

**There Grows the Neighborhood:
Regenerative Neighborhood Development in South Side Chicago**

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Abstract

Regenerative development is an emergent field of practice aimed to address escalating climate change and urbanization trends by incorporating holistic, systems thinking approaches to urban development. The intent of this study is to investigate the key principles of an iteration of regenerative development, regenerative neighborhood development (RND), and how they align with or depart from key regenerative development principles (those being principles of wholism, change, relationships) and what might explain these similarities/differences. For this paper, I examine Sweet Water Foundation, based in Chicago, Illinois, and one of the leading practitioners of RND, as a case study.

To best understand RND from a theoretical, empirical, and experiential basis, I conducted participant observation over twelve months at Sweet Water Foundation. I then extracted key themes from the qualitative data in the form of observations, field notes, reflections, and photos through thematic content analysis. I later contrasted these themes against a regenerative development evaluation framework to reveal key distinctions and similarities in core principles, and underlying assumptions, between the two development methodologies. Through its application of key regenerative development concepts at the neighborhood scale, I argue that RND incorporates and advances existing regenerative development approaches by emphasizing the locality of production and the value of place-based knowledge, culture, and subjects. However, the study also revealed differences in foundational assumptions between the two regenerative development methodologies. This study contributes to the growing literature on regenerative development and elucidates new principles of regenerative development that may better inform future urban development processes at the neighborhood scale.

| | |
|---|-----------|
| Abstract | 3 |
| Introduction | 6 |
| Literature Review | 10 |
| Literature Review Roadmap | 10 |
| Chicago Background and Context | 11 |
| Regenerative Development | 14 |
| Neighborhood Effects and Locality | 16 |
| Conclusion | 19 |
| Data and Methods | 21 |
| Introduction | 21 |
| Case Study and Data Collection Framework and Defense | 21 |
| Data Analysis Methodology | 24 |
| Inductive thematic content analysis | 25 |
| Comparative analysis to RD Evaluation Tool | 26 |
| Results and Discussion | 27 |
| Inductive thematic content analysis | 27 |
| Resistance to Framework Analysis | 28 |
| Everything is connected: exposure to holistic and transdisciplinary worldviews | 29 |
| Chaordic systems: working with chaos and order | 34 |
| Connections across time: reflexivity with regard to the past, present, and future | 36 |
| Everyone is connected: Cultivating value-based relationships and learning from others | 40 |
| Connections within local space: acknowledgment and value of local context | 42 |
| Comparative analysis to RD Evaluation Tool | 44 |
| Points of alignment | 44 |
| Points of departure | 48 |
| Discussion | 49 |
| Applications and Limitations | 50 |
| Conclusion | 51 |
| References | 53 |
| Appendix | 58 |

“Lively, diverse, intense cities contain the seeds of their own regeneration, with energy enough to carry over for problems and needs outside themselves.”

- Jane Jacobs, *The Death and Life of Great American Cities*, (Jacobs, 1961)

I. Introduction

Jane Jacobs, Canadian-American writer, urbanist, and activist wrote her renowned piece, *The Death and Life of Great American Cities*, as a pointed critique towards the contemporary large-scale urban renewal movement in the United States. At the time she published the piece in 1961, the failures of urban renewal projects were painfully fresh for many urbanites in major U.S. cities. In the book, rather than lamenting over technical and architectural pitfalls of urban renewal, Jacobs takes aim directly at the institution of planning and development to argue that the principles and aims that had guided city planning and development in the US up until then are fundamentally flawed. Over sixty years have passed since Jacobs’ publication and yet her ideas and critiques contained therein are still relevant, and perhaps even more so, today.

Specifically, the past several decades have not been kind to the urban milieu on two fronts. On one hand, there’s the undeniable fact of a rapidly increasing urban population in which now over 50% of the global population lives in urban settlements. The expansive urban growth of cities in the last thirty years is the result of both rapid population growth and the dramatic transformation of the global economy from accelerated changes in technology and politics (Cohen, 2006). Yet, on the other hand, humanity also faces an intensifying, and time-sensitive, global climate crisis. Indeed, within the past decade, a scientific consensus has been reached that “human-caused climate change is happening and is accelerating; dangerous impacts are becoming evident around the world, and are projected to get worse in the decades to come, possibly much worse” (Maibach et al., 2014). Despite the overwhelming consensus from the scientific community

affirming anthropogenic climate change, projected trajectories, even accounting for changes yet to be enacted from the Paris Agreement, show that even more action is needed to limit global warming to 1.5°C (IPCC 2018). Cities in particular are shown to be vulnerable hotspots of certain climate-related disasters (Hayhoe, Sheridan, et al., 2010; Pelling, 2003; Pelling et al., 2004). Thus, the *mélange* of contemporary urbanization and escalating climate change poses a unique and complex problem for cities to grapple with.

Perhaps the city that can best bring these ideas to the fore would be Chicago, wherein we can observe in real-time the problem between urban development and climate change. Despite conceptions that Chicago is a safe haven from climate disasters, the city faces a looming reality of frequent flooding, rising lake levels, heat waves (Egan, 2021; Hayhoe, Sheridan, et al., 2010; Hayhoe, VanDorn, et al., 2010; Wuebbles et al., 2010). What's more, these climate events impact areas of Chicago disproportionately such that the vulnerable populations of Chicago's South and West Sides often experience the brunt of these effects. Outdated infrastructure, disinvestment, and unequal allocation of development manifests a spatial disparity in Chicago that amplifies the hardships already faced by those living in these areas. Indeed, the problem of climate justice and inequitable harm will become increasingly crucial issues in the city. And yet it is also in Chicago that I introduce an ongoing effort to address this problem: Sweet Water Foundation.

Sweet Water Foundation in South Side Chicago

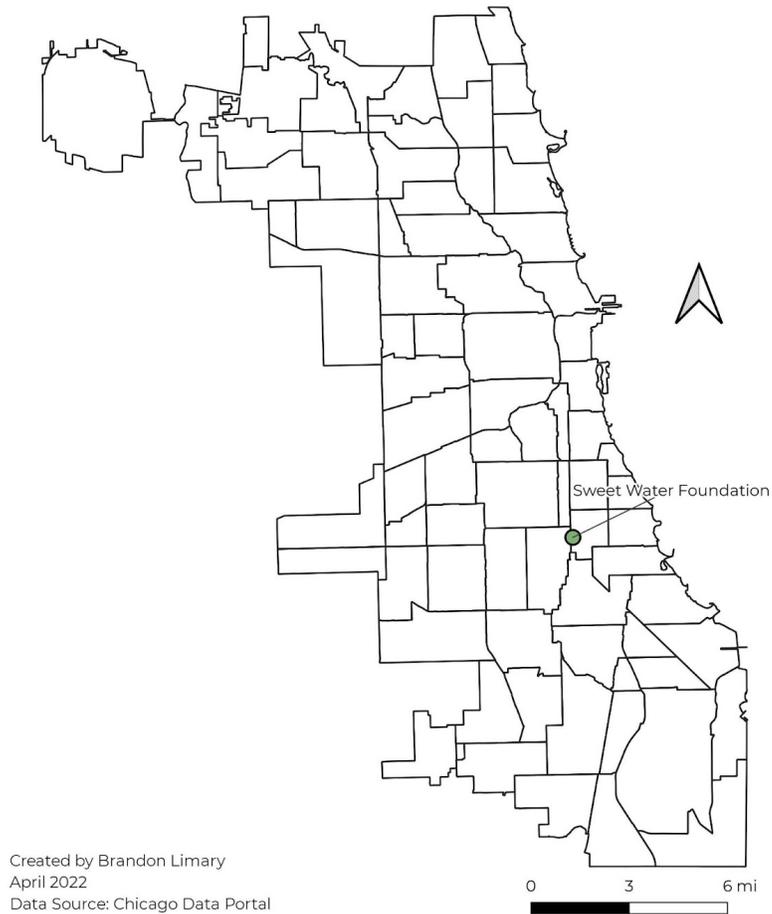


Figure 1. Sweet Water Foundation Site in South Side Chicago

Sweet Water Foundation (SWF) is a community organization based in Chicago's South Side whose aim is to cultivate safe, inspiring, and healthy intergenerational communities in areas deemed disinvested through a practice called *regenerative neighborhood development* (RND). Founded in 2014, Sweet Water Foundation draws upon the field of regenerative development to advance their locally-based and locally-sensitive practice to sow the seeds of regeneration in

disinvested South Side communities. An incomplete list of the programmatic work done at SWF includes youth education with public schools and local families, career workforce development training, woodworking and carpentry apprenticeships, community gardening, volunteer days, art installations, cultural and historical preservation, and vacant lot activation and reclamation. Sites of SWF include the RND Park (built on vacant land), the Thought Barn (site for educative installations), the[Re]Construction House (a once-vacant house that was restored by SWF and now houses an art installation and co-living space), and the Civic Arts Church (a once-abandoned church that was restored by SWF and is now a community design center). A more detailed map of SWF is available through their website and in Figure 2. While RND is an emergent practice being formally pioneered by SWF, the regenerative development and design movement it stems from are better understood and present in the literature today.



