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LA SAGRADA MEDICINA DE LA MADRE TIERRA:
TRADITIONAL ANCESTRAL PRESERVATION IN POMONA, CA
COMMUNITY GARDENS

by

LIZBETH VALDIVIA-JAUREGUI

SUBMITTED TO SCRIPPS COLLEGE IN PARTIAL FULFILLMENT
OF THE DEGREE OF BACHELOR OF ARTS

PROFESSOR BARTHOLOMEW
PROFESSOR RODRIGUEZ

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Abstract

For thousands of years before colonization, Indigenous ancestral knowledge has preserved, honored, and nurtured the sacredness of Mother Earth through kin-based institutions knitted together in a cosmic web of lineages and tribes (Henrich, 2020). The purpose of this grounded theory community-centered study was to examine how traditional ancestral knowledge is transmitted within community gardens in the city of Pomona, CA. Participants ($N = 16$) were interviewed using open-ended qualitative interviews that followed Charmaz's (2014) constructivist grounded theory framework, in order to explore participants' perspectives and personal experiences in possibly viewing community gardens as spaces of cultural transmission (Charmaz, 2014). Following Charmaz's analytical steps, three key findings emerged: 1) creation of a sense of belonging and connection, as the garden transmutes into a storyteller, Eco therapist, teacher, and ancestral DNA portal; 2) the sharing and practicing of Land-based regenerative practices such as documenting medicinal plant healing properties/uses and actively striving to build decolonial relationships with the species on the Land; 3) multigenerational cross-cultural learning; specifically developmental growth for children and youth. As globalization continues, this community-based study has the long-term potential in the protection of biodiversity and restorative Land justice by analyzing how traditional ancestral knowledge is communicated across Indigenous, Black, Latinx, and non-binary low-income communities in Pomona, CA. It becomes vital to disseminate this knowledge back to community gardens members as a form of reflective feedback that will affirm the soulful work that is being done within these Pomona community garden healing spaces.

Keywords: traditional ancestral knowledge, community, Land

Traditional Ancestral Preservation in Pomona Community Gardens

The illusion that humans are separate from nature has been used to justify the commodification, exploitation, and erasure of Indigenous ancestral knowledge (Shiva, 2016). For thousands of years before European colonization, Indigenous ancestral knowledge has preserved, honored, and nurtured the sacredness of Mother Earth through kin-based communal networks knitted together in a cosmic web of clans, lineages, and tribes (Henrich, 2020). Evident in the extant literature is suggestion that, during the middle ages, as European parasitic colonialism spread like wildfire, profound psychological manipulation emerged in the psyches of both the colonized populations and the colonizers which led to the disintegration of kin-based institutions and the rise of individualistic WEIRD societies (Henrich, 2020). WEIRD societies (western, “educated,” industrialized, rich, and “democratic”) are characterized as highly individualistic, self-obsessed, control-oriented and have historically overpowered holistic and collectivistic societies rendering them inferior, backward, and frozen in time (Battiste, 2005; Blaut, 1993; Henrich, 2020).

Colonialism and capitalism imposed WEIRD values on non-WEIRD contexts. Imposition of Western European, Christian, patriarchal male-centered epistemologies have led to colonial impulses to conquer, own, and pollute every single species of life on the planet such as the bodies of plants, animals, Land, and women (Khalifa, 2017; Shiva, 2016). Cognitive imperialism, promoted in public education, is a form of cognitive manipulation used to discredit Indigenous knowledge foundations and values facilitating the conquering of kin-based societies by European epistemologies, subsequently dismantling and erasing collectivist knowledge (Battiste, 2005), yet these Indigenous ways of knowing prove resilient within communities. One

such way of knowing is reflected in communal knowledge shared in Indigenous community gardens, where ancestral ways of being and healing are shared from generation to generation.

As globalization and capitalism corrode every aspect of life and implement cultural homogenization (Shiva, 2016) shedding light, documenting, and archiving the ways in which community gardens can provide a divine motherly shield and protection against the erasure of traditional ancestral knowledge (TAK) for Indigenous, Black, and immigrant Latinx marginalized community garden members becomes vital. No scholars have yet documented the ways TAK is transmitted within community garden spaces within the United States; therefore, the purpose of this constructivist grounded theory community-centered study was to examine how TAK is transmitted within a specific set of community gardens in Pomona, CA.

City of Pomona and Inland Empire Context

Pomona, the 7th largest city in Los Angeles County and what is commonly referred to as the ‘Inland Empire,’ has 17.3% of the population in poverty and 20% experiencing food insecurity (U.S. Census Bureau, 2021; City of Pomona General Plan, 2014; LA County Department of Public Health Survey, 2015). In the Inland Empire, where food scarcity and poverty are rampant (LA County Department of Public Health Survey, 2015), large corporations like Amazon continue to buy what little vacant Land remains, leaving communities with little to no access to green spaces.

Despite the lack of green space through the Inland Empire, Pomona, CA cultivates Land for 9 community gardens where pesticide-free produce is grown, and cross-cultural workshops are offered to Pomona community members. A community garden is a Land-based practice in which food is grown within an open space by the community and for the community in a cross-cultural setting. Community gardens allow bridges and intertwine different cultures, languages

and ways of communally relating to one another (Datta, 2016; 2019). Community gardens can provide a space of TAK transmission among Indigenous (2.6%), Black (6.0%), Latinx (71.6%), and immigrant (34.1%) Pomona residents (U.S. Census Bureau, 2021). For this study, the focus was centered on these gardens: (a) Gente Organizada Community Garden, (b) Growing Roots Community Garden, and (c) Lopez Urban Farm. All 3 green spaces offer low-income Pomona residents with access to affordable and free local produce according to the seasons, which mainly consist of corn, medicinal herbs, squash, lettuce greens, melons, and fruit trees. In addition to providing locally grown harvests, these spaces provide weekly workdays to learn about composting, planting, and harvesting produce. Workshops are also offered to the community on a donation-based system (i.e., natural dye and porcupine quill beading workshop, community art days, open mic nights, knitting classes, and decolonizing herbalism via medicinal plant workshops) with the intention of creating holistic relational connections with plants found in the community gardens. Lastly, in collaboration with (a) and (b), Lopez Urban Farm (c) hosts free urban farming training for children and a weekly donation based *puestecito* (community market stall) from local produce grown at multiple Pomona community gardens.

