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Agroecological Education Initiatives for the Construction of Food Sovereign and Politicized Communities: A Case Study of Brazil and the US

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Contents:

"Education either functions as an instrument which is used to facilitate integration of the younger generation into the logic of the present system and bring about conformity or it becomes the practice of freedom, the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world."

-Paulo Freire, *Pedagogy of the Oppressed*

Abstract

The following work is a reflection on the design and implementation of the Bay Area Farmer Training program (BAFT) located in California USA and SERTA's Agroecology training program located in Pernambuco Brazil, both of which teach agroecology using pedagogies rooted in humanistic values, social justice/decolonial frameworks, popular education and liberatory experiences. The following research outlines the participatory pedagogical philosophies and practices implemented within these programs, while providing examples of how their curricula manifest in praxis. In order to cultivate a paradigm shift within the food system, BAFT and SERTA exemplify the ways in which the social, ecological, and political dimensions of agroecology can be woven into education initiatives, in order to train the next generation of agroecologists with the technical skills needed to foster integrated food and farming system.

Keywords

Agroecology Education, Popular Education, Urban Agroecology, Brazil, USA, Critical Pedagogies, Social Justice, Food Sovereignty

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BAFT- Bay Area Farmer Training Program

PEADS- Educational Proposal to Support Sustainable Development

PJ- Planting Justice

MST- Brazi's Landless Workers Movement

SERTA- Service of Alternative Technology

Introduction

The following research looks at initiatives that are strengthening a movement to promote critical, conscious-raising education, that explores the deep-seated forms of oppression within food systems, while simultaneously teaching technical agroecological farming practices. The case studies utilized in this research are actively reimaging the nature of agricultural systems, taking into account the social and ecological well being of communities and the land.

As extractive models seek to dominate the current agricultural production paradigm, it is of the utmost importance that agroecology principles are implemented to restore a holistic food system. It is not merely enough to enhance environmental consciousness, but rather it is vital that education initiatives give students the tools to create systemic change, both within urban and rural territories. As Gliessman asserts, agroecology must "challenge the ideological system that protects the corporate food regime and it must take issue with the concentration of power and the unequal distribution of wealth that lie at the heart of the way the food system operates. As a methodology and practice, it cannot do this unless it firmly links the political, social, cultural, economic and ecological" (Gliessman 2015). With this in mind, those designing education initiatives teaching agroecology must actively seek to understand the political, social, cultural, and economic origins in order to truly facilitate systems transformation.

The following research is a reflection on the design and implementation of the Bay Area Farmer Training program (BAFT) located in California, USA and SERTA's Agroecology training program located in Pernambuco, Brazil. Both programs teach agroecology using pedagogies rooted in humanistic values, social justice/decolonial frameworks, popular education, and liberatory experiences. The following work outlines the contra-hegemonic and participatory pedagogical philosophies and practices implemented within these programs, while providing examples of how their curricula manifest in praxis.

To cultivate a paradigm shift within the food system, BAFT and SERTA exemplify the ways in which the social, ecological, and political dimensions of agroecology can be woven into educational initiatives, in order to train the next generation of agroecologists with the technical skills needed to foster integrated food and farming system practices, and educated with an orientation that leads them to invest in seeking justice and food sovereignty in these systems.

Based on this original thesis research came an opportunity to co-author a chapter on BAFT's pedagogy with program educators, Ana Galvis-Martínez, Paul Rogé, Leah Atwood, and Natalia Pinzón Jiménez; which is currently in press. This book chapter entitled, *Holistic Pedagogies for Social Change: Reflections from the Urban Agroecology Bay Area Farmer Training Program* (Galvis-Martinez, 2020, in final review) greatly informed the research, and served as the precursor to this final thesis, in which the researcher expanded the scope of the inquiry to include a second case study in Brazil. Components of the book chapter are interwoven into the section entitled, Case Study 1. While the researcher of this thesis did a substantial amount of the chapter writing and conducted all of the interviews, they felt that it was appropriate for Ana Galvis-Martínez to have first authorship out of deep respect and admiration for her essential intellectual contribution and design that served as the foundation for the BAFT program.

Theory and Background

Agroecology

Agroecology has existed for time immemorial and is rooted in reciprocity -recognizing that tending to the land for hundreds of years was based on a model that seeked to nourish ecosystems linked to agricultural production, rather than the extractive industrial agricultural model that plagues communities and the Earth today (Anderson, Maughan, and Pimbert 2019). Agroecology is often defined as the "application of ecological science to the study, design, and management of sustainable ecosystems" (Altieri 1995; Gliessman 2007). While it is very much a

science, it is also a practice and movement (Wezel et al. 2009); a global movement backed by peasants, farmers, and activists seeking to ensure food sovereignty, agrarian reform, the establishment of cooperative models, the protection of biodiversity and much more. As a social movement, Agroecology has a strong ecological grounding that fosters justice, relationships, access, resilience, resistance, and sustainability (Gliessman 2013).

While agroecology principles have long been practiced and protected by Indigenous and peasant farmers across the globe, agroecology as a movement arose as a response to the Green Revolution, which promoted non-ecological, chemical intensive, maximum yield breeding strategies, and monoculture specialization following the second World War (Wezel et al. 2009). Ultimately these practices have been detrimental for communities and the Earth resulting in things such as mass desertification, land grabbing, privatization of seeds, acidification of the oceans, and growing health concerns due to the increased use of agrotoxins. Agroecology has risen up as an international movement seeking to create holistic alternatives to contemporary industrial agriculture, rooted in justice and equity for humans and the concern for ecosystem health.

Pedagogy

Nydia Gonzalez describes pedagogy as, "the general theory of the art of education" (González 2011). Pedagogy is the study of methodologies used to disseminate knowledge within an educational setting. It entails a process of reflection, informing the way in which different theories and concepts are being taught. Revolutionary movements and ongoing struggles for social justice throughout the Americas in the second half of the twentieth century laid the foundation for critical pedagogies and popular education (González 2011), which will be the focus of pedagogical theories discussed in this research.

Humanization

Humanization was a core value in the design of both educational projects discussed in this research. While the social and cultural contexts in which SERTA and BAFT take place are quite unique, the underlying value of encouraging humanization within the pedagogical approach is key. Humanization allows for the emergence of one's capacity to recognize our common humanity, rather than the current trend of polarization that plagues our planet. There is a wide array of historical contexts in which the dominant class has sought to dehumanize the oppressed in order to instate power over certain groups. Educational initiatives today in both the USA and Brazil actively seek to undo the harm caused by global legacies of dehumanization, and honor the richness of diversity within humanity. The ways in which the Green Revolution has sought to dominate the land and to homogenize global agriculture practices is a reflection of the world's long history of dehumanization. When education is rooted in humanization, teaching students to honor diversity not only applies to humanity but also translates to the ecological realm.

Popular Education

Both educational programs used as case studies in this research were highly influenced by popular education, which has roots both in the United States as well as Brazil. While Latin America sought to strengthen various socialist and revolutionary projects in the 1960s and 1970s, in the US similar struggles were unfolding and were deeply interwoven with the Civil Rights movement. Two men in very different eras and social contexts both played pivotal roles in shaping popular education within their home countries. One, being Paulo Freire, born in Pernambuco Brazil and the other Myles Horton, born in Tennessee, USA. They both came from working class families in regions that were defined by their colonial histories, plantation/latifundio land tenure, and structural and racial inequalities (Horton and Freire 1990).

In the 1960s in South America, popular education became well known thanks to the Brazilian philosopher and educator Paulo Freire. This form of education was born out of a time in which revolutionary movements were seeking to create horizontal, problem-posing educational processes that were committed to systemic social change and led by the historically oppressed (McCune, Reardon, and Rosset 2014). Recognizing that teaching is a political act, Freire sought to strengthen critical consciousness amongst oppressed communities, so that they could assume the role of protagonist in creating systems change and their own liberation (Freire 2000).

Myles Horten founded The Highlander Folk School in Monteagle Tennessee in 1932 (Horton and Freire 1990). Born in the Tennessee Delta, Horton grew up in a region with a long history of plantation agriculture, slave-based economy, absentee ownership and severe rural poverty (Horton and Freire 1990). The Highlander school was founded during a time in which Appalachia was being faced with rapid industrialization, and sought to support rural workers who were being displaced from their land in order to support the growing textile, mill, and mining industries (Horton and Freire 1990). The school worked to preserve the rich cultural legacy of Appalachia, including the land based traditions. It had a strong focus on social justice leadership training and was integrated despite Jim Crow Laws that were in place at the time (Horton and Freire 1990). The school became an important reference for popular education in the United States.

Both men faced persecution for their ideologies. Frieire was arrested and later exiled from Brazil and Horton faced arrests on top of The Highlander Folk School being targeted by both the state and by white supremicits over the years. In 1959 after the school was raided by the state of Tennessee and assets and property seized Horton declared, “You can padlock the school but not the idea” (Horton and Freire 1990). Today Highlander Folk School continues its legacy of promoting social justice through popular education and has been an important hub for civil rights activists for over eighty-five years. Both men continued to fight for education rooted in liberation until their respectives deaths in 1990 (Horton) and 1997 (Friere), their legacies have greatly influenced many radical educators across the globe.

This research is situated in these short historical narratives of Horton and Friere, because both educators' commitment to critical pedagogies has influenced educators at BAFT and SERTA. While Brazil and the US are very different countries, in language and culture, comprehending their common legacies of injustices and how it has shaped popular education is valuable in understanding the foundations of BAFT and SERTA's curricula.

At the root of pedagogical philosophies there are three dimensions of popular education; the political, the pedagogical, and the communicative (González 2011) . The political dimension emphasises the importance of the oppressed being the protagonist in their own liberation. "Who better to understand the necessity of liberation" (Freire 2000). Pedagogies are constantly transforming and adapting to the current social and political climate. As Paulo Freire states when reflecting on popular education, "This pedagogy makes oppression and it causes objects of reflection by the oppressed, and from that reflection will come their necessary engagement in the struggle for liberation. And in the struggle this pedagogy will be made and remade" (Freire 2000).

This pedagogical dimension denounces the Western banking method of education which treats students as empty vessels to be filled with the values of the dominant class (Avalos 2019). "The practice dehumanizes and disempowers students, whose culture, experience, language, and ideas are subjugated in order to indoctrinate the students with the ideology of those in power. It fails to teach critical thinking skills, and it doesn't teach the value of dialogue" (Mink and Bag 2019). Pedagogically, popular education does not see knowledge as something that is bestowed onto students, but rather something that is collectively constructed, redefining the relationship between educator and student. "It is a problem posing form of education, that fluctuates between reflection and action" (González 2011). Popular education encourages dialogue and sees students and educators as both capable of constructing knowledge, and "there is, in fact, no teaching without learning" (Freire 1998) .

Lastly, there is the communicative dimension of popular education. In praxis popular education is centered around dialogue. "If it is in speaking their word that people, by naming the world, transform it, dialogue imposes itself as the way by which they achieve significance as human

beings" (Freire 2014). This horizontal, open form of communicating allows for the narrative to be centered around the experiences of the students, to situate it within their own unique cultural, political, and social contexts.

Popular Education and Agroecology

As Peter Rosset and Omar Felipe Giraldo point out, "there is an enormous risk that agroecology will be co-opted, institutionalized, colonized and stripped of its political content" (Giraldo and Rosset 2017). Retaining and promoting education models that function outside of formal academic institutions is vital in order to continue building a popular movement within agroecology. One of the great principles of popular education is being able to critique and understand how power manifests within society. As part of agroecological education initiatives it is important that individuals understand how power functions within the food system, whether or not someone is directly implicated with food production, we all eat. "The link between agroecology as a science and as a form of political and social mobilization within the food system is intrinsic. Horizontalism is central to the way agroecology is practised, taught and introduced. If the practice is imposed and didactic, instead of endogenous and participative, it contradicts the democratising potential that this social-economic and ecological approach has, instead, converting into another form [of] epistemological imperialism." (Chohan 2017)

Popular education has strong roots in agroecology, for example, farmer-to-farmer methodology. This methodology promotes knowledge sharing between farmers, honoring that the farmers themselves are the most familiar with their environments and have the capacity to create their own solutions. This methodology originated from Guatemala in the mid-1970s (Kruger 1995). It centers the rich traditional knowledge present in agricultural communities that flourished prior to the high input agriculture promoted by the Green Revolution and in practice it seeks to reclaim power for land-based communities. Agricultural extension services have often resulted in non-governmental and governmental agents coming into communities and imposing what they determine to be best practices for farmers, often lacking the deep connection and listening that comes from years of cohabitation and stewardship of the local ecology. This can be quite

problematic as this type of formal learning and agricultural extensions generally reflects an institutionalised modernising and elite knowledge that devalue peasant and farmer knowledge (Meek 2015; Coolsaet 2016; Anderson, Maughan, and Pimbert 2019).

Farmer to Farmer methodologies are born out of the recognition that, “The political struggles of food sovereignty and agroecology are based on the ‘absences’ or subaltern knowledge systems that are marginalized by the monopoly of western, scientific knowledge. In struggles for social change, there are many equally valid ways of knowing the world and transformative learning provides mechanisms for these perspectives to come into dialogue, without one approach dominating another” (Martínez-Torres and Rosset 2014; Anderson, Maughan, and Pimbert 2019).

What strengthens agroecology is its capacity to see beyond a hegemonic worldview and honor that a plurality of epistemologies exist. In doing so it rejects the claim that local farmers' wisdom is inferior to Western science because it has not been institutionalized, and recognizes that the combination of modern science and local wisdom is where agroecological practices emerge from. These principles all link back to popular education which also seeks to honor horizontal learning environments and center the narratives of the oppressed. Both BAFT and SERTA sought to implement farmer to farmer methodologies in their curriculum through an array of practices spanning from farm exchanges, communal work days, community discussion groups, internships and more. Both respective programs (SERTA being located in Latin American and BAFT being taught by Ana Glavis, a Colombian educator living in the US, and Paul Rogé who spent extensive time living in Latin America), have been greatly influenced by the philosophical and pedagogical principles of Latin American agroecology institutes. Both programs share many commonalities that Muñoz, McCune and Reardon identify as key components within the Latin American school of thought, which are referenced below in table one and two. Within a similar school of thought that seeks to expand critical pedagogies for teaching agroecology, Anderson, Maughan, and Pimbert, identify four principles to create a framework for a transformative agroecology learning approach; horizontalism, diálogo de saberes” (wisdom dialogues), combining practical and political knowledge, and building social movement networks(Anderson,

Maughan, and Pimbert 2019) are all key components. The guiding principles that both groups put forth can be found throughout SERTA and BAFT's curricula and will be expanded on within each case study.