Figure 2. Map of various sites and components of Sweet Water Foundation

Regenerative development is located at the intersection of these two trends (urbanization and climate change) and seeks to advance prior sustainability concepts through new world views. This new radical theoretical and practical rethinking of the way urban development can be done has resulted in emergent fields of literature on regenerative development, regenerative design, agriculture, and systems thinking approaches to urban problems.

While there are various applications of regeneration within the design, urban planning, architectural, and agricultural spheres, a common connecting theme is a notion of holism and systems-thinking (an understanding that parts should be understood as intimately interconnected to the whole) and movement away from mechanistic and reductionist worldviews (Cole, 2012). Here, I revisit Jane Jacob's notion that communities can contain the seeds of their own regeneration (see epigraph on page 4) to examine the capacity neighborhoods can have in "sowing" and "cultivating" these seeds of regeneration amidst climate disruption and urban growth.

While past studies have examined the role of regenerative systems within urban planning and community development (such as regenerative agriculture, regenerative development, and regenerative design) (Camrass, 2022; Cole, 2012; Du Plessis & Brandon, 2015; Svec et al., 2012), regenerative neighborhood development, or RND, stands apart in its focus on the neighborhood scale.

Thus, given the growing socioeconomic and racial disparities occurring in South Side Chicago combined with the looming need to accommodate growing urban populations, city planners, developers, and community organizers alike would benefit from understanding RND as a practice and its applicability within Chicago urban planning, development, and policy design. Therefore, the purpose of this study aims to answer the following two questions: (1) To what extent does regenerative neighborhood development (RND), as modeled by Sweet Water Foundation, align with or depart from key principles and core characteristics of regenerative development? (2) What might explain these differences/similarities? I found that while there was an overlap of shared values between regenerative neighborhood development and regenerative development principles, my analysis indicates that RND principles are fundamentally different to

regenerative development principles such that the way RND principles manifested in practice was holarchical and more interconnected than traditional regenerative development principles.

II. Literature Review

Literature Review Roadmap

My research topic, regenerative neighborhood development in Chicago, necessitates the outlining and understanding of several key sub-topics. Therefore, my literature review will be sectioned into three themes. First, it will be essential to establish some characterization of the City of Chicago, both as an American urban ecosystem and as an example of the way traditional American urban development tended to occur over the past century. Therefore, I provide a brief spatial and historical background of urban development in Chicago, specifically through the socioeconomic lenses of race and disinvestment and with a spatial lens focused on the South Side of Chicago, where my case study, Sweet Water Foundation, is located (Section 1). Next, I will discuss more broadly the regenerative development field, describing its theoretical origins and impetus, as well as its connection to green and sustainable design. Then, I discuss key concepts and characterizations regarding the method of regenerative development, focusing on the works of a handful of influential trailblazers who advanced the field into academic spheres over the past two decades. Afterward, I introduce the regenerative development evaluation tool, a primary component of my methodology and theoretical framework to be applied to my case study. I further describe its various elements and limitations to point to current gaps in the academic literature (Section 2). This segues into the third and final sub-topic of my literature review which examines the existing literature surrounding the concept of the “neighborhood”. I introduce several key works which rigorously work to define and understand the notion of a “neighborhood” in a city (Section 3).

Through existing literature, we see the theoretical frameworks underpinning the study of neighborhoods such as neighborhood effects, social disorganization theory, and the production of locality. In this way, I indicate the importance of incorporating neighborhood scales within city planning, development, and community building processes. Therefore, by providing a literature review of regenerative development, neighborhood theory, and Chicago as a city, I provide a robust foundational composition for my research on regenerative neighborhood development in Chicago.

Section 1: Chicago Background and Context

The urban fabric of Chicago is a vibrant and colorful patchwork of ethnicity and culture. One of the most racially diverse cities in the United States, Chicago is comprised of seventy-seven unique community areas, each with its own texture and color. However, within this municipal diversity, upon closer inspection, one finds the city fragmented and divided. In fact, despite having one of the highest racial diversity scores in the nation at a city level, Chicago's diversity score ranks much lower at the neighborhood scale (Moore, 2016). Today, these racial/ethnic subdivisions are coded in the everyday, colloquial terms that both Chicagoans and outsiders alike use when referring to specific parts or 'Sides' of Chicago, such as the 'North', 'West', and 'South' Sides. Moreover, extensive literature and research have explored how these racialized regions of Chicago align with socioeconomic status, health and wellness disparities, resource accessibility, and job and education prospects (Hunt et al., 2015; Sampson, 2012). To best understand the root of these inequalities, it is essential to examine the city's history of development.

A comprehensive understanding of the cultural and racial identity of South Side Chicago is well beyond the scope of this paper. However, the beginnings of the modern-day demographic composition of Chicago's South Side can be traced back to the Great Migration beginning around 1915. The Great Migration describes the movement of six million African Americans out of the rural American South and into the urban American Midwest, Northeast, and West. Approximately half a million Black Americans settled in Chicago, more than doubling Chicago's Black population between 1916 and 1940. Simultaneously, in the 1930s, agencies such as the Federal Housing Administration (FHA) and The Home Owners' Loan Corporation (HOLC) began the process of assessing home mortgage risk at the neighborhood level—referred to as redlining—in major U.S. cities, including Chicago. Historic redlining during this time was inherently a geographic process, in which agencies determined lending risk “based on both the quality, amenities, basic structural features, and upkeep of the housing stock as well as the social class, ethnic, and racial makeup of residents of a neighborhood” (Greer, 2014). In Chicago, these redlined areas were concentrated in the West and South Sides—majority Black- and Latino-populated areas. The redlining of Chicago spatially formalized various systemic, racially-based interventions that included racial segregation, predatory lending practices, and disinvestment by the city. Decades of race-based discrimination, both explicit and implicit, made the South and West Sides unattractive to lenders, investors, and developers alike (Hillier, 2003). As a result, the demand to live in these Black and Brown neighborhoods (again, concentrated in the South and West Sides) declined and those who could afford to move did (Raleigh and Galster, 2015).

As a result, the once-thriving and economically active Black middle class that resided in these neighborhoods—families who sought refuge in these communities during the Great

Migration—fled to pursue better opportunities. Since 1980, Chicago’s West and South Sides have experienced a Black middle-class exodus that only widened the gap between rich and poor. Ralieg and Galster (2015) characterized the effects of this blight best: “the full social and economic costs of this process [blight] are incalculable, but the erosion of residents’ quality of life, property owners’ equity, and jurisdictions’ tax base is palpable.” To this day, the degenerative effects of this redlining and disinvestment can be observed by the concentration of dilapidated housing infrastructure, vacant lots, and economic leakages in communities in the South and West Sides.

In recent years, in response to the rapid socioeconomic decline of the South and West Sides, the City of Chicago has begun offering incentives to catalyze economic development in poor neighborhoods. In 2016, Chicago’s Department of Planned Development (DPD) revised zoning codes to create the Neighborhood Opportunity Fund (NOF), a funding pool designed to “support commercial corridors in Chicago’s underserved neighborhoods” by financing eligible commercial projects. In 2019, the city kickstarted their INVEST South/West initiative—a 3-year program that directs \$250 million to commercial or residential development projects that occur in any of the ten predetermined community areas of need, all of which are in Chicago’s West and South Sides. These municipal programs from the city function along already existing federal initiatives effective in Chicago, such as Opportunity Zones, Enterprise Zones, and New Market Tax Credits. However, both scholars and community organizers argue that these forms of development do little to help the existing community and, in fact, create conditions that gentrify these neighborhoods and push out, via soaring property taxes and cost of living expenses, long-time residents (Hwang & Sampson, 2014; Moore, 2016). Moreover, modes of urban development like these are critiqued as being bounded by single bottom-line economics and

mechanistic worldviews that perpetuate the status quo and neglect to consider nested complexities of urban ecosystems (Du Plessis and Brandon, 2015; Gibbons et al., 2020).

Situated right on the border of Englewood and Washington Park—South Side community areas that experience some of the highest rates of vacant land and poverty in the city—is Sweet Water Foundation, a community organization that engages in a creative and regenerative social justice method called “regenerative neighborhood development” (RND). Sweet Water Foundation, or SWF, serves as my case study in my investigation and evaluation of RND. A more detailed site description and neighborhood context will be provided throughout the results section of my paper.

Section 2: Regenerative Development

Given that regenerative development is a relatively emergent discipline, it will be fruitful to first contextualize regenerative development in relation to already existing and well-known development methodologies to understand the current worldview of development. Regenerative development is considered by many scholars as the next evolution of “sustainability” concepts that became popularized in the late 20th century. Indeed, following the release of the Brundtland Commission’s report (Brundtland report), *Our Common Future (World Commission on Environment and Development* in 1987, “sustainability” and “sustainable development” have emerged as widely accepted critical guidelines for thinking about humanity’s role in the natural environment and global ecosystems (Cole, 2012). However, in the past decade or so, a growing literature has aimed critiques at sustainable development indicators, arguing that “sustainable development maintains an anthropocentric view and favors incremental change that ‘does not challenge any existing entrenched powers or privileges’” (Cole, 2012).