Traditional Ancestral Knowledge Context

Many scholars over the years have defined various forms of traditional ancestral knowledge with terms ranging from “indigenous knowledge,” “ancestral knowledge,” and “traditional knowledge” (Battiste, 2005; Khalifa, 2017; Marrie, 2019). For the purpose of this constructivist grounded study, I will be incorporating an eclectic mix of the three definitions to adequately define traditional ancestral knowledge (TAK). The definition that most closely aligns with the meaning of TAK for this study is defined as, “A unique cumulative body of knowledge and practices related to the natural environment of a specific geographic area developed by

people over generations. It represents a history of experiences, careful observations and experimentation. It is embedded in culture, spirituality and world views and expressed in stories, songs, proverbs, customary laws and language. It is shared and passed down through the generations orally and through cultural practices and ritual” (Marrie, 2019, p. 2). However, it is important to note that TAK is adaptable, dynamic, and defiant of all forms of Eurocentric systematic categorization, meaning no definition is truly definitive of the essence of TAK (Battiste, 2005). Lastly, many collectivist, Indigenous cultures practice relational Land-based ways of life alongside nature, in order to avoid fragmentation that can lead to the endangerment of customs, sharing, and preservation of TAK (Greenwood & Lindsay, 2019). Thus, conceptualization of TAK, and the Indigenous epistemologies that fuel them, requires an integrative approach.

Indigenous epistemologies are directly tied to honoring, sharing, and practicing Land-based regenerative practices. These practices have contributed to the health and biodiversity of the Land and to the wellness of Indigenous communities in practicing hands-on ceremonies and rituals centered around native plants, food preparation, and life skills which are then passed on intergenerationally to their offspring (Flanagan et al., 2021). Overall, intergenerational preservation brings forth reclamation and self-autonomy for Indigenous communities (Greenwood & Lindsay, 2019). Yet, TAK is being constantly threatened due to globalization and increased technological innovations. Concordantly, researchers have hypothesized that cultural transmission occurs through 2 different mutually exclusive paths, through parents (vertically), age peers (horizontally), and older generations (oblique) through a cultural transmission model (Cavalli-Sforza and Feldman, 1981). This concept is important as we explore the ways in which

TAK transmission occurs within community gardens and how this can be analyzed in the cultural transmission model.

Community Gardening Research

The research on TAK within the context of community gardening is non-existent, yet community gardening and overall gardening research is prevalent and has focused on individual emotional connections within gardens. Researchers have demonstrated the benefits community gardens and nature provide with respect to improved wellbeing (Lee & Matarrita-Cascante, 2019; Summers & Vivian, 2018; Suto et al., 2021). For instance, within Texas community gardens, emotional attachment was related to increased motivation for participation in community gardening (Lee & Matarrita-Cascante, 2019). Similarly, community-based participatory qualitative research found participants reported a greater sense of wellbeing from perceived level of belonging through inclusion and affirmation from those in the community garden and developed positive feelings through doing garden activities (Suto et al., 2021). Taken together, these studies demonstrate initial evidence supporting the notion that community garden engagement elicits positive feelings for volunteers and benefit their overall well-being.

These benefits may be best understood via Attention Restoration Theory (Kaplan & Kaplan, 2011), which poses people that interact with nature can focus better and demonstrate increased cognitive processes due to exposure to nature. Through this theoretical lens, natural environments like community garden interactions contribute to well-being by allowing “soft fascinations that allow the mind to drift and be restored; comprehensibility of the setting where a person feels capable and wants to participate; diversity of stimuli that encourage exploration; and a balance between understandability and mystery” (Kaplan & Kaplan, 2011, p. 309).

Furthermore, Attention Restoration theory is pertinent to understanding the research that has

delved into the holistic phenomenon of Ecotherapy, which highlights interactions between nature and human beings that serve in the therapeutic process. That is, engagement with nature via Ecotherapy suggests people heal through experiencing nature by enhancing fascination and attention to one's natural space (Kaplan, 1995; Summers & Vivian, 2018; Taylor et al., 2001). Such theoretical support for the psychological utility of nature engagement further calls into focus the potential usefulness of engaging in community gardening as a natural space.

Ecotherapy, importantly, has been shown to be effective in reducing distress including depression, anxiety, pain reduction, and increased recovering rates for hospital patients (Ulrich et al., 1993; Park & Mattson, 2008; Summers & Vivian, 2018), and these effects can be understood through the contextual model of psychotherapy (Frank & Frank, 1991).

According to Frank & Frank's (1991) contextual model of healing, four elements can be found in healing procedures across different cultures. First, the client must have a direct and emotionally charged relationship with the healer. Secondly, healing must take place in a setting that allows safety for patients to actively express feelings. Finally, there must be a ritual that requires the active participation of both patient and therapist to aid in strengthening the therapeutic alliance (Frank & Frank, 1991). Furthermore, understanding this framework establishes a foundation of how TAK transmission within community gardens can directly be tied with Frank & Frank's (1991) contextual model of healing. Concordant with the first element of the model, the community garden can become a healer, as the space has been shown to provide community gardeners with emotional attachment and increased motivation (Lee & Matarrita-Cascante, 2019). Further, Horticultural Therapy (HT) allows for closeness to plants and nature to be used as a rehabilitative strategy where patients can express vulnerability (Summers & Vivian, 2018). Lastly, this model can strengthen counseling relationships between

therapist and patients as they work together in the community garden. Participants of color can greatly benefit from having therapy sessions in this community garden environment as this unique setting can also combat patients perceiving unawareness and misunderstanding of their spiritual beliefs from their therapist and aid in fostering a safe and healing therapeutic alliance (Cervantes & Parham, 2005). These elements are crucial to the current study as transmutation of space and relationships are centered in the transmission of ancestral knowledge via community gardening.

Missing within the scope of this research is how a form of TAK, medicinal and curative properties of plants, is rapidly being lost in colonized communities due to violent displacement. The loss of this knowledge is especially important given that medicinal and curative plants sustain and protect the health of communities. One study found, Tsimané Bolivian mothers who had knowledge of local plants also had children with higher immunity against diseases and infections when compared to those children of mothers less familiar with local plants (McDade et al., 2007). Women and mothers having TAK related to plant medicine is a crucial protective factor as a means of promoting healing for families and prioritizing the spiritual, mental, emotional, and physical health of children (Marrie, 2019; Shiva, 2016).