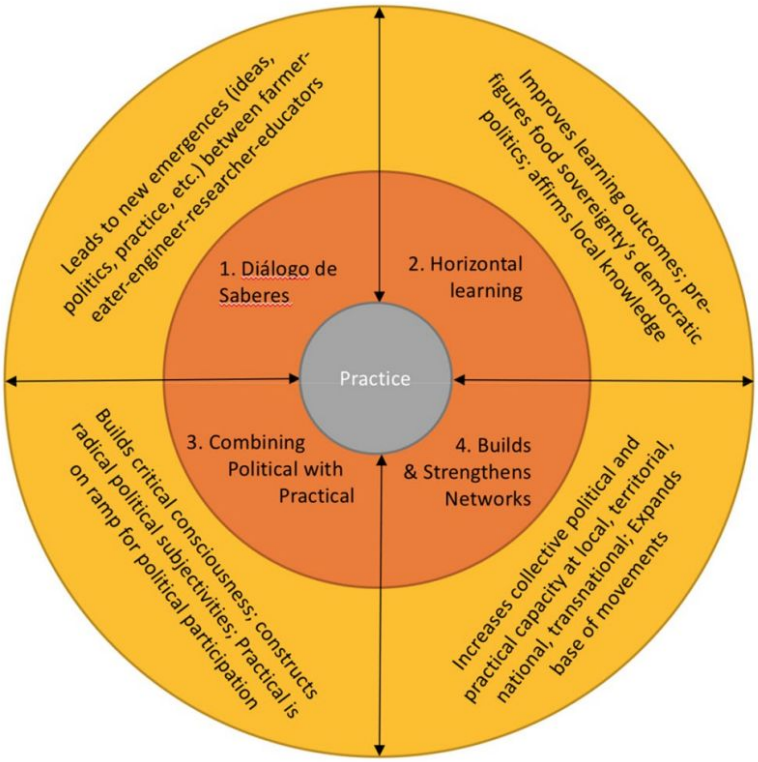
Table 1: Philosophical Principles of the Latin American Agroecology Institutes (Muñoz, McCune, and Reardon 2014)

Education through and for social transformation	The development of women and men with new values as well as new emotional linkages to others, resulting in actions directed at social transformation, opting always for the people and rejecting lifestyles promoted by neoliberalism. Included here are the most elevated of human values needed for subjects taking on their own agroecological education, including solidarity, humility, equality, justice, honesty, internationalism, and respect for nature, among others
Education through and for diversity	Neoliberalism promotes a sole culture in which all people are expected to reproduce the anti-values of consumerism, domination, and selfishness. Agroecological education, on the other hand, recognizes and promotes the indigenous, African, feminist, anti-colonial and anti-imperialist struggles that have accompanied our people for over 500 years. Agroecologists stand opposed to that dominant culture, defending instead the enormous amounts of cultural diversity found in popular human systems as well as the biodiversity used by Mother Earth to organize our planet
Education through and for work and cooperation	Work is understood as a means by which women and men dignify their existence. Work is considered a form of liberating action instead of a commodified need of working people. Studying is directly linked to productive efforts through work and volunteering, with both these actions considered a means by which the world can be better understood. Cooperation is used so that new citizens educate themselves collectively, developing the capacity to collaborate through a democratic dialogue. Cooperation becomes an ethical necessity in both work and study and is present in processes between students themselves, between students and popular educators, and between students, popular educators, and communities
Education through and for rebellion	Citing Paulo Freire, "We struggle for an education that teaches us to think—not one that teaches us to obey". Agroecological education in this context openly questions and confronts social injustice, while at the same time directing students' efforts into collective processes of social transformation that have at their heart humanity's pending humanization. Rebellion is promoted so that a better world becomes reality

Table 2: Pedagogical Principles of the Latin American Agroecology Institutes (Muñoz, McCune, and Reardon 2014)

Practice-theory-practice	For popular education to exist, acts of praxis are constantly taking place based on a reciprocal relationship of dialogue between action, reflection, and matured action. True education takes place when society is being transformed
Teaching–learning	A dialectical and horizontal relationship exists between educators and learners, with both teaching and learning in a constant dialogue free of hierarchy. Educating and learning come together in one single act of education, "forming" collectives of people committed to their social responsibilities. Every member of the educating community commits themselves to each other's learning, taking full advantage of time and space available to harvest the greatest amount of education possible.
Dialogue among ways of knowing	Convinced that only through a diversity of visions, perspectives, and proposals do people come to truly understand the world around them; a real communication is built between participants that allows for the free flow of knowledge, ideas, feelings and awareness, recognizing the conceptual legitimacy of all those who struggle for a better world
Action-based, participatory, and contextualized research	Investigations that take place are directly related to the real needs of students, their families and communities. Never are people, peasants in this case, considered the objects of academic research. Rural people and their organizations, with special attention paid to the youth, are the protagonist subjects of all inquiry developed to achieve both education and liberation. In addition, all research has an overriding strategic objective—contributing to food sovereignty.

Table 3: Transformative Agroecology Framework (Anderson, Maughan, and Pimbert 2019)



Decolonial Theory

"The objective of a decolonial classroom is to make power visible, to understand the ways in which settler mentalities have formed racial hierarchies, and to map the ways in which global politics affect the distribution of resources" (Avalos 2019). Incorporating decolonization both in theory and in practice are essential to agroecology in order to deconstruct colonial legacies and reimagine contemporary forms of land stewardship rooted in equity. K Wayne Yang (2017) describes decolonization as the "rematriation of land, the regeneration of relations, and the forwarding of Indigenous and Black and queer futures".

While there are many dimensions of colonization, including the power it holds over the production of knowledge, one of the key colonial forces within farming and food systems is the emphasis on the domination of the land and the extractivist production model, as part of the larger colonial project. This concept is deeply linked to the notion that humans dominate nature and that nature is there to serve humanity. This perception was born out of the Renaissance Period of the 16th century and advanced with the development of the sciences in the historical period known as the Modern Era (A. de Moura 2015). Historically this correlated with the same time in which the Americas and many other parts of the world were being colonized by European forces (A. de Moura 2015).

This objectification of the Earth has laid the groundwork for contemporary industrial extractive agriculture. The philosophy of controlling things outside of the human realm is deeply linked to modern colonial-imperialist mentalities often found in the West. In praxis agroecology seeks to break away from modern and often invasive agricultural practices that attempt to control the environment, and in doing so implements practices that harmoniously cultivate food sources alongside pre-existing natural ecologies (Altieri and Nicholls 2002). Agroecology also seeks to decentralize colonial knowledge and reclaim traditional Indigenous and peasant-based agricultural practices. “In studying Indigenous land stewardship a web of relations begins to form between contemporary expressions of neocolonialism/neoliberalism and environmental destruction” (K. Wayne 2017). It is through understanding this web that agroecology manifests within a political dimension. Decolonizing agroecology also entails addressing the ways in which agriculture extension services are implemented. Much of development theory is based on replicating the West, this pattern was made clearly visible during the Green Revolution. Yet industrialization, modernization, and high input agriculture has had detrimental social, political and environmental effects around the globe. In decolonizing agricultural extension it is essential to turn to traditional farming practices recognizing that those who are Indigenous to a region often hold a plethora of wisdom on how to cultivate and tend to the land.

Another dimension of decolonial practices within agroecology is the way movements advocate and actively fight to liberate land, implementing agrarian reform, both on a grassroots level and

through state sanctioned reform. Relocating land to those excluded from its access via colonization is an essential part of creating equitable land tenure and a step towards reparations. Decolonial frameworks serve as an important foundation for agroecology education because they encourage one to critically look at the ways in which colonization has influenced land management and labor practices, how certain cosmovisions have shaped land stewardship, and how diets have changed.

Gender and Agroecology

Until society is able to decolonize its thoughts, politics, and economy, patriarchy will continue to be a dominating force. Both patriarchy and colonialism are deeply interwoven and have had detrimental effects on the environment and women. It is imperative to discuss gender issues when studying agroecology and both programs in this research have found ways to incorporate into their curricula. Ecofeminists have long drawn parallels between the ways in which patriarchy's historical domination of women is reflected in the ways in which society seeks to dominate the natural environment. The term "*ecofeminisme*" was coined by the French writer Françoise d'Eaubonne in 1974, who called for an ecological revolution that would establish new gender roles between men and women and humans and nature in the wake of environmental degradation (Warren and Erkal 1997).

Increased environmental degradation has unprecedented effects on agricultural systems. In the industrial farm production paradigm both women and the environment are exploited in order to achieve profit maximization. Women working in traditional forms of agriculture are often very knowledgeable about the land, are care-takers of families, manage community health, and have deep traditional understandings of nutritional needs, developed through hundreds of years of living in community. "It is estimated that women farmers grow at least fifty-nine percent of the world's food, perhaps as much as eighty percent" (Warren and Erkal 1997). As land is consolidated and large scale agricultural industrialization dominates the market, women are alienated from the roots of this traditional knowledge: the land. The important role women play in providing sustainable food sources for their communities is quickly being diminished on a

global scale. Women are forced to become dependent on outside resources to nourish their communities. This often results in introducing GMO products and food that is highly contaminated by pesticides and herbicides, which has been shown to be detrimental to people's health. Human health is not only affected by directly consuming industrial agricultural products but also by the environmental pollution created by this type of farming, as industrial farms are some of the largest pollutants, consistently polluting soils and waterways with chemical fertilizer runoff. In the US, farms produce seventy percent of pollution in rivers and streams, which all trickle down to affect human health (Renner 2002). Informed by the social construction of gender roles established under patriarchy, women commonly end up being the caretakers within households and responsible for tending to the ill. Within many contemporary economic systems this type of work is often categorized as unpaid care work. It is vital to understand the multifaceted connections between gender oppression and agriculture in order to fight for a more just system.

Theoretical Conclusions

All of these theories are intrexibly interwoven. You can't analyze the ramifications of colonization without looking at the ways in which people around the world have been displaced from their traditional farming practices. This includes the ways in which women have been dominated throughout the history of colonization, which trickles down to the ways in which education is used as a tool to mimic the ideals of the dominating classes. All of which influence how the current model of agriculture is one that dominates both the human and natural world. It is essential to promote a post-colonial, feminist, popular education pedagogies, honoring that this holistic framework is needed in order to ensure our collective liberation.

All of these theories are mutually reinforcing, creating the foundation for agroecology. When education initiatives are rooted in critical pedagogy and popular education it gives people the tools "to perceive social, political, and economic contradictions, and to take action against the oppressive elements of reality" (Freire 2000). Agroecology as a movement seeks to dismantle these social, political, and economic contradictions within the global food system. Education

initiatives seeking to promote agroecology should give students the tools to support in dismantling these systems.

The following research while including two education initiatives, is not a comparative study. Rather it is an exploration of how these education initiatives have manifested in their own unique cultural and regional contexts. While there are many parallels to be drawn between the political and social atmospheres in Brazil and the United States, a strictly comparative model would not be appropriate for this research as these programs are designed for two completely different demographics. The context in which they function is extremely different, one predominantly focused on rural farmers in Northeast Brazil and the second, in the United States, serving urban and peri urban beginning farmers.

That being said popular education has served as an important foundation and informed both of the programs' curricula. The histories of colonization that permanente throughout the Americas has played an influential role in how these programs choose to honor and study the history of Indigenous and formerly enslaved communities connection to the land, struggles for agrarian reform, and social justice.

Regional Contexts

To assist in contextualizing the two educational programs used as case studies in this research, the following section provides a brief overview of the history and ecology of the Bay Area, USA and Pernambuco, Brazil. While many believe the principles of agroecology to be universal, both of the respective programs have implemented these principles in different ways according to their own unique territories. The socio-political legacies of the regions have been woven into their curricula, situating their pedagogies in their unique regional contexts. Both programs' politized pedagogies have been greatly influenced by the systemic inequalities that plague the regions in which they are located. For example the fertile agricultural regions in Brazil and the USA are simultaneously two of the biggest global agriculture producers and yet experience incredibly high rates of food insecurity (Chappell 2017). It is these high rates of food insecurity and systemic inequities that have shaped the foundations of programs such as BAFT and

SERTA, which seek to educate students about the historical context of these injustices and actively construct alternative paradigms.

The Bay Area California, USA

The Bay Area of California is made up of the unceded land of the Ohlone people, a reminder of its colonial legacy. The Pacific Ocean and large bay regulate the temperature in the region, making it one of the five Mediterranean climates on the globe. From forests of ancient redwoods to the rolling hills of abundant oak tree woodlands, the Bay Area is rich in biodiversity, from its vass estuaries to coastal beaches.

The churches of the Spanish mission system of the late 18th century can still be found throughout the region. Under the disguise of the colonial project of evangelization these missions were used as forced labor camps in which the indigienous Ohlone people were stripped from their culture, language, and practices. Following Mexico's independence from Spain, the region was briefly controlled by Mexico and declared part of the state of Alta California, yet during the Mexican-American war the region was seized by the United States in 1846 (Margolin 1978).

Today the Bay Area is greatly defined by its diverse urban and peri-urban communities. Agricultural lands are sparse as the region is home to some of the country's highest real estate prices. Access to land is one of the challenges that aspiring agroecological practitioners often face.

Pernambuco, Brazil:

Northeast Brazil, which includes the state of Pernambuco has been highly defined by its colonial history. Remnants of the Atlantic forest are scattered along the coastline, as the contemporary landscape is marked by a patchwork of sugar cane fields. The sun beats down on the exposed red clay soil, a reminder of the bloodshed of all of those who fought for their liberation when forced

to work the land. The people and the land of this region carry a long history of being exploited in order to fulfill the interests of Europe and the West.