Du Plessis and Brandon's 2015 article is considered one of the foundational sources of literature relating to regenerative development concepts, effectively using and popularizing the term 'regenerative' in the context of urban design and development. Du Plessis and Brandon point to past literature suggesting how, in order to "move development into a positive curve towards sustainability (and further into what some call 'thrivability'), society needs to change the worldview/paradigm within which it currently operates, and that such a worldview shift is already happening." As such, Du Plessis and Brandon focus their work on providing a conceptual framework of this new worldview—what they call the 'ecological worldview'—and how this worldview describes a new human-nature dynamic that can enable regenerative outcomes in living systems.

A crucial piece of literature is Gibbons et al.'s 2020 article and their development of the "Regenerative Development Evaluation Tool" (hereafter, RD Evaluation Tool). Their work advanced three themes of the ecological worldview—wholeness, relationship, and change. These three themes, or meta-principles, serve as categorical groupings in which seven specific core principles are defined. The terminology and definitions of the first three meta-principles and nested sub-principles are modeled from the RD Evaluation Tool, depicted below in Table 1 (Gibbons et al., 2020). The first meta-principle is *wholeness*, which incorporates principles of (1) whole systems thinking and (2) the shifting of thinking towards holistic worldviews. The second meta-principle is *change*, characterized by the (3) identification and manifestation of potential, or essence—the core identity of a system—and (4) by "growing the regenerative capacity of whole systems—the human and non-human components' viability (ability to function), vitality (ability to thrive), and evolutionary capacity (ability to evolve)" (Gibbons et al., 2020). The third meta-principle concerns the *relationships* that foster wholeness and change. Gibbons et al.

identified 3 principles concerning relationships such that relationships in RND (5) contribute to healthier functioning, (6) are reciprocal and beneficially mutual to the whole system, and (7) leverage nodal points, or “convergences in living systems where many flows intersect and small changes have systemic transformational effects across scales” (Gibbons et al., 2020). Given the recency of the study combined with the extensive literature review conducted by Gibbons et al., the principles laid out in the RD Evaluation Tool serve to construct a conceptual map of the current driving principles and assumptions within the regenerative development discipline.

| Regenerative Development Principles | |
|--|--|
| These principles guide thinking and action. Check all thinking and actions against RD Principles | |
| Meta-Principle | Principle |
| Wholeness | Works in whole systems (not fragments) |
| Change | Shifts thinking towards holistic worldview |
| | Manifests potential in a place (potential-focused, not problem-focused) Grows Regenerative Capacity (in human and non-human components of living systems—viability, vitality, evolutionary capacity) |
| Relationships | Value-Adding: Contributes to healthier functioning/vitality of two next higher scales |
| | Mutualisms/Guilds: Creates reciprocal relationships that contribute to healthier/more vital whole Nodal leverage points: Identifies and shifts systemic leverage points to increase health and well-being |

Table 1. Regenerative Development Evaluation Tool construction. (Source: Gibbons et al., 2020, p. 5)

Section 3: Neighborhood Effects and Locality

Another sub-topic within my broader research topic is the study of locality and neighborhoods. I first present James C. Scott’s book, *Seeing Like a State*, originally published in 1998, that characterizes the importance of locality, and the dangers ‘high modernist nation-states’ pose to it. Scott points out the pitfalls of top-down, schematized processes inherent when nation-states attempt to represent local living systems. According to Scott, “[n]o administrative system is capable of representing any existing social community except through a heroic and

greatly schematized process of abstraction and simplification” (Scott, 2008, p. 22). Thus, Scott points out how administrative systems tend to simplify and abstractify complex and little understood processes for the sake of legibility and measurement. However, these reductionist techniques, which are so prevalent in local, state, regional, and federal processes, tend to dismiss the wealth of localized and practical knowledge. Scott furthermore critiques the efficacy of nation-state projects stating how “schematic, authoritarian solutions to production and social order inevitably fail when they exclude the fund of valuable knowledge embodied in local practices” (Scott, 2008, p. 6). Thus, Scott’s theoretical framework is rooted in the belief that localized and practical knowledge within social communities must be essential elements of consideration.

Paralleling Scott’s work, Arjun Appadurai’s piece, *The production of locality*, expands on Scott’s critique of nation-states by highlighting how projects of the nation-state tend to inhibit what he refers to as the ‘production of locality’. In Appadurai’s words, producing locality is a social and cultural endeavor that results in “a structure of feeling, a property of social life, and an ideology of situated community” (Appadurai, 2003, p. 189). Therefore, Appadurai better concretizes what is at risk of being lost when nation-state projects attempt to simplify local systems: a feeling and sense of belonging and community. Moreover, while Scott focused on how localized knowledge needs to be an essential consideration in nation-state initiatives, Appadurai centers his framework around the notion of ‘neighborhood’. For the purposes of this study, I adopt Appadurai’s concept of the neighborhood as “life worlds constituted by relatively stable associations, by relatively known and shared histories, and by collectively traversed and legible spaces and places” (Appadurai, 2003, p. 191). Appadurai’s characterization of neighborhoods is therefore based on shared community identities and histories rather than strict

municipal boundaries. These notions of neighborhoods as units of social and cultural identity as opposed to cut-and-dry geographic demarcations not only advance interdisciplinary conceptions of place but also provides a way of understanding at neighborhoods without dismissing, and in fact centering, local residents as agents of experiential and practical knowledge. It's in fact through this quality that neighborhoods can be "stages for their own self-reproduction".

Sampson's 2012 book, *Great American City: Chicago and the Enduring Neighborhood Effect*, further formalizes and develops the concept of a neighborhood through the use of Chicago's seventy-seven community areas. Sampson refers to 'neighborhood effects'—here defined as the "processes by which various neighborhood conditions influence the well-being of residents collectively or individually"—and how they manifest disparate socioeconomic, cultural, technological, and ecological outcomes for neighborhoods. Sampson's piece is critical to my research in two ways, firstly by expanding on the dynamics and mechanisms of the 'neighborhood' and secondly, by providing a precedent in connecting community areas, a common geographic unit in Chicago, as Chicago's equivalent of a neighborhood. As Sampson points out, community areas in Chicago "were constructed to correspond to socially meaningful and natural geographic boundaries and are recognized by media, administrative agencies, local institutions, service providers, and residents alike" (Sampson, 2012, p. 78). Furthermore, Sampson aligns with the notions pushed by his predecessors in his support that neighborhood dynamics and local social structures be critical considerations within social policy in order to generate "long-term prospects of meaningful change" (Sampson, 2012, p. 424).

The theories of Scott, Appadurai, and Sampson just scratch the surface of the extensive literature on neighborhood effects and localism. However, the theoretical foundation laid out

above will be critical in framing the theoretical roots of SWF's focus on neighborhood-specific development and local processes.

Conclusion

In sum, this literature review works to create a basis of understanding regarding the research topic through three intersecting yet distinct topics: history of traditional urban development in Chicago, regenerative development as an emergent discipline, and its core values and subthemes, and the concept of the neighborhood and localized systems. In this way, the literature review was able to characterize the current setting of Chicago, highlighting the role of traditional development in the city as well as establishing the backdrop for my case study site by providing key contextual and historical information. Moreover, I outlined the arc of regenerative development in academic literature, starting from the discontent with traditional development to notions of green and sustainable development to still emerging regenerative design and development frameworks. Finally, I reviewed literature related to the scale of the neighborhood and its connection to concepts of locality, and how they illustrate the importance of locality.

Although the field of regenerative development is still an emerging field, there exists great promise in its ability to expand and advance on the ideals set forth by traditional sustainable development approaches. Regenerative development as a practice has the ability to think more holistically and adaptively to changing conditions, thereby embracing paradigm shifts in worldviews. Moreover, the transdisciplinary approach encouraged through regenerative development is vital in understanding urban systems as systems of organized complexity. Thus, tracing the developmental and theoretical arc of regenerative development not only elucidates shortcomings with past approaches but further points towards future goalposts and milestones.

The creation of a regenerative development evaluation tool legitimizes and authenticates the validity of regenerative development as a practice with an accountability framework. However, given the relative novelty of the field of regenerative development, the literature review also revealed gaps in the research.

The intent of this research intends to fill two gaps in the research: one, formalizing and describing regenerative *neighborhood* development within the academic literature of regenerative systems, and two, utilizing the Regenerative Development Evaluation Tool towards a regenerative development practice at the *neighborhood scale* in Chicago and highlighting the unique nuances that arise when regenerative development is implicated at the neighborhood scale. I believe both these gaps can be filled simultaneously by investigating my central research question: “to what extent does regenerative neighborhood development, as modeled by Sweet Water Foundation, align with or depart from key principles of regenerative development and why this might be?”

