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From Glass Ceiling to Green Canopy: An Intersectional Model of Feminist Sustainability in Fondes Amandes, Trinidad

By Rachel Mulroy¹

Abstract

The Fondes Amandes Community Reforestation Project is a sustainable model of agro-forestry that emerged contemporaneously with the more globally familiar Permaculture Design. Although the FACRP model has been recognized for their contributions to the Caribbean region and worldwide sustainability and environmental movements, they are not well known in the global North and West. Akilah and Kemba Jaramogi stress the importance of grassroots involvement as critical to adaptation and mitigation in combating climate impacts. However, there is a lack of acknowledgement and reciprocity within the movement that is linked to broader discourses on race, gender, and geography. The influence of these discourses impacts how permaculture practitioners in the global North and West perceive and acknowledge models rooted in feminism and/or traditional and/or Indigenous knowledge, as well as those models that emerged in the global South. An analysis of sentiment among permaculture practitioners of the global North suggests attitudes there are shifting toward an awareness of the need for more inclusive, equitable movements. As a feminist model of agro-forestry heavily influenced by Akilah's Merikin heritage as well as Rastafarian values, FACRP was built upon the framework other models are now seeking to establish. The Sustainable Development Goals recently released by the United Nations contain targets that FACRP has already been working toward, whether or not they previously formally identified them as such. FACRP further employs an integration of such traditional knowledge with current technological and scientific information, drawing in researchers and students from the Caribbean and the United States. Strategies such as their agro-forestry model, for instance, are employed through a gendered lens - with planting not only focused on reforestation for climate adaptation and mitigation, and habitat restoration, but on the usefulness of cooking herbs and medicinal plants as well. However, challenges remain - such as equitable treatment for FACRP's staff conducting fire prevention and management work. Although responses to ecological and climatic challenges are rooted locally in culturally specific contexts, the proper acknowledgement of whose knowledge and cultural traditions permaculture and other sustainable practices are founded upon is a necessary step toward building an equitable framework for global sustainable movements.

Keywords: Ecofeminism, Permaculture, Intersectionality, Sustainability, Environmentalism, Reforestation, Climate change, Global racism, Sustainable development goals

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Introduction

Permaculture is defined by the Permaculture Institute as “a design discipline based on a set of ethics and the foundational principles of the natural world” (www.permaculture.org/about). Women tend to dominate the space within these sustainable movements doing most of the hands-on work. Recruiting men is more difficult, yet once engaged they tend to occupy positions of leadership. Mollison and Holmgren are largely credited with the invention of permaculture as a movement. A systems response to economic and legal systems that exacerbate poverty and hunger, their model requires a systematic, design-oriented approach to resource development and procurement strategies. It is considered by many in the global West and North to be the cornerstone of contemporary sustainable development practices. Because of the way assumptions about sources of knowledge and practice of permaculture and sustainability have disseminated have impacted women of color from the global south, it is crucial to understand the implications of race and gender within the sustainability movement.

There is global evidence that permaculture is rooted in regionally defined values and knowledge that are Indigenous, traditional, and feminist. The Fondes Amandes Community Reforestation Project (FACRP)², an agroforestry-based community on the island of Trinidad, is a living example of this - a community led by women whose own model of sustainability grew through traditional Merikin knowledge and Rastafarian values in response to local environmental degradation and broader climate impacts.

Located in the Northern Range overlooking the capital city of Port-of-Spain, along the Fondes Amandes River, FACRP is the first defense against forest fires in the region. FACRP provides direct benefits to members of the surrounding community and benefits Trinidad at large by way of educational opportunities and reduction of broader climate impacts. Their model challenges extant discourses of power through praxis as FACRP’s work remains rooted in traditional values and knowledge while applying scientific research blending different methods of sustainable practice for optimal results in the local ecosystem. FACRP’s work addresses immediate and long-term needs of the region, both environmental and socio-cultural.

Over the span of six days in July 2018, I observed the work of Akilah, Kemba, students from the BSU field school, community members, and organizational partners in Fondes Amandes. Informal interviews were conducted with Kemba and Akilah during fieldwork. I followed up with both of them through email and by phone for clarification and more details on certain topics. Literature research was conducted via the internet.

I have found that FACRP is both an innovative hub for climate impact response and rooted in traditional, sustainable lifeways. Traditional knowledge, feminism, and emergent technologies complement each other within the structure of FACRP’s model to fulfill its mission. This fusion strengthens sense of place, responsibility, pride, and identity within the FACRP community. Outside of this space much work remains to be done to align the residents of Fondes Amandes and the nation of Trinidad and Tobago with the FACRP mission. FACRP continues to network and partner both domestic and international for the purpose of broadening their reach. As global citizens, we are all responsible for acknowledging and honoring the foundations and contributions of marginalized peoples’ lifeways to sustainability movements worldwide.

² All names of interviewees at the FACRP are real names, used with permission except when noted as a pseudonym.

Research Methodology

During my time in Trinidad, I engaged in both indirect and participant observation to collect data. I conducted brief informal, open-ended interviews with Akilah and Kembra Jaramogi throughout the week. I applied a Geertzian model of thick description³ to my field journal which I updated regularly and took photos and video recordings. I conducted most of my literature research after my return. I had not initially decided to travel to FACRP for the express purpose of writing an article but decided a few weeks prior to take the project on. This limited the amount of background information I was able to gather beforehand. I accessed published journal articles, magazine articles, editorials, lecture recordings and TED Talks, blog posts, and websites to gather different information. I utilized Youtube, Google Scholar, the United Nations website, and conducted regular Google searches for information, in addition to print sources. I investigated other women-led agroforestry and permaculture projects in the Global South, critiques of permaculture by Western women practitioners, and Bill Mollison's development and diffusion of Permaculture Design. Other materials on environmental and economic development, cultural appropriation, and hegemony were also accessed for this article and are referenced throughout.

In this essay I apply Kimberle Crenshaw's Intersectionality theory to explore FACRP's model of sustainable agroforestry. Crenshaw argues that because all individuals are also members of groups and can identify with (and be identified as belonging to) any number of groups, individuals' identities are therefore intersectional—crossing multiple groups in any variation of magnitude. The consequences of Western European Imperialism have generally imposed a discursive world history. This discourse reinforces white patriarchal dominance over the telling and interpretation of permaculture and sustainable movements⁴ today, subsuming feminine and Indigenous or traditional knowledge. Critical examination of intersectional frames within models and movements are absolutely necessary to be truly sustainable. (Crenshaw, 139 -140)

Chamamanda Ngozi Adichie's "Danger of a Single Story" demonstrates the difficulty of seeing past a single perceived identity. "When you show a People as one thing—as only one thing—over and over again... that is what they become" (Youtube, 2009). In terms of race, gender, and geography, I attempt to show how discourse complicates a global understanding of regionalized sustainability movements.

Many in the global North and West refer to Mollison as the "father" of Permaculture and credit him with the invention of both the practical landscape design and theoretical concepts of highly localized sustainable lifeways that form the foundations of Permaculture Design. However, Mollison, although merely alluding to it, admits his methodology was informed by indigenous knowledge early on. Without proper acknowledgement given to the peoples whose knowledge has been used and built upon within permaculture, the discourse of Northern innovation continues to subsume feminine, Indigenous and traditional origins of sustainability. In her talk on Indigenous rights and intellectual property law, Terri Janke explains that members of Indigenous and Traditional cultures are often victims of intellectual property theft at the hands of more privileged groups, whether intentional or otherwise. This applies to cultural material as well as knowledge passed down through generations. "Indigenous knowledge is applied in biomimicry, agriculture,

³ Geertz explains, "As interworked systems of construable signs...culture is not a power, something to which social events, behaviors, institutions, or processes can be causally attributed; it is a context, something within which they can be intelligibly—that is, thickly-described" (Geertz, 14).

⁴ Mohanty cautions against applying blanket assumptions about the impact of this discourse, as cultures and societies are dynamic - not static - and therefore are differently affected by discourses and to varying degrees (Mohanty, 333 - 358).

natural resource management, herbal medicines and astronomy. This is the heritage of indigenous people” (Janke, Youtube, 2016). Without a committed mindfulness, patriarchal and racist discourse can permeate well-intentioned practices and organizations. For these reasons an intersectional framework is necessary in permaculture, and sustainability and environmental movements.

An Overview of Permaculture

Central to Permaculture Design are three ethics, generally described as: care for the Earth, care for people, and investment in efforts toward achieving these ends (Permaculture.org. Accessed July 2019). These ethics are expanded upon in twelve axioms that encourage both a practical and philosophical systemic application of Permaculture Design, being:

- (1) observe and interact
- (2) catch and store energy
- (3) obtain a yield
- (4) apply self-regulation and accept feedback
- (5) use and value renewable resources and services
- (6) produce no waste; (7) design from patterns to details
- (8) integrate rather than segregate
- (9) use small and slow solutions
- (10) use and value diversity
- (11) use edges and value the marginal
- (12) creatively use and respond to change (Rothe, 2).

The framework utilizes elements of landscape architecture to increase the efficacy of small-scale, local horticulture and animal husbandry (Permaculture Institute, www.permaculture.org/wp-content/uploads/2017/12/PDC-Outline.pdf. Accessed July 2019). Mollison asserts Permaculture Design is “...the first book you will ever read on design of any system: agriculture, housing, financial system, legal structure. (Ecofilm, Youtube, 2016. Accessed Sept 2018)” The practice of permaculture as laid out by Mollison and Holmgren requires modification of the landscape in and around one’s living space to reduce both work and consumption. Heavily influenced by Howard Odum and Christopher Alexander, Mollison’s Permaculture Design requires identifying and reinforcing patterns observed in nature to develop built systems (households, or full communities) that are conducive to living in harmony with nature to the fullest extent possible (Rothe, 2014, pp 2-6). The general idea is to design a localized system to meet immediate needs of food, shelter, and energy that is aligned with natural cycles and events so that system will ideally be increasingly supported by Nature over time. “When you design well, nature takes hold of what you’ve done, and does it better. (Dogs Go Woof Productions, Youtube, 2017. Accessed Sept 2018)” lay out the key elements of their own definition to lay the foundation for references to architectural design.