In addition to improving the mental and emotional functioning of children, the community garden allows a shift away from the paradigm of Western formal learning. Unlike Western schooling systems rooted in rules and punishment, the community garden has been found by researchers to provide an avenue for relational activities of informal and formal Land-based learning (Datta, 2016). Children are provided with intergenerational and cross-cultural learning activities that foster critical thinking skills, friendships with garden species, and the ability to make connections with what they grow, eat, and feel (Datta 2016; 2019). Similarly,

Surman & Hamilton (2018) theorized the concept of “Foodscapes” to explore school gardens as spaces where children's senses are heightened as they interact with plants, dirt and insects and how Foodscapes shield children against the lack of sensory immersion with nature. This study also found that although children were provided gardening tools, they completely discarded them as they enjoyed digging and direct physical touch with the soil microbiome (Surman & Hamilton, 2018).

Analogous to sensory immersion with soil, emotional contact was explored in a school garden, as low-income children were provided intuitive play and affective labor which found increased collective emotion for children to think of themselves in the context of a collective school body rather than as individuals (Moore et al., 2015). These perceived feelings of collectivism within the context of school setting have been found to increase solidarity which help counteract U.S. neoliberal education that promotes bureaucratic violence and indoctrination (Moore et al., 2015).

Knowing that TAK can promote wellness, it remains important to understand how TAK is transmitted across and within generations especially in contexts like the Inland Empire or other parts of the United States where nature access, and therefore nature related TAK, is lacking. In assessing how mothers transmit, protect, and preserve TAK for their child through foraging and consuming local plants for the health of their children, a large portion of research has focused on community garden and the intricate role it plays in the development of children and the multigenerational cross-cultural learning that occurs (Datta, 2016; 2019; Lohr et al., 2020; Louv, 2006; Surman & Hamilton, 2018). Within the United States, children are experiencing nature deficit, with many children often spending less time outdoors due to the criminalization of play by urban planners and government officials (Louv, 2006). Within a 6-year period there was a

50% decline in children ages 9-12 who spent time in nature and gardening (Hofferth, 2003).

Conversely, counteracting nature deficit disorder suggests exposure to nature may reduce Attention Deficit Hyperactivity Disorder (ADHD) symptoms and protect children from stressors as well as enhancing their cognitive abilities (Louv, 2006). However, researchers are yet to engage deeply with the cultural meaning of TAK in spaces like the Inland Empire where nature is not easily visible and industrial landscapes such as warehouses prevail in predominantly low-income neighborhoods. It is important to note that most of the existing research on community gardening participation centers reductionist colonial paradigms that contribute to the erasure of TAK and centuries of Indigenous struggles for Land protection. For example, much of the research revolves around the finding that low-income community gardeners are found to be driven to participate in gardening due to food insecurity, while wealthier garden volunteers participate in gardening due to protecting the environment (Martinho da Silva et al., 2016; McClintock et al., 2016; van Holstein, 2017). In addition to using a colonial framework, this research neglects Indigenous experiences and vital work that occurs in community gardens. Specifically, this reductionist research actively perpetuates harm by contributing to the erasure of Indigenous activism in stewarding and protecting against the commodification of Mother Earth through TAK practices. Therefore, my research study aims to work against reductionist colonial paradigms by focusing on the richness TAK knowledge transmission ignites among low-income communities through a holistic lens. This study further aims to situate food security and medicinal plants as an active combatant against colonialism in helping rewrite narratives around food insecurity, as participants reconnect with their cultural roots through the harvesting of food grown by and for the community.

The Present Study

Given that no research has yet to examine TAK within community gardens, the purpose of this study was to use a grounded theory approach to study and document TAK transmission within community garden spaces in the United States, specifically in the city of Pomona, and how this can fit with a transcultural model of healing (Frank & Frank, 1991). This research is especially salient, as erasure of TAK has been purposeful within the Western world (Khalifa, 2019). Additionally, traditional psychotherapy is not widely accessible to marginalized communities, whereas community gardens are often spaces curated by and for these communities. Land-based forms of learning, such as community gardens, actively redefine and bridge the gap between Western forms of therapy within an Ecotherapy and Horticultural therapy framework. Using a constructivist grounded theory method (Charmaz, 2014) I examined this central question: “How is traditional ancestral knowledge (TAK) transmitted in community gardens located in Pomona, California?”

Method

Participants

Individuals were eligible to participate in this study if they were involved in any community garden in the city of Pomona, CA and were at least 18 years or older. No individuals were excluded based on gender or racial/ethnicity identification. In total, 16 individuals participated after being recruited via snowball sampling and convenience sampling. Participants identified as women ($n = 8$), non-binary ($n = 4$), men ($n = 3$), and Two-Spirit ($n = 1$). Two-Spirit translates to an Indigenous person of the Americas that identifies both their body and spirit simultaneously housing contrasting feminine and masculine energies deriving from the Warrior and Clan Mother ancestors (Assault Coalition, 2009). Participants racially/ethnically identified as Indigenous to Latin America ($n = 4$), Mexican American ($n = 5$), Indigenous Gabrielino-Tongva

Tribe ($n = 2$), Southeast Indian ($n = 1$), African American ($n = 1$), Afro-Caribbean ($n = 1$), Mixed Race ($n = 1$), and Colombian ($n = 1$). They also ranged in age from 22 to 64 with the average being 36.56 ($SD = 14.81$). Level of education ranged from some college through completion of a bachelor's degree. Participants' time spent volunteering at community gardens ranged from 3.5 months to 12 years. Sample sufficiency and saturation are contested issues in qualitative research (cf. Bartholomew et al., 2021; Conlon et al., 2020; Malterud et al., 2018) with constructivist grounded theory samples being evaluated in part by saturation (Charmaz, 2014). Although Charmaz's overview of constructive grounded theory suggests 20 participants is sufficient, I assessed theoretical saturation of this data by observing whether or not participants were sharing new information. In consultation with an auditor, it was evident that similar ideas had been shared throughout these 16 interviews and that the data were sufficient to capture a theoretical perspective about the transmission of TAK in these gardens.