SERTA has two schools within the state of Pernambuco. They are defined by the state's very distinct bioregions. One school is located in Gloria de Goita, and was established near the lush atlantic forest, while the other is located in the Sertão in a town called Ibimirim. The Sertão is a region defined by its dry climate that spreads across eight different Brazilian states. Its limited rainfall turns the arid region into a palette of soft browns and beiges. When the rains finally do come, the land bursts with life as a blanket of green falls across the territory. It is an area whose unique culture is defined by its ecology rather than contemporary state lines. The “sertanejo” people are the guardians of a rich culture, history, music and folklore of the Sertão. The “catinga” vegetation, which is made up of thorny dry low trees and bushes, have adapted over the years to the extreme climate, a marker of the territory's resilience, one that can be said to characterize its people as well.

Methods and Methodology

Objectives

This research seeks to highlight different pedagogies, learning outcomes, and overarching objectives of the selected education initiatives. It aims to understand how holistic education models can be established in order to engage students in becoming effective change-makers who seek to create resilient agroecosystems, sustainable land stewardship, and ensure food sovereignty and social justice. In doing so it also seeks to understand how these programs give students the skills to promote the social, economic, and ecological viability of farming and food systems. This research builds on the existing body of work focused on holistic pedagogical philosophies for teaching agroecology, while expanding on how this manifests in praxis and in the unique cultural contexts of the United States and Brazil.

The following case studies have been chosen because they emphasize the political and

social dimensions of agroecology within the classroom and utilize pedagogies that challenge dominant education models. As emphasized by de Molina, "There is a need to incorporate political forms of agroecology and food sovereignty as central aspects of their educational approach, because these are valuable strategies for food system transformation" (Molina 2013). This research will provide concrete examples of the ways in which these programs have created transformations amongst their communities by utilizing these teaching methodologies.

Methodology

This research took place over a period of one year and included two different case studies, one in the Bay Area of California located in the United States and the other in the State of Pernambuco in the Northeast of Brazil. Robert Yin describes a case study as "an empirical investigation that investigates a contemporary phenomenon within its real-life context" (Yin 2005). Incorporated into this methodology is a phenomenological approach that situates this research in the researchers own lived experience, particularly as an urban farmer and environmental educator who shares various commonalities with the research subjects.

During this study twenty educators and student participants of both BAFT and SERTA were interviewed by the researcher. Interviews generally lasted between forty and ninety minutes and were semistructured. They were conducted in English, Spanish, and Portuguese depending on the native language of the interviewee; afterwards the data was analysed and quotes were translated to English by the author.

The researcher often used snowball sampling in order to identify other research subjects to conduct semi-structured interviews. Snowball sampling is a method in which the researcher asks another interviewee to recommend the next subject in order to expand the sample (Babbie 1995; Crabtree and Miller 1992; Bailey 1996; Holloway 1997; Greig and Taylor 1999; Groenewald 2004). The researcher then reviewed these recommendations to ensure that they were

interviewing subjects from a variety of backgrounds; urban and rural contexts, gender, race, and unique social contexts.

Limitations of Methods

Firstly, at the time that research was conducted BAFT was no longer in session. The researcher could not actively observe the pedagogy being taught in the program. Understanding the design and implementation of the program was done through interviews with former participants and educators, whereas in the case of SERTA the researcher was able to actively participate and observe the program.

Secondly, due to unforeseen travel restrictions caused by the global pandemic of COVID19 the researcher was not able to complete their proposed research due to their inability to return to Brazil. The researcher finished conducting interviews for the second case study digitally, which limited their ability to travel and see the ways in which participants were implementing the skills they acquired through the program in their own communities. The parameters of this study due to the pandemic no longer aligned with the original vision to engage in participatory action research but rather had been adapted to the current global circumstances.

Case Study 1: BAFT-The Bay Area Farmer Training Program, California USA[1] (Galvis-Martínez et al. In Press)

"Agroecology is actually a peasant Indigenous movement, it's a social movement for liberation, undoing all the harm that has been caused by industrial agriculture, the harm that white supremacy and patriarchy has caused with the pursuit of capitalism and the commodification of resources. In my role of being someone who identifies as an educator or even as a mentor, after

[1] The following section was published as part of; Galvis-Martínez, Ana C., Brooke Porter, Paul Rogé, Leah Atwood, and Natalia Pinzón-Jiménez. "Holistic Pedagogies for Social Change: Reflections from an Urban Agroecology Farmer Training." In *Urban Agroecology: Interdisciplinary Approaches to Understand the Science, Practice, and Movement*, edited by Hamutahl Cohen and Monika Egerer. Advances in Agroecology. CRC Press, In press.

BAFT I feel like I'm more prepared and better equipped to have those types of conversations with people and that I'm able to help to engage folks with those types of thinking, helping them become system thinkers themselves, this is how BAFT has been helpful to me." –Samuel Madrigal, BAFT participant, November 12, 2019

Samuel Madrigal shared this reflection approximately one year after graduating from the Bay Area Farmer Training (BAFT), a program implemented from 2015-2019 that sought to meet the growing demand for agroecological training in urban settings of California.[2] In less than a century, global urban populations have rapidly expanded from 15% to 55% of the total (UN DESA 2018). A complex matrix of power dominates urban geographies, forming a landscape highlighted by its inequalities (Deelstra and Girardet 2000). In this context, agroecological education has an important role to play in scaling up, or massifying, the ability of urban people to meet their own basic needs for healthy food while simultaneously building community and defending territories.

In recognizing that the extractive industrial agriculture model doesn't serve people or the planet (Steve Gliessman 2018; IPES-Food 2016), social movements such as La Via Campesina,[3] the Landless Rural Workers Movement,[4] and the farmer-to-farmer movement have massified agroecology through popular education (McCune, Reardon, and Rosset 2014; Meek and Tarlau 2016; Holt-Giménez 2006). The horizontal nature of popular education and farmer-to-farmer exchange have helped facilitate the preservation and proliferation of agroecology in Indigenous and peasant communities around the world (Holt-Giménez and Wang 2011; Wilson 2011). Borrowing from these movements urban agroecology education has the capacity to stand as the protagonist in the transition to create resilient urban communities, by encouraging food and farming models that center equity, cooperation, and solidarity.

[2] BAFT was designed and implemented by staff at two nonprofits: the Multinational Exchange for Sustainable Agriculture (MESA) and Planting Justice.
[3] Founded in 1993, La Via Campesina is an international movement bringing together in solidarity small and medium sized farmers, landless people, rural women and youth, Indigenous communities, migrants and agricultural workers to defend a fight for agroecology, food sovereignty and gender equality around the globe (La Via Campesina 2020).
[4] The Landless Workers' Movement—"Movimento dos Trabalhadores Sem Terra" (MST)—is a Brazilian social movement which actively fights for agrarian reform by occupying unproductive lands, a constitutional right as outlined by Brazil's post dictatorship constitution of 1988 (MST 2020).

Transforming how humans relate with each other and to the ecosystems of which they are a part is a central challenge to urban agroecology education. As the world becomes increasingly urbanized, it is vital to maintain and reclaim land-based relationships and wisdom rooted in agroecological principles, which have the potential to serve as valuable tools to mitigate climate change, biodiversity loss, fresh water depletion, land and ocean degradation among other major global environmental problems. While agroecology has a strong focus on production, it also seeks to address a larger paradigm shift within food and farming systems through social equity, one in which many urban communities play a central role.

Transitioning towards agroecology within urban geographies is multifaceted and manifests within the ecological, political, economic, and social realms of society (Altieri and Nichols 2019; Dehaene et al. 2016; Tornaghi 2017). Providing consumers, particularly urban populations, with direct supply networks not only decreases the geographical distance which food travels—addressing its ecological footprint—but simultaneously builds relationships between producers and consumers, oftentimes strengthening urban and rural relations (Dumont et al. 2016). Following socioeconomic principles of agroecology, cooperative models present opportunities to strengthen urban communities by increasing agency, collaboration, and profit-sharing. Agroecology also has the potential to serve as a bridge between a wide array of social movements and platforms: ecofeminism, racial justice, LGBTQIA+, Indigenous sovereignty, agrarian reform, land reparations, and more. Public policies that increase urban farms have a wide range of benefits such as: interception of solar radiation, waste and nutrient recycling, increased soil fertility, filtration of atmospheric pollution, microclimate improvement and overall community wellness (Deelstra and Girardet 2000). Urban agriculture is a vital aspect of city infrastructure to promote health, peace and interdependence by creating places for residents to connect to food, nature, and each other (Reynolds and Cohen 2016).

This chapter discusses the challenges and opportunities for applying agroecology to the interwoven environmental and social issues of urban places. Urban agroecology education occurs in different contexts, within academic institutions, grassroots organizing of social movements, and non-profits and community-based organizations. In the case of BAFT, it emerged from the

context of the non-profit sector in the United States. Its educators had experience in both social movements and traditional academic settings. BAFT took the shape of a community-based farmer training program focused on social justice.

In this context, BAFT provides insights into contra-hegemonic pedagogies with a focus on critical, constructivist, humanistic approaches emerging from non-academic spaces. This case study highlights some of the challenges in creating these types of learning environments. Many of the authors of this chapter formed the BAFT educator and program team. We weave together our own perspectives with interviews of former BAFT participants and program evaluations. The following analysis of BAFT illustrates one way to design and implement urban farmer training programs rooted in agroecology and supported by humanistic values and decolonial frameworks.

BAFT: a case-study in politicized urban agroecology education

Through funding from the United States Department of Agriculture's (USDA) Beginning Farmer and Rancher Development Program (BFRDP), BAFT trained 122 aspiring urban farmers in agroecology and food sovereignty between 2015 and 2019. It was specifically crafted for underserved aspiring and beginning urban farmers with a focus on people of color, women, immigrants, formerly incarcerated people, and LGBTQIA+ individuals. The majority of those who participated in BAFT lived in urban places. Most were landless, facing severe challenges in accessing farmland and lacking secure housing. Systematic disparities have barred some of the communities participating in BAFT from accessing institutional and academic opportunities. BAFT attempted to offer a high-quality educational experience for an unconventional student demographic that faced ongoing challenges in entering the farming sector.

The BAFT program consisted of two main components: a three month course and a follow-up mobilization phase. The BAFT course introduced agroecology and food justice theories and practices to 122 participants. Each BAFT course spanned three months, with eight hours of classes per week. The curriculum used didactic tools such as field trips, participatory presentations, on-farm practice, anti-oppression training, project-based learning, online

resources, and mentorship support to create an environment that celebrated different learning styles. Field trips included visits to farms, food preparation facilities, aquaponic systems and nurseries. The online course contained a learning network with multimedia lessons and readings that supported the in-person classes. Each BAFT course concluded with a celebratory graduation ceremony, where students reflected on their learning and presented their visions for future businesses, projects, and other endeavors.

In recognition of societal inequalities affecting many BAFT participants, the program was designed to reduce barriers to participation and meet some of their basic resource needs. To accommodate working students, the course took place in the evenings and on weekends. Eight hours per week of in-person meetings were supplemented with optional 3 hours per week of online course materials for the week's topic. The BAFT course was offered at a sliding scale rate with scholarships and participation stipends available for low-income applicants. Over 50% of graduates received a stipend between $350 and $800—in addition to a fee waiver—to support their participation. Participants put the stipends toward transportation, childcare, and/or meals. This greatly facilitated their involvement in the classes. Classmates were allowed to bring the children to class where they frequently received childcare support from both staff and fellow classmates. Laptop computers were also available on loan, which allowed some participants to engage with the online materials and prepare their applications for the mobilization phase.

Graduates of the course could continue in the BAFT mobilization phase, which provided guidance on the development of participants' farming, food business, and education projects. Out of the mobilization program were formed projects such as the East Bay Farmers Collective, which was founded by a group of BAFT graduates seeking to cultivate agroecological produce and medicinal herbs (Paxton 2019). The collective focuses on distributing nourishing food and medicine to predominantly people of color, Indigenous communities, women, trans, and fem residents of the Bay Area.

The BAFT mobilization phase included mentorship for participants from specialists in their field of interest, on-farm apprenticeships, and mini-grants to support their mobilization projects. The application for all forms of support required a basic project proposal or business plan. The hours

of mentorship during the incubation phase varied in length, depending on the needs of each project. The BAFT provided matchmaking services and $15/hour stipends for on-farm apprenticeships in the Bay Area and surrounding rural regions. BAFT graduates also applied for competitive mini-grants toward material costs of their projects. BAFT educators strove to foster a culture of transparency, inclusivity, and engagement through participatory budgeting and an emphasis on the formation of worker cooperative farms and projects.

At its core, BAFT sought to address the structural inequalities that shape the current hegemonic food system. The program provided tools to overcome imminent challenges that participants would likely encounter—difficulties in accessing land, financial and social capital, and technical support—with alternatives such as cooperativism, local markets, connections to locally available resources, relationship-based networks, and mentorship support. Rather than seeing these inequalities as personal shortcomings to be overcome, the program sought to understand the origins of these structural inequalities, which are produced by a society plagued by colonization, white supremacy, extractive capitalism, and patriarchy. This radical vision of agroecology from the perspective of social justice set BAFT apart from many other farmer training programs funded by the USDA BFRDP.

Guiding Pedagogies and Didactics

BAFT educators approached agroecology as a multidimensional means to achieve food sovereignty, and as a living concept that evolves as it is adapted to diverse contexts. Until recently in the United States, agroecology research, education, and practice has emphasized the natural science components to the detriment of a holistic understanding of sustainable food systems. However, a politically aware agroecology is common in many parts of the world. "Agroecologists recognize a wider sense of agricultural purpose that goes beyond mere production of commodities, and includes issues of environment, community, and justice. This wider understanding of the agricultural context requires the study of relations between agriculture, the global environment, and society" (David and Bell 2018). For this reason agroecologists must grapple with a structural analysis of inequality within the food and farming system. Toward this end, the BAFT course borrowed from an array of pedagogies and didactics.