Bill Mollison referred to Permaculture Design as “an epiphany,” in an interview with Frank Aragona on the Agroinnovations Podcast (Aragona, 2007. Accessed Oct 2018). In another video production, Mollison asserted that “permaculture design is the first system of conscious, functioning design in the world—that’s its unique aspect...” while Holmgren explains it was a concept first worked on in the 1970s, which is “known as ‘sustainability’ today” (Dogs Go Woof

Productions, Youtube, 2017. Accessed Sept 2018). David Holmgren refers to himself as the “co-originator of the permaculture concept” (Happen Films, 2015. Accessed July 2018).

Visual references to the various global influences on Mollison and Holmgren’s work are relatively straightforward. Holmgren’s website features unmistakably Native North American imagery of the sacred hoop or wheel (Holmgren.com.au. Accessed July 2019). The official Permaculture website features an image of the ouroboros wrapped around a life tree in the shape of a cosmic egg (Permaculture.org. Accessed July 2019). Throughout the movement, examples of visual references to Indigenous and traditional cultures are abundant, such as the rainbow serpent (Shunya.earth/permaculture, Accessed July 2019). The rainbow serpent, significant to Indigenous peoples of Australia (Artlandish Aboriginal Art Gallery. Accessed Sept. 2019), is an example of cultural appropriation. Terri Janke argues that the misrepresentation or use of indigenous intellectual property without permission undermines a People’s deep connection to their history and their ancestral land and knowledge (Janke, Youtube, 2016.) It is commendable that so many around the world are coming together as a movement to build up permaculture and sustainable life ways. As we all do so, it is important to remember that the actions we take are not all new, but rather are founded on old principles very often belonging to contemporary members of marginalized groups.

Broad acceptance of permaculture as the first intentional, organized model of sustainability must be challenged. This is not to say that Mollison’s work has not made significant contributions to environmental and sustainability movements around the world. Nor is it correct to assume that Mollison’s work hasn’t influenced or been adapted to suit the practices of any other sustainability model. It is important for us to understand that permaculture in practice is not exclusive to a few demographics, but that many people the world over practice some elements of permaculture. Many diverse groups have implemented their own interpretations of permaculture projects and these are geographically dispersed. Myriad models of sustainability have existed prior to or emerged concurrently with Mollison and Holmgren’s work. It is clear that different methods, including Permaculture Design, may be blended together to suit a local context.

Insights from Intersectionality

As previously mentioned, Crenshaw argues the necessity for intersectionality is apparent given the lack of available frames or lenses through which we critique society and social issues as they impact particular demographics. It is problematic to “treat race and gender as mutually exclusive categories of experience and analysis” (Crenshaw, 1989, p 139). Centering the reality of black women through their multidimensional experience is not possible through a single-axis analysis of either race or gender. The result of a single axis of analysis, or single lens through which to interpret the lives of black women, is that inquiry is limited to the experiences of otherwise privileged members of the group thus marginalizing multiply burdened groups and individuals. For instance, an analysis of sex discrimination through a feminist framework centers the otherwise privileged experience of white women. Similarly, an anti-racist analysis on its own centers the experience of black men over other black people. (Crenshaw, 1989, pp 139-140)

Why do frames matter? “When facts do not fit within available frames, people have a hard time incorporating new facts in their thinking about a problem” (Crenshaw, Youtube, 2016). Bill Mollison was a formally educated, white, English-speaking man from Tasmania. At the time he began disseminating his Permaculture Design model, he was situated within academia and extolled a degree of authority which gave him the opportunity to dispense knowledge and promote his own

work widely among students. Conversely, the very people he credits with informing his model remain less likely to be perceived as being an authority on permaculture or sustainability by the Global North and West. Pervasive racism, intentional or otherwise, continues to inform discursive policies on Indigenous intellectual property rights (Janke, Youtube, 2016).

Through the conduit of academia, the diffusion of Mollison and Holmgren's Permaculture Design has yet to be sufficiently challenged because (1), Indigenous people remain marginalized in academia and therefore absent from the conversation, and (2), subsumed traditional and Indigenous knowledge in permaculture design undermines the ability to properly credit sources of Indigenous and traditional knowledge. Meanwhile, gendered discourse that has informed academia, eco-movements and family structures have historically subsumed women's contributions to permaculture, forestry, and sustainable practices. These combined factors increased the likelihood of his permaculture model becoming widely distributed and accepted as the "first and only" of its kind.

Pervasive discourses of power on race and gender have privileged Mollison's work to the extent that he was able to disseminate his ideas swiftly and efficiently, but unfortunately, without fully crediting those cultures and traditions that really influenced the movement. Because these discourses also have influence within social movements and environmental movements, this has resulted in a general interpretation of the model that reflects the cultural attitudes of privileged groups toward race and sex rather than sufficiently challenging the status quo. Although the permaculture movement is comprised mostly of women, men remain in control when it comes to decision-making. Although "diversity and inclusion" are among the 12 principles of Permaculture Design⁵ it is impossible to deny the concentration of power within the movement on the global scale remains heavily patriarchal and influenced by white Northerners.

Viewing someone or something along a single axis of interpretation reinforces discourses and denies the experience of marginalized groups. Adichie argues, "it is impossible to talk about the single story without talking about power (Adichie, Youtube, 2009)." She asserts, "the single story creates stereotypes and the problem with stereotypes is not that they are untrue, but that they are incomplete (Adichie, Youtube, 2009)." This can be applied to the following examples of how black, indigenous, and women's knowledge are marginalized by discursive environmental and sustainability movements. Crenshaw argues further that without multiple frames of reference through which we may analyze and describe the human experience, "many will fall through the cracks in our movements, left to suffer in virtual isolation" (Crenshaw, Youtube, 2016).

Global evidence shows that axioms of permaculture are rooted in locally and temporally diverse values and knowledge that are Indigenous, traditional, and feminist. Many are localized responses to immediate problems of environmental degradation, broken economies, and political apathy. Some are geographically dispersed models that are adopted and modified to fit local/regional society and culture. Some are local with a holistic approach while others are focused on a specific issue, such as coffee cultivation, with global impact. Fundacion Entre Mujeres (FEM) in Nicaragua was formally formed in the 1970s by a woman and her husband as a feminist agroforestry coffee cooperative that works to empower women economically while combatting femicide and other forms of violence against women. By contrast, Dr. Vandana Shiva has founded several institutions for seed banking and has led a lengthy fight against corporations engaged in seed patenting, such as Monsanto. Rocheleau, Slayter-Thomas, and Wangari point out that while

⁵Enumerated in many works including *Essence of Permaculture: A summary of permaculture concepts and principles* taken from 'Permaculture Principles & Pathways Beyond Sustainability' by David Holmgren https://www.indiawaterportal.org/sites/indiawaterportal.org/files/essence_of_permaculture.pdf

environmental sciences and the international environmental movement have been largely dominated by men from wealthier nations, women as well as men and children have been busy on the ground manifesting change through praxis. (Rocheleau et al., 1996, p 6) Evidence does not suggest homogeneity across organized, women-led or indigenous/traditional responses to climate change and social problems⁶. Rather, the development and execution of women-led models of sustainability respond to immediate, localized issues with broader global implications. They are culturally unique despite overarching themes of equity, equality and economic independence via environmental stewardship.

In Fondes Amandes, Tacuma and Akilah Jaramogi initiated an organized response to environmental degradation, political apathy, and economic inequality through the development of a sustainable model of agroforestry in Trinidad at the same time Bill Mollison and David Holmgren were developing their model of Permaculture Design in Australia. FACRP thrives on what was polluted, degraded, barren land before the Jaramogi family and their companions decided to permanently settle on the state-owned parcel with the explicit purpose of restoring and protecting the ecosystem. Through grassroots efforts of door-to-door community organizing, non-violent protest, and direct action, they physically and symbolically claimed their space on the hillside and built political leverage. The success of their community has drawn international attention and attracted volunteers and funding which has helped them increase their impact within Fondes Amandes as they share knowledge and values across the Caribbean and beyond. FACRP can be defined as a model of sustainability based on their work restoring the ecosystem, building resilience to climate change, challenging overconsumption, and shifting social and cultural attitudes in the long-term. (Fox & Smith, 2016, pp. 2-4, 11-12)

FACRP emerged independently of Mollison's permaculture model. While Mollison's work was heavily influenced by threats of energy resource shortages and notions of a peak oil crisis in the 1970s, Jaramogi found inspiration for sustainable living at the same time in the work of Marcus Garvey, the musical messages of Bob Marley, Rastafarian movement in Trinidad and Tobago and her Merikin heritage. In terms of both general practical application and philosophy, FACRP's model of sustainability and Mollison's permaculture overlap in some ways. The Jaramogi family's intentional rooting of FACRP in traditional knowledge and feminist values are unique and may even go beyond the scope of Mollison's vision of permaculture in terms of holistic sustainability.

“...me choosing to introduce permaculture or sustainable agroforestry practices at FACRP simply came about due to my early childhood days in the forest of south Trinidad. I grew up seeing my grandmother's pattern of farming as well as other family members within the company villages. Then about 15 years later to be told that pattern of farming is permaculture.

I heard the word permaculture for the first time in 1997 from my friend and former board of directors member at FACRP John Stollmeyer. At that time permaculture was not very popular in Trinidad. FACRP were now talking permaculture as a module in our agroforestry activities.