III. Data and Methods

Introduction

My main research question investigates to what extent does regenerative neighborhood development (hereafter, RND), as modeled by Sweet Water Foundation, align with or depart from key principles of regenerative development and why this might be. To address this question, I collected qualitative data through a 12-month period of active participant observation at a typical case study practicing RND in Chicago, Illinois. I analyzed my evidence (in the form of field notes, reflections, and photos) via inductive thematic content analysis and applied the results to Gibbons et al.'s 2020 Regenerative Development Evaluation Tool to reflexively assess both the practice of RND and the emerging discipline of regenerative development. Given the relatively recent emergence of the field of regenerative development, there is a lack of academic literature regarding regenerative neighborhood development. My data collection and analysis methodology choice was therefore tailored to generate an in-depth, qualitative characterization of this understudied practice. Moreover, given that regenerative neighborhood development operates at the local scale and is resistant to top-down analysis, it follows that my research meets RND where it is at by inducing principles through a synthesis of observations at SWF.

Case Study and Data Collection Framework and Defense

To build a conceptual model of regenerative neighborhood development, I administered a participant observation data collection method at the case study site of Sweet Water Foundation in the Washington Park community of South Side Chicago, Illinois. Given that participant observation is commonly employed in the social sciences to gain “close and intimate familiarity with a given group of individuals... and their practices through an intensive involvement with

people in their natural environment, usually over an extended period of time,” (Spradley, 1980) the strengths of a participant observation methodology aligned with the aims of this research endeavor. Therefore, for a period of approximately twelve months, I took an active role in the internal operations at Sweet Water Foundation to better gain a sense of driving principles that characterized RND.

My selection of Sweet Water Foundation as the subject of the participant observation case study was largely based on the fact that Sweet Water Foundation was the first organization to coin the term “regenerative neighborhood development” to describe their urban development methodology focused on local systems and transdisciplinary schools of thought. Therefore, Sweet Water Foundation can be framed as a pioneering case study of regenerative neighborhood development. Building upon Charles Lipson’s guidance on case studies (Lipson, 2005), Sweet Water Foundation can be framed as a ‘typical’ case study in that the case study is representative, by default, of regenerative neighborhood development. However, it is important to note that Sweet Water Foundation is also one of the only cases of RND and is thus a *unique* case study within the broader conversation of RND. Therefore, we must not dispense with the need to understand every subsequent case of RND as typical in its own way.

Qualitative researchers are frequently insiders and outsiders to their research sites, often volunteering, working, or living alongside their research subjects even as they seek to understand them through more distanced methods, such as interviews or documentary analysis. This is the case for my thesis and case study of Sweet Water Foundation, where I was both an employee and a student researcher. It is important to note that I chose to present myself as a researcher as I was integrated into Sweet Water Foundation; by being open with my researcher role, I was able to

build a foundation of trust that allowed me to ethically collect data on SWF's practice. My insider position was advantageous in gathering information about regenerative neighborhood development as I was able to gain an intimate and tacit understanding of the organizational structure, attend internal team meetings, and cultivate a more grounded understanding of the physical and social character of the site itself. However, it is imperative to address the potential bias at play when conducting, and reporting on, participant observation methodologies. Given the inherent personal aspect of this research endeavor, corroborating the data will be essential in minimizing against any subjective bias, whether unconscious, subconscious, or conscious (Liukkonen and Astedt-Kurki, 1994).

The data collection process itself was conducted both virtually and in-person over a 12-month span from June 2020 to June 2021. Initially motivated by SWF's values of ritual and reflection, my documented observations were based on my day-to-day experiences working with SWF. These notes, reflections, and photos were posted weekly on a Google Site and catalogued by season and week (link in Appendix). Frequency and intensity of visits varied from eight-hour in-person visits occurring five times a week to weekly / biweekly virtual check-ins depending on local COVID-19 surges and organization capacity. Data collection occurred through active participation in day-to-day operations, meetings, and programming events at SWF. The observations from these experiences were either transcribed live or post-facto, electronically, in the form of field notes and reflections that could then be dated, saved, and analyzed later. Additionally, I employed autophotography methods—a research method in which participants take photos of their lived experience—during my participant observation to capture visual data that conveyed my perceptual experience practicing RND. Autophotography can be a powerful method to explore perceptual observations that may be inaccessible through conventional

techniques based on textual data (Lombard, 2013). In this way, my data was enriched by a variety of data sources, ie. field notes, reflections, and photos, drawing out perspectives that may provide a fuller sense of what RND is.

Data Analysis Methodology

Given the limited scholarly research on RND, I reference Gibbons et al.'s Regenerative Development Evaluation Tool as a point of departure when designing my methodology of data analysis. The analytical methodology of Gibbons et al. can be broken into two primary parts: the construction of the RD Evaluation Tool and the application of the tool to a case study.

To construct a preliminary set of principles, Gibbons et al. conducted an in-depth literature review to identify the major principles, using search terms that included “regenerative development” and “complex living systems”. Furthermore, the Gibbons et al. research team participated in regenerative development and design training courses “in order to gain a greater understanding of regenerative development practice and theory, beyond what is in the literature.” (Gibbons et al., 2020, p. 3). Common themes from the literature review and training courses were then used to inform the structure and principles of the RD Evaluation Tool. Therefore, Gibbons et al. were able to synthesize multiple data sources to inductively generate the common principles that contributed to their RD Evaluation Tool. Moreover, their participation in regenerative development courses served to enrich and expand their data source pool beyond academic literature.

The second part of the Gibbons et al. methodology was their application of the RD Evaluation Tool to two case studies and a comparative case study analysis, to both test and apply

their framework to real-world regenerative development projects. Interestingly, their comparative case study analysis involved deductive and inductive content analysis. First, Gibbons et al. used the principles generated from their RD Evaluation Tool to create deductive codes that were used in the content analysis of a variety of media articles, websites, and plans regarding the case studies. This process was used to understand the reasons behind a case study's engagement, and barriers to engagement, with regenerative development. Next, *inductive* content analysis was performed on the same textual data to "identify project goals, drivers, and catalysts" as well as future areas of movement towards regenerative development.

For my data analysis methodology, I adopted Gibbons et al.'s use of inductive thematic content analysis to analyze my field notes, observations, and reflections. Since there is limited literature on regenerative *neighborhood* development, my 12-month participant observation serves as the primary data source by which I extracted themes. Unlike Gibbons et al., however, the themes extracted from my inductive content analysis are grounded with data from an active and long-term participation of the practice being studied (in this case, RND). Moreover, the selection of an inductive content analysis was informed by the fact that inductive content analysis is most effective "when there are no previous studies dealing with the phenomenon or when knowledge is fragmented" (Elo and Kyngäs, 2008, p. 114). Given that RND is such a phenomenon, an inductive approach was appropriate. The second component of my data analysis consists of a comparative analysis of the principles derived from RND to the the principles outlined by the RD Evaluation Tool. In this way, my data analysis methodology allows for nascent themes to emerge while also providing a framework (the RD Evaluation Tool) to compare RND within the more general discipline of regenerative development.

Inductive thematic content analysis

To perform an inductive thematic content analysis, I adopted Elo and Kyngäs's (2008) multi-step process for inductive thematic content analysis. I began first by preparing my data—the preliminary step to any step to any content analysis. For the purposes of efficient content analysis, preliminary data preparation is key (p. 109). For this preliminary step, the data from my participant observation was centralized and ordered chronologically in an electronic text document (Google Docs). The resulting consolidated dataset was over 12,000 words and spanned over 60 pages (full data set in Appendix). The first step of my analysis then began with open coding—the process of writing notes and headings in the margins of the text as it is being read. For this process, I manually typed in notes using the commenting functionality that was built-in to the online word processing software where my centralized data lived. The marginal notes and headings were then reviewed and collected in a separate coding document such that categories could be freely generated. These categories were then reviewed collectively and organized by similarity and dissimilarity into broader categories. It is important to note here that this process of categorization encountered roadblocks which I address in the Results and Discussion section. The final step of my inductive thematic content analysis was abstraction—the formulation of general descriptions of the categories and how they collectively describe the phenomenon of study (RND).

Comparative analysis to RD Evaluation Tool

The Regenerative Development Evaluation Tool developed by Gibbons et al. lays out three key meta-principles that, through their literature review, were commonalities of regenerative development practices. By applying the RD Evaluation Tool on a nuanced form of

regenerative development, key differences and similarities between regenerative neighborhood development and the RD Evaluation Tool would be elucidated. To conduct the comparative analysis, I compared the extracted themes from my content analysis to the Gibbons et al.'s Regenerative Development Evaluation Tool. Through a side-by-side comparison of my derived principles and the principles set forth by Gibbons et al., I teased out conceptual differences and similarities between the two. To test the applicability of the RD Evaluation Tool towards RND, I also retrofit the RND principles within the principles of the RD Evaluation Tool. That being said, I worked under the assumption that a single prescriptive approach or framework (in this case the RD Evaluation Tool) is inherently antithetical to the transdisciplinary and pragmatic character of RND. Yet, the application of an evaluation framework on RND will help elucidate what exactly doesn't fit within the framework and what does. Thus, this process was designed to be self-reflexive, meaning that the comparative analysis highlights what SWF does that is outside the framework without insinuating that SWF should fit it within the framework itself. This analysis thereby seeks to foster a back-and-forth conversation between regenerative neighborhood development and the RD Evaluation Tool.