The focus was primarily on constructivist, critical, and humanizing pedagogies. We review each of these dimensions of the curriculum before describing the key curricular aspects of BAFT.

Critical Pedagogy

Critical pedagogy is a teaching philosophy that encourages participants to examine power structures and patterns of inequality within society (McGuire 2016). Through facilitating discussions around power structures and patterns, participants can critically evaluate opinions they may have inherited or absorbed, and feel a greater sense of agency in their own learning process (McGuire 2016). This is essential for agroecology because it is vital to understand the origins of power that exist within the food system. It is through this lens of questioning power structures that Brazilian philosopher Paulo Freire critiqued the Western "banking method" of education that treats students as empty vessels to be filled with the values of the dominant class. "[This] practice dehumanizes and disempowers students, whose culture, experience, language, and ideas are subjugated in order to indoctrinate the students with the ideology of those in power. It fails to teach critical thinking skills, and it doesn't teach the value of dialogue" (Freire 2000; Mink 2019). BAFT actively sought to incorporate these philosophies by questioning and critiquing the ways the global industrial food system displaces small farmers, colonizes traditional diets, exploits labor, and monopolizes the market.

BAFT's critical pedagogy borrowed from traditions of popular education, which is a people-oriented and people-guided approach to education (Freire 2000). It encourages participatory activities and learning methods that value participants' life experiences resulting in the development of critical consciousness (Freire 2000; Intergroup 2012). This approach strives for horizontal relationships between teachers and students, rather than the more traditional, static, and vertical transfer of knowledge from teacher to student. By implementing popular education principles, BAFT educators sought to incorporate participants' recommendations and feedback on an ongoing basis. "Many political and educational plans have failed because their authors designed them according to their own personal views of reality, never once taking into account (except as mere objects of their actions) the men-in-a-situation to whom their program was

ostensibly directed" (Freire 2014). The process of continuously integrating feedback allowed for the course to be collectively constructed and honor the diverse realities of the students.

Acknowledging that learning is not a purely individual process (McCune and Sánchez 2018), dialogue is a key component that assures that the production of knowledge is formed through a collective process within the classroom. BAFT emphasized the importance of horizontal facilitation that allowed for students to have agency in exploring and developing their critical voices. "We must continually remind students in the classroom that expression of different opinions and dissenting ideas affirms the intellectual process. We should forcefully explain that our role is not to teach them to think as we do but rather to teach them, by example, the importance of taking a stance that is rooted in rigorous engagement with the full range of ideas about a topic" (hooks 2014). The course's emphasis on dialogue encouraged cross-cultural understanding and movement building. "If it is in speaking their word that people, by naming the world, transform it, dialogue imposes itself as the way by which they achieve significance as human beings" (Freire 2000). Fostering dialogue resulted in a strong sense of interconnectedness and community, reinforcing a sense of shared territoriality, that brought together a diverse group of people from the Bay Area around visions of agroecology and food sovereignty.

Humanizing Pedagogy

Humanization strengthens a person's capacity to recognize our commonality, rather than furthering divisions and othering based on distinct human identities and social constructs. BAFT emphasized the importance of humanizing classroom environments, as implemented in various social movements such as La Via Campesina. "Education as the practice of freedom—as opposed to education as the practice of domination—denies that man is abstract, isolated, independent, and unattached to the world; it also denies that the world exists as a reality apart from people" (Freire 2000). In pointing to this freedom, Paulo Freire outlines how humanization enhances our collective capacity to oppose isolation and move towards liberation. "One does not liberate people by alienating them. Authentic liberation—the process of humanization—is not another deposit to be made in men. Liberation is a praxis: the action and reflection of men and women upon their world in order to transform it" (Freire 2000). This speaks to the broader

ecological realm of "humanization" that Paulo Freire emphasized in 1970, stating that at "the center of education is no longer only a transformation of the relations among people, but also between people and all other forms of life" (Meek and Lloro-Bidart 2017). The very act of farming the city has the potential to mend the alienation from nature felt by many urban people in modern capitalist societies (McClintock 2010). BAFT educators sought to address farmers' feelings of isolation within urban food justice spaces by reestablishing meaningful connections with each other and the land.

A humanistic pedagogy in BAFT was realized through a values-centered curriculum—discussed in greater detail in a section that follows—which invited discussions on systemic oppression and societal traumas connected to racism, sexism, and classism in the food system. In practice, this approach brought various challenges with multiple site visits and guest speakers from diverse backgrounds (Landzettel 2018). Some of these challenges were important learning opportunities for participants on how to engage people with different viewpoints and awareness of systemic oppression, or the lack thereof. These incidences also provided some important lessons for the educator and program team on how to better structure the class and engage with guest speakers.

For example, on a site visit to a farm owned and operated by an immigrant and farmer of color, the BAFT class was joined by another tour of farmers from the Midwestern United States. At the end of the tour the farmer shared his story as an immigrant starting out with limited financial resources to now owning his own thriving operation as a testament that there was no systemic barrier preventing someone's success, and if you put your mind to it and worked hard, you could thrive, regardless of your background, financial status, or race. The educators noticed that many participants from the midwest group were nodding, while many participants from BAFT were not expressing agreement. On the return trip, the class engaged in a thoughtful discussion about the "self-made and pull yourself up by your bootstraps" mentality. While at times inspiring or motivating, it can also invisibilize the struggle of people who have been discriminated against for their race, culture, gender, or sexual orientation. The class discussed how a person who has experienced discrimination can still internalize oppression by either adopting, normalizing, or

ignoring a pervasive discriminatory mentality, sometimes as a means of assimilation or protection.

In another example, a speaker, in sharing his experience of working in seed saving with Indigenous communities, described the communities as "having no culture." Although the intention was to share about the loss of food culture and seed saving practices in these communities, by using this specific phrasing, the speaker participated in the erasure of the violent history of displacement and genocide experienced by Indigenous peoples, which is the reason why so many cultural practices have been lost. Deep historical awareness is vital in order to recognize the global impact and normalization of colonization and white supremacy.

In both of these cases, a humanistic approach supported the class to share feedback with the speakers about the impact of their rhetoric. It also supported lessons in compassionate engagement and restorative justice to see the speakers as human beings who have been conditioned to perpetuate these patterns over time but are open to adopting new behaviors and values, as opposed to recreating trauma through shaming and silencing. "Shaming is one of the deepest tools of imperialist, white supremacist, capitalist patriarchy because shame produces trauma and trauma often produces paralysis" (hooks 2013). These experiences helped clarify the need for restorative justice training for facilitators, as well as the need for deeper communication with guest speakers about the decolonial course framework, and to inform course participants in advance about the background and perspectives of guest speakers.

Regular community-building exercises were critical to fostering dialogue on challenging issues. First, each class began with a round of check-ins, allowing students to talk about what was alive for them and inviting them to bring their whole humanity to the classroom space. Although this sometimes took more time than expected, participants said this space for open sharing helped them feel valued and some expressed that it was the best part of their week. Educators also provided food during class which later led to students preparing and sharing their own dishes accompanied by family recipes and stories. Finally, highly academic and alienating rhetoric was discouraged and substituted or re-framed with more commonly used vocabulary based on lived experiences.

Constructivist Pedagogy

Constructivism posits that every individual constructs their own understanding and knowledge of the world based on their own unique experiences (Bada 2015). Constructivist pedagogies specifically recognize the learner's innate knowledge prior to entering spaces of learning. In embodying constructivist education in BAFT, educators placed great value in the rich social and biocultural knowledge that each individual brought to class, and they developed trust with the students through honest and open dialogue about their own backgrounds, lived experiences, and social positionality.

One of the co-lead educators of BAFT, Ana Galvis, presented her background as an immigrant and single mother, which allowed her to connect with many of the students who shared similar backgrounds. The challenges she faced to become an agroecology educator with two Masters degrees in the United States resonated with many participants and fostered trust in class. In contrast, co-lead educator Paul Rogé consciously stepped out of certain roles in recognition of his social privileges as a cis-white male with a PhD in Agroecology so that Ana and BAFT participants could cultivate leadership in the classroom. His personal dedication to service manifested in simple actions—driving to field visits, providing technical assistance, and meeting with students outside of class time—and he was invaluable in presenting complex agroecology concepts in a very accessible way, all of which led to the formation of deep, meaningful, and lasting connections with BAFT students over time. The end result was that no one individual dominated the discourse, and both educators shared teaching responsibilities and class time conscientiously, knowing when to step in when their expertise was needed and when to step back to allow others to be heard.

Key Curriculum Concepts

BAFT overall addressed the key integrated approaches involving agroecological education outlined by David and Bell (K. Wayne 2017): bringing agroecological practitioners and activists into the classroom as instructors and sources of knowledge; developing and expanding an active and experiential learning program; diversifying the origins of agroecology students and

instructors, including diversity of gender, sexuality, cultural heritage, and national origin; and creating a sense of agroecology as a publically-oriented endeavor with important policy implications. In the sections that follow, we discuss some of the key concepts embedded within the BAFT curriculum.

Values-Centered Curriculum

In designing courses, an approach urban agricultural educators can use to engage with humanizing pedagogy is to create a value-centered curriculum such as the one developed for BAFT (Table 4).[5] From this list one can reflect on the ways in which different values can become unbalanced, especially within an individualistic and capitalist society. For example, care and compassion are contrasted with neglect and cruelty. Each value is then placed within the social and technical contexts of agroecology, and practical, experiential learning activities are identified that provide students with opportunities to actively embody those values. Eventually, this framework permeated the chosen topics within four broad categories: regenerative agriculture and agroecology, social movements, models of agroecological production, and business incubation (Table 5).

Table 4. The values-centered curriculum of the Bay Area Farmer Training course.

Core Value balanced	Core value unbalanced	Domain	Topics
Care and compassion	Neglect and cruelty	Social Theory	Social movements and their practices; Risk management planning; Business planning and enterprise budgeting
		Technical Theory	Food safety, post-harvest handling, and food distribution; Cover crops and soil-plant health; Irrigation and evapotranspiration
		Practical Activity	Building terraces and contour ditches with the "A" tool; Soil tillage and cultivation
Diversity	Hegemony	Social Theory	Diversifying income streams; Management of economic risks
		Technical Theory	Polycultures; Functional biodiversity to enhance fertility, control pests and diseases, and attract pollinators; sexual/asexual plant propagation
		Practical Activity	Transplanting and direct seeding; Vegetative propagation through cuttings and divisions
Harmony	Hatred	Social Theory	Food empires, regimes, and injustice
		Technical Theory	Ecological management of soil; Ecological management of pests, disease, and weeds

[5] Co-lead educator Ana Cecilia Galvis created the values-centered curriculum for BAFT.

		Practical Activity	Bed design for ecological management of pests, diseases, and weeds
Fairness	Unfairness	Social Theory	Gender and agroecology; Traditional agriculture and Indigenous agroecological knowledge; Sustainability; Agriculture and nature
		Technical Theory	Economic thresholds of pest damage
		Practical Activity	Farm design based on the biointensive model
Autonomy	Dependency	Social Theory	Decolonization of diets and medicines; Cooperative Businesses and the Sharing Economy; Access to land; Marketing plans; Community Supported Agriculture and other direct marketing outlets; Access to land and capital through community support and local governance
		Technical Theory	How to prepare herbal medicine, make compost, harvest water, save seed, conserve food through pickling and preserves etc.; Analysis of market conditions; Building community with social media and events; Dynamic cash flow planning, bookkeeping, farm taxes, etc.
		Practical Activity	Compost production and use; Seed saving and selection; Soil evaluations
Integrity	Dishonesty	Social Theory	Kinds of product certification
		Technical Theory	Farm record keeping; Managing on-farm food safety risks; Assessments of sustainability and resilience
		Practical Activity	Business and market plan
Renewal and cycling	Stagnancy or lack of flow	Social Theory	Animal health and well-being
		Technical Theory	Season extension; Small farm equipment; Aquaponics; rangeland management; raising small animals; Whole farm design and management; Crop planning software
		Practical Activity	Greenhouse propagation; milking animals

Table 5. The Four Curriculum Categories of the Bay Area Farmer Training course.

Regenerative Agriculture and Agroecology ● Agroecology and Permaculture Ethics ● Garden Design ● Vegetable Production ● Ecological Pest Management ● Irrigation and Water Management	Social Movements ● Intersectionality and Social Movements ● Decolonization of Diets ● Gender and Agroecology ● Seed Sovereignty
Models of Agroecological Production ● Evaluation of Agroecosystems ● No-Till Vegetable Production ● Rooftop Gardening ● Nursery Production ● Organic Farming ● Herbal Medicine and Food Preparation	Business Incubation ● Product Certification ● Business Planning and Marketing ● Financial Planning and Fundraising ● Democratic Workplaces ● Business Incubation

The Relational Over The Technical

In contrast to many agroecology training programs within the United States that offer curricula emphasizing the technical aspect of sustainable agriculture—a depolitized agroecology—BAFT intentionally balanced both the technical and social components, establishing an organic link between education as a training process for political action and practical skills.

One of the many learning objectives for the course was to create conscious political subjects while simultaneously building community within the classroom for solidarity, collaboration, and mobilization in urban farming movements. Acknowledging that many participants were already politically conscious, BAFT educators sought to encourage collective agency. The curriculum emphasized the importance of political education in recognition of the historic socio-political forces that have shaped contemporary food and farming systems.

The fragmented and reductionist ways of thinking that have been historically promoted by Western science have left out the social and cultural components of agriculture. It is vital to comprehend how relations, both human and ecological, function alongside the technical and agronomic aspects of agroecology. “Some scientists (and among them agroecologists) are proposing that a paradigm shift is needed, a transformation toward ways of knowing and doing that are contextual and relational and can address sensitively the complexity that is at the heart of living systems” (Ferdowsi 2013). In practice, BAFT sought to strengthen participants' ability to be systems thinkers and to see the many different factors that make up the whole in order to understand both the ecological and social components of the food system.