I shared with the permaculture practitioner, then, the way I saw my Merikin family farm the land. It was all edible landscapes on the fence of the yard, vine crops running around the houses, at the back of the house close to the kitchen sink runoff

⁶ See my earlier reference to Mohanty, 1984, above.

of grey water was the dasheen bush for cooking, then the huge lemon grass patch close to the house as well as the soursop tree where we pick leaves for tea as well as other herbs nearby. In the permaculture today language that will be class(ified) as zoning or mapping out your land space. Further from the house is the pig pen and closer to the house the fowl and duck pens. Under the house is the food box where we stored yam, eddoes, dry corn, bennie, and there you will also find some yard hen's eggs. Seeds were also stored in the food box to dry out to replant. Unlike farming at FACRP my grandmother would say, 'plant in season, out of season, until you catch the right season.' At FACRP we plant mainly in the rainy season.

For me permaculture is sustainable farming, Indigenous or traditional way of living and working in harmony with earth's biodiversity. Feeding ourselves and caring for all living elements on planet earth (e.g. Animals, plants, water etc.).

I see permaculture today as strictly business manage(d) by a group of owning class in society. Permaculture today helps to focus on wise land use and to encourage clean and healthy farming practices like long ago." (Akilah Jaramogi, email, 2020)

Moving people around the world toward a more sustainable future that also recognizes the origins of such practices is tremendously important work. Herein lies the problem of a single story Adiche warns us against—the acceptance of a blanket understanding of permaculture and sustainability robs us of the opportunity to learn from and celebrate individual models like FACRP which are making national and regional impacts (Adiche, Youtube, 2009). Unwittingly assigning a specific terminology—like permaculture—to the realm of sustainable and environmental movements risks the adaptation of a catchphrase quota of sorts by potential funders. We cannot possibly understand all of the methods innumerable groups are implementing in the fight for a sustainable future through a single lens of interpretation, and we don't want funders or governments believing they can (Levy, 2015).

Gains continue to be made as people with the most control of the global discourse on sustainability become more actively aware of their situated privilege. Yet, clear concerns of the relationship between gender, economic status, and race and discursive permaculture persist among permaculture practitioners. An intersectional analysis of practitioners' critiques of gender and race in Permaculture as a global movement show scientific critique of the model remains insufficient (Rocheleau, et al., 1996, pp 3-23). At the same time, such reflections on the present short-comings of the movement indicate there is a degree of willingness to improve. The interpretation of permaculture seems highly individualized between groups, which could signal an opportunity for mainstream growth in areas of inclusion and acknowledgement of Indigenous or traditional knowledge.

To show this, I draw on several critiques of Western and Northern permaculture discussed by permaculture practitioners themselves. These perspectives reflect the sentiment of people who are on the ground, doing the work, and therefore are crucial to understanding how people within the movement feel about the relationship between themselves, their work, and race and sex discrimination. I sourced them through Google searches using general terms such as "permaculture, race, gender, racism, feminism" to try and capture a variety of results. I intentionally chose to utilize blog posts and opinion articles. Most of the posts have been written

by women, including women of color, and some have been written about black permaculture practitioners by a third party. The racial and gender identities of the author are included where those identities were identifiable, if not in the blog post then elsewhere on the site. To the best of my knowledge, all of these examples are situated in the global West and North. As a citizen of the United States, I am confronted with these points of view on a regular basis, and I subjectively view the world through the lens of a white woman from the United States. For these reasons it is important to me that, what I perceive to be the dominant voices controlling the framing of permaculture and sustainable movements, are critically examined while the voices I wasn't initially paying attention to are centered.

In her blog post, "Towards a socially sustainable permaculture: Some practical steps," Lucie Bardos, a white, Canadian woman challenges the Permaculture movement to make substantive efforts to decolonize permaculture through encouraging self-aware white people. She offers acknowledgement that decolonization must take place, and exemplifies a white person accepting responsibility for teaching other white people, while crediting her personal interest in permaculture to other women and women of color. Social justice is implicit in achieving environmental justice and conservation goals. (medium.com/permaculturewomen/towards-a-socially-sustainable-permaculture-some-practical-steps-6ceae8e5902)

Karryn Olson-Ramanujan is a white woman lecturer at Ithaca College. She has been educated in Public Affairs and permaculture mainly in the US and Canada but also India. She is a permaculture consultant who charges for her Permaculture Design services. Like Bardos, she provides a list of things to be considered when building a pattern language for women in Sustainability. Olson-Ramanujan highlights the role of semantics in reinforcing gendered discourse, pointing out that women as decision-makers within the Permaculture movement remain a minority. She touches upon racial diversity and suggests building diversity within permaculture by offering financial stipends. Pattern 4 argues for intersectionality in the context of broad priorities of social movements and environmentalism. We absolutely need more women's voices and input in intentionally assigned leadership roles, but we already have strong evidence of the existence of powerful black and brown women leading sustainable initiatives and harnessing their culture's traditional knowledge as it applies to permaculture and other models of sustainability so we should highlight their work as examples. (<http://seedsustainabilityconsulting.com/women-in-permaculture-article-in-permaculture-activist/>)

Tobias Roberts is a white man working and writing as a farmer and former development worker. "How To Decolonize The Permaculture Movement" offers several steps wealthy white permaculture practitioners can take to tangibly reduce their colonist impact on people living anywhere outside of the Western industrialized world. Roberts is clear on halting demonization of the Poor and of Indigenous people as ignorant bystanders to their own self-interest and cautions against claiming to develop, discover, or invent techniques that are clearly informed by Indigenous and traditional bases of knowledge. His article encourages white Westerners practicing permaculture in different areas of the world to share and network with local farmers in a way that makes space for various ways of knowing and learning. (https://www.huffpost.com/entry/how-to-decolonize-the-per_b_14501784?guccounter=1)

Silvia De Blasio is a permaculture consultant. She argues women remain excluded from power roles and decision-making due to patriarchal discourse within the movement reinforced by the acquiescence of those she refers to as "other women." She acknowledges people of color, too, along with differently-abled people, youth, and elders have been similarly oppressed. A women-led Permaculture Design narrative will challenge discursive, gendered interpretations of

permaculture while opening opportunities for interpretation and implementation of the model by people who are currently isolated by the status quo within the movement. De Blasio is becoming a Permaculture Design instructor to implement an educational model people aren't getting from a male-dominated movement. She acknowledges some have had it worse than her:

“from access to land to rampant abuse of power, stealing of ideas and projects, being banned from groups for speaking up; being told that their permaculture was “woo-woo” because they asked about the social and inner aspects, and so on ... even sexual harassment from people who think community means they have rights over everything while the others don't.”

(<https://medium.com/permaculturewomen/women-in-permaculture-why-an-all-women-led-pdc-7f1001e76d76>)

Danielle Purifoy is a black woman who was also a Ph.D. candidate and law student at the time she posted her opinion piece. She previously worked for US national and international environmental organizations, having first learned about environmental justice while working with Deep South Center for Environmental Justice in New Orleans. Danielle's work on mold remediation and soil remediation projects with a variety of stakeholders and professionals in the field has informed her concept of environmentalism. In her post, she highlights the disturbing case of Turkey Creek, Mississippi, where it was the work of hardline conservationists seeking to protect bird species and habitat rather than the fact that an entire community of color existed there that saved the community from erasure by corporate developers. Danielle confronts discursive utopian ideals of a humanless (and distant, or perhaps sublime) nature by pointing out the United States' National Parks system was founded on the exclusion and expulsion of Indigenous Peoples from their lands and the concept that nature is separate from humanity and therefore exists in relation to humans to be either conquered or protected:

“Despite the award-winning environmental advocacy of black and brown people like Wangari Maathai in Kenya, Berta Cáceres in Honduras and Margie Richard in the United States, little has changed in the American imagination as to who protects our environment and *for whom*.”

Her post highlights the distance between academic paradigms and the Environmental Movement, and grassroots pragmatism within communities of color and Indigenous communities—criticizing academes and the movement's so-called diversity recruitment:

“...diversity strategies that are disconnected from issues of power, equity and tokenism raise much larger substantive questions about whether and how the discipline can embrace the multitudes it has been designed to erase. Such conditions can be prohibitive even if you are accustomed, as many of us are, to race (and gender and queer) isolation.” (www.insidehighered.com/advice/2018/06/22/how-environmentalism-academe-today-excludes-people-color-opinion?utm_content=bufferc2840&utm_medium=social&utm_source=facebook&utm_campaign=IHEbuffer)

Pandora Thomas is a black woman and co-founder of the Black Permaculture Network (with Toyota). Her experience as a black woman and a world traveler who has worked in 12 countries informs her work in Permaculture Design. She provides services and programs in the Bay Area interpreted through an intersectional Permaculture Design and Social Equity framework. Thomas also employs her knowledge of design systems working with the Urban Permaculture Institute in Marin City on design strategies for community resilience. Intensely focused on community, she works as a consultant and public speaker to bring the Black Permaculture Network's (BPN) mission to recognize and honor the Afro-indigenous community's ancestral knowledge in Bay Area communities through permaculture programming. The BPN's prisoner reentry permaculture program Pathways to Resilience is one example of its unique application of permaculture. Networking with architects and landscape designers to ensure sustainable community resilience shows that a justice-oriented Permaculture Movement is possible. In these ways, Thomas' work shows the impact of intersectionality on the movement itself. (<http://www.pandorathomas.com/black-permaculture-network>)

Initiated by a man of color, now co-directed by men and women of color representing various intersectional backgrounds—May Project Gardens in London engages people in permaculture through an anti-poverty framework that challenges power structures while engaging minority groups. Applying the practice of gardening as safe and empowering social spaces is transforming how communities connect gardens to their lives in ways other than simply growing food. Permaculture Design as developed by Mollison and Holmgren is heavily focused on food production and resource control, but May Project Gardens' workshops provide “young people (with) sustainable knowledge of health and wellbeing and create positive engagement as well as strong community resilience and identity through nature, music and culture...” indicating different interpretations of permaculture exist within the Permaculture Movement. (www.sustainweb.org/jelliedeel/articles/jan19_may_project_gardens_biodiversity_permaculture/)

The Urban Growers Collective is a Chicago-based model founded on the pragmatic application of black slave history and knowledge to build community resilience, justice and food security. Its leadership is comprised of men and women of various races and ethnicities. Their intersectional framework is taking on major issues such as land tenure and smaller projects like neighborhood gardening and beekeeping to grow economic opportunity and drive social equity. The Urban Growers Collective is generating cultural change within and throughout the community and driving public policy. Beyond gardening, the collective offers trainings focused on dismantling power structures of racism. There is no mention of intersectional gender issues on the site, although the site mentions, “Our core values honor shared leadership and collective decision making; racial, economic, gender and LGBTQ equity; and employee well-being: we have witnessed how these values lead to thoughtful, holistic programming and yield environments that nourish and create prosperity.”