IV. Results and Discussion

The data analysis section outlines the two-step process I undertook to analyze my data: (1) inductive thematic content analysis of the data, and (2) the comparative analysis of my data to the RD Evaluation tool. Following a presentation of the analysis, I discuss how my findings contribute to regenerative development disciplines and highlight potential considerations towards the RD Evaluation Tool that should guide its future evolution. Furthermore, I discuss limitations,

and applications of my findings towards regenerative disciplines, and address potential critiques and considerations.

Inductive thematic content analysis

Performing the inductive thematic content analysis revealed two sets of findings. The first finding arose from the process of conducting my content analysis that revealed an inherent resistance in RND to be read by a framework analysis while the second set of findings revealed an interconnected set of five core principles.

Resistance to Framework Analysis

The process of executing my inductive thematic content analysis quickly revealed a procedural challenge that is involved when applying a framework analysis (such as a content analysis) to a complex and interconnected system. Indeed, it was not so straightforward to identify discrete key themes of an experience that was designed to be transdisciplinary and interconnected. In the content analysis, a majority of field notes and observations had multiple associated tags and could be coded within multiple themes. Moreover, distinctions between themes were not always clear such that aspects of one theme often overlapped with others.

Therefore, the presentation of themes below acts as an organizational and pragmatic tool to present my experience in a thematic, structured fashion without implying that the experiences themselves can be discretized into distinct themes. Rather, the selection of data used for each theme exemplifies said theme but further embodies other related themes. It's crucial to note this difficulty of thematic analysis is itself the result of a foundational difference in assumptions between RND and forms of framework analysis; RND, like the principle it incorporates, is

holistic and transdisciplinary, and therefore resistant to forms of framework analysis. That being said, I present the following 5 core principles that emerged throughout an intensive and iterative content analysis process: (1) everything is connected, (2) everyone is connected, (3) acknowledgment and value of local context, (4) reflexivity with regard to the past, present, and future, and (5) order and chaos should be embraced together. The presentation of my results loosely follows a chronological order, which is more reflective of the reality of my experience and the way my data is structured. Further, the chronological format lends itself to a more narrative reading. The cost of preserving the narrative, chronological tone of the results, however, means that thematic sections will necessarily contain discussions of other principles.

Everything is connected: exposure to holistic and transdisciplinary worldviews

My first week at Sweet Water Foundation can succinctly be described as disorienting. My first assigned task at SWF was to develop a crop structure matrix alongside a team of other undergraduate fellows. The matrix existed as an online spreadsheet and was to provide a detailed list of various plants and growth timelines, nutritional benefits, and required conditions for effective growing and harvesting of each plant.

As I worked on the spreadsheet, I encountered a number of different questions and areas of interest. By the encouragement of the SWF team, I followed these threads which led me to continually add new pieces of information to the spreadsheet. A note from that day while doing the crop structure spreadsheet shines a glimpse into my workflow process as I attempted to account for organizing the complex levels of information I gathered:

For example, depending on the source of information, plant growing conditions varied including plant spacing, row spacing, germination rate, planting depth, etc. For these reasons, I decided to include multiple sources for entries that had

inconsistent findings so that a more inclusive information library could be created. For the entries themselves, I usually picked a value that averaged between various sources of information. Moreover, I wanted to reflect on the variety of ways that ideal growing temperature can be measured. I found sources that made distinctions between indoor temperatures, outdoor night temperatures, average temperatures, and soil temperatures. For the purpose of the spreadsheet, I listed soil temperatures in the “Soil Quality” column and various atmospheric temperatures in the “Temperature” column, specifying which type of temperature I was referring to.

The feeling of disorientation I felt during these first few days at SWF arose from the asymmetry that existed between my initial preconceived worldviews and beliefs versus the reality and scope of what I was doing. As a student researcher and an outsider to the community, I entered SWF with only a limited worldview and perspective. By actively engaging with other disciplines and interfacing with the diversity of perspectives present at SWF, I was forced to interrogate my own positionality at the SWF. As an academic, I believed that situations should always be best understood through the correct application of a discipline (such as biology, sociology, public health, or ecology) such that a math problem requires a mathematician and issues of poverty require a sociologist. However, through conversations with team members and my own reflection of my work at SWF, I became sharply aware of the vast multitude of disciplines and perspectives I was being exposed to. Moreover, by positioning my own background more broadly within these other perspectives at SWF, I was able to identify, problematize, and appreciate the contributions my unique background offers. In the instance of the crop structure spreadsheet, I began to make these connections between the quantitative and data-driven work I was doing towards my own personal experiences, broader social implications, and themes of information accessibility. A reflection on my third day at SWF captures well my mental process as I made these connections:

The Crop_Structure activity works to build a working knowledge of growing different types and plants as well as building a base understanding of my own

workflow (by the day and by the week), the workflow expected at SWF, and talking with my Fellows to establish systems of discussion and collaboration. As someone coming from a sociological Urban Ecology angle, the Crop_Structure document carries real-world practical applications. This spreadsheet in particular is a centralized source of growing information for a variety of plants that can provide sustenance. Therefore, publicly available information like this empowers ordinary people with the information to understand how to effectively grow their own food. Moreover, in doing this assignment, I learned about the spatial and temporal characteristics of different plants and how they affect who can grow what kinds of plants (people may not have yards to grow outdoors, certain foods may not be available at certain times of the year, etc). On a more personal level, this assignment connected directly with the own backyard garden I started in Albuquerque. In doing this assignment, I worked with plants I knew from experience (kale, sunflower, cucumber, pepper, mint, onion) and certain topics (seeding depth, soil quality, cool vs warm, trellis for vertical growth) but also discovered parts of my garden that were lacking (poor spacing, various water and sun requirements, etc). For example, I now know that my kale transplants died because I transplanted them too early before enough true leaves developed. I also underlined the importance of growing location and how that affects growing seasonality (I was able to sow outdoors starting in early April w/o any indoor sowing/greenhouses).

Following the completion of the crop structure matrix, I was tasked with developing a presentational slide deck based on the data from the crop structure matrix. Per the directive of SWF, the slide deck needed to be informational and public-facing to allow for broad audiences to understand and apply the information to grow and harvest their own crops.

My mental connection between these various disciplines and methods was scribed in the following reflection:

As I began working on the slides, I found myself thinking about what makes information “public-facing” and what it means for said public. For example, the Crop Structure document is being used to create the Crop Structure slides but will include pictures, distilled information, and easy-to-read slides. So I guess in this case, a public-facing project works to make quantitative information more digestible through visualization, and brevity. These slides provide practical and vital information to the public without intimidating the public with a huge spreadsheet with numbers everywhere. In my experience, blocks of only raw data tend to turn people off towards learning new information. Therefore, these slides are critical if we want to actually take the research we did and make it palatable. Moreover, this sheet serves as a catalyst for further research for

those who want to learn more about growing conditions. Thinking about fractals, this presentation can be viewed online and therefore reach multiple people simultaneously across different spaces at different times, creating branches of further knowledge and growth. Regarding fractals, as we were talking about the purpose of fractal designs, I couldn't help but draw a comparison to plants as well. Plants are fractals! They start as seeds and, with the right conditions and nurture, they can create offshoots of branches, which produce seeds, which produce more plants, and so on. So, to be circular, SWF creates fractal architecture that can sustain other forms of fractals (plants, branching social connections, etc) which makes SWF a fractal in its own way...

By the start of my third week at SWF, I had transitioned from working virtually to working in person at the site. Accordingly, my capacity to immerse myself in day-to-day activities and meetings grew dramatically. If the first two weeks of my involvement at SWF were my disorientation, the rest of my time in person could be framed as a reorientation of sorts. Daily tasks were continually being framed through holistic and transdisciplinary lenses, initially through the words and conversations with team members but, gradually, through my own internal thinking. A reflection from my 4th week of participant observation is one such example:

As I was pulling out slimy lettuce from rows on the east side of the farm, I started to think about how many heads of lettuce would fit in a fractal, how many fractals could fill a wheelbarrow, how many wheelbarrows it'd take to clear the row, and ultimately, how many people could be fed. Moreover, the composting of the lettuce further reduces waste output and provides nutrient-rich soil for more crops.