Decolonial Framework

Just as agroecology principles embrace biodiversity within ecosystems, there is also great value to be found in a diverse classroom. The wide range of diversity within the BAFT program allowed for deep conversations around identity, systemic oppression, privilege, and intersectionality. In teaching agroecology, it is essential to talk about race within the food system

in the context of the United States, where racism and xenophobia are deeply woven into the threads of society. The food system has a long history of reinforcing violence against people of color, from the expropriation of Indigenous lands, to slavery, to the exploitation of farm laborers. One program participant stated the following when reflecting on their own identity and desire to participate in BAFT.

"I think when a lot of people think of Black people's relationship to the land, they think of folks that were enslaved and I knew there was more and I wanted to look for that, and I wanted to feel that rather than searching for it in a book. I knew that that information was inside me already and I wanted to wake it up" –Shelley Hawkins, BAFT participant

Participant experiences such as the one above influenced the course's decolonial framework that critically examined the colonial legacy behind food and farming in the United States. In many urban places within the US, the colonial history of the food system has greatly played a role in who has access to nutritious and fresh food, hence the growing need and demand for a food justice movement (Siegner, Sowerwine, and Acey 2018). It is a movement that goes beyond consumers' individual food choices by addressing the systemic inequalities that bar certain communities from accessing nutritious food. "Food justice thus pursues a liberatory principle focusing on the right of historically disenfranchised communities to have healthy, culturally appropriate food, which is also justly and sustainably grown" (Sbicca 2012).

Food justice within urban communities is multifaceted, ranging from issues around environmental racism, access to land, and labor in terms of how food is grown and processed. The Bay Area in particular has a long history of grassroots organizing around food justice. For example, West Oakland was the birthplace of the Black Panthers Free Breakfast for Children program, which sought to provide nutritious food for youth living in the highly industrialized neighborhood (Sbicca 2012). The area's long history of discriminatory redlining played a central role in the neighborhood's lack of grocery markets. The Black Panther Party's efforts to address issues around equity and access to fresh food can be seen in the emancipatory spirit of the neighborhood today, with entities such as the Mandela Grocery Cooperative serving as a thriving local community hub that is a worker-owned and Black-owned business (Figueroa and Alkon

2017). These historical and contemporary examples were woven into the BAFT course through group discussions and guest speakers.

The decolonial framework within BAFT spanned from a historical analysis of how colonization has affected land tenure in the United States, to practical tools to decolonize one's diet from production to consumption, all while challenging colonial ideologies and assumptions. One BAFT participant Samuel Madrigal reflects, “The course taught me to be thinking about the cultural significance of food, that it isn't just that it is representative of our culture but that it also holds our lineage.” Within the classroom an array of conversations were sparked, ranging from the ways in which the forced enslavement of people to work the land has resulted in deep-seated historical trauma and internalized colonialism, and how these narratives must be centered when discussing farming and access to land, to how to reclaim traditional dietary practices and the implications of eating sugary and highly processed foods produced by an industrial food system.

In order to integrate humanizing pedagogies into a decolonial framework, it was essential to allow students the time to reflect on their own people’s histories around land and land tenure in this country. This diverse group of students shared narratives that are often absent from popular dialogues around the history of land and farming. These conversations in turn created space to discuss food sovereignty and environmental justice, as well as to recognize how resistance movements—frequently led by people of color and impoverished communities—have long counteracted extractive capitalist models of farming.

BAFT not only sought to uphold a decolonial framework within the classroom, but also to decolonize federal resources from the USDA. BAFT diffused institutional power by reallocating funds and resources to underserved beginning farmers. Recognizing that the USDA has a long history of unlawfully barring the distribution of federal resources to farmers of color (Williams and Holt-Giménez 2017), BAFT directly allocated funds to beginning farmers from similar backgrounds.

Gender and Sexuality

When discussing agroecology, it is essential to critically look at gender to understand how patriarchy has influenced land tenure, labor, and resource distribution within the food system. According to a UN report, "gender issues are incorporated into less than ten percent of development assistance in agriculture, and women farmers receive only five percent of agricultural extension services worldwide" (De Schutter 2010). Agroecological models strive for self-sufficiency so that farmers are not dependent on high inputs. In this regard, low-input agroecological practices may have the potential to benefit women and fems who frequently struggle to find access to capital, external inputs, and/or subsidies. Agroecological practices seek to address gender inequalities and help pave the way for resilient, regenerative, self-sufficient, and empowered farmers.

The following data highlights the disparities faced by female-identified farmers in the United States and female-headed households seeking to address food security. According to the USDA Agriculture Census of 2017 only 36 percent of all farms have a woman as the principal operator. Women farm operators as a whole receive 61 cents on the dollar made by men, resulting in one of the largest wage gaps of any industry (Kruzic and Hazard 2017). Women own only two percent of all titled land worldwide (Milgroom et al. 2015). Structural gender based oppression is also visible within households resulting in female-headed homes being 30.3 percent food insecure, in comparison to a mere 22.4 percent of male-headed homes (Kruzic and Hazard 2017). Within the course, BAFT participants were asked to reflect on statistics such as these, the implications of patriarchy within agriculture, and the ways in which agroecology has the potential to dismantle these inequalities.

The BAFT course provided students with interactive opportunities to reflect on their own identity within the broader intersection of gender and sexual orientation in agroecology. Students were invited to express their gender through creating a visual or written art piece and then place it on a spectrum of masculine to feminine, exploring gender as both a spectrum and social construct, rather than a binary biological determination. By starting the dialogue from a personal

reflection rather than an abstract theoretical approach, students were able to contextualize their own narratives in theoretical ideas.

Even more broadly, gender and sexuality were examined in relation to other social "isms" within a context of structural oppression. A module focused on intersectionality was used to explore the impact of patriarchy, white supremacy, neoliberalism, and colonialism and to promote dialogue and understanding between participants from diverse backgrounds. "A central tenet of modern feminist thought has been the assertion that 'all women are oppressed.' This assertion implies that women share a common lot, that factors like class, race, religion, and sexual preference do not create a diversity of experience that determines the extent to which sexism will be an oppressive force in the lives of individual women" (hooks 2014). In an exercise conducted by a guest speaker, the class placed various social categories on signs around the classroom such as race, gender, class, sexual orientation, appearance, physical ability, mental ability, language, religion, citizenship, academic education. Participants were then asked questions such as:

- "What posed the greatest challenge for you growing up?"
- "What has had the biggest influence on your life?"
- "What do you feel has given you the most privilege?"
- "What is something that you have or currently struggle with that other people may not know?"

After each question was read, participants would stand near the category they felt most impacted by. Everyone was invited to share about why they selected a category, often resulting in informative, eye-opening, and sometimes challenging dialogue.

This greatly speaks to what Claudia Korol (2007) identifies as one of the key elements of feminist pedagogy: "The discovery of memory not only within oppression, but also in resistance. Pedagogy that prefers testimony to silence of texts. Collective testimonies, made of many memoirs, capable to affirm or to question identities." BAFT's feminist pedagogy allowed students to explore the ways in which agroecology challenges hegemonic relationships of power and domination perpetuated by patriarchy, while simultaneously opening a space for dialogue on

how to observe and dismantle patriarchal and heternormative behaviors within students own lives.

Honoring Queer Identities Within the Classroom

One of the many realms of diversity represented in the BAFT classroom was participants' gender identities. Both participants and educators were challenged to expand their perceptions of gender. As an educator, if you mistake a person's pronoun, it is important to acknowledge the mistake and apologize. A standard classroom introductory practice is for educators to share their preferred gender pronoun and to invite participants to share their preferred pronouns. This fosters inclusivity within the classroom and normalizes the importance of checking assumptions. Further, we suggest educators incorproate a module around gender and agriculture that expands on the concepts discussed in this chapter and defines important terms such as sex, gender, and sexual orientation. We invited a guest speaker who developed a module called "The Garden is Queer" which showed students how some plants can be "male" and "female" at the same time. The course then looked at ways in which hertonormative scientific botanical terms can be redefined to label plants as "pollen-producing" and "pollen-receiving" rather than "male" or "female", directly disrupting common institutional articulations of "normative" plant biology.

Spirituality and Mysticism

Inspired by global peasant movements such as La Via Campesina and MST, BAFT also greatly emphasized the spiritual component that comes with stewarding land, honoring the many different traditions of people across the globe and recognizing the somatic healing experiences that form when reconnecting with the Earth. Welcoming the spiritual aspects of agroecology and different cosmologies linked to land stewardship is another form of decolonizing the classroom. "Revolutionary theorist Frantz Fanon noted that colonization estranges the colonized from their own metaphysical worlds, their epistemologies, knowledges, and ways of being. Multiple forces of power (institutional, epistemological, religious) collude over time to produce this estrangement" (Avalos 2019).

Spiritual components brought into the classroom included "místicas" offered by guest speakers of the MST in Brazil, sharing circles, and other rituals. While BAFT had various mystic and/or spiritual components interwoven into its curriculum, the BAFT educators recognized the importance of expanding these elements of the curriculum, especially in the context of the Global North where much of Earth-based spiritual practices have been forcefully erased or banned as part of the colonial legacy. Urbanization and colonial legacies present in the United States have a long history of attempting to sever communities connections to land. BAFT educators incorporated these elements into the curriculum, seeing them as important opportunities to honor a wide range of ancestral traditions and recenter the spiritual component of farming, especially with urban communities that have limited access to the land.

Beyond the Course

Mobilization Phase Design and Implementation

A significant part of BAFT is the mobilization phase that created pathways for participants to take the next step as urban farmers and agroecologists. This process started during the BAFT course with participants engaging in a visionary process of designing a business or project plan. This component of the course assisted in bridging the relationship between theory and practice to form praxis. Participants received mentorship and paid internships with other farmers and community entrepreneurs working within a similar realm, as well as seed grants to help participants get their land access or their food and farming business up and running.

While recognizing that the concept of "business incubation" is still functioning within the capitalist paradigm, educators tried to introduce concepts such as exchange, sharing, and cooperativism. Leah Atwood, BAFT program co-director reflects, "Extractive capitalism creates inequality in the way that it is designed and unregulated. With the interconnected influences of settler colonialism, patriarchy, and white supremacy, there is no way unfettered capitalism can promote social equity. It's exactly the opposite." The mobilization phase allocates public funds via mini-grants, paid internships and mentorships to serve individuals from structurally oppressed communities to cultivate agroecological food and farming businesses. "The aim is to

promote economic viability for farmer livelihoods, and to increase food sovereignty in the communities most impacted and most deserving," states Leah. She envisions the potential of public subsidies, not for cash crops, but to recognize and support farming as an essential public service, as a part of food security and social and ecological resilience. The BAFT program, through the mobilization phase, aspired to increase food sovereignty and to create networks of solidarity between consumers and producers toward cooperative economic models.

BAFT aimed to reduce barriers commonly present within on-the-job training opportunities, while simultaneously building resilient and equitable community food systems with experienced food and farming leaders fighting for agroecology and food sovereignty. Together with like-minded organizations and experienced farmers, BAFT directly connected individuals to build relationships and learn new skills and perspectives. By directing grant funds to support leaders and learners to cultivate community and provide paid skills training through mini-grants, paid internships, and paid one-on-one consultation with mentors of their choice, BAFT provided an alternative to the unsustainable model of unpaid internships.

A key part of BAFT was not only to provide education but to strengthen a movement within the Bay Area. "The more relevant measure of formative processes may not be in the quality of the thinkers they produce, but in the territoriality of the movement they reproduce" (McCune and Sánchez 2018). Reinforcing territoriality and movement building within the bioregion of California's Bay Area is an essential component of forming the local food sovereignty mobilization network.

Challenges and Future Directions for BAFT

While the concept of humanization was foundational is designing the BAFT pedagogy, trying to embody humanization in the classroom did not come without challenges. Due to the background of the BAFT educators and program designers, many of the pedagogical influences came from Latin America. When teaching agroecology in the US, it is important to incorporate the US legacy of land-based oppression and its historical and ongoing impact on people of color. Specifically, the centuries of genocide, mass enslavement, pillaging, internment, and exploitation

has impacted Indigenous peoples, and people of the African, Asian, and Central and South America diasporas, in unique and explicit ways. By building awareness around racism in the food system and the historic and present-day impact upon diverse racial and cultural identities, educators can shed light on the trauma of white supremacy and examine what is needed for healing and collective liberation. For future directions of BAFT, it was recommended to have a more specific focus on racial justice and agroecology as it's own curriculum topic, as well as be embedded throughout the course. Educators were challenged to discuss race in a multiracial classroom, to discuss class in a space where a wide range of privileges were represented, and to discuss gender when there is a spectrum of gender identities. Historical traumas arise, white fragility is confronted, and accountability is demanded.

A challenge facing many farmer training programs is how to measure their impacts. Depending on the source of funding, measures can be predominantly reductionistic, focusing on the number of people impacted, businesses started, and the number of people being served from socially disadvantaged backgrounds, etc. These gross standards of success can motivate organizations to increase participant counts without focusing on the depth of impact. California farmer-educator networks have discussed the need to create shared metrics that better reflect our educational programs and to recommend those changes to funding agencies. We encourage funders to expand their impact vocabulary when it comes to program evaluation, and, rather than create metrics from the top down, to give organizations autonomy to set and design their own course metrics. The goal is to create metrics that can help both the organization and their funders gauge the overall success of a program. Measuring early and frequently is key, as well as incorporating measurements that reflect a holistic and deep impact. The pressing challenge of improving metrics of success for farmer training programs mirrors the need to expand the ways in which we understand and measure ecological productivity on farms. The current standard is to measure on-farm productivity by quantitative yield or profit, rather than the quality of ecosystem services provided, of human physical-emotional health maintained, and of socio-ecological sustainability promoted.

As BAFT created a larger and larger network of graduates who are working within the farming and food systems, a process of inviting graduates back to teach different cohorts was established. These active teaching methods encourage previous graduates to reflect on their experience and continue to engage with the course content, formulating a collaborative process and deepening in their skillset. This methodology assists in the construction of knowledge originating from peers, who are able to contextualize knowledge for underserved beginning urban farmers.