Most recently, the Mayor's Office of Chicago is partnering with the collective and certain government agencies to develop 50 vacant lots in key neighborhoods prone to gun violence. The Urban Growers Collective will be responsible for garden design, implementation, and oversight of volunteers and staff—marking a clear pathway for self-determination and the ability to truly build something that is built by and needed by the community. (<https://urbangrowerscollective.org/>. Accessed)

Crenshaw points out that dominant conceptions of discrimination condition us to think about subordination as discrimination occurring along a single categorical axis (Crenshaw, 1989,

p 140). While there seems to be a general consensus that permaculture and sustainability movements in general need to be more inclusive, there is evidence that a thorough intersectional analysis would be useful in connecting concepts of identity to achieve a holistic approach to inclusive strategies. These examples show the movement as a whole is not currently doing all it can to meet the United Nations current definition of sustainability, but also that there is a strong awareness of the problem and willingness to change. It appears to me that permaculture practitioners of the global North and West wish to draw people of color into the Permaculture movement yet seem unaware that people of color, including people in the global South, already have a strong presence in the movement. As Crenshaw concludes, “if we can’t see a problem, we can’t fix a problem” (Crenshaw, Youtube, 2016). A discursive permaculture movement has real implications for how decisions are made by funders, institutions, and policy makers, but also for how members within the movement itself relate to one another. People need to and should define their environmental and sustainability work on their own terms within the context of their own identities, histories, and objectives, and these should be sufficiently acknowledged by the global movement.

A Reference Point for Sustainability in the New Millennium

Just prior to the 2012 Conference on Sustainable Development in Rio the United Nations officially defined sustainability as, “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (<https://www.sustainabledevelopment2015.org/>. Accessed 1 Oct. 2019). Since then, the UN has refined their definition of “sustainable development” as the following, further articulated into seventeen Sustainable Development Goals (SDGs):

(1) No poverty; (2) Zero hunger; (3) Good health and wellbeing; (4) Quality education; (5) Gender equality; (6) Clean water and sanitation; (7) Affordable and clean energy; (8) Decent work and economic growth; (9) Industry, innovation and infrastructure; (10) Reduced inequalities; (11) Sustainable cities and communities; (12) Responsible consumption and production; (13) Climate action; (14) Life below water; (15) Life on land; (16) Peace, justice and strong institutions; (17) Partnerships for the goals (www.un.org/sustainabledevelopment/development-agenda/. Accessed Jul., 2018)

Sustainable development has been defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It calls for concerted efforts towards building an inclusive, sustainable and resilient future for people and planet.

For sustainable development to be achieved, it is crucial to harmonize three core elements: economic growth, social inclusion and environmental protection. These elements are interconnected and all are crucial for the well-being of individuals and societies.

Eradicating poverty in all its forms and dimensions is an indispensable requirement for sustainable development. To this end, there must be promotion of sustainable, inclusive and equitable economic growth, creating greater opportunities for all, reducing inequalities, raising basic standards of living, fostering equitable social development and inclusion, and promoting

integrated and sustainable management of natural resources and ecosystems. (www.un.org/sustainabledevelopment/development-agenda/. Accessed July 2018)

The UN has synthesized these values and ideas into Sustainable Development Goals, but like Mollison and Holmgren's permaculture these are not novel ideas. Unlike Mollison and Holmgren, though, the UN is not claiming these are new. Cultural values of preserving natural resources for future generations are apparent around the world. One of the reasons they resonate so strongly with people is because of pre-existing cross-cultural values and practices. From the late-19th and throughout the 20th centuries political, social and environmental movements led to the emergence of practical models of sustainable living in seemingly every corner of the world. These models manifest locally and temporally in different ways in accordance with specific cultural, social, political and geographical circumstances (Mohanty, 1994 pp 333—337). It is expected that, while the UN aspires for universal application of the SDGs, they will be adapted to the national and local context (Bierman, Kanie, Kim, 2017, p 28). This is evidence that global actors are moving away from a top-down framework where information and methods are imposed upon developing nations by wealthy industrialized nations. Furthermore, it opens opportunities for NGOs and grassroots groups to inform national implementation and execution of SDGs as well as metrics based on the history, knowledge, and experience of the communities they serve to generate a “combined specialist and stakeholder expertise” (Biermann, Kanie, Kim, 2017, p 29).

These tools may be particularly useful for promoting gender equity and equality. “Women’s rights organizations were effective in building coalitions and alliances to put gender equality at the centre (sic). Such participatory processes and strategic alliances are also needed to ensure effective and gender-responsive implementation, follow-up, and review” (Turning Promises Into Action, 2018, p 10). Research published by the UN emphatically acknowledges gendered ways of knowing within agroforestry and household practices. Marin and Kuriakose point out that while men control the most economically valuable forest resources women play an active and critical role in forest management pertaining to fuel, food, and medicinal resources (Gender and Sustainable Forest Management, 2017, pp 1—5). The 2030 Agenda encourages the integration of women’s knowledge into national SDGs as indivisible human rights, and suggests doing so, or neglecting to do so, could serve as a tool for governmental or stakeholder accountability in meeting national goals. This is critical for a worldwide sustainability movement because, “gender inequalities manifest themselves in each and every dimension of sustainable development” (Turning Promises Into Action, 2018, p 2).

A number of SDGs align with FACRP’s work, reinforcing their role in Trinidad and Tobago and throughout the Caribbean as a leader in agroforestry and climate change adaptation and mitigation. I asked Kemba to list a few goals off the top of her head that FACRP addresses. “Good health and wellbeing, we’re growing organic hardwoods, fruits and herbs...education, gender equality as well because we focus on capability to do the work over gender...” She explained that even though they have been doing hands-on climate action in Fondes Amandes for years, it wasn’t until recently that FACRP began intentionally identifying their work as such. Kemba explained how two facets of FACRP’s work contribute to this SDG. “We are taking action doing the work of reforestation and because of that reforestation cools the environment.” FACRP became more engaged in climate action through research and training in 2016. “We are now going out to teach mitigation and adaptation strategies. Certain action can do both, for example planting trees.” By partnering with institutions like the Caribbean Natural Resources Institute (CANARI) and the University of the West Indies (in particular, with Professor Agard), FACRP has been able to produce significant results with processes of germinating and monitoring climate resilient

species. “We’re looking at how the most resilient species tend to be indigenous. Due to our influence on the ecosystem, soil, and so on, native species are coming up on their own.” But Kemba noted that funding for marketing FACRP as a resource for helping Trinidad and the Caribbean region achieve these SDGs is lacking. Such funding is necessary for FACRP in terms of education and promotion, but also it would help the organization communicate how they have been doing this work in the community for decades. “We are understanding that what we’ve been doing all along is indeed climate action. We’ve just been communicating that differently (than the UN).” (Kemba Jaramogi. Personal interview. 22 Jan, 2020)

Observing FACRP as Intersectional Model of Sustainability

Arrival Story

On our way to FACRP from the airport, Akilah and I discussed the organization’s upcoming strategic plan. We talked about the concept of permaculture, how it’s role is actually indigenous methodology and traditional values—stolen from people who have developed and implemented those ways of living and being over centuries by mostly-elite white males who through their privileged lens interpret this wisdom and knowledge, consolidate and repackage it, into a commercially marketable tool commonly referred to as permaculture.

There is a sense that there is a lack of credit given to those who practice and blend practical concepts of permaculture with grassroots models of sustainability rooted in local and traditional and/or indigenous knowledge. Reciprocity for what knowledge has been used to develop permaculture concepts, which are then sold as taught programs (at a cost prohibitive for many people who would truly benefit from it), is also lacking but showing signs of improvement. These are necessary actions that must be taken by privileged groups to ensure the global narrative on sustainable movements is situated in a historically accurate and inclusive context.

Akilah recounted one instance of a particular group that had paid to learn from one such permaculture course, and then came home to re-teach what they had learned. The course instructors contacted the group and notified them since they were not “certified” they could not teach and had to stop. Thus, the dissemination of knowledge was roadblocked:

“I salute all who have walked the permaculture path, those who are privileged enough to pay \$5000.US for a 14-day training session. This info I gathered from my friends in Grenada...They acquired a certificate but were barred from teaching what they were taught in the capacity of teacher.

I personally will not pay \$5000.US to be taught farming and planting lifestyle I inherited from my ancestors. I personally will not put stress on Grassroots and Indigenous communities to pay large sums of their hard earn dollars to descendants of colonial planters with the new age permaculture ideology.

Permaculture information is a mixture of the old and new farm practices which I endorse, however if it is designed for the privileged in society with a rigid money-making agenda then something is going wrong.

On another note it's like saying slavery is over but the slavery mentality is not. There is enough in the world to go around to make things right.

Permaculture today must say thanks to knowledge sourced from traditional and indigenous farming of yesterday and give back to the groups that needs the support the most. Grassroots and Indigenous people need to get back their lands, clean seeds, respect, clean water and protection from germicide, pesticide, chemical, political, and religious warfare” (Akilah Jaramogi, email, 2020).