Measures

To conduct semi-structured interviews, an interview protocol was designed and reviewed by an auditor prior to data collection. Questions were conceptualized within the framework of traditional knowledge (Battiste, 2005; Khalifa, 2017; Marrie, 2019). Aside from basic demographic questions, all participants were asked the same 10 study questions. Open-ended questions asked included "What have you learned based on your community garden involvement about traditional ancestral knowledge?," "Do community garden workshops foster the transmission of cultural and ancestral knowledge?," "How can community garden workshops build a cross-cultural bridge among different backgrounds (First Nations, Black, immigrant, refugee)?," and "How can community gardens serve in the preservation and continuity of ancestral knowledge?." These items were confirmed in the collaborative design process to

enhance certainty that community garden volunteers from Pomona would be able to answer all questions.

Procedure

This IRB-approved, grounded theory community-orientated study was conducted after participants signed and completed the informed consent after they had the chance to look over the interview protocol questions and were informed participation was completely voluntary. Participants were then asked their preferred option for the open-ended interview (via Zoom, or in person). Interviews typically lasted 40-60 minutes. Each participant was asked the same question, given the semi-structured nature of each interview. Upon interview completion, participants were read the debriefing form and provided a \$20 compensation. All interviews were audio-recorded and subsequently transcribed for analysis.

Researcher Reflectivity

Throughout the research journey, the research team reflected on our respective biases, including in response to certain surprises at the findings of the study. I grew up in the Southside of Pomona my whole life and have been volunteering at Pomona's community gardens for 3 years now. I knew most of the participants prior to the study's completion, from time spent volunteering together. Our research team consisted of myself, an undergraduate senior college student who is a Chicana with Indigenous *Caxcan* roots and a counseling psychologist who is of European descent. In discussing our biases, we reflected on a preconceived idea that participants would express TAK transmission to occur horizontally and cross-culturally due to the diversity in volunteers the community garden attracts. We all shared the belief that TAK transmission would occur cross-culturally and intergenerationally as we practiced researcher reflexivity throughout the research process, certain surprises in regard to the findings manifested as well. I

did not expect participants to perceive the transmutation of the community garden into certain roles serving different purposes as volunteers interacted with the garden such as that of a teacher, storyteller, ecotherapist, and an ancestral DNA activation portal. We maintained awareness of our biases, especially during the analysis process, leading to the choice to review coding collectively to enhance and ensure the trustworthiness of our work and make justice to the perceptions and lived experiences of each participant in regard to the TAK transmission within a community garden environment.

Ethical Considerations

For the purpose of this constructivist grounded study several ethical considerations were ensured to protect all 16 participants. First and foremost, this study did not involve any form of deception and respondents were exposed to no more than minimal risk by agreeing to participate. Although less than minimal risk would be incurred if confidentiality were to be broken, in the interview protocol preamble participants were asked not to share any sensitive information. Qualitative data was collected either in person or via zoom and recorded using a secondary audio recorder to avoid complications with the zoom platform. Participants were told to turn off their video prior to voice recording. Participants were informed they could ask for any specific information to be removed from interviews once the interviews were complete. It was informed to them that this removal of certain information must be initiated immediately after the interview as it could not be accomplished as soon as materials are de-identified. Transcriptions of the interviews were made; however, upon data collection entry any personal information was de-identified. Records were stored in a protected cloud storage platform (Box). Breach of confidentiality is always a risk in such research; however, the above steps were taken in an effort to mitigate such a risk.

Participants were informed they could stop the interview at any time or choose not to answer particular questions without losing the \$20 financial compensation. Consequently, before voice recording participants' talking about their experiences on how people transmit TAK within a community garden setting, I let all participants know during the informed consent process that if they felt distressed for any reason by any of the study questions, I would cease the interview and offer psychological resources to the participants. Thankfully this did not occur, but if so, the resources that would have been provided to participants would include community therapists within the Pomona area. Participants were only asked about their experiences and perceptions in the community garden of TAK transmission. Additionally, qualitative data from the open-ended interviews was stored and subsequently kept as a saved file in a password protected cloud platform accessible (Box). The only identifying information collected from participants was demographic information (age, education, racial/ethnic identity and time spent volunteering at community gardens). Respondents were made aware of that in the consent process. All other data was entirely anonymous.

Data Analysis and Verification

Data Analysis was conducted in accordance with Charmaz's (2014) constructivist grounded theory. We used incident with incident coding, which means we thoroughly analyzed transcribed interviews and identified salient incidents reported from different angles (i.e., things participants shared) that helped to answer our central research questions on how TAK is transmitted within Pomona community gardens. During incident with incident coding, which is an open coding phase in constructivist grounded theory, I identified incidents in the transcripts (i.e., quotes pertinent to the central research question) and gave each incident a code meant to reflect a succinct characterization of how the incident overall contributed to answering the

central research question. Thereafter, the auditor reviewed and verified each code. This led to increasing code specificity and consistency in some places so that meaning was clear and agreed upon by all reviewers.

After coding each interview, I then used constant comparison to identify similarities across all 16 interviews. This step led to the axial coding process during which categories were identified that reflect identified similarities across the interviews. Constant comparison and consideration of the codes led to their being grouped together with alike codes that then formed the categories. Categories represent the constituent components of a grounded theory that aid in answering the central research question; in this case, the categories reflect an understanding of how TAK is transmitted in this setting.

Each category includes a written narrative to depict participants' voices therein. I wrote each category after identifying them, after which they were subjected to review by the auditor. Any concerns about category accuracy were discussed until agreement was reached. Our feedback about the written categories confirmed the analysis and led to a greater inclusion of specific examples within each category about TAK transmission within a community garden setting.

Results

Using Charmaz's (2014) constructivist grounded theory with incident-with-incident coding, we identified 235 codes pertinent to the research question. From these codes, three main categories emerged after following Charmaz's analytical steps: (a) A Sense of Belonging and Connection (b) Sharing and Practicing Land-Based Regenerative and Decolonial Practices, and (c) Cross-Cultural Multigenerational Learning and Children's Developmental Growth. This analysis includes subcategories for the first and second categories in order to allow for a clear

presentation of each participants' lived experiences. Throughout the results, participant quotes are provided, but attributed to pseudonyms to honor anonymity.

A Sense of Belonging and Connection

As garden volunteers reflected, they recognized TAK transmission was possible among community garden volunteers due to the feelings of belonging and connection experienced with one another, as well as friendship with the garden itself. In further subcategories, participants revealed TAK transmission was passed down as the garden underwent transmutation and took on the role of a teacher, storyteller, ecotherapist, and cultural remembrance portal.