In this way, we can see how RND at Sweet Water Foundation incorporates systems-level thinking and holistic practices at ecological and sociocultural scales. The organizational structure of SWF was structured around various disciplines, including social impact, spatial analysis, philosophy, and math. Moreover, daily team meetings and partner-based tasks, such as weeding and harvesting, facilitated opportunities for various disciplines to intersect and inform one another. In fact, it was typical for spontaneous meetings and learning opportunities to occur in between and during tasks that emphasized how daily tasks involved a variety of disciplines

across a variety of scales. These moments served to deconstruct the monolithic and fragmented mental frameworks that I had as I worked on-site.

Chaordic systems: working with chaos and order

Working in person, there was never a ‘typical’ day at SWF; day-to-day activities did not follow a rigid set order that was always maintained throughout the summer. Changing seasons and climate, weather events, spontaneous visitor drop-ins, and other unexpected happenings meant that the order of operations was constantly being assessed and adjusted. For example, a night where there was more overnight rain than expected meant that the farm watering for the next morning needed to be reduced. Thus, I found that constant flexibility and adaptability were requirements for both myself and the internal structure of SWF. Yet, despite being subject to events of spontaneity, there was an underlying order and structure to SWF that many team members described to me as ‘chaordic’—the combination of elements of chaos and order. In effect, while there was a daily routine that involved morning meetings, important farm and garden operations, and research in the afternoons, the routine was never so rigid or interchangeable that unexpected events would derail operations. A description of morning meetings can highlight how SWF planned with chaos. Facilitated by the executive director of SWF, the morning meetings occurred when every team member was present and before any tasks went underway. While there was no formal agenda for these meetings, they loosely had the following structure:

The meeting would start with an overview of tasks that needed to be completed and a general schedule of what the day may look like. Then, members of the team would bring forward their own ideas and thoughts on how those tasks could be done. Additionally, each team member would use this time to share progress updates on the work they’ve been doing and raise any issues they had. If a team

member had spent time watering potatoes the day before, for example, they may use the meeting time to communicate how soon before they need to be harvested, if certain plants needed to be attended to, or if weeding needed to be done. In this way, all members could learn something new and important about the site that would inform the day-to-day activities. The meetings ended with team members self-organizing themselves to ensure that tasks would be done on time and based on urgency.

Thus, throughout my time, I was able to see how the ritual of the morning meetings provided ways for SWF to calibrate their operations and development methodology in agreeance of the flow of natural and social chaos (changing weather, new social connections, heat waves, etc).

In this way, I was able to understand how order can exist within chaos and vice versa such that essential operations could still occur while still giving room for emergent happenings and unexpected events. Moreover, through these meetings, I began to understand the communication flows at SWF and how the periodic meetings were intentionally designed to ensure information sharing was effective, up-to-date, and globally dispersed among all team members.

As often emphasized during meetings, the goal was to “be proactive, not reactive” and to learn to expect and work with the chaos that could occur. This emphasis for planning for, and with, emergence embedded itself in the built environment of the SWF site as well. The multifunctional design of spaces at SWF, such as RND Park (which had functions that included seedling distribution center, greenhouse for winter months, working and rest space, community gathering space, and farmer’s market space), not only enabled SWF to use the same space for multiple uses throughout the year but also created opportunities for neighboring plants, wildlife, and people to utilize spaces within their own terms. For example, an observation from one

summer day illustrated how an Afro-Caribbean dance began utilizing SWF's park and recreation space for weekly dance rehearsals:

The Afro Caribbean dance practices that occur on Thursday nights reinforced how emergent art cannot be planned for but when they emerge, they can be planned with. While SWF never built the space for the weekly dance practices, the reality of a safe, open, and accessible park space existing in the neighborhood allowed the dance group to temporarily appropriate the space to address a need.

In this way, SWF created spaces for further emergent processes, growing regenerative capacities for evolution for both human and non-human agents. The chaordic nature of the site allowed for spontaneous and organic growth such that, in this example, the members of the Afro-Caribbean dance practices might connect members not aware of SWF to the SWF social network. The benefits of embracing and planning with chaordic systems benefited the overall mission of SWF to regenerate the neighborhood. For example, I met a long-time resident of South Side Chicago who attended a Farmer's Market event over the summer to purchase food. However, conversations with Sweet Water Foundation team members, the individual eventually entered into a fellowship at the organization, providing additional place-based knowledge and skills to SWF's developmental and programmatic toolkit.

Connections across time: reflexivity with regard to the past, present, and future

As mentioned earlier, there existed some order in the chaos through the creation of routines on the site. This method of routine was in fact formalized at Sweet Water Foundation as the first step in a larger, three-stage methodology practiced at SWF (see Photo 1). The routine, ritual, reflection method emphasized in SWF's practice connects to values of reflection and learning through repetition. As I learned through my time at SWF, over time routines can become

ritualized, consecrating a regular process and instilling a sense of order within the team.

Furthermore, rituals make space for reflection, in which the iterative process of rituals allows for feedback systems that inform and improve upon each iteration.

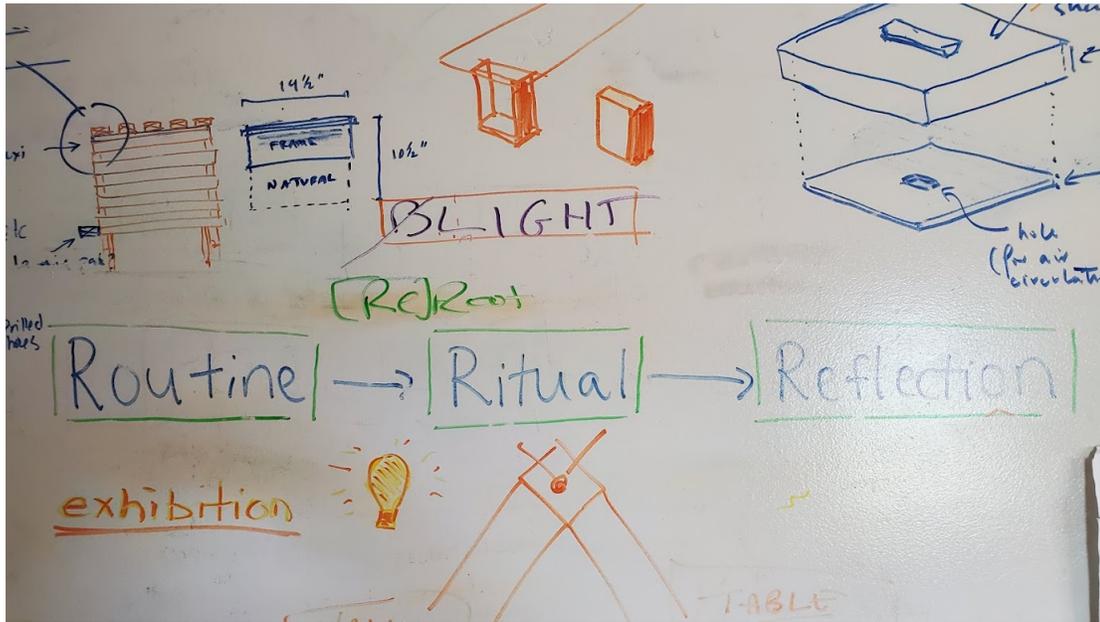


Photo 1. Photo of a SWF collaborative whiteboard space visualizing the Routine-Ritual-Reflection process

The importance of understanding the past also manifested through historical preservation practices conducted by SWF. Through my participation, I was able to learn how SWF actively worked to incorporate the history of the neighborhood into their development and built design concepts. Taking lessons from Jane Jacobs' advocacy for human-centric planning, SWF explicitly and implicitly emphasized spaces for humanity that were informed by the identity of the neighborhood. A field note following a morning meeting underscores this value of local history: "All good planning/design is deeply rooted and informed by place. Moving towards an understanding history and norms of the place". The incorporation of *local* histories that were relevant to the residents of the neighborhood is deeply intertwined with SWF's principle of localism. This intertwining of principles (reflexive acknowledgment of the past and value of

local contexts) was perhaps most clearly evidenced by my participation in studying the [Re]Construction House—an abandoned home that was rehabilitated and reactivated by SWF which now serves as an art gallery and co-living space. As I researched the work done by SWF to the [Re]Construction House, I began to learn about the history of the house, its former resident, its period of degeneration, and how the house's story fits within the broader history of disinvestment in Chicago's South Side. The history of the house and its former resident was not only understood and preserved by the rehabilitation, but also honored and memorialized via the on-site art gallery in the house, which featured photos, letters, and other documents saved during the rehabilitation.

While the day-to-day tasks of SWF were usually understood and operationalized during these morning meetings, there were usually a few tasks of priority that remained consistently present throughout my time and would occur on a semi-regular basis depending on seasonality. Such tasks during the summer included watering, pruning, weeding, composting, and harvesting. From the outside, this might appear mundane or resemble busy work. Yet in fact, the methods involved meant that even the most seemingly basic of tasks, like weeding, were occasions in which team members gained an appreciation of the vital connections alive on the site. It was during these simple daily tasks that I began to observe how connected and holistic the nature of the site was. As explained to me by team members, these daily tasks were a chance to build a personal and empirical understanding of the site. Whether working on the farm, garden beds, hoop houses, or other areas, I was encouraged to be observant of the connections I saw, whether they be between abiotic and biotic agents, temporal and spatial scales, qualitative and quantitative impacts. During these moments, I began to photograph interesting or otherwise noteworthy things I saw, supplementing my observations with photo evidence. Below I include a

selection of photos with accompanying captions that highlight how some of these connections were drawn and indicate my own personal capacity of observation during these tasks.



