment and of our communities. In fact the two often go hand-in-hand.

Civic Ecology Practices: Grassroots or local environmental stewardship actions to enhance the local environment and neighborhood. Includes community gardening, litter cleanups, community tree planting, habitat restoration, removing invasive plants, caring for local parks, and similar stewardship practices. Civic ecology practices enhance environmental quality and human and community well-being, especially in cities and after disasters (such as hurricanes or war).

Civic Ecology: Civic ecology uses ecology, psychology, sociology, and political science to understand the outcomes for individuals, communities, and ecosystems of people caring for their local environment. It is the study of the interactions of stewardship practices with the physical and social environment in which they take place.

Civic Ecology Stewards. People who engage in civic ecology practices like community gardening or caring for neighborhood parks.
Module 2. Principles

Community: A group of people who share common values, interests, culture, or ethnic identity. A community can be in a particular place or it can be created virtually online.

Restoration: The act of bringing back a piece of land or body of water to its original or a more positive condition. Civic ecology stewards restore damaged or destroyed ecosystems.

Social-ecological system. Social systems include communities, neighborhoods, and cities. Ecosystems are things like rivers, farmland, a park, or a garden. All social systems interact with ecosystems. It is impossible to separate out social processes (like how people manage land) from ecosystem processes (like animals eating plants or other animals). To capture the links between social and ecosystem processes, scientists use the term social-ecological system.

Civic Ecology Principles: Ten principles that help us understand civic ecology practices. The first two principles explain how civic ecology practices start. The next five principles explain the components of civic ecology practices. The next two principles help us understand the role of civic ecology practices in governing and in social-ecological systems. The last principle focuses on how policy makers can support civic ecology practices and stewards.
The Ten Civic Ecology Principles

Emergence: Why do civic ecology practices happen?
1. Civic ecology practices emerge in broken places.
2. Because of their love for life and love for the places they have lost, civic ecology stewards defy, reclaim and re-create these broken places.

Bricolage: Piecing the practice together
3. In re-creating place, civic ecology practices re-create community.
4. Civic ecology stewards draw on social-ecological memories to re-create places and communities.
5. Civic ecology practices produce ecosystem services.
6. Civic ecology practices foster well-being.
7. Civic ecology practices provide opportunities for learning.

Zooming Out: A systems perspective
8. Civic ecology practices start out as local innovations and expand to encompass multiple partnerships.
9. Civic ecology practices are embedded in cycles of chaos and renewal, which in turn are nested in social-ecological systems.

Policy Makers: Understanding and enabling
10. Policy makers have a role to play in growing civic ecology practices.
The solar system diagram captures the ten civic ecology principles.

Each orbit includes principles addressing one of four questions:
Where and Why do Civic Ecology Practices emerge?
What are the parts of Civic Ecology Practices?
How do Civic Ecology practices interact with larger systems?
How can policy makers help grow Civic Ecology Practices?
Module 3. Broken Places

Broken Places: Places that have been impacted by a natural disaster, pollution, poverty, civil unrest, or war. Examples include: neighborhoods with abandoned stores and homes where open space is overgrown with weeds and used as a dumping ground for trash; cities where homes and other buildings have been carried away by floods; streets strewn with rubble of homes destroyed by bombing or burned by arsonists.

Red Zones: Similar to broken places, areas that have been impacted by a hurricane, tornado, or other sudden disturbance, a war or ethnic conflict, or simply years of poverty, crime, loss of green space, and pollution. A sudden red zone occurs when a hurricane devastates a neighborhood or town, or when a city is under siege during war. A “slow burn” red zone occurs when a community suffers from years of neglect by government, businesses, and its own residents.

Sense of Place: the feelings you have for a place and the meanings a place holds for you. For example, you may have lived for years in the Anacostia neighborhood of Washington DC, and feel as if you like the neighborhood or are attached to it. And Anacostia may have certain meanings for you, like a place where you can play or walk and enjoy the birds along Watts Creek, the place where Marvin Gaye grew up, or a place where there is poverty and pollution.