“It stands for ‘permanent culture,” Kemba explained, “We are not (certified Permaculture Design) experts but have elements of Permaculture here.” In the global North and West, it may be the case that white males dominate Permaculture and similar sustainable movements, but this is not so for Trinidad and Tobago.”

Kemba went on, “There may be a newfound appreciation by communities where people think it’s (permaculture and sustainable agroecology) all new.” But the perception of people of the Global South “is that this is not new.”

I talked with Kemba about what I perceived to be an unfair appropriation of traditional knowledge by the dominant discourse within the permaculture movement. She was adamant that the best thing is for people to become engaged in learning not only about the practice of permaculture and other methods, but also in learning the origins of the knowledge at the foundation:

“We want people to be excited, and it is exciting that new people are interested in sustainability...at the same time people need to learn where these methods have been in place. We don’t want to discourage (new) people due to the labels of the North.”

Local knowledge and practice needs to be represented. Kemba pointed out, “If you pull out elements of what permaculturists do, people (in Trinidad and Tobago) will say, ‘yes we do that.’ But they may not be able to say what Permaculture is.” (Kemba Jaramogi. Personal interview. 22 Jan. 2020)

Akilah and I touched upon the subject once more over breakfast. “Most people here and if you walk the St. Ann’s Road won’t know what you’re talking about if you ask them what permaculture is, even though they are doing it” (Personal interview. 27 June 2018)

As previously mentioned, when funders carry assumptions of a monolithic solution to complex problems, it puts grassroots organizations in a tough spot. Organizations require funding that supports local, culturally sensitive solutions if they are to succeed (Levy, 2015). Kemba did note that discursive Western notions of permaculture may negatively impact FACRP if and when a funding opportunity requires some sort of proof of certification of being able to carry out a project. One potential barrier to funding would be the upfront cost of becoming certified in Permaculture Design. Happily, in Trinidad and Tobago, one of the women working at FACRP was able to become certified when she and her boyfriend gained access to training through sliding scale fees. These types of measures reduce the barriers individuals and organizations face. (Kemba Jaramogi. Personal interview. 22 Jan. 2020)

Returning to Fondes Amandes Community Reforestation Center

Since my first visit to Trinidad in 2016 as an undergraduate student I found the FACRP familiar yet changed. There is more bunk space for students and researchers that will increase opportunities for short and long-term educational projects as well as provide a starting point for ecotourism. Three students from my alma mater were there when Mia and I arrived. Christine is studying early education in Fondes Amandes. Ryan, post-colonial socio-cultural attitudes in Trinidad. Another student is researching food in Fondes Amandes, and developing a cookbook of recipes used at FACRP. These projects are important. The students are able to stay in Fondes Amandes for several weeks, and this gives them enough time to develop research skills while their finished products can support FACRP's commitment to education and help build revenue through sales and grant funding.

Other, long-term opportunities for increasing revenue and equity are developing. Akilah now has a permanent room to showcase her jewelry made from seeds and shells found here in Trinidad's forests and seashore. Handbags and books are for sale, too. Nzinga has her own store now, in a building constructed and outfitted just for her. FACRP is also networking with other small-business women. Mostly everyone is a community member with their own role and yet everyone shares in the various responsibilities of daily operations. All these changes point to the continuous growth of the project and the possibilities for ecotourism here. "Women's forest livelihoods and employment depend on their access to and ownership of forest resources, which are mainly determined by laws and socio-cultural norms" (Marin and Kuriakose, 2017, p 2). While these determinants may negatively impact women in broad terms of resource and land control, FACRP is actively shaping socio-cultural notions of what it means to interact with, care for and depend upon the forest.

Sustainable forestry models like FACRP seek to "decrease forest degradation and contribute to poverty reduction and other socioeconomic benefits, e.g., through fostering sustainable production and practices and improved access to forest value chains and markets" (World Bank, 2016, in Marin and Kuriakose, 2017, p 1). As mentioned above, men and women's knowledge, preferences, and use of forest resources differ, and for these reasons a feminist model of sustainable forest management provides both a platform for promoting gender equity and a practical resource to women and girls in Fondes Amandes. (Marin and Kuriakose, 2017, p 1; Asher, Youtube, 2015).

Community Building and Connecting the Dots

As an NGO, FACRP is comprised of an organized network of leaders who live in Fondes Amandes and St. Ann's, and people who live beyond the immediate community. The Board of Directors hail from Trinidad and incorporate international representation as well. While they provide a number of forestry-related services, FACRP also engages the community and broader population in a variety of educational activities. These opportunities are offered in-house, but the leadership's ability to build and tap creative networks have broadened their impact. In this way, FACRP acts as a cultural and educational hub, particularly for those living in St. Ann's but also on a national and regional level.

Ecotourism in Fondes Amandes generates publicity and interest in the organic Climate Change Nursery by making it the focal point of the experience between tourist and nature. Seedlings cultivated in the nursery are distributed throughout the hillside during events such as gayap, retreats, and fieldwork expeditions hosting international students and volunteers. The

nursery acts as an integral part of the outdoor classroom and a segue into a broader educational framework. The hosts teach tourists about local cultivars and their usage as culinary herbs and medicinal plants. The nursery also grows tree species that replenish nitrogen to the soil or prevent erosion. Compost is organic, originally sourced from the hillside, and volunteers and staff sift it and incorporate manure to prepare beds, pots and hillside planting.

This is tied in with education on how the nursery plays a critical role in the fight against climate change on a global scale. “Tropical forests are the world’s largest natural systems for managing carbon and cycling water” (Woods Hole Research Center, Accessed June 2019). FACRP is uniquely poised to contribute to climate change mitigation strategies. Woods Hole Research Center reports that better tropical forest management could help lower climate impacts. Barriers to success include poverty and land clearing for agriculture, but FACRP’s intersectional framework for addressing climate change and sustainable development could provide a model for other forest management projects in the tropics (Houghton et al., 2015, pp 1022-1023).

Yoga in the Hills

For \$50 TT every Wednesday a growing number of students join the yogi for an hour and a half in the Yabba hut. When she and her friend arrived, she set her mat closest to the open forest. She lit incense. She is small-framed, tattooed, with locks in her hair. Her friend was more petite, with hair cropped short to nearly nothing. They set up a laptop using an extension cord plugged into a surge protector, which draws on the electricity generated by a solar panel on the tin roof, which stores the power it generates in a battery. Slow meditation music played from YouTube as more students arrived—seven women and three men, not including the instructor and her friend. She began with a long meditation practice—and we spent the class in a short series of basic poses. The yogi declared she was self-taught and has been practicing for three years. By the time we reached Savasana, many in the class were ready for it. Our ending meditation was twice as long as the opening. The yogi’s friend had brought a pink, 6-string acoustic guitar and performed a song while everyone relaxed and focused on nothing. “Yoga isn’t about how flexible you are,” Yolanda instructed, “it’s about how you connect to (the Earth and life around you).”

The importance of an emerging yoga business in FARCP cannot be denied. The restoration of the hillside along the Northern Range has allowed FACRP to engage in ecotourism and build economic opportunity for residents. It is important to build up women owned business, and positive impacts of doing so are clear in many areas of the world. Research suggests tourism development may contribute to gender equality and women’s empowerment (Furgeson, 2011, in Kunjuraman and Hussin, 2016, p 1653). There is an obvious benefit to FARCP building recognition and familiarity among young adult community members outside of Fondes Amandes who may not have otherwise visited. More so, it is connecting people to the ecosystem through the practice of mindfulness in an intentionally spiritual way. Rocheleau et al. argue that gendered control of the quality of environment “encompasses the right to protect, change, or create environmental conditions that meet existing standards of quality (especially with respect to health)” (Rocheleau et al., 1996, p14). Yoga in the Hills is one concrete way FACRP facilitates the idea of people’s health being a part of their relationship with the ecosystem.

Group Hike

Friday morning, we were to receive a group who scheduled a hike up to the lookout tower. In the morning, it was all hands-on deck—interns, employees, family members and volunteers all set up the resource center. We cleaned, put out written materials, and organized chairs and drums

while Michelle (pseudonym) and Nzinga prepared meals (served buffet style). All FACRP people wore green shirts. There were not enough to go around, so people grabbed whatever green t shirts we could find. I donned a stranger's Adidas shirt—extra-large.

Once the group (of what seemed professional adults who mostly knew each other) started to arrive, Akilah had us organized. Ryan, a FACRP staff member, and some others played the drums while the women stood by and clapped to the beat. Akilah engaged the group of men and women (more women) in a call and response rap she created for FACRP about protecting Mother Earth. The group reluctantly and shyly participated. Akilah talked about the plant life found in the FACRP forest and the extent of their reforestation efforts since 1982. She went from person to person, having them choose a plant name from the many she talked about growing in the forest. People were not-too-eager to participate. Akilah introduced Kemba as the Technical Director.

Kemba gave a brief rundown of what people could expect to get out of the hike. She set expectations—it would not be easy, hopefully you are wearing your sneakers, please fill your water bottles at the cooler, we will be planting seedlings along the way, beware of wildlife and so on. Some participants bemoaned the prospect of hiking in sandals or chancing a run-in with the local wildlife. Kemba led the skeptical group up the hill.

The first stop was a check dam not far from the resource center. Kemba went through a series of questions. What is this? What is its purpose? Why might we need this? She encouraged the group members to shout out guesses. Men and women took turns shouting out some pretty good guesses, or at least creative ones. Kemba explained the check dam to the crowd then moved everyone along further up the hill to the organic climate change nursery.