Recommendations for Urban Agroecology Educators

The need for politicized urban agroecology education

A core objective of BAFT was to prepare urban farmers as agroecologists to dismantle the structural inequalities that shape the current hegemonic food system. Programs such as these require educators who are highly competent at facilitating dialogue among diverse students and communicating social justice principles. The diversity that exists within urban areas presents an important opportunity to build solidarity between diverse communities. However, this requires a nuanced unpacking of the impact of systems of oppression. Fostering cross-cultural dialogue in agroecology training programs can help build bridges between the diversity of urban communities that are often historically and intentionally fragmented.

Politicized urban agroecology education—as presented in the published chapter (Galvis-Martinez et al., 2020)—provides opportunities to strengthen food sovereignty, contribute to cultural healing, and achieve personal transformation. Educators must consciously avoid indoctrinating students to accept or adapt to the conditions of the global food system. Agroecology is a life-honoring philosophy that is linked to a long history of resistance. Its transformative potential is rooted in shifting paradigms. Our recommendations follow for integrating social justice and politicalized agroecology into urban farmer training programs.

Educational tactics to support politicized urban agroecology education

Train educators: We recommend that core educators and facilitators receive training in restorative justice, anti-oppression, and conflict engagement. This will allow the program team to

maintain awareness of power dynamics in the classroom while also increasing their capacity to address with care and compassion the triggering of traumas that arise when discussing challenging issues. The quality of facilitation makes the difference between deepening divisions and causing harm versus deepening cross-cultural connection and a sense of healing.

Cultivate cross-cultural competency: Educators can cultivate cross-cultural dialogue in classrooms by avoiding alienating rhetoric or theoretical abstraction. One useful way to avoid alienation is by contextualizing discourse in lived experiences, and to remain receptive to student feedback. Examples include: student reflections on their own peoples' histories around land and land tenure; honoring queer indentities students self-identifying their gender pro-nouns.

Build trust: Trust is built based on an awareness of social positionality and privileges, either by identification with the struggle and overcoming obstacles, or through solidarity and humble service. This is particularly important in programs aiming to serve structurally oppressed, overburdened, or multicultural communities. Representation by the communities served in the educator and leadership team is critical for building trust.

Humanize your class: Encourage your students to be their whole selves in class and share their own knowledge and stories. To do this, you must cultivate respectful and sincere relationships with students, truly listen to them, and value the wisdom they bring. A humanistic pedagogy allows for more authentic learning and exchange. Strategies for creating spaces for dialogue and community-building include: personal check-ins, shared meals, artistic and creative self-expression, and spiritual connections with land and territory.

Prepare guest speakers: Challenges can arise when field visits and guest speakers have limited familiarity with social justice and anti-oppression frameworks. Prepare guests in advance by sharing overview documents of program goals, core values, and class agreements. Follow up with conversations to address any questions they may have.

Create a values-centered curriculum: Mapping the curriculum to values—as was done for BAFT (Table 4)—can help ground farming activities and classroom learning in relatable terms.

Programmatic tactics to support politicized urban agroecology education

Address participation barriers: Addressing barriers to participation and structural inequalities is imperative to long term success of these programs. Underserved beginning farmers are likely to confront challenges in access to land, resources, markets, and institutional support throughout their careers. Think deeply about how to meet as many of the basic needs of participants as possible in recognition of societal inequalities and barriers to access. For example, BAFT provided fee waivers and scholarships to students with financial need, hourly wages for on-farm apprenticeships, and guest speaker stipends. In addition, carefully track and measure the allocation of resources to understand their use and impact.

Prioritize organizational health: The organization needs to be financially healthy as these programs can require significant financial, mental, and often emotional resources. We recommend prioritizing emotional, mental, and physical wellness. In our experience, a weekly check in to acknowledge one another's personal lives and explore ways to cultivate health, both individually and collectively, was tremendously powerful. We recommend prioritizing paid time to engage in wellness practices, such as acupuncture, massages, potlucks, and hikes as a team. This can strengthen relationships and improve individual and collective wellness.

Cultivate representative staffing and leadership: Consciousnessly make space for and hire educators and staff who reflect the racial, sexual and/or cultural diversity of the people your organization serves. If possible, train students or participants to transition into staffing, educator, and leadership roles. For example, BAFT hired two graduates of its program.

Integrate metrics: Create metrics that can help both the organization and your funders gauge the overall success of your program. Both your team and the people your organization serves need to understand the value of the metrics. Measuring early and frequently through various modalities can help collect comprehensive and quality data.

Adopt participatory planning for the future: The long term impact and success of any farmer training program is contingent on the future opportunities that follow an educational program. Most farmer training programs for new or beginning farmers see a small percentage of graduates

continue on farming career paths. When serving structurally oppressed communities, this percentage can be even smaller. For this reason, the BAFT mobilization phase was developed through a participatory process as a follow-up to the BAFT course and offered these kinds of next steps for graduates:

- **Mentorship:** Funding covered one-on-one mentorship and consultation support to work with a mentor of their choice. Mentors should be offered compensation, and can also donate their fees to the scholarship programs for participants.
- **Paid internships:** Funding for graduates continued experiential training and relationship development. Offering living-wage internships is critical for low income graduates who often cannot afford to participate in unpaid volunteer internships.
- **Participatory mini-grant allocation:** Graduates were invited to lead the process of directing and allocating funds based on individual's needs. These strategies empower participants to decide how funds are pooled or distributed to achieve the greatest impact and best meet participants' needs.
- **Land access:** We recommend participants have the opportunity to actively steward land, either through an incubator site or in a mentorship capacity where they can receive guidance, resources, and build community with other urban farmers.

It is essential to consistently listen to the students, to value the deep inner-knowledge present in both the students' and facilitators' identities, privileges, and traumas. This allows for authentic learning, stemming from human humility. Love sincerely the students, truly see them as human beings with stories. When implementing educational programs, have the courage to implement the knowledge and techniques in their entirety. Be sure to pause and listen to the group, taking in the pulse and energy of the classroom, and remember to stay true to the original learning objectives of the course. Agroecology is linked to a long history of popular culture. It stands as a protagonist in the resistance against industrial agriculture that tries to erase those histories. Agroecology is a philosophy, a way of life, that honors life and should also uphold these values in educational spaces. As a transformative process, the praxis of agroecology aims for paradigm

change, not only for the individuals within the classroom, but for the students' broader communities of which they are a part.

Concluding Reflections on BAFT

Agroecology education can serve as a driver for radical change, one that is rooted in systems transformation, behavioural change, and paradigm shifts for culture and society. As a concept, agroecology is often interpreted as a blending of agriculture and ecology. Indeed, much of the sustainability and organic farming discourse has focused on environmental conservation in agriculture, with social justice as an afterthought. However, a core ethos of agroecology is centered around humans as an inseparable part of nature. Therefore, without human rights and social justice, there is no ecological resilience. In an urban context, agroecology is a nexus for people from diverse backgrounds including a confluence of communities who have been structurally oppressed.

The Bay Area Farmer Training sought to strengthen a community of agroecological practitioners who collectively have the tools to dismantle the extractive industrial agricultural model. It offered a unique pedagogy, weaving together popular education, critical, constructivist and humanizing pedagogies within decolonial and feminist frameworks. Such an approach to agroecology education, set it apart from many beginning farmer training programs in the United States. At its core, BAFT not only focused on agroecology as the foundation for regenerative farming practices, but actively reimagined what it looks like to live in urban communities. The program created a vibrant group of 122 participants who continue to actively care for and protect the territory in which they live. Many have gone on to create cooperatives, businesses, and projects that fight for food sovereignty and agroecology.

By centering the critical, humanizing and constructivist pedagogies in urban agroecology education, we have the opportunity to build bridges and promote social healing to massify agroecology as a movement. In order to do this, an intersectional educational approach that actively builds solidarity is critical. This requires a process in which individuals see themselves as protagonists confronting environmental and social problems while also acting in service of

something bigger than themselves. Urban agroecology education can empower, unite, and mobilize individuals to build resilient community food systems that treat the Earth and one another not as ecological or human resources to be exploited, but as an interconnected living ecosystem for which we are all responsible.

Case Study 2: SERTA- Alternative Technology Service, Pernambuco Brazil

Entering SERTA's Gloria de Goita's campus felt like finding a small oasis amongst dry and barren land, whose soils were the product of years of industrial sugar cane farming-traces of Brazil's colonial legacy. A lush multilayered agroforestry system sat in the distance, bursting with food and medicine. When approaching the school, beautiful hand painted signs with agroecological principles lined the stone pathways. Students and educators gathered under a cob structure that served as a meeting place during the heat of the day. Educators discussed the planned schedule for the immersive week and sought input from the students on how to collaboratively structure their time. Participants in the program offered to teach workshops, sharing an array of skills with the larger community. People from all walks of life sat in the circle resting on the cool earthen bench; mothers with children in their laps, elders, young adults, rural farmers, urban residents, and many more.

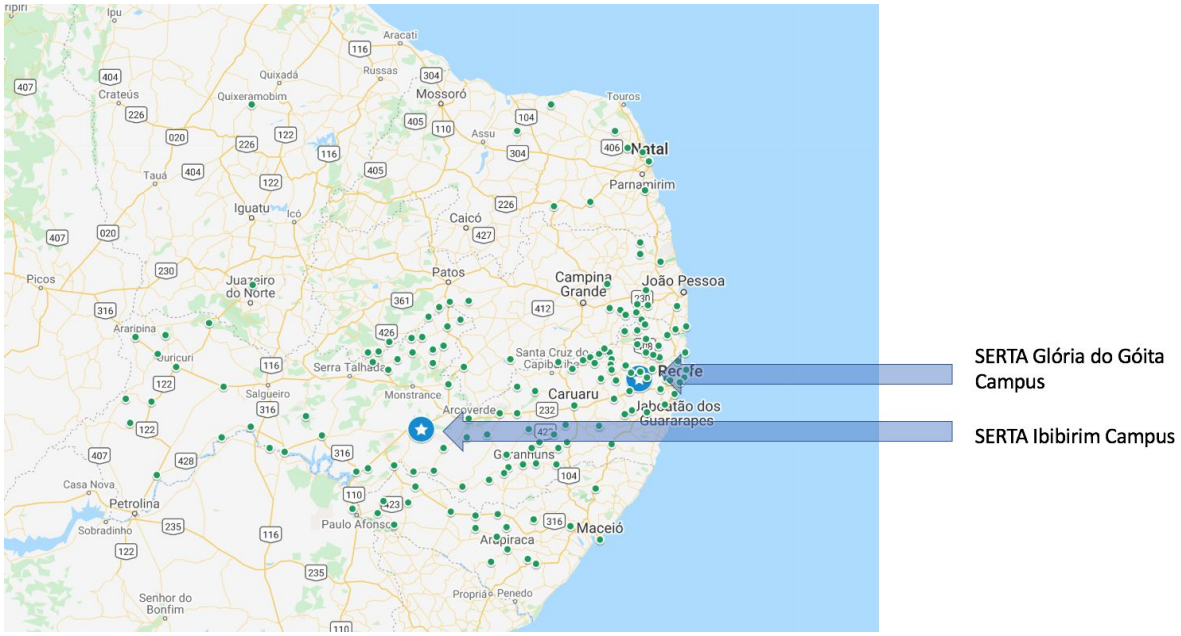


Figure 1: The following map of the Northeast of Brazil shows the locations of SERTA's two campuses as well as the large array of communities students travel from to participate in the program. Map Source: http://www.serta.org.br/sobre/

SERTA was created on August 3rd, 1989, and as one of the founding members Abdalaziz de Moura describes it was born out of "a movement to value agriculture, the environment, alternative technologies, and to facilitate the participation of farmers in the discussions being made in rural communities". Moura and other founding educators created a unique pedagogy called PEADS (Educational Proposal to Support Sustainable Development), that was highly influenced by things such as popular education and "educação do campo" (education of the countryside). Moura reflects on the importance of creating education models that center the experiences of rural peoples in his book entitled *A Philosophy of Education of the Countryside, That Makes a Difference for the Countryside*. "Educating the countryside suggests a process of overcoming or liberating the paradigms transmitted by the dominant culture; in other words, it imagines a deconstruction of knowledges, of values, of preconceptions and a reconstruction of other principles, of other ways of knowing the world, history, people, nature, education, school, countries, politics, the state, the countryside, and generations" (Moura de 2015). This desire to

value these alternative ways of knowing are deeply linked to SERTA's work in making sure that rural farmers don't abandon the countryside, deterred from their work as land stewards due to negative conceptions often promoted by western philosophies and urban education. Moura refers to this phenomenon as the "occult circle", in which education institutions instill the values of the dominant class, often undermining and devaluing the realities of rural communities. SERTA seeks to change the content offered in educational settings to reflect the daily lives of children and families in the countryside, recognizing that they themselves have the tools to face the challenges that plague their communities. "The future needs a new paradigm of human, personal and social fulfillment for young people. If the school does not contemplate this, it continues to prepare young people for other worlds that do not even exist anymore" (A. Moura 2003).

Figure 2: SERTA's Agroforestry System at Glória do Goitá Campus, Photograph by Brooke Porter

At SERTA "agroecology is defended as a multidisciplinary science that involves and integrates: philosophy, science, practice, mobilization and movement," states one of the founding members Roberto Mendes. The political components interwoven into SERTA's pedagogical project were deeply linked to the historical context in which SERTA emerged. The repression of Brazil's dictatorship and the political organizing that founding members of SERTA fought for during that

period greatly influenced SERTA's methodologies. This strategic organizing often took place alongside the church, Sebastião Alves reflects on his early organizing efforts with farmers: "We took advantage of the work of the church to organize the farmers in the communities so that we could make a political front against the dictatorship". This early organizing work by some of SERTA's founders such as Moura and Alves was critical in shaping the political pedagogical aspects of the course and in conjunction with community organizing efforts. As an educational initiative SERTA was founded on the following four principles (D. A. Moura 1997):

1) The need for humanity to build a more harmonious relationship with nature
2) The belief that development is possible, viable, sustainable, and just
3) The belief that development is achieved through democratic participation
4) The belief that knowledge has an important role in understanding the world and the transformation of society

PEADS

The design of PEADS was discussion based, involving a team of educators in which conversations spanned from philosophy, politics, and pedagogy (A. Moura 2003). From the beginning it was acknowledged that schools were established not only to transmit ideas but also to instill values. "The way in which a society selects, classifies, distributes, transmits and evaluates the knowledge intended for teaching reflects the distribution of power within it and the way in which social control of individual behaviors are ensured" (Forquin 1993; Abdalaziz 2003). SERTA was established with the goal of honoring the long standing sustainable traditions of rural communities, their rich cultural identity, and the belief that these communities themselves can create their own models for "development". Honoring and preserving these ways of local knowledge is a key component of SERTA methodology, "What is often not recognized in academic settings is the recognition of popular knowledge, as something important that maintains culture, preserves the environment, and creates economic sustainability," states educator Sebastião Alves.