Urbanization: The process by which cities are formed and become larger as more people live and work in them.
Module 4. Love of Life, Love of Place

Biophilia: A love of nature. Biophilia is expressed through all sorts of activities in nature—hiking, hunting, fishing, gardening, or simply sitting by the side of a stream to daydream and think. Biophilia also can be expressed through caring for—stewarding and restoring—plants, animals, and natural places. Scientists think that humans are programmed to love nature. In other words, it’s in our genes. However, any love of nature that we are born with can grow or wither depending on our experiences in nature.

Urgent Biophilia: Some people may feel a particularly strong love of nature after a disaster or conflict. This love of nature—or biophilia—may motivate them to go out and plant trees, plant flowers, or otherwise care for nature immediately following a disaster. For example, after 9/11, people went out and planted daffodils in green spaces around New York City, and after Hurricane Katrina, people in New Orleans came out and planted trees. This “urgent” need to express one’s love of nature after hardship is called urgent biophilia.

Topophilia: A love you feel for a particular place. For example, you may love the place where you grew up, a place you visited as a child, or the place where you live.

Restorative Topophilia: Restorative refers to healing or bringing us, our communities, and our environments back to health. Nature has the ability to heal or make us healthier. We also have the ability to heal or restore nature. When we love a particular place (topophilia) and then decide to heal, care for, or restore that place, we are motivated by restorative topophilia. This happens when a place we love has been destroyed or wounded, and we have a desire to return it to what it was before.
Module 5: Learning like Bees

Ecology of Learning: Learning is a process of interaction between a person and his or her surroundings. Through these interactions, both the person and his or surroundings can change. For example, community gardeners learn from interacting with the plants, soils, water, and other people in the garden. But while they are learning, they are also changing the garden—it may have richer soils, flowers and vegetables, and people who are forming new connections. Because ecology is about interactions between living and non-living things, we refer to these interactions among the person who is learning and his or environment as an “ecology of learning.” This is important because it helps us to expand how we think about learning—it’s not only a one-way process of a teacher instructing a student. Rather it involves multiple interactions.

Social Learning: Social learning is about learning through interactions with people. It helps us think about how much we have to learn from other participants in a civic ecology practice, who bring different types of knowledge, skills, and ideas. Some definitions of social learning include taking action as a group to improve the environment, based on what we have learned from each other.

Social learning is based on five principles. (1) We learn from each other. (2) We learn more in groups of people who don’t all think alike. (3) Trust and social connections are essential building blocks in the process of learning from people who hold different views. (4) Social learning is a process of a group coming to understand a situation. (5) Social learners help to create the learning process and the solutions to the problems they face; for this reason they are more likely than passive learners to follow up with action.
Module 6: Creating Community, Creating Connections

Social Capital: the presence of social networks, trust, and volunteering or participation in a community. It is important because when there is more social capital, people are more likely to join together to take action to benefit their community.

Collective Efficacy: the willingness of people to intervene for the common good. For example, a neighborhood demonstrates collective efficacy when people are willing to pick up litter, call out kids who are skipping school or harassing others, or plant a community garden on a vacant lot. Studies have shown that a neighborhood that demonstrates collective efficacy has lower crime rates.

Sense of Community: a feeling that you belong and that you matter to others. You also feel emotional connections and a shared faith that your needs and those of others will be met through your commitment to be together.
Module 7: Oyster Spat and Live Oaks: Memories

Social memories: memories shared by a group of people

Ecological memories: the plants and animals, and the ecological processes, like predator-prey interactions, in an ecosystem.

Social-ecological Memories: social memories that are about farming, gardening, fishing, or other forms of ecosystem management. People draw on social-ecological memories—like their memories of how to grow beans or how to fish without causing fish numbers to go down—to restore social-ecological systems.
Module 8: Ecosystem Services

Ecosystem services: the services provided to us by nature, such as clean water, food, and recreation. Civic ecology practices can help provide these services.

There are four types of ecosystem services:

Provisioning services supply the basics that humans need to survive. They include the food we eat, the water we drink, the fiber we make into our homes and clothes, fossil fuels, natural medicines and pharmaceutical drugs derived from nature.

Regulating services regulate ecosystem processes. They reduce air, water, and solid waste pollution, climate extremes, flooding, erosion, diseases, pests, and natural hazards. For examples, wetlands reduce the amount of water and silt that run off a parking lot during a flood. Pollination is also considered a regulating service because insects and other pollinators regulate the diversity of plant species and the amount of food we are able to grow.