At the nursery, male and female FACRP volunteer/staff guides under the direction of Kemba assisted the group members in selecting five tree seedlings to plant along their way to the lookout. Kemba talked about some of the plants growing in the nursery and how many hectares of land they have reforested since 1982. At this point, Kemba prepares the group for the real portion of the hike. Stay in single file, we won't move too fast, we will position guides in the front, middle and rear of the line, be prepared to see some local wildlife and do not panic—this is their home. Some of the group quip about falling behind or getting dirty or seeing a snake or some other scary animal. It is all in good nature, to quell their collective/individual anxiety. Kemba reassures the group that the guides are there to help, the hike is only about an hour, and we will ensure nobody falls behind. Mia and I take up the rear as the group moves through the nursery area.

We stop along the way five times to plant each seedling. Two of the male guides have shovels to assist the members in this. Kemba instructs what general area to plant, and the men help the group members select the perfect location to plant their trees. By the planting of the fifth seedling, the group is laughing and having fun getting their hands dirty. Two women jokingly argue about whose spot was better, and they teased one woman who decided she would take the best spot for her tree and didn't care if that meant getting her nicely manicured nails and jewelry dirty.

The organic climate change nursery is an integral part of FACRP's model of sustainable, feminist agroforestry. As mentioned above, the nursery houses seedlings of many varieties of plants—culinary herbs, medicinal plants, and various tree species. Some of the trees are fruit or nut producing, such as mango, tamarind, and cashew. Others are cultivated specifically for the benefits they provide to the forest, such as the nitrogen-replenishing acacia (an exotic tree utilized worldwide in forest management strategies). Not every species is endemic to the forest of the Northern Range, but each serves a vital purpose. Bamboo standing taller than a house populate the hillside and slow or even prevent the process of erosion. (Fox and Smith, 2016, p 4)

The group lagged a little bit since some people were not as prepared as others, but made decent time getting to the lookout. The stairs to the tower were removed, since the lack of upkeep made it dangerous to climb. Mia was disappointed, but we settled for a nice view from a shady bench instead. We stopped just long enough for the group to take some photos and catch their breath. Kemba and the guides fielded questions from various members of the group. We started back down the hill to the organic climate change nursery.

Back at the nursery, a staff person took out the macajuel the firefighters saved from a bushfire, who was getting some respite at FACRP. Some of the group were not happy to see the snake, and others were very excited, asked questions and wanted to pet or hold it. Mia walked over and pet the snake as he answered questions. He turned to her and showed her how to hold it encouragingly.

“He’ll bite me!” she worried.

“No, no! He won’t bite, hold him like this,” he instructed.

Some of the group took photos of Mia holding the snake as the staff person assisted. Others demanded a turn to hold the snake, too, as children would. Almost everyone was excited about the macajuel.

The group returned to the resource center for lunch. It seemed like a transformation had taken place from before to after the hike. Everyone was talking cheerfully over lunch. Akilah brought out a bottle of homemade ponche and the group grew even more excited. Some tried, some joked about how they shouldn’t drink early in the afternoon or they won’t make it to the evening. All were chatting happily about the hike and what they learned while tables took turns at the buffet table. All the food was vegetarian, which is all FACRP serves. There was fresh fruit (pineapple and watermelon), sauteed vegetables, boiled chana, and bread. One man asked me how I got involved here. He was very interested in how I had come to FACRP as a student in 2016 and was now returning to visit and conduct fieldwork. He asked how I liked Trinidad and Tobago, whether I had been to Tobago (I had not) and remarked that FACRP must have made an impression on me. For certain, I replied.

The group wrapped up and left after lunch, but not before Akilah went person-by-person asking them to shout out the name of the plants they had assigned themselves before the hike. This time, each person participated enthusiastically, and the group clapped and cheered. Some chose to share their reflections or something they learned during the day with the group. Everyone left with a positive attitude.

Afterwards, Kemba and I reflected upon the morning and how the mood changed dramatically from morning to afternoon. I suggested this was because of FACRP’s approach to guided tours in terms of engagement and encouragement and sometimes hand holding (literally). Kemba concurred, but also pointed out some red flags—people not adhering to the rules of proper attire was a big one. Not bringing a water bottle was another issue. As the Technical Director, it is her job to notice these things. But Kemba seemed torn between enforcing the rules and turning people away, especially when FACRP needs the income and the people need the education. It takes effort to organize a group and get people out to the forest. Turning folks away would not be helpful.

I thought it was very interesting how noticeable the shift in affect was among the group after the hike compared to the group upon arrival. At first there was a sense of tension and apprehension among the men and women who were to participate in the hike that day. People didn’t seem quite sure whether they wanted to participate in the singing or clapping or call and

response activities Akilah led them through. When we first started out, Kemba practically had to wrestle responses to her questions from the group. People seemed unsure of themselves, or perhaps unsure of what they had signed up for. Staff and volunteers including the field school students assisted camber with the group and helped the group to feel at ease by helping them along the steeply winding trail.

Kemba and the FARCP community tied in a tree planting activity with the hike, in which male volunteers help five men and women plant seedlings along the trail side. Both the participants and the lookers-on seem to enjoy this activity immensely and talked about how well suited their saplings were for the locations they selected, with some assistance of course.

They joked and had fun with it, and some needed more help than others, but everyone was very pleased with the results of their work. This simple activity not only helped connect people to the forest by making them more familiar with their surroundings but also made them proud to be a part of something and take ownership of “their tree.” It also initiated trust building and an emotional connection between the group who would inevitably return to their own neighborhoods or communities within or beyond Fondes Amandes. The planting of the saplings as a group effort is representative of togetherness and this will give group members an awareness of the forest and the people who continue to exist at FARCP after they’ve gone back home.

During my previous trip to FARCP in 2016, my research included perceptions of forest fire fighters in Trinidad. As an American, it still strikes me how people lauded as heroes in my country are not given the same status in Trinidad. Dynamics between government agencies and the forest fire fighters of FARCP are complicated and exacerbated by classes him and a broader societal lack of concern for the forest ecosystem. Some of these very forest fire fighters were out on the trail that day helping the hikers plant their little saplings. Building an emotional attachment found it on respect for the lives and work done by the people of the Fondes Amandes community here is critical to altering perceptions of forest fire fighters in the long term.

From the lookout tower it is possible at certain times of years to view Port of Spain as slivers through the tree line below. From this vantage point is plainly clear the forest is much closer to people’s lives than they realize. Again, this is an example of how the FARCP builds and contextualizes the reality that people are living together with their ecosystem and cannot separate from it.

These group hikes are both the result of and opportunities for self-determination at FACRP. Giving people an opportunity to learn through hands on experience under somewhat controlled circumstances allows FACRP to control the narrative in specific instances and on broader terms - whether it is understanding local wildlife that inhabit the ecosystem with us, or relating that to forest fire prevention. In these instances, the FARCP gets to showcase their model while challenging dominant discourse on their own terms.

Iguanas

FACRP has also allied with NGOs whose work compliments FACRP’s efforts to restore the ecosystem. She takes in arrivals and rehabilitates them, or sometimes they go to the veterinarian she is working with beforehand (also a woman). The woman from the wildlife rescue arrived with the baby iguanas for a release party. Some time ago, Kemba found an iguana that had been attacked by dogs. It was preparing to lay eggs, so it was prone on the ground and open to attack. The mother didn’t survive but between the efforts of Kemba and the Rescue, about a dozen young were ready to be released at FACRP on their fifth day of life. The release party moved out, and under Kemba’s direction found different types of trees for the young to cling to. Two were kept at the resource

center so the children who attend the eco-camp can watch them be released next week. “Iguanas burrow into leaf litter and the dirt to incubate their eggs for three months. They are seriously impacted by fires.”

Because education in Trinidad is sparse when it comes to the local ecosystem, FACRP is incorporating knowledge on local flora and fauna into their own educational sessions and connecting this back to the impact of fires. For instance, bush fires reduce bee populations which impact pollination of flowering trees which yield less fruit as a result.

Over the last four years, Kemba has been paying more attention to what is happening in the watershed in terms of biodiversity. FACRP has accomplished much progress in the reforestation of the Northern Range. “But”, Kemba pointed out, “we have never theorized or published on the benefits of reforestation on the watershed.” Kemba started using her phone to document the flora and fauna living in the hills of Fondes Amandes, posting the diversity of the watershed to social media like Facebook and Instagram. Last year, she started cataloging the flora and fauna and what happens when there is a forest fire. Kemba’s intention is to create a trace of what species are impacted. She and a staff member are able to identify a wide variety of species of lizards and insects—especially butterflies. This documentation shows people what their watershed is worth. “This is why we need to come back to the forest.” Kemba’s aim is to take raw data and break it down to make it palatable. Her hope is that more funding could lead to better photography on the hillside and professional takes on wildlife facts to share on social media or FACRP’s website. (Personal interview. 22 Jan. 2020)

FACRP created a mascot to personify the biodiversity of the Northern Range. Amazonic is a parrot, chosen because, “parrots fly over the forest every morning...they are very loud.” And through this character FACRP is working to spread the message of bush fire prevention in Trinidad and Tobago. For two years, Amazonic has been sharing do’s and don’ts of human-forest interactions and how flora and fauna are impacted by human behavior. (Personal interview. 22 Jan. 2020)

Integration of Heritage and Spiritual Belief Systems with Traditional Knowledge

Akilah received a call Friday inviting her to speak as a guest at an event outside of Port-of-Spain the next morning. Even though it was late notice, she agreed to attend, and brought Mia and me along. The local Rastafari community convened at a small primary school for a spiritual gathering and panel discussion on the importance of education, black pride, and sharing of Rasta values. Mia and I sat in the back. The room was long and narrow, with desks facing the walls on either side of the room. Benches filled the room like church pews, and chairs took up the remaining open space. A few fans circulated warm air through the place. A pigeon flew about the room from window to window looking for a comfortable perch.