From the very beginning those at SERTA recognized the importance of political-pedagogical projects, that see popular education as a life project and a societal project, one that holds the community's vision at the center. SERTA seeks to encourage grassroots development in the countryside, making those from the territories the protagonist in forming the sociological, political, environmental, economic and cultural development of their communities. SERTA encourages these interventions for development to come from the students on four different levels.

1. Dimension: family and property
2. Dimension: local community, associations, and other groups
3. Dimension: the municipality
4. Dimension: the state

These four dimensions inform the ways in which students are evaluated within the course. All forms of engagement at both the state, family, and local levels are seen as valuable in terms of ways to amplify agroecology and evaluate students' growth. " On the one hand, SERTA adopts and assumes philosophical principles, on the other, SERTA is committed to people's reality, to students' everyday lives and needs. In the course, the students' lives, their farming, their work, their family, as well as their potentials and weaknesses are part of the curriculum. They are studied as contents of the course subjects. Students are evaluated not only by what they learn but also, for what they start to do, to conquer, to accomplish in their personal, community, professional and political lives" (A. de Moura 2016).

The fight to protect traditional agroecological practices is a form of cultural resistance, it is a way of preserving the agricultural heritage of people around the globe. Educational projects become spaces to help students achieve the future they want to see for their communities, and they also provide them with the skills, tools, values, and appropriate technologies to manifest these changes. This political-pedagogical project also assists in building self esteem and

confidence so that students feel empowered to create changes in their own territories (A. de Moura 2015). "Linking the struggle for education to social movement has as its basic assumption that there is no way to truly educate the subjects of the countryside without transforming the current conditions of their dehumanization, as well as the understanding that it is in the very struggle for these transformations that the process of humanization is resumed" (Caldart, Arroyo, and Molina 2004). The pedagogy of PEADS has been recognized and celebrated by Brazil's ministry of education, mayors, state secretaries, and international foundations and partners.

PEADS is deeply informed by Brazil's long lineage of popular education and the work of Paulo Freire. Below is a list of overlapping characteristics that popular education and PEADS share compiled by educator Abdalaziz de Moura in his book entitled; *A Philosophy of Education of the Countryside That Makes a Difference in the Countryside* (A. de Moura 2015)

Some Basic Characteristics of Popular Education That Have Been Incorporated into PEADS:

- The political dimension of education. The presence of a societal project as a mark of its identity, what sets it apart from other forms of education
- The presence of ethical values: solidarity, justice, equity explicit within the curriculum
- Research as a tool to solve problems, mobilizes populations around problems (questionnaire, interview, focus group, action research, participant observation, case study) and as a knowledge builder
- The organization of the research data and its return to the population involved
- The planning and evaluation of actions: before, during and after they take place
- The ability to read reality, read, understand and transform the world
- The dimension of respect for different cultures, social and economic backgrounds, plurality and singularity

- The role of the farmer as protagonist, the worker who takes advantage of the study and knowledge who is an instrumental character in the construction of knowledge
- Valuing people and their priority in the training process
- The role of subjectivity, self-esteem, and self-confidence
- The diversification of the forms of evaluation in which the process is important not only the product and the self evaluation of educators and students as part of the community and for the community
- Awareness of human rights
- The local contextualization of history and knowledge, linked and articulated to people's lives in response to their needs. Interaction with the local, human, social, economic, cultural environment
- The presence of art, culture, and popular traditions
- New relations of gender, age, environment, race, and ethnicity

SERTA offers a unique educational proposal that sees students as active leaders in the construction of knowledge encouraging autonomy and independent learning. One participant in SERTA's agroecology training program reflects "I was frightened at first, I had spent my whole life in spaces that told me what to do, that waited till I met the set standards or did better than the standards, in SERTA it is not like this. There you are expected to be your own teacher, you are going to decide what you learn. What SERTA offers is possibilities…. In the beginning it was difficult for me to adapt, in the sense of needing to learn how to be autonomous".

Course Structure

The course professionalizes students to become entrepreneurs in the fields of agriculture, farming, environmentalism, production of value-added products, logistics, commercialization, business management, and the production of low cost technologies. It also provides them with knowledge of legislation and public policies for family farming, technical assistance, rural extension and experience with social movements and human rights in the countryside (Moura

2003). Typically SERTA's agroecology program has three different cohorts, two that attend the Gloria de Goita location and one in the town of Ibibirim located in Brazil's Sertão. Students attend one immersive week per month and then engage in a process of reflection and community driven life projects for the rest of the month. This often looks like participating in an internship and supporting other students in their same bioregion in order to apply some of the skills they have learned on their own land or farm. Often students are encouraged to invite the larger community to participate in these projects, allowing the students to learn through teaching and helping to reinforce the idea of farmer to farmer methodologies.

The duration of the course is 18 months with a total of 1,400 hours, including 795 hours during the immersion weeks, 405 hours of community work, and 200 hours of a supervised internship (SERTA 2015). The course has no costs for participants and is funded through an array of sources, both state and private. Those having finished the program are given the title of "Agroecological Technician", in which they are encouraged to help other farmers transition their farming practices to embody agroecological principles as a way to promote economic development in rural communities that is rooted in ecologically just practices.

During the weeks of immersion students and educators are actively living in the school and creating both the learning and social ecology of the space. Students and educators are responsible for the care of the school and are tasked with things such as washing dishes. As educator Paulo Santana points out, "very often educators only interact with students during class and when class is over this connection is broken." At SERTA conversations and learning often continue over dinner, around the breakfast table, and throughout the day as students and educators alike tend to the land, "We all share a commitment to building knowledge collectively," concludes Santana.

The course is divided into four main modules shown below in a matrix demonstrating the topics included in each module as well as the ways in which these break down in time spent in the classroom and time (in hours) spent directly with the community.

Table 6: Curricular Matrix of SERTA (SERTA 2015)

Module 1: Foundation and Introduction	Time in the Classroom	Time in the Community
1. Communication and Expression	40	20
2. Introduction and History of Family Farming	40	20
3. Introduction to Education of the Countryside	50	20
4. Introduction to Permaculture	40	20
Total Hours:	170	80

Module 2: Technological Development	Time in the Classroom	Time in the Community
5. Solidarity Economy	55	25
6. Agroecology and Permaculture I	60	25
7. Soil Conservation and Management Techniques	55	25
8. Animal Husbandry: Livestock Care	55	25
Total Hours:	225	100

Module 3: Local Development and Citizenship	Time in the Classroom	Time in the Community
9. History of Social Movements of the Countryside	50	25
10. Nutrition and Organic Fertilization	50	25
11. Politics, Human Rights, Ethics and Development	50	25
12. Environmental Legislation	50	25
Total Hours:	200	100

Module 4: Entrepreneurship and Business	Time in the Classroom	Time in the Community
13. Public Policy for Family Farming	40	25
14. Self-management for Family Farming	40	25
15. Business and Logistics	40	25
16. Technical Assistance for Development	40	25
17. Agroecology and Permaculture II	40	25
Total Hours:	200	125

Pedagogy of Alternance

The pedagogy of *alternance* originated from the French countryside in 1935, with the creation of the first rural family houses (Silva and Gonçalves 2018). It focuses on bringing together different formative experiences, giving value to the knowledge, culture, and socio-profesional reality of peasants (Silva and Gonçalves 2018; Gimonet 2007). The pedagogy of alternance is a theoretical methodology that unites school, family, and community in the process of human formation (Silva and Gonçalves 2018). It honors the wealth of knowledge that exists amongst those who are active stewards of the land. It honors how those in this role as stewards form their own unique reality in which they are not passive actors but rather have the capacity to collectively inform social transformation in their own territory.

At SERTA this pedagogy is implemented through alternating formal educational programing and community based learning. While the course in agroecology is 18 months long students only attend a week of formal classes per month. The rest of the month students are actively practicing the skills they have acquired within their own communities. The time in which students spend cohabitating at SERTA reflects how much of their learning comes from building community

together. Through this process they are creating a microcosm that embodies the philosophy promoted by agroecology and actively demonstrates a future rooted in cooperation.

Context of COVID Structural Changes

Educator's at SERTA had to rapidly adapt to the global circumstances and reimagine the course structure from a philosophical, technological, and pedagogical perspective. This was extremely challenging for a program that is centered around the experience of communal living. They divided the 324 students from more than 120 municipalities into groups that reflected the bio region or territory they lived in. Meetings and workshops were held virtually and students began to reimagine their life projects in the unique context of COVID-19. Courses were organized over a variety of platforms including Zoom, Instagram, and Facebook with a wide array of topics and guest speakers. Some of the courses and workshops were still taught and directed by the students themselves. Having to adapt the research to current reality, the researcher watched and participated in various of these virtual courses to get a better understanding of how the course was being adapted during the global crisis.

Balancing Urban and Rural Realities

Over the last years SERTA has seen an influx of urban students as more and more people from these communities long to gain agroecological skills, often after being displaced from the countryside. These students often lack the technical farming skills that many rural students have but sometimes grasp the more political aspects of agroecology, such as issues around gender, having been exposed to more of these conversations within urban environments. SERTA serves as a confluence for these two communities to come together, helping to bridge rural and urban identities by building friendships and deep connections with groups that are often isolated from one another. Educator Paulo Santana reflects, "we need to amplify to include the urban spaces,

this discussion needs to transcend the rural communities and recognize that there is no longer a barrier between rural and urban but rather that they are territories, and that the construction of agroecological knowledge is needed in both territories." A student amplifies this concept by stating, "The diversities within SERTA are very important, they are enriching, because people listen to each other's realities, people learn, it is a process of construction. Sometimes it is a moment of a lot of pain for those people who are suffering the invasion of their territories, but just through sharing this difficult moment, many respond 'look know if that happens again we are going to unite and help', within SERTA we truly build a network of support".

While some urban participants in SERTA following the course choose to relocate to the countryside there is also a large percentage that continue to reside in urban centers and actively seek to apply the principles of SERTA to their unique environment, adjusting to an appropriate scale and addressing realities unique to urban spaces. Various urban farming initiatives and agroecology collectives have formed in cities such as Recife following students' participation in the program. There is a rapidly growing network of urban agroecology practitioners who are working on an array of projects such as community gardens, an agroecology radio program, cooperative food distribution, urban composting networks, and more. As educator Paulo Santana reflects, "we know that agroecology has to be discussed in the city, there is a very strong currant that encourages us to follow these discussions, demonstrating that agroecology takes place at a territorial level, it doesn't matter if these territories are inidigenous, of agrarian reform, urban residents, women, unions, workers, rural communities, what matters is that this conversation is inoculated into these spaces of modern society".

Appropriate Technologies

At SERTA's campuses one can find a wide array of appropriate low cost technologies. These innovative technologies support farmers with anything from rainwater catchment to biofuel production, water desalination, solar power, hydroelectricity and more. As educator Sebastião Alves points out, these technologies are appropriate for various reasons, they are economically

and culturally appropriate as well as adapted to the climate where they are being utilized, and are sometimes referred to as ecological or cultural technologies.

Students actively learn how to design and build these tools, which can often be made with common materials found on one's farm. Having access to these technologies often facilitates ease for farmers and as K. Wayne Yang points out, technological apparatuses can be subverted toward decolonization (K. Wayne 2017). The ways in which the farmers are designing and constructing these apparatuses rooted in their cultural practices and local materials, allows them to have agency over the "development" in their territories.

The researcher was able to experience building some of these technologies first hand, including a hydroponic system that incorporated fish, vermicomposting, chickens, and small scale vegetable production. These often fairly simple technologies encourage closed looped systems on farms, supporting farmers in harnessing their own energy and recycling byproducts, a key principle in agroecology.