In their respective interview, participants ($n = 11$) expressed they felt a sense of belonging every time they walked into a community garden knowing that there are many living entities sustaining themselves within native plants, soil, air, insects, and butterflies working in harmony to exist with one another. Participants mentioned that through feeling a sense of belonging and connection both with the living creatures and with volunteers their spirit felt a sense of peace and were able to feel rooted in a sense of purpose, knowing they are a part of something greater than themselves. A shared finding when asked about belonging was volunteers highlighted the interconnectedness and divine union with nature. Participants mentioned humans not being separate from nature, but a part of nature and when as humans care for the garden, humans are introspectively caring for themselves and those in relationship to the communities they are a part of. Selly went on to mention:

Indigenous languages historically did not have a word for nature because they realized humans are not separate from nature, realizing this is, "breaking down that illusion and healing from the illusion that "oh this [nature] is like separate from me.

In relation to interconnectedness, participants mentioned how human interactions within the community garden allowed a felt sense of relatedness through shared garden work and

observation of others. Garden work was mentioned to be harvesting produce seasonally, planting alongside the cycles of the moon, volunteers sharing culturally diverse food amongst, and the sweat that came with the labor accomplished during garden workdays. Pachamama highlighted the connection to their childhood as they observed children within the garden:

They [children] hopped over the fence to come into the garden. I felt like my inner child was so excited to see how excited they were, and, in that moment, it was just so perfect. It's like I'm in the right place at the right time. This is what I should be doing. This is what we should be doing and just seeing the excitement of the youth and the curiosity.

Connection and being in relation to others in a community garden allows for different transmutation of energy within time and space shared in the community garden. Thus, many garden volunteers mentioned the perceived transmutation the community garden underwent. This transmutation was described by the many roles the community garden transformed into such as those of an educator, storyteller, ecotherapist, and a portal of ancestral DNA remembrance.

Transmutation of the Community Garden: Teacher

Participants were asked specifically about what they feel they have learned through their involvement in TAK and ($n = 5$) mentioned the learning they experienced both internally in their spirit, externally in their immediate environment and overall, in the world due to interaction with the plants. As participants were physically tending to the garden in terms of water, pruning, and weeding the Land, they had inner reflections and perceived the plants to be teaching them how to care for themselves as they care for the community garden plants:

In order for me to grow, I need to think about the environment that I'm living in, if I might have to prune some things out of my life, in order to grow and expand even more or might not be getting the right nutrients, right. Either what I am eating or, you know, the things like the spiritual nutrients, right, what I am telling myself. What friends or family might be telling me...so gardening has taught me all of that.

Similarly, other participants mentioned the lessons and value the garden brings for children.

Participants mentioned as children immerse themselves among the garden their hand eye

coordination becomes enhanced as they develop fine motor skills through touch, practice, and movement. Further, participants mentioned the garden becomes a form of life coach for children providing growth and direction:

I think it can definitely be very empowering. build confidence, creativity in kids and also exposing them to job careers or a way of life that they may not have necessarily known about.

Moreover, the garden not only teaches important inner lessons, it was reported to be a political educator for some participants:

A lot of the aphids will be there trying to keep on producing and producing and trying to expand their colony as well. Then the lady bugs, they are preparing their colony as well because they start planting their babies and all their baby warriors after even a few of them came first to try to conquer and go against each other that's like a reflection of the certain situations of war as in a conflict or a chaos, a heavy oppression that we have, whether it's in the system, whether it's a physical war, like bombing, whether it's people putting money into the wrong hands and destroying the planet. Eliminating the ability for people to sustain themselves and live more than a good life, that's where the space becomes a place where I've connected those dots and it made me feel I think other people can too.

The interactions amongst the life in the garden provided learning lessons of lived oppression in the world, where participants were able to connect these interactions to the extraction that is currently happening to the Land within Pomona and the greater Inland Empire:

People often forget the history, the past really does matter and we're repeating history in a lot of ways by conquering the Land and producing more warehouses, than access to Land, because the Land is just going to deplete itself. Just like certain races or species that become extinct that's all connected to, the ancestors, ancestors that have been gone.

As participants spent time in the garden, they reported both learning about themselves introspectively, as well as their environment with the oppressive institutional systems poisoning the Land. In this sense the garden was perceived to provide the role of an introspective teacher, life coach, and political educator for participants.

Transmutation of the Community Garden: Storyteller

As participants were asked to reflect on belonging within the community garden, participants ($n = 3$), of ages 25, 27, and 30 expressed a form of passing down and preserving TAK was due to the storykeeper and storyteller role the garden played. JuJu mentioned the garden allows for people to express vulnerability with each other through the stories they share:

Sharing stories too, people will share what they've been going on through lately. Some people have been able to open up more than others.

Others similarly expressed how the garden became a storykeeper space where (“People, all kinds of people who just have little bits of information and story to share, they're really happy and excited to share it, because it's coming back to them by being in the garden”). In this sense the garden was expressed to transform into a storykeeper, but also into a storyteller itself with the various interactions among the living entities. Sunny mentions the feelings behind the storyteller role the garden plays:

I feel like, it's not even gardening, it's participating in storytelling in a way, getting to understand what the wind does and how it carries seeds. How, even just pollinators, their roles, and I feel that all comes back to ancestral knowledge because the birds are some of the oldest ancestors, and they come and they visit the garden, too.

All 3 participants expressed the role the community garden played in the facilitation of storytelling. The community garden space activated storytelling among the community garden members due to the vulnerability they perceived with each other simply because they felt belongingness as the other volunteers were also tending to the Land. Furthermore, the garden became a storyteller for participants among the forces of nature at play, for example the wind being a force carrying seeds and birds being ancestors that have seen many generations tend to the Land.