Photo 2 (left).
Cucumber tendrils wrapped on a string trellis.



Photo 3 (right).
Danaus plexippus (monarch butterfly) being placed on a flower

Photos 4.1 & 4.2. Photo taken at 9:51 AM (left) showing a large mass of ant larvae and ants on wooden plant versus photo taken at 10:15 AM (right) after the ant colony relocated due to our disturbance



Everyone is connected: Cultivating value-based relationships and learning from others

In addition to holistic, system-level thinking shifts that occurred intrapersonally, the day-to-day tasks reinforced social connections and interpersonal relationships. In particular, my content analysis revealed how many tasks involved a partner-pairing structure such that team members worked on activities in pairs or small groups. For example, weeding and watering on the farm required multiple people and these group activities provided opportunities for the ‘cross-pollination’ of information and ideas. Conversations that organically arose during tasks created a more enriching experience, allowing me to not only build rapport and trust with team members but furthering my understanding of the values and backgrounds of members of SWF.

Moreover, my internal shifts towards systems-level thinking helped me realize the scaling social implications of my work, connecting my day-to-day routines to SWF’s social network of residents, organizers, teachers, students, and so on. Thus, even while I was watering rows with someone halfway across the farm, I was able to connect the work I did to the larger vision of SWF’s social reach and impact. One such field observation highlights my realization that my task—transplanting seedlings into distributable ‘soil blocks’ (see Figure 4)—connects to countless other people which in turn impacts even more:

From a social impact perspective, one only has to imagine the potential impact each soil block has when given to a community member. I made 46 soil blocks, meaning that 46 collards will go out to people during distribution. Knowing how many leaves can be harvested per week per collard plant and how many leaves could provide for a family allows one to get a sense of expanding scales of impact.



Photo 5. A tray of 45 soil blocks containing collard seedlings

A reflection I had during my participant observation epitomizes the exponential growth and mutualism of these connections:

As I continue working on the presentation slides, I'm thinking about the concept of exponential growth. Biologically speaking, exponential growth can be found throughout the farm and garden, whether in regards to the exponential growth of algae and caterpillars or plants. However, I'm more clearly beginning to see how exponential growth also occurs in the goals SWF creates and pursues. Each project, installation, or new contact (= person(s), org, group, etc.) at SWF catalyzes its own growth. Each component becomes part of a network that leads to other projects, installations, or contacts. A laundromat supplied SWF with IBCs [intermediate bulk containers]. These containers were then installed with butterfly roofs to create a rain catchment and watering system. These new structures then served to supplement the farm watering process. This means that watering the farm could be done in a shorter amount of time, allowing for the pursuit of more projects.

Connections within local space: acknowledgment and value of local context

Localism was another emergent theme throughout the content analysis of my participant observation at SWF. RND as practiced by SWF exhibited themes of locality through its emphasis of localized knowledge and preferences and by the acknowledgment and celebration of personal

and generational histories of the community and residents. Given the demographic makeup of the surrounding community, in which over 90% of residents are Black, the Sweet Water Foundation was able to incorporate locally-informed crop planning strategies that were informed by popular cuisine preferences of the community.

A reflection regarding the crop choices made by Sweet Water Foundation, seen below, highlights the importance of local tastes as well as an acknowledgment of local history: “The larger beefsteak tomatoes are about ready to harvest! They are large and green (some folks in the area like green tomatoes, as is Southern tradition).” As I later learned throughout my time at Sweet Water Foundation, many residents in the area can trace their lineage to Chicago through the Great Migration, where many African Americans moved from former states of the Confederacy to northern states, including Illinois, during the 1910s. Not only did this connection make reference to the ways in which SWF looks at the past to inform their present and future practice, but I was forced to examine my own place as an outsider to the local context SWF operated in.

Moreover, SWF fostered mutualistic relationships with existing local agents. A few long-time residents served to help Sweet Water Foundation distribute produce to community members who were housebound and within the older, at-risk demographic during the COVID-19 pandemic. By leveraging connections with existing community resources and agents, SWF was able to broaden its impact and contribute towards a healthier system. The farmer’s markets, in particular, were effective modes of local interfacing that often generated new, lasting, and local connections:

Today, I sold a fractal [the colloquial name of SWF-designed furniture] to a local resident who was interested in starting their own home garden. Through conversation, not only were we able to provide someone with a tool for their own

health and wellbeing but we also learned more about the generational background of the resident and their personal connection to the neighborhood. In doing so, SWF fosters a genuine connection to the neighborhood.

The importance of the locale was crucial to the design of RND such that the inclusion of “neighborhood” in “Regenerative Neighborhood Development” was intentional to distinguish RND from more general forms of regenerative development. The importance of the neighborhood at SWF builds upon Appadurai’s (2003) concept of neighborhoods as social realms defined by shared histories and collectively traversed spaces (p. 131).

Comparative analysis to RD Evaluation Tool

The five principles extracted from the inductive analysis above work to contribute towards a better understanding and characterization of the drivers and principles of RND. However, given the current lack of literature surrounding RND within regenerative development disciplines, a comparison of RND principles to a preset framework of *generalized* regenerative development principles would yield a more explicit understanding of how RND may uniquely exist in relation to regenerative development as it is understood generally. In placing RND principles alongside RD principles, we can begin to understand RND within the broader regenerative development discourse and contribute to this emerging discipline. Furthermore, uncovering commonalities between RND and RD may serve to link persistent principles and values across both forms of development while identifying differences would elucidate what specifically RND contributes beyond traditional regenerative development principles. The results of my comparative analysis to the Regenerative Development Evaluation Tool (RD Evaluation Tool) developed by Gibbons et al. revealed several points of alignment and departure between core principles of RND and the RD Evaluation Tool. The side-by-side comparative analysis indicated broad areas of alignment with regards to RND principles being *partially* captured within regenerative development principles. However, stark differences existed both in the way RND principles were organized and in the emphasis of additional, interconnected principles.

Points of alignment

Referencing the five principles from my thematic content analysis, I identified strong overlaps between all three meta-principles (and principles within each) from Gibbons et al. I

found that the three meta-principles of *wholeness*, *change*, and *relationships*, were present, in various extents, in the principles I identified from my thematic content analysis.

Specifically, the Gibbons et al. meta-principle of wholeness contained similar language and theoretical concepts embodied by SWF's principle that "everything is connected" and "connections within local space." Defining principles within the meta-principle of wholeness, as set forth by Gibbons et al., were working in whole systems and the shifting of reductionist worldviews from reductionistic towards holistic ones. The principle I identified as "everything is connected" arose from my participation observation through the explicit and implicit shifts I observed in my own thinking and writing. Moreover, the work I participated in at Sweet Water Foundation directly and intentionally utilized systems thinking, whether that was through research tasks or daily farm operations. Wholeness principles were also closely linked to the RND principle of "connections within local space". The RND approach taken towards incorporating local tastes, histories, and human agents was holistic in nature: local components were understood to be intimately interconnected to the whole of the broader living system. Moreover, the incorporation of local agents not only benefited from holistic thinking but also further contributed *towards* systems thinking and worldview shifts towards holism (discussed later in relation to the meta-principle of relationships).

The meta-principle of *change* was embodied through RND principles of planning with chaordic systems and "everyone is connected". With respect to the change meta-principle, Gibbons et al.'s states that regenerative development should "work with the dynamic nature of living systems". The importance of synergistic relationships with a constantly changing system is echoed in the manner Sweet Water Foundation conducted their RND practice. As outlined in the "chaordic systems" principle, an understanding and acknowledgement of the change and chaos

inherent to living systems (in weather, site conditions, relationships, etc) was crucial in the day-to-day operations as well as the built designs of Sweet Water Foundation. Principles within the meta-principle of change were observed in RND design and routine practices. For example, when SWF makes claims to, and develops on, vacant lots, they activate the potential (i.e. the capacity for regenerative growth) in that space. Ritualized meetings, on-site learning opportunities, and SWF's waste-to-resources approach further expanded the regenerative capacity of living systems (increased yield of crops, expanding knowledge and skills of team) and non-living systems (building materials were redirected away from landfills and towards new installations). The RND principle of "everyone is connected" further exhibited values of change and regenerative potential through the importance and focus of value-based relationships with local agents and the expansion of new social connections (discussed next in relation to the meta-principle of relationships).