Aquaponic system

Wind powered generator

Bicycled powered blender and washing machine connected to plastic bottle rainwater catchment system

Biodigester used for biogas production

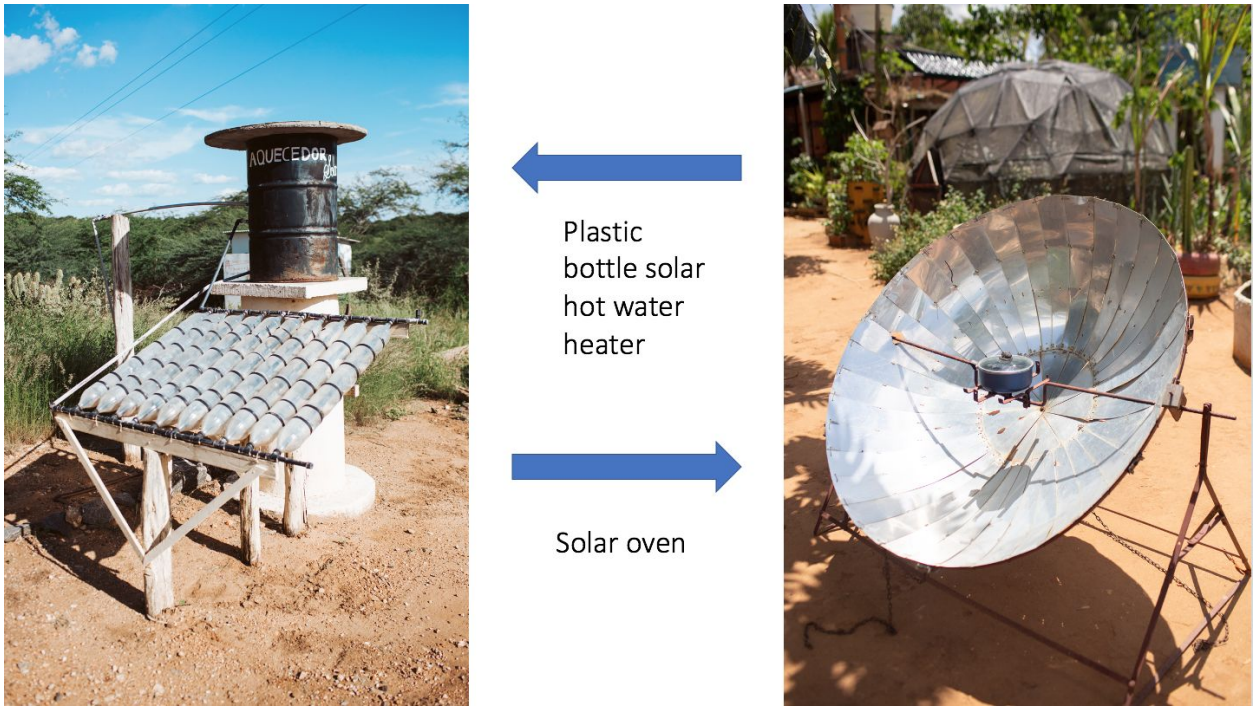


Figure 2: Examples of Appropriate Technologies at SERTA Designed by Sebastião Alves, , Photographs by Brooke Porter

Example List of Appropriate Technologies Taught at SERTA:

1- Aquaponic Systems

2- Biodigestors

3- Solar fruit dryer

4- Solar water heater

5- Vertical gardens

6- PVC geodesic domes

7- Automatic door closer for livestock gates

8- Rainwater catchment systems

9- Water oxygenation for aquaponics system

20- Diverse range of tools to work with cactus or plants with spines

21- Chicken tractor

22- Recycled plastic bottle irrigation system

23- Solar water desalination system

24- Solar clock

Multirão

"Mulitrão" comes from the Indigenous Tupi word "motyro" which means "common work", and refers to the collective mobilization of people to freely offer labor for mutual support (Navarro 2005). It is often associated with work in the countryside or in the collective construction of cultural spaces. Multirãos include communal gatherings centered around tending to and caring for spaces, often fostering community by offering a helping hand to a neighbor. SERTA's curriculum encouraged students to partake and organize multirãos in their own communities. While SERTA has directly served hundreds of students over the years the scope and impact of their work has been amplified by things such as multirãos, that multiply throughout the larger territory. Mulitrãos are important components of embodying the pedagogy of alternance, uniting the connection between education and the larger community.

Mysticism and Spiritual Components

Indigenous Mohawk seed keeper Rowen White states that, "the dismantling of the food system was a very specific and manufactured way to try to disempower the people, because it is our understanding of who we are and where we draw our strength and spiritual power, it comes from the land underneath our feet, it comes from the foods that grow within that land and those foods and medicines go into our bodies and animate us in a way that allows us to be our true selves" (White 2020). The components of spirituality that were observed at SERTA were centered around reestablishing the connection that White emphasizes above. Those at SERTA honored and recognized the long lineage of Earth-based spiritual practices stemming from many of Brazil's indgenous and *quilombo* communities, which were often threatened by Brazil's colonial legacies. In a workshop entitled *Spirituality, Energy and the New Being* Falcão, a community elder and educator at SERTA, who often supported the more mystic components of SERTA's

curriculum, spoke to the ways in which spiritual well being is often a reflection of ecological well being. Both BAFT and SERTA sought to weave spiritual components into their curricula, recognizing that this is often overlooked in agroecological education initiatives and is key in preserving cultural traditions.

Gender and Agroecology

At SERTA discussing issues around gender and feminism plays a central role in the curriculum. As educator Sebastião Alves states, “if agroecology as a social movement, agroecology as philosophy of life, and agroecology as practice does not consider feminism as a fundamental element, as a principle, as logic, we are not practicing agroecology”. At SERTA participants in the program self organized two circles that met in the evenings, called the sacred masculine and feminine. Men’s and women's participation was voluntary but the circles were created with the intention of forming safe spaces to address issues around gender. One male participant reflects that, “breaking taboos around gender is political work therefore it is inherently a part of agroecology”. For some men participating in domestic chores that all students partake in at SERTA, resulted in them washing dishes or clothes for the very first time. Everyone was expected to support the basic maintenance of the school and roles were not divided by gender. Simple acts such as that even resulted in deep conversations and encouraged cultural changes.

Discussion of Two Cases

Both of these programs offer examples of exceptional agroecology education that utilizes knowledge as a tool of resistance to continue the ongoing building of a movement for agroecology and food sovereignty. Distilled from this research and literature is a clear need to create a balance between both the technical and political components of agroecology. Merely focusing on only one, either results in students not having the technical skills needed to create systemic change, or on the contrary, results in a lack of understanding for historic legacies that have shaped food and farming systems. Both of these programs are rooted in liberatory

educational methods, focusing on freeing the food system from colonial legacies, dismantling the harm caused by the Green Revolution, and by oppressive labor policies. As SERTA educator Sebastião Alves reminds us, “When we see that people begin to fight for emancipation from a political perspective, economic perspective, down to the way they are farming, we are extremely happy, because this is the essence of agroecology”.

With the knowledge acquired in these programs graduates have gone on to promote agroecology in a wide range of forms, amplifying and creating a more resilient movement. The ways in which graduates are promoting agroecology in their territories speaks to the richness in diversity of tactics. From forming cooperatives to promoting agroecology on the public radio, graduates are demonstrating the many ways agroecology can create systemic change. Both programs incorporate modules on business management and cooperative economics in order to ensure long term economic viability of small scale farmers.

Table 7: Examples of projects, businesses, and community organizing efforts that came out of students participation in SERTA and BAFT:

Project Name	Location	Description
Eco no Ar	Alagoas, Brazil	A public radio program presented by two agroecology technicians who graduated from SERTA (Erica Priscila and Rosana Santos, offering contextualized agroecological education for local farmers.
Frêquencia Natural	Recife, Pernambuco Brazil	A public radio program focused on agroecology organized by graduates of SERTA in the capital of Pernambuco. The program covers a wide range of topics ranging from, natural medicine, feminisms, social movements, and more.
Sol Root Farmers Collective	Sunol, California USA	A farming collective comprised of four women and gender non-conforming beginning farmers stewarding .5 acres in Sunol, CA. Growing and distributing medicinal herbs, vegetables, flowers, and seeds for East Bay urban residents
FloreSer Agroecologia	Recife, Pernambuco Brazil	FloreSer works alongside urban communities in Pernambuco to design and implement agroecology systems. Incorporating food sovereignty, the promotion of traditional

		practices, female empowerment, and popular education, FloreSer helps women across the city establish their own small businesses rooted in sustainable practices and agroecology.
Kapiwara Collective	Recife, Pernambuco Brazil	An urban collective working with popular education to teach natural building, alternative technologies, and agroecology
Network for the Agroecological Transition	Recife, Pernambuco Brazil	A collective centered around education, communication, and community organizing, working to shift the culture of the city towards a resilient and sustainable agroecological transition
Botánica Consejos Descolonizados	Oakland, California USA	Based in the Bay Area & on line our goal is not only to document and continue our own traditions and those of the indigenous cultures from which we come, it is also to decolonize the advice we give our spirits and bodies. We offer healing services, herb medicine, and home-made items used for rituals and cleanses. We strive to be mindful to what is accessible to different communities and stay committed to collaborating with local small farmers, growers, and vendors. We are donation based.
Project Veredas da Caatinga	Alagoas, Brazil	Organized to help address the issues around the rural exodus in Brazil, Project Veredas da Caatinga was created in 2015 supporting youth from the Sertao to offer agroecological tourism focusing on the rich ecological history of the region

BAFT and SERTA's unique pedagogies utilize popular education, critical theory, decolonial frameworks, feminisms and agroecology in order to create a global community of agroecology practitioners that have the tools to mobilize around the threats of climate change and dismantle the extractive industrial agricultural model. They incorporate ancestral wisdom in order to link agroecology to a philosophy rooted in humanization, justice, and regeneration. They are both constantly evolving, adapting to the changing environmental, social, and political climates of their respective regions. Both programs seek to center the knowledge of farmers and community members, facilitating a space for critical autonomous learning. As the great educator and philosopher Paulo Freire once stated, "Education does not transform the world. Education changes people and people transform the world". May the curricula highlighted in this study

serve as a model for transformative education, as people across the globe continue to build a future rooted in agroecolgoical principles and food sovereign communities.

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Appendices

Appendix 1

Interview Guide

Interview Guide BAFT Graduates

About the person you're speaking with

- Who are you? Tell me about yourself and your identities
- What brought you to BAFT. What influenced your desire to participate in BAFT?
- Which cohort were you a part of?

About the BAFT Program

- What was your BAFT experience like?
- What part of the program was of greatest value to you?
- What part of the program was the most challenging for you?

About Pedagogy

- What were your perceptions in regards to how the course was designed?
- What was your experience with the different roles of facilitation?
- What were some of the core values you took from the program?
- What was your perception of the relationship between the technical and social components of the program?

After the course/graduate mobilization

- Did you decide to participate in the incubator; why or why not?
- How are you applying the skills you have acquired from the training?
- How do you believe your work as a graduate is creating systemic change within the food/agricultural systems or directly within your own community?
- How can the LEARN platform best serve you? What components would you like to see?
- What additions or changes would you like to see be made to the program?

Interview Guide BAFT Educators

Design of Course

- Where did the idea of creating BAFT originate from?
- What do you think makes BAFT unique from other farmer training programs?
- What do you see to be the key components to building community within the classroom?
- What do you perceive to be the importance of political education in farmer training programs ?
- Role of spirituality misticas etc?

Facilitation

- How was collective decision making implemented in the classroom or between facilitators?
- BAFT has a very social justice anti oppression focus; what does that look like in practice?

Incubator Program

- Explain to me how the idea of creating an incubator program arose?
- What do you perceive to be the greatest values in the incubator component of BAFT?

Space for Growth:

- What improvements would you like to see be made to the course?
- How do you think we can continue to improve the program both for educators and participants?
- What challenges did you face as an educator?

Entrevista de Educadores SERTA

Historico

- Diga-me um pouco sobre você? Como a agroecologia entrou em sua vida e como você se encontrou trabalhando com a SERTA?

Curso

- Quais são as origens do SERTA e os fatores sócio-políticos e ecológicos que resultaram em sua criação?
- O que você acha que torna o SERTA exclusivo para outros programas de treinamento de agricultores?
- Quais são os principais componentes para a construção da comunidade na sala de aula?
- O que você considera a importância da educação política nos programas de treinamento dos agricultores?
- Papel da espiritualidade misticas etc? Filosofia?
- Como esses programas estão criando consciência crítica no sistema alimentar atual?
- Houve diferentes pedagogias que influenciaram o desenho do PEADS do trabalho de Paulo Ferie na educação popular, pedagogias feministas, pedagogias construtivistas etc. Como essas pedagogias influenciaram o currículo do PEADS?

Facilitação

- Você pode me dizer mais sobre como a facilitação e a tomada de decisões acontecem na SERTA?
- Como a tomada de decisão coletiva foi implementada na sala de aula ou entre facilitadores?

Pedagogia da alternancia

- Você pode expandir essa idéia de pedagogia da alternacia e alguns dos impactos tangíveis que você viu na comunidade.
- Como você equilibra o atendimento às comunidades rurais e a crescente demanda para apoiar as populações urbanas que procuram se reconectar com a terra e as práticas agrícolas tradicionais?
- Como a pedagogia da alternância se manifesta nos espaços urbanos e como isso difere das comunidades rurais?
- Como você viu o apoio da SERTA na promoção da soberania alimentar na região?

Espaço para Crescimento

- Que melhorias você gostaria de ver no curso?
- Como você acha que podemos continuar melhorando o programa para educadores e participantes?
- Que desafios você enfrentou como educador?

- Na sua opinião, quais são as principais ferramentas necessárias para treinar a próxima geração, a fim de abordar o clima político atual em torno do sistema alimentar e mitigar as mudanças climáticas.

Entrevista de Estudiantes

Fundo

- Quem é Você. Conte-me sobre você e suas identidades O que o trouxe a SERTA?
- O que influenciou seu desejo de participar do SERTA?
- Você é de origem urbana ou rural?

Sobre o programa SERTA

- Como foi sua experiência aqui na SERTA?
- O que você acha que torna o SERTA exclusivo para outros programas de treinamento de agricultores?
- Que parte do programa teve o maior valor para você?
- Qual parte do programa foi mais desafiadora para você?
- Quais são os principais componentes para a construção da comunidade na sala de aula?
- Como você acha que o programa está se adaptando à pandemia?
- Como o COVID influenciou ou mudou seu projeto de vida?

Sobre a Pedagogia

- Quais foram suas percepções sobre como o curso foi elaborado e a pedagogia do SERTA?
- O que você considera a importância da educação política nos programas de treinamento dos agricultores?
- Papel da espiritualidade misticas etc? Filosofia?
- Tematicas dentro da escola genero, descolonizacao, politica
- Qual foi sua experiência com os diferentes papéis de facilitação?
- Como a tomada de decisão coletiva foi implementada na sala de aula ou entre facilitadores?
- Quais foram alguns dos principais valores que você tirou do programa?
- Qual foi sua percepção da relação entre os componentes técnicos e sociais do programa?
- Como você viu o apoio da SERTA na promoção da soberania alimentar na região?
- Como você está implementando a pedagogia da alternância em sua comunidade?

- Como você está aplicando as habilidades que adquiriu com o treinamento?
- Como você acredita que seu trabalho como graduado está criando mudanças sistêmicas nos sistemas de alimentos / agricultura ou diretamente na sua própria comunidade?
- Quais adições ou alterações você gostaria de ver no programa?