Transmutation of the Community Garden: EcoTherapist

Alongside the storykeeper and storytelling role that the garden fostered for community garden volunteers, 50% of participants interviewed ($n = 8$) with time spent volunteering ranging from 3 ½ months to 10 years conveyed increased mental wellbeing as they interacted with the community garden environment. Participants highlighted how the garden made them feel safe (“It [community garden] helps me feel safe, helps me feel accomplished when I’m done doing a job or a project there”) and (“There’s not a lot of safe spaces, I think in this world and the garden has been enough for me in a lot of ways”). In addition to reporting a safe and mental wellness centered environment, participants specifically mentioned Ecotherapy, the therapeutic experiences felt while being in the garden and how hearing others share about mental illness provided comfort in not feeling alienated (“The diversity of chirps and what I mean by chirps, is chirps from the birds. Yeah, that soothing right there as well. That’s therapy, if you know how to pay attention to it”) and (“Sharing that with others and listening to members that may have gone through something similar or have been feeling the same way or do feel the same way can be really powerful to not feel alone”). Lastly, volunteers expressed the way in which they were able to not only recognize intergenerational and inner child trauma, but the way in which the garden becomes a place of self-restoration and healing which helped them in the unpacking of that past trauma. Sunny expresses:

I feel that allows us to tap into even healing on some intergenerational trauma, some family trauma, some inner child trauma. How do we move past certain things and build up boundaries that protect us from neglect or abuse? I feel like the garden shows you that with weeds, like pulling out weeds, bugs, and pests and having all kinds of experience.

Concordant with the community garden providing a safe space environment and aiding in self-restoration, other participants similarly mentioned the liberation and freedom the garden provided in being able to forget about the overwhelming events occurring in the outside world. Garden therapy was highlighted by participants to be a form of personal grounding and

recharging from childhood trauma. Similarly, participants' ability to recharge generated the mental capacity to connect to their Indigenous cultural roots within the community garden setting.

Transmutation of the Community Garden: Ancestral DNA Activation portal

When participants ($n = 11$) were asked how community gardening serves in the preservation and continuity of TAK, participants revealed community gardening brought forth ancestral remembrance in remembrance of how their ancestors and relatives have always been connected to the Land. Participants expressed simply by being in the community garden it becomes a reminder and confirmation that all of the gardening practices are already within your DNA ("It is cellular remembrance that we are part of the Land, the same minerals that make up the Earth make us up"). Other participants mentioned specifically how matriarchal figures within their family tree such as mothers, grandmas, and great-grandmothers have grown produce in their native homelands which made them feel spiritually connected to matriarchal ancestors based on the community gardening environment. Erendirani who has been volunteering for 1 year and 4 month recalls feeling an ancestral bridge with a matriarchal ancestor she never knew:

It [community gardening] allows me to reconnect in a way. My family grows a lot of things, you know, and also just thinking about my ancestors, my grandma, my great-grandma, I think about her a lot. She comes to mind because she was growing *milpas* and she was growing cacao. I've never met her, but I feel like, being in the Land is a little piece of remembering her.

Similarly, to Erendirani, Nenetl who has been volunteering for 1 year mentioned by simply interacting and planting alongside non-related Elders at the community garden reminds her of her 102-year-old great-grandma who used to *sembrar maiz* (plant corn) and she does not get to see often due to her great-grandma living in Mexico. Within ancestral knowledge remembrance,

participants expressed being able to reconnect with the Land they migrated to despite being far away from the Land they are native to. For example, participant Ahuiliztli expressed a connection to explore his Indigenous *Purepecha* cultural roots. These revelations manifested for him after being in the community garden and seeing everything his mom is/does stems from that ancestral wisdom that the garden was able to bring forth out of her. By interacting with the community garden, he noticed how his mom began to share a wisdom that was hidden for so many years. Ancestral wisdom rooted in the way plants should be grown and tended to and learning the plant names in their Indigenous *Nahuatl* language:

The señoras talked about how these *nopales* (prickly pear cactus) taste interesting. They taste different. My mom said, "Oh, what time did you cut them, because if you cut them before noon they'll taste and come out better."

Lastly, not only did participants express cultural remembrance through ancestral connection, they realized that the soil and the plant life also engage in ancestral remembrance when volunteers engage in the practice of heirloom seed saving. Participants mentioned ("Preserving heirloom seeds. It is carrying all that information and knowledge. If we were to incorporate that into our lifestyle, eat those foods, and plant the seeds we are receiving that same information that our ancestors had"). Similarly, Xiomara mentions the soil memory found in Pomona community gardens:

She [community garden founder] saved those seeds and those are the seeds that we grow now, those seeds that survived GrowingRoots. So, it just really made my brain really understand that, oh, these seeds, learn from their own ancestors, their own plants that came before them, learned how to grow here in Pomona, and now are thriving here in Pomona, because they learned that knowledge from the plants that came before them.

The community garden brought forth ancestral remembrance that had been suppressed for participants, as many reflected on how their families dampen TAK due to constantly having to

survive under a capitalist world, yet the garden allowed them to remember the knowledge stored within their DNA stemming from their cultural roots.

Land-Based Regenerative Practices

This category highlights specific TAK Land-based practices that community garden volunteers actively practice that aid in the restoration and health of the Earth, such as heirloom seed-saving, non-hierarchical ways of leadership, learning and sharing medicinal properties of plants, and decolonizing humans' relationship rooted in commodification with the Land.

When participants were asked what they have learned about TAK based on their community garden involvement, shared findings revealed teaching and regenerative practices aid in preserving TAK for future generations. Participants highlighted various specific TAK regenerative practices. Anam mentions the relationship that is built with native plants in terms of teaching of native plant history and medicinal properties, eating of local native foods— all regenerative practices:

Specifically focusing on native plants and practicing trying to eat local native foods. So long as we emphasize native plants, we're emphasizing the regeneration of our local ecology.

Preserving and learning about native ecologies was stated to be a TAK regenerative practice. Similarly, another participant highlighted native restoration is possible by the existence and continuation of community gardens (“Just by existing, the more community gardens we have, especially with native plants because our native plants are specific to this area”). In thinking about regenerative practices, who is included was also salient for participants, as engaging and making sure the youth are seen and heard encourages future generations to internalize and maintain TAK, keeping it alive within the youth.

Lastly, an important Land-based practice emphasized was the non-hierarchical approach to organizing leadership among community garden volunteers, a communal structure rooted in consensus-based decision making on the Earth based skills taught. Another participant stated, (“If we're learning the skills, how to harvest our own food, grow our own food at that early age, then we're going to be able to grow up and be solid”).

Medicinal Plant Healing

As participants were asked about healing in relation to community gardens, a pattern emerged regarding the role of plants. Participants called attention to how plants within the community garden become companions that offer a cross-cultural bridge with the intention of healing and nourishing. Plant medicinal properties were emphasized by community garden volunteers due to their potency in being able to provide self-restoration and healing to the body, mind, and heart.