One speaker was a representative of Fire Services. He wore his official uniform. The man spoke about how his work is connected to his roots. In his speech, he tasked parents to instill discipline in their children. Without it, he cautioned, we drift from our family values. He stressed the importance of reading to one’s children. Speaking from his own personal experience, he shared a story about a time he had gone to Canada. He was ashamed that when asked, he could not answer certain questions about his own cultural heritage. Today, he went on to say, he is learning from the Rastafari in the drumming circle. The Fireman asked Akilah and another woman elder to stand. He gestured to their handmade shoulder bag and jewelry.

“This is priceless.”

The man went on to speak about how what they have culturally is priceless, and how the little things we take for granted go a long way. Events like this, he said, everybody dresses the part—people put in the effort because they respect their religion.

Akilah was next invited to speak:

“... today I’m here to share a little story about the Merikins—the African-Americans who came to Trinidad as Free Blacks. And again, when a lot of us talk history we talk Slavery. When we talk about Trinidad history, we connect Africans as slaves. We came here as Free Blacks. My ancestors came to Trinidad as Free Blacks. They came in military garbs, they came as ex-soldiers, and they were proud Africans—proud to settle in South Trinidad.”

Akilah went on to describe the areas of the island each of the first five Companies settled.

“...and the sixth company connect all the company villages together, which is the biggest company. I came from Sixth Company. So, we settled there but we did not end there. We came with nothing but some grains. We had rice, we had benni seeds, we had corn, and we traded with the First People—so we always give thanks, and appreciation and recognition toward the First People who came and helped us settle down in the company villages.

And the First People from Moruga and the surrounding areas they were the ones who came and help us clear land. We shared tools and we shared grain. And today, you can still find Merikin rice. Some call it Maruga rice, but we know it as Merikin rice... we kept the seeds. (The rice came from) Sierra Leone, from West Africa... It came through the U.S., through the Caribbean, and Trinidad. So again, it’s about sharing the history. It’s about letting the people know, letting the children know—letting all you beautiful children know—that we all have Free Blacks here in Trinidad. And we were not just Slaves. And we maintain that freedom. We go through Trinidad and Tobago culture and we contribute—we contribute to the growth and the betterment of Trinidad and Tobago.”

Akilah then talked about FACRP as, “...a place where I met barren land and I convert that land into a now-healthy agroforestry project—planting trees, and creating a space for children to come and learn.” She emphasized the contribution that people can make locally with the knowledge they possess to the environment, “... to show a model that we can do it, that we value our forest because that’s how our parents, our foreparents lived. We live off the forest.”

She pulled a children’s book about the Merikins she has brought from the store at the FACRP Resource Center. Akilah handed it to a beaming young girl in a green, red, and yellow dress and matching headwrap:

“I want to present this to your entire grade. So, from today you all will know about the Merikins, the African Americans, and I am featured in this book as well, so we

can understand what the Merikins did to Trinidad and Tobago... So come on, and on behalf of the Merikin community, I present this book to your school.”

The emcee took over again. He encouraged parents to sign their children up for a “drumology camp” over the summer. He then introduced the group of drummers as brethren (“bred’re”) and also referred to them as, “I’dren.” These men represent different denominations of Christianity and different religions. The drumming commenced, during which time there were several singers sharing that space.

The General Secretary spoke after Akilah and echoed the sentiments of her and the Fire Marshal. “The roots are grounded in the earth from which the tree emerges.” The Secretary adds that the seed of the tree first has to be in darkness in order to get to the light. We must re-educate, reform, and organizations must evolve and re-immense people in knowledge and history. The information is there and it is available, he said. “I am proud to be who I am. I am proud to know who I am.”

Akilah’s Merikin and Rasta values manifest in FACRP’s vision and goals. In turn, this cultural relevance provides the lens through which Akilah performs grassroots outreach and networking within, between, and beyond these respective communities. For instance, how Merikins cultivated the Meruga rice in Trinidad is a powerful origin story that intersects Black Power, traditional knowledge, and a People’s long relationship with and reliance upon the provisions of the earth. The rice is a source of pride, a cultural heirloom, not a simple agricultural commodity. Despite a strong inclination toward traditional gender roles, Rastafari attitudes towards Akilah’s work in Fondes Amandes at least locally seem to have shifted radically from what they were around the time of Tacuma’s death. This appears to be due in part to the strategic inclusion of a multicultural, multigenerational base of support within the FACRP framework but also perhaps because of her perceptive decision to interpret these historical events and the immediacy of 21st century environmentalism through a spiritual frame.

Sick Day

In the middle of the night, I woke up in a fever—sweating, heart palpitating, nauseous. At first, I thought it was just the heat, but it had rained and so the air was cool. I tried to rationalize why I was feeling this way. We were out in the sun too long, it could be food poisoning from the bake and shark that we had that afternoon, maybe it was from eating too much channa and roti. I woke up Mia since we had shared our lunch at the beach and confirmed it wasn’t food poisoning. I managed to get back to sleep.

The next day I tried to get on as normal as possible and help out with the chores. I spent a few hours in the nursery and sifting compost. Mia napped most of the morning and into the early afternoon. This convinced me we were likely experiencing some mild sun poisoning from spending too much time on the beach without any shade. The New England lifestyle and the latitude to which we were accustomed was not conducive to eight hours in the hot tropical sun, no matter how beautiful it was. At least, this is what I told myself.

But hours later I was still sick. At the resource center after chores Akilah called for me. I refused the doctor because I had convinced myself it would pass, and I honestly wasn’t feeling that it was all that necessary since I would be leaving the next day. She asked me about other symptoms, then gave me a leaf from the African Bitter Bush. “Chew it up good, like a goat, then swallow it. Then drink lots of water.” The bitterness of the leaf was strong, but the water washed it away. She then made a bush tea from bay leaf and Angostura bitters. She told me to lay down

and center myself to the earth. I laid down in savasana on her bright green mat, waiting to either vomit it all up or be (miraculously) cured. I ate crackers, pineapple with salt, and Lemon Lime Bitters for dinner.

One of the United Nations' Sustainable Development Goals is access to affordable quality healthcare. Reflecting upon my experience being sick in the forest, I thought about the profound implications FACRP's work combined with Akilah's traditional knowledge has for the community and Trinidad and Tobago at large. It seems so simple, the act of Akilah walking out back and plucking the leaf from a bush. From my point of view, it could've been any leaf from any plant in the forest. But she knew exactly where to look—she knows exactly what she is doing, like a mother going to the medicine cabinet for the ibuprofen when a child is feverish. Thirty-five years ago, I could not have stood in that same spot and been given that same remedy. It took a movement, a community across a generation to build up, restore and protect the Fondes Amandes hillside. It is ongoing work. Reaping the benefits of the forest requires a traditional knowledge, for identification of which plants are suitable for planting in what areas, the benefits they provide the ecosystem, and how they mitigate climate change impacts. But also, a traditional knowledge is required to understand how to utilize plant properties for medicinal uses.

This knowledge is evidence of Akilah's strong belief in the spiritual properties of the forest and the earth itself and of our intrinsic link to it. Akilah's knowledge of traditional medicine saved me what probably would've been an expensive trip to see a doctor. And who knows if the doctor would've been able to do anything for me besides offer a diagnosis (my own speculation based on my experience with the American healthcare system). Akilah also provided me with a natural remedy for my ailment, without the reliance upon commercial pharmaceuticals. This is a concrete example of how Akilah's spiritual values and beliefs are applied to her work with the FACRP.

Climate change is causing an accelerated rate of extinction of medicinal plants worldwide. As a result, there is increased effort to protect medicinal biodiversity. Some of the best practices—in situ conservation and wild nurseries—are already underway at FACRP in the function of the organic climate change nursery and the revitalization and proactive protection of the hillside through wildfire prevention and suppression strategies. The sustainable cultivation, procurement, and use of medicinal plants is critical for both quality and quantity of these necessary resources (Chen et al., 2016, Accessed June, 2019).

Women, Forestry, and FACRP

At the FACRP, men and women share the responsibilities for fire prevention and suppression. Kemba is one of the women who trained with the Forestry Division to fight bushfires in Fondes Amandes. “It takes a certain character trait,” she explained. Not all women want to fight fires here, but FACRP supports and encourages those who do. Forestry and fighting wildfires are traditionally male jobs in Trinidad and Tobago, as is typically the case worldwide. “Socio-cultural norms often make it difficult for women to participate in local forest governance as key stakeholders on an equal footing to men...” (Marin and Kuriakose, 2017, p 1).

Here the work is done by anyone up to the task. Male and female staff and volunteers (including field school students) made the trek twice during the week I was there, to perform repairs on the FACRP's water catchment system under the leadership of John Stollmeyer. Men and women both perform wildfire prevention tasks such as clearing out fire breaks⁷ with rakes,

⁷ A natural or constructed barrier used to stop or check fires that may occur, or to provide a control line from which to work. <https://www.fs.fed.us/nwacfire/home/terminology.html#F>

leaf blowers, and other tools. FACRP's participatory environmental education programming is facilitated by Akilah and Kemba and is supported by a mix of male and female staff and volunteers. This programming includes a fire suppression demonstration, a hike in the forest, and hands-on activities at the Climate Nursery.

It is significant that this programming is developed and led by women. According to the World Bank Group knowledge of forest ecosystems and agroforestry is clearly influenced by gender because of the broader, traditional roles men and women play at work and at home. A division of labor which situates women generally in the home or bearing the burden of domestic tasks in addition to working outside of the home contextualizes our priorities when it comes to forest management. Marin and Kuriakose found that women tend to select trees for planting that carry some relevance to subsistence, and that while women's tree selection may not carry heavy commercial benefits, they tend to have value at home. Besides food, women tend to selectively plant trees that yield medicinal properties and provide a fuel resource at home. FACRP executes a unique model of sustainability and agroforestry that prioritizes gendered knowledge that is broadly undervalued by governmental and commercial institutions. For these reasons, it is crucial to have women at the table in executive decision-making roles. (Marin and Kurikose, 2017)

Akilah and Kemba also participate in national and regional forums to promote sustainable forest management and educate the public. Caribbean Women in Forestry (CAWFOR), for example, provides this culturally and linguistically diverse region with an organized forum for women to implement broader, strategic goals at the local or national level. Its "aim is: 1) to advocate for gender equality; 2) the development and implementation of gender policies throughout the Caribbean forestry sector (private and public); and 3) training and leadership of women in sustainable forest management" (CAWFOR, Accessed Jan., 2020, <https://cawfor.weebly.com/>). While on a global scale, men have broad control over the forestry sector accompanied by political and economic decision-making power, FACRP's feminist pragmatism represents a shift in discursive forest management.