Cultural services are other benefits that people derive from nature, like recreation, education, and enjoying nature.

Supporting services support other ecosystem services. So for example, composting is a way to recycle nutrients from dead plants. It produces compost, which can be added to the soil and supports vegetable growth. Vegetable production is a provisioning ecosystem service. Composting—or nutrient cycling—is a supporting ecosystem service because it supports a provisioning service--vegetable production.

Ethics and Ecosystem Services. When we look at nature only as a source of services for humans (for example, food, fuel, filtering water), we may overlook the fact that nature has an intrinsic value apart from what humans can get from nature. Some people think that focusing only on what nature can do for us is unethical.
Module 9: Stewardship, Health, and Well-being

Stewardship: the act of caring for our rivers, streams, vacant lots, parks, wildlife, neighborhoods, and other aspects of our environment. Stewardship implies responsible use and management of our environment. We can be stewards of our environment and of our communities. In fact the two often go hand-in-hand.

Well-being: the state of being healthy, happy, or prosperous. A person or a community can experience well-being.
Module 10: Governance

Governance: the notion that in addition to official local, state and national governments, non-profit organizations, community organizations, and businesses influence policies.

Polycentric Governance: Polycentric means “many centers.” The notion of polycentric governance is that when you have multiple government agencies, non-profits, and community organizations involved in making and enforcing policy, the results are better than if rules are made and enforced by one government agency. This is because we need ideas and solutions coming from all sectors of society, not just from government agencies.

Civic Environmentalism: An environmental movement that seeks to form coalitions among government agencies, non-profits, and community organizations that work together toward a shared environmental goal. Civic ecology practices can be part of these coalitions. Civic environmentalism is an alternative to environmental movements that focus on legal battles and other adversarial tactics.

Social Innovation: New ideas, practices, and policies that address social issues such as health, education, and the environment. Civic ecology practices are one type of social innovation.
Module 11: Resistance, Remembrance, Revolt—and Resilience

Resilience: Social-ecological systems resilience refers to the capacity of a social-ecological system to continually change—or adapt—so as to maintain ongoing processes in response to gradual and smaller change. It also captures the ability of a system to renew and reorganize—to transform—when faced with devastating change. The word resilience suggests that a social ecological system continually undergoes change, both small-scale changes and massive disturbances that can alter the ecosystem completely.

Note that individuals also have “psychological resilience”—or the ability to recover and be productive when faced with hardship. And communities also have resilience—the ability to respond and maintain well-being when faced with loss of jobs, new immigrants, or a flood.

Adaptive Cycle: Social-ecological systems—like cities—experience frequent small changes, and occasionally, unanticipated massive destruction. The adaptive cycle is a diagram that explains how systems respond to small and large changes. It suggests that a city or other system can simply adapt to small changes, but in the face of a catastrophic event, it may descend into a period of chaos before rebuilding. It captures the processes of adaptation to small changes and transformation following catastrophes.

Panarchy: Adaptive cycles occur in systems that operate at different scales—for example, a community garden, a neighborhood, or a whole city. The idea of panarchy suggests that adaptive cycles operating at different scales interact with each other. For example, a community garden may influence a neighborhood’s ability to adapt when new immigrants move in. If the city government decides to forbid gardening on vacant lots, this may also influence the neighborhood’s ability to integrate new immigrants.
The adaptive cycle. During the conservation phase, social-ecological systems adapt to small changes. The release phase occurs after a major disturbance that causes chaos, and is followed by reorganization or transformation to a different social-ecological system.

Panarchy diagram showing adaptive cycles at different scales interacting with each other.
Module 12: Policy Frameworks: Scaling Up and Out

Policy: Rules that govern what societies are able to do.

Policy entrepreneur: A person who makes innovative new policies. A policy entrepreneur can make policies that help civic ecology practices to grow.

Social entrepreneur: A person or organization that starts innovative practices. A person or group of people who start a new civic ecology practice are social entrepreneurs.

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Equality: The condition of having equal dignity, rank, or privileges with others; the fact of being on an equal footing. The condition of being equal in power, ability, achievement, or excellence

Equity: The quality of being equal or fair; fairness, impartiality; even-handed dealing.