Erendirani highlights the curative cleansing properties of herbal medicine for caring for depression:

Plants are so powerful. They have so many virtues and so many ways that you can be with them and so many ways they can heal you. I would try to seek out herbs because I know at that time GrowingRoots wasn't growing herbs, but finding different herbs that can help me with depression. I feel so thankful to be able to do that and to have the plants be there with me.

In addition, a connection was made between plant medicine being an outlet and providing a new outlook for multiple forms of care (“I think if there wasn't a community garden available, I wouldn't know sometimes that I could use a local herb to help me if I had trouble, like respiratory issues. I definitely want people to feel like they can have different forms of medicine”). Participants mentioned that plants have virtues and a personhood in of themselves and emphasized that there must be an equal energetic exchange; humans cannot just harvest and

take from a plant, but instead build a relationship as you would with a human being. This decolonial Land-based practice ensures a colonial relationship of exploitation is not established with a plant, but instead a relationship of mutual gift exchange. Humans can provide care in return as a plant shares their medicinal gifts through watering the plant, learning what environment the plant thrives in, or providing offerings to the plant.

Being In Decolonial Relationship with the Land

Alongside developing equal energetic exchanges of wisdom with plant and herbal medicine, participants highlighted the importance and awareness of TAK of being in a decolonial relationship to the Land, honoring the Lands and the original stewardships of the Land that people currently reside on. Anam highlights:

So, my connection to the Land isn't about the property, a colonial construct, it is where we get our sense of belonging. Land is where we get our identity from. Gardening is a way that I'm telling my story, telling my ceremonies, expressing my ceremonies starting has been a way for me to express it that way.

Participants expressed that tending to the Land is part of who they are, and they root their identity in the decolonial relationship actively practiced with the Land. Further, other participants shed light on TAK the intuition that is gained from being in relation with the Land and nourishing the Land. Participants shared these practices of care are what will sustain further generations, as opposed to the extraction and poisoning of the Land that has been historically done in Pomona, CA by industrial sectors. Land that has been left barren without any life for future generations to learn and grown alongside.

Cross Cultural Multigenerational Learning

Participants ($n = 14$) confirmed differentiating ways in which community garden interactions, workshops, and programming foster transmission of TAK for youth, children, adults and Elders. Participants perceived the community garden as to bridging together diverse cultural

groups of humans from all walks of life, languages, and ages with varying plant knowledge.

These diverse cross-cultural conversations provide the transmission and preservation of TAK as community garden volunteers share and learn from one another in workdays and workshops.

Examples of what is shared within community garden workdays and workshops include recipes for cooking garden's harvests, exposure to new life perspectives, techniques of composting, medicinal plant uses, stories, and memories. In addition, Citlalic shares:

So obviously, when you're sharing a lot of what we're sharing is what we know and what we know we either learned or it's our intuition, or something we're carrying within us. It's our stories, it's our food. It's all of those things. To me, all of those things are ancestral, and traditional knowledge and practices.

The intuitive cross-cultural exchange of sharing and passing down TAK that stems from each volunteer's ancestral background and their lived experiences not only occurs but simultaneously happens intergenerationally. Participants highlighted that the community garden becomes a neutral playing ground for children and Elders in the sense that both horizontally learn from each other. Izel further expands on how Tongva communities shared space collectively with the Earth:

Because I know with us [Indigenous Tongva tribes], traditionally, culturally, you would have had families going out there and harvesting, it wouldn't have been something that was done just by the adults, you would have had Elders, or adults with the young children and showing them teaching them how to harvest how to conduct yourself on the landscape.

Cross-cultural multigenerational learning within community garden environments was highlighted by participants to be salient, and participants emphasized that this form of intergenerational Land-based learning provides a quickening agent in children's developmental growth. Children experience internal and external discoveries with the cycles of life and death. Children are able to develop an appreciation for food once they see the time and energy it took to grow with the help of the community and the community garden space.

Children's Developmental Growth

This finding highlights how TAK transmission within the community garden environment nurtures the developmental growth of children by shaping and positively impacting their senses, mental, spiritual, emotional, and physical health. Through the exploration of play in the community garden, children learn to effectively communicate and understand the cycles of life as they continue growing themselves. Selly described the multifaceted evolving children's senses undergo within the community garden space:

Physically speaking they're basically, opening up their immune system and all their senses to all these different things, or different herbs. Touching different things. Mentally, if kids were to be active in community gardens, or visit gardens regularly, they would learn to identify different species, plants, and things that surround them. Even species of insects. Emotionally, the connection that you get from a garden, doesn't really happen anywhere else, because if they were to plant a seed, and watch it grow, to develop through different stages and then eventually know that it's going to be their food, that's a very, that's a deep connection that you can get anywhere else. Spiritually. If kids were consistently going to the gardens, they would recognize the greater magic or mystery of the seasons and how little control we actually have over everything. Basically, how you celebrate the different seasons and how life changes.

In addition, participants mentioned the journey children undergo as they explore plants, smells, taste, and textures which eventually becomes second nature as they get older and aids in personality development. Consequently, participants highlighted how small children derive their personality and identity from being able to play within the community garden. Participants reported the community garden as a space of empowerment, self-confidence, and creativity for children as they become deeply emotionally entrenched when they see seeds sprouting out of the ground and patiently wait to eventually harvest the fully grown produce.

Discussion

This is the first study to document how TAK is transmitted within community gardens and how TAK transmission within community garden spaces can fit within a transcultural model of healing (Frank & Frank, 1991). This research further sought to understand how TAK

transmission from participation in community gardens become a shield against neocolonialism which plunders and poisons Mother Earth and her original Land stewards, as well as resisting the colonialist erasure of Indigenous epistemologies.

The first category *Belonging and Connection* emphasized that the transmission of TAK was possible due to the interconnectedness perceived by community garden volunteers in relation to other volunteers and with the community garden itself as a living entity—a finding consistent with earlier research. Suto et al., (2021) found participants reported high levels of wellbeing from belonging, which further stemmed from perceived social connectedness made possible through community inclusion and words of affirmation from interacting with the community garden members. Other qualitative studies have also found participants felt committed and emotionally attached to the community garden work. Concordantly, participants in my study perceived the community garden as something larger than themselves, feeling interconnected with nature, and the positive wellbeing they felt upon arriving/leaving the community garden space (Lee & Matarrita-Cascante, 2019; Summers & Vivian 2018; Suto et al., 2021). The subcategory *Transmutation of the Community Garden (ecotherapist, teacher, storyteller, and ancestral DNA activation portal)* reported by participants offers robust evidence in how the community garden can be applied to with Frank & Frank's (1991) transcultural model of healing.