The meta-principle of *relationships* was a common theme across all RND principles. As stated by Gibbons et al., it is *through* relationships that wholeness and change occur (Gibbons et al., 2020, p. 4). Indeed, within RND principles too, the importance of relationships should not be understated. Relationships with residents, partners, and stakeholders in the community both benefited from and benefited towards the realization of the five principles. Relationship principles were incorporated via all RND principles but most strongly present within "everyone is connected" and "connections within local space" principles. The RND principle of "everyone is connected" aligned with Gibbon et al.'s three relationship-based principles focused on relationships that were value-adding, mutualistic, and leveraged systemic nodal points. For example, partnerships with public schools and local educators (systemic nodal points), such as through the apprenticeship program, served to both benefit the community and SWF (mutalistic),

and contribute towards the healthier functioning (via workplace development skills and educational attainment) of the system as a whole (value-adding). Moreover, relationships with local agents (highlighting “connections within local space”) contributed towards the interdisciplinary network of perspectives and voices that helped inform programmatic and design elements of Sweet Water Foundation’s development. For example, through weekly farmer’s markets, the SWF team was able to interface with stakeholders of the neighborhood and beneficiaries of their work. Through conversations, continued dialogue, and gradual engagement, these new local connections to SWF would then introduce their skillset (woodworking, botany, research, etc.), tacit knowledge (recipes, stories, remedies, etc.), and connections to the SWF network. These relationships thus spurred growth and functioning in a way that aligns with Gibbons et al.’s notion of relationship based principles.

Given the interdisciplinary nature of regenerative development, field notes and reflections often showcased multiple RD principles simultaneously and with varying levels of intensity (Table 2).

| Meta-Principle | Core Principles Within | Examples at SWF |
|------------------|--|---|
| <i>Wholeness</i> | Works in whole systems (not fragments) | <ul style="list-style-type: none"> - Team members must collaborate on social, ecological, health, cultural, and historical-driven projects - Spontaneous learning opportunities |
| | Shifts thinking towards holistic worldview | <ul style="list-style-type: none"> - Transdisciplinary youth education programs - Team reflections |
| <i>Change</i> | Seek and manifest potential, or essence, in a place | <ul style="list-style-type: none"> - Vacant lot improvements - Weekly Farmer’s Markets |
| | Grows regenerative capacity (in human and non-human components of living systems—viability, vitality, evolutionary capacity) | <ul style="list-style-type: none"> - Emphasis of using biotic and abiotic components in design, such as the Monarch Tower on site - Emphasis of ‘living’ documents and projects, promote capacity to change and evolve through modular and fractal design - Morning meetings |

| Meta-Principle | Core Principles Within | Examples at SWF |
|---------------------|---|---|
| <i>Relationship</i> | Value-Adding: Contributes to healthier functioning/vitality of various scales | <ul style="list-style-type: none"> - Mission-based partnerships that continually expand the scope of produce distribution and education programs - Resident knowledge contributes various levels of historical, ecological, and sociocultural expertise |
| | Mutualisms/Guilds: Creates reciprocal relationships that contribute to healthier/more vital whole | <ul style="list-style-type: none"> - Weekly volunteer opportunities - Seeking of new partnerships though network connections - Apprenticeship program for local youth |
| | Nodal leverage points: Identifies and shifts systemic leverage points to increase health and well-being | <ul style="list-style-type: none"> - Apprenticeship program for local youth - Partnerships with public schools and local educators |

Table 2. Comparative analysis of core Gibbons et al. principles with participant observation at SWF.

Points of departure

There were also sharp differences, both thematically and structurally, between the principles encompassed by RND and those highlighted by the RD Evaluation Tool. Thematic differences include the distinct focus on locality by RND: the content analysis revealed an explicit emphasis on building local relationships, incorporating local knowledge, and uplifting local histories and narratives. While Gibbons et al. make reference to the importance of local specificity (p. 12), localism is not defined as a core principle. This emphasis on the neighborhood context sets RND apart from more generalized definitions of regenerative development such that regenerative neighborhood development is carried out *by* the neighborhood, designed *for* the neighborhood, and necessarily specific *to* the neighborhood.

In addition, RND had a clear, explicit principle focused on historical preservation as central to the way they conduct their development practice. Rather than taking a backseat, as the case with RD Evaluation Tool, the preservation and celebration of place-based histories and generational narratives was common theme that was present throughout my participant observation. While Gibbons et al. allude to the historical information that can be gained through

the meta-principle of relationships (p. 11), historical preservation is not defined as a regenerative development principle. In contrast, while the RND principle that incorporates historical preservation (“connections across time”) is intertwined with relationship and place-based principles (“everyone is connected” and “connections within local space”, respectively), the RND principle of connections across time make clear that locally relevant histories are a principle of RND in their own right.

This leads me to the structural and conceptual difference between RND and RD Evaluation Tool principles. While each contained a set number principles for the comparative analysis, the relationships and interactions among and between principles was noticeably more complex and cohesive in RND compared to the RD Evaluation Tool. The *holarchical* structure of RND principles was forecasted during the content analysis process but made much more apparent through the comparison to the *hierarchical* framework of the RD Evaluation Tool. As evidenced in the “Points of departure” section, RND principles do not easily organize through hierarchical structures in which aspects of RND principles can be clearly grouped into higher, broader discrete categories. Rather, connections between RND principles more closely resemble a holarchy—a connection between holons, in which each principle is a holon—an entity that is whole in and of itself and also part of a greater whole.

Discussion

In seeking to understand the extent to which regenerative neighborhood development aligns with and departs from key principles of regenerative development, I uncovered findings that indicated various areas of overlap and divergence. Firstly, the findings from my content analysis underscored the inherent resistant nature of regenerative neighborhood development

towards a single framework analysis. The blurred boundaries between RND principles mimic the transdisciplinary nature inherent in RND itself. Importantly, through the comparative analysis, it became clear how RND principles are interconnected to, and nested within, each other in a way that closely reflects the broader systems thinking embedded in the holistic and holarchical worldview of RND. Whereas the RD Evaluation Tool's distinct and hierarchical categories of principles indicate an underlying assumption that regenerative development principles can be clearly discretized, the worldview underpinning the practice of RND at SWF is more holistic and holarchical, such that core principles connect to, and overlap with, each other. The importance of these structural differences cannot be understated: this difference points to an underlying disagreement in the assumptions within RND and the RD Evaluation Tool.

Thematic differences and similarities further revealed the ways in which RND can be understood as an iteration of regenerative development. Indeed, the consistent presence of transdisciplinary and holistic thinking in both RND and RD Evaluation Tool principles indicates a shared connection to broader regenerative development movements away from monolithic and mechanistic worldviews. However, the explicit emphasis towards local processes, place-based development, preservation and celebration of historical and generational narratives, within principles set RND apart from the regenerative development principles laid out by Gibbons et al.

Applications and Limitations

The depth of the data collected at SWF works to construct a rounded and detailed composition of some core principles of RND. However, the theoretical contributions of these findings must not be overstated. It's important to note that the principles induced from the thematic content analysis are not, by any means, a complete comprehensive list of the core

principles that embody RND or SWF's practice. Rather, the findings presented are extracted solely from my limited experience and analysis. Moreover, given that RND is a place-based development process, in which the local demographic, history, and context necessarily inform the specificities and methods of development, the specific way RND was practiced by Sweet Water Foundation should not be generalized to prescribe RND in other contexts. Thus, by virtue of investigating RND through one case study, the findings are best applied when considered within the surrounding local and historical context of the case study. However, the extracted principles serve to advance the ongoing research in regenerative development field and provide a basis for further research of RND. Moreover, these principles should be compared and understood next to ancient forms of knowledge and practice similar to RND, including indigenous knowledge and practices, as well as eastern spiritual traditions and knowledge (Gibbons, 2020).

V. Conclusion

The relationship between the regenerative evaluation tool developed by Gibbons et al. and regenerative neighborhood development as practiced by Sweet Water Foundation is confounded by underlying differences in assumptions and perspectives on how development should be done. Whereas the work advanced by Gibbons et al. in their tool was structured on the basis of a handful of discrete principles and several key characteristics, regenerative neighborhood development integrates multiple principles and characteristics across their internal structure and operations. Indeed, while the principles and characteristics of Gibbons et al. (alongside other new emergent features) were present throughout the RND practice, the presence of these features across various scales and programs made it difficult to categorize and apply the

RD evaluation tool to RND. In this way, regenerative neighborhood development epitomizes an epistemological shift in how development can be executed and evaluated on a larger scale.

However, given the limited understanding of RND at other locations and across other localities, the implications of this research are limited. Given that RND is a place-based practice, research of RND in other locations, particularly those examining the long-established practices of indigenous populations, would be significant in developing a generalized characterization of RND. Given that SWF uniquely exemplifies RND within an urban context, it will be important to examine and analyze other cases of RND to build out a more robust sample size to create a conceptual model of RND. Nonetheless, the principles gained through my participant observation may not only help supplement and modify existing theoretical frameworks in the scholarly literature on regenerative development but further inform the principles and methods of existing organizations hoping to incorporate regenerative development practices at their local scale. In this way, RND, both its principles and as a practice, can begin to address the dual-faced issue to adapt to both climate change and rapid urbanization.

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