The garden relates to the model, as the community garden was reported to provide a direct and emotionally driven relationship with the participant through self-discovery and introspection. Secondly, the community garden volunteers reported the community garden to be a healing environment where they felt security and safety against the outside city of Pomona through Ecotherapy and Horticultural Therapy (HT) (“The diversity of chirps and what I mean

by chirps, is chirps from the birds. Yeah, that soothing right there as well. That's therapy, if you know how to pay attention to it"). Furthermore, in viewing the garden as a rehabilitative therapist, participants were also able to express vulnerability and their feelings, which is stated to be crucial for healing to occur within Frank & Frank's (1991) transcultural global model of healing. Lastly, the community garden in accordance with the transcultural model, serves as a ritual that requires active participation of both patient and therapist to aid in strengthening the therapeutic alliance. This is evident in our study, as participants mentioned the proactive engagement put forth when building a decolonial relationship with the Land in sharing their stories, ceremonies, and fostering care and trust with plants as you would in relationships with a human being.

In alignment with the transcultural model, participants mentioned ("Land is where we get our identity from. Gardening is a way that I'm telling my story, telling my ceremonies, expressing my ceremonies starting has been a way for me to express it that way"). Findings from this study suggest interaction with community gardens as a new therapy model. A model rooted in traditional ancestral practices of cultural belonging and ancestral connection all within a community garden setting. Where low-income communities who do not have the resources for Western forms of therapy, continue to practice and cultivate ancestral forms of care despite Western societies labelling Ecotherapy as "alternative". Community garden participants mentioned the peace and harmony they felt in their inner being as they reconnected and remembered the traditional ways of caring for themselves and the Land that have been dimmed and lost, within a materialistic society, but not completely forgotten.

Land-based regenerative practices such as heirloom seed preservation, engaging in consensus based decision-making processes, and disseminating medicinal uses of plants were

identified as key TAK practices transmitted by participants who identified as women ($n = 6$) within the scope of this study. These regenerative practices pave the way for tearing down the ongoing extractive and commodified relationships corporations have built with the Land and how these practices fuel mind, body, and soul healing justice for community members. This echoes Marrie's work (2019) showing how women and mothers carrying, preserving, and passing along TAK on plant medicine to their families and children became revolutionary in resisting TAK erasure due to displacement of homelands. Furthermore, Bolivian women identifying and preparing local plants, with a regenerative Land-based intention, helped their children in strengthening immunity and fighting off infections (McDade et al., 2007).

Discussing children's, cross-cultural multigenerational learning and developmental growth became an important finding that emerged, as participants reflected on the positive engagement community garden workshops provide for children. Similarly, as participants reflected, they described a shared finding among community gardens spaces becoming a neutralizing space of age differences. For example, intergenerational TAK transmission was made possible as Elders transmit knowledge to children, youth, and adults and vice versa without accounting for age differences as all ages are learning new concepts in the community garden space. This echoes Cavalli-Sforza and Feldman's (1981) cultural transmission model, specifically the oblique form of cultural transmission where children are able to learn at a multigenerational non-hierarchical level from not only other children, but Elders, adults and youth. This omits any empower dynamics that are experienced within the U.S. neoliberal school system rooted in indoctrination and the hierarchical structure of children of the same age being taught by one teacher (Moore et al., 2015). Yet, community gardens actively combat neoliberal

school systems and cognitive imperialism rooted in fear-based tactics that protect the status quo (Battiste, 2005).

Findings from this study support this claim as multigenerational cross-cultural learning allowed children to learn about the cyclical cycles of life, develop deep connections with the Earth. These connections further enhance emotional intelligence, brick motor skills, engaging all 5 senses, and self-confidence as children learn and navigate the unknown world.

Limitations

Although our study is the first of its kind in examining TAK transmission within a community garden environment and the role it plays in Frank & Frank's (1991) transcultural model of healing, our research is not without limitations. This data was only collected in 3 community gardens within the city of Pomona, and it is entirely possible that perceptions of what TAK is and how TAK is transmitted within community gardens could be impacted by different community gardens operational structure and the interactions among community garden volunteers with themselves and with the Land. Even though our data did provide context from people who have volunteered at more than one community garden, it is possible that different interpretations may persist for various other community garden members due to varying community gardening cultures and experiences.

Moreover, another limitation that may have impacted our findings about TAK transmission in community gardens was if we had interviewed Spanish speaking immigrant participants and whether those participants perceived any similarities with TAK in their hometown versus with U.S. community gardens. Similarly, interviewing more non-binary and Two Spirit identifying individuals would have allowed us to explore the different ways that TAK

transmission may have been healing for members of these communities with these specific marginalized identities.

Lastly, while our biases were accounted for through data analysis verification, I have been volunteering at these community garden sites since 2019 and participant selection was not random (i.e., participants were selected via snowball and convenience sampling). This could have potentially impacted the findings due to my own biases with respect to the way I worded the study questions due to my perception on what TAK means to me after volunteering in these community garden spaces.

Conclusion

Apart from these limitations, future research is vital to expanding the knowledge and insight gained from the present study. Another future avenue for research is how community gardens provide an avenue in unlearning cognitive imperialism that European epistemologies have placed within U.S. neoliberalist settings such as schools and Western therapy. Neoliberal institutions that may guide people to stray further from remembering introspection, mental well-being, and Land-based ancestral practices (Battiste, 2005; Moore et al., 2015; Summers & Vivian, 2018). Findings from this study highlight TAK transmission within community gardens can provide a mirror of mental well-being, ancestral remembrance, nature therapy, and serve as a cross-cultural multi-generational learning for volunteers. These tools become powerful vehicles of social transformation if practitioners and school districts can actively incorporate, and practice Land-based learning focused on decolonizing spirit, mind, body, and soul. Community gardening and TAK transmission will aid in shielding marginalized communities against identity erasure (Cervantes & Parham, 2005) as humans have always been in tune with the seasonal shifts of the Land long before colonization (Henrich, 2020).

Unlearning colonial epistemologies and cultivating TAK is a major step in pruning and healing our inner and outer universe, as globalization continues to conquer and divide. May community gardens continue to bear fruit to the transmission of TAK over every vacant lot that has polluted our cities and restore life where it once bloomed.

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