Conclusion

Akilah Jaramogi's identity as a forester, a cultural activist, entrepreneur and descendant of the Merikins specifically informs her environmental work and the FACRP model of sustainability. It is precisely because of her Merikin roots, her spiritual values, and her experience as a woman and mother that she is able to implement intersectional strategies through FACRP to address environmental degradation and climate change locally, within the Caribbean region, and globally as well.

Women of color are making an impact locally and on the global stage, but who decides whether someone is practicing permaculture or not? While a broad segment of the Permaculture community has been reflexively examining that same question, it has until very recently postulated a hegemonic, Western origin of Permaculture as Sustainability. The way we talk about the action women and people of color—and women who are people of color—matters. Researchers and institutions working toward a sustainable future guided by the UN's SDGs should be vigilant against framing women as unresisting and submissive to external factors, since the reality reflects how women of color and women in general are engaged in sustainability praxis including implementation of permaculture principles. We should discuss more the intersections of gender, race and ethnicity in Sustainability to address discursive frameworks. Women—and especially

“multiply-burdened” women—leaders continue to actively shape sustainability and permaculture locally and regionally with the power to engage globally as well.

Sustainability is not a uniform response to environmental impacts, climate change or inequity. Rather than a single axis of interpretation we must embrace how various cultures, societies, and individuals are actively applying their knowledge to sustainable lifeways. We must also bear in mind that traditional knowledge applied through local, grassroots models of sustainability are already meeting the needs of the community and ecosystem. And we must properly acknowledge and credit the significant contributions of traditional and indigenous knowledge.

Acknowledgment of Research Limitations

In her work *Under Western Eyes: Feminist Scholarship and Colonial Discourses*, Chandra Talpade Mohanty points out, “Western feminist writing on women in the third world must be considered in the context of the global hegemony of Western scholarship-i.e., the production, publication, distribution and consumption of information and ideas” (www2.kobe-u.ac.jp/~alexroni/IPD%202015%20readings/IPD%202015_5/under-western-eyes.pdf). I think it is important for readers to understand the point of view from which this article is written. As a white woman in the United States, I bring a distinctively Western and privileged perspective while writing about women of color from both the global West and developing nations.

References

- “What is Permaculture?” *Permaculture Institute*, 2019. Accessed July 2019.
<https://permaculture.org/about/>
- Geertz, Clifford. *The Interpretation of Cultures*. Basic Books, 1973, p 14.
- Mohanty, Chandra Talpade. “Under Western Eyes: Feminist Scholarship and Colonial Discourses.” *Boundary 2*, vol. 12, no. 3, Spring-Autumn 1984, pp 333 - 358.
- Crenshaw, Kimberlé. “Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics.” *University of Chicago Legal Forum*, vol. 1989, issue 1, article 8, 1989, pp 139-167.
- Adiche, Chimamanda. “The Danger of a Single Story.” *Youtube*, uploaded by TED, 7 Oct. 2009. Accessed Sept. 2018. www.youtube.com/watch?v=D9Ihs241zeg
- Janke, Terri. “True Tracks: create a culture of innovation with Indigenous knowledge.” *Youtube*, uploaded by TEDxTalks, 20 Dec. 2016. Accessed Sept. 2018.
www.youtube.com/watch?v=WfS11_Dl6ew&t=745s
- Rothe, Katja. "Permaculture Design: On the Practice of Radical Imagination." trans. Radosh, Laura *communication +1*: Vol. 3: Iss. 1, Article 4, 2014, pp 1 - 18.
- Ecofilm. “Interview with Bill Mollison.” *Youtube*, uploaded by EcoFilm, 26 May 2016. Accessed Sept. 2018. www.youtube.com/watch?v=6RD1GW-vOHg&list=WL&index=18&t=0s
- Dogs Go Woof Productions. “What is Permaculture? By Bill Mollison, David Holmgren.” *Youtube*, uploaded by DogsGoWoofProductions, 17 Oct. 2017. Accessed Sept. 2018.
www.youtube.com/watch?v=QBLKuYDh5S8&list=UUatPulyFAQuz-y1B1Lt28jA&index=12
- Happen Films. “David Holmgren Interview on Permaculture, Energy Descent, & Future Scenarios.” *Youtube*, uploaded by Happen Films, 9 Dec. 2015. Accessed July 2018.
<https://www.youtube.com/watch?v=uqwWdranB5A&t=228s>
- Aragona, Frank. Podcast episode 19 “Permaculture with Bill Mollison Part 1.” *Agricultural Innovations*, uploaded by Frank, 14 Aug. 2007, 00:4:00 - 00:4:20. Accessed Oct. 2018.
<https://agroinnovations.com/podcast/2007/08/14/permaculture-design-with-bill-mollison-part-i/>
- Holmgren Design: permaculture vision and innovation. Accessed Jul., 2019.
<https://holmgren.com.au/>
- Permaculture. Pars. 1 - 3. Accessed July 2019. www.shunya.earth/permaculture
- Artlandish Aboriginal Art Gallery. “Dreamtime Aboriginal Art Library: Rainbow Serpent in Aboriginal Art.” Accessed Sept. 2018. <https://www.aboriginal-art-australia.com/aboriginal-art-library/rainbow-serpent/>
- Crenshaw, Kimberlé. “The Urgency of Intersectionality.” *Youtube*, uploaded by TED, 7 Dec. 2016. Accessed 23 Aug. 2018. <https://www.youtube.com/watch?v=akOe5-UsQ2o&list=WL&index=5&t=0s>
- Rocheleau, Dianne et al. “*Gender and Environment: A feminist political ecology perspective*”. *Feminist Global Ecology: Global Issues and Local Experiences*. Routledge, 1996. Accessed 19 Oct. 2019.
https://vtechworks.lib.vt.edu/bitstream/handle/10919/70076/5011_Rocheleau_Gender_and_Environment.pdf?sequence=1&isAllowed=y
- Fox, Diana, and Smith, Jillian M. “Stewards of Their Island: Rastafari Women’s Activism for the Forests and Waters in Trinidad and Tobago - Social Movement Perspectives.” *Resilience*:

- A Journal of the Environmental Humanities*, Vol. 3 Environmental Humanities from Below, Winter/Spring/Fall 2015-2016, pp 142 - 168.
- Jaramogi, Akilah. "Re: Checking in before publishing." Received by Rachel Mulroy, 20 Jan. 2020.
- Levy, Jordan. "Why [Buzzword] Won't Save the World: Marketing success doesn't equal impact." *Stanford Social Innovation Review*, 12 Aug., 2015, ssir.org/articles/entry/why_buzzword_wont_save_the_world. Accessed July 2019.
- Bardos, Lucie. "Towards a socially sustainable permaculture - some practical steps." *Medium.com*, Permaculture Women Magazine, 9 Mar. 2018. Accessed July 2019. <https://medium.com/permaculturewomen/towards-a-socially-sustainable-permaculture-some-practical-steps-6ceae8e5902>
- Olson-Ramanujan, Karryn. "A 'pattern language' for women in permaculture." *Strategy, Education, and Ecological Design for Sustainability*. Originally posted in Permaculture Activist Magazine, Aug. 2013. Accessed July 2019. <http://seedsustainabilityconsulting.com/women-in-permaculture-article-in-permaculture-activist/>
- Roberts, Tobias. "How To Decolonize the Permaculture Movement." *HuffPost*, 31 Jan. 2017, updated 31 Jan. 2018. Accessed July 2019. https://www.huffpost.com/entry/how-to-decolonize-the-per_b_14501784?guccounter=1
- De Blasio, Sylvia. "Women in Permaculture: Why an all-women-led PDC?" *Medium.com*, Permaculture Women Magazine, 21 Mar. 2018. Accessed July 2019. <https://medium.com/permaculturewomen/women-in-permaculture-why-an-all-women-led-pdc-7f1001e76d76>
- Purifoy, Danielle. "On the stubborn Whiteness of Environmentalism." *Inside Higher Ed*, 22 June 2018. Accessed July 2019. https://www.insidehighered.com/advice/2018/06/22/how-environmentalism-academe-today-excludes-people-color-opinion?utm_content=bufferc2840&utm_medium=social&utm_source=facebook&utm_campaign=IHEbuffer
- Thomas, Pandora. "Black Permaculture Network." *Pandora Thomas*, 2017. Accessed July 2019. <http://www.pandorathomas.com/black-permaculture-network>
- "From biodiversity to diversity: permaculture in garden, community and society." *The Jellied Eel*, Sustain, 1 Aug. 2019. Accessed Sept. 2019. https://www.sustainweb.org/jelliedeel/articles/jan19_may_project_gardens_biodiversity_permaculture/
- Urban Growers Collective*. 2018. Accessed Sept. 2019. <https://urbangrowerscollective.org/>
- Sustainable Development 2015 Advocacy Toolkit Mini-Site. "The Brundtland Report Our Common Future." Stakeholder Forum and CIVICUS with financial support from the European Union. Accessed 1 Oct. 2019. <https://www.sustainabledevelopment2015.org/AdvocacyToolkit/index.php/earth-summit-history/historical-documents/92-our-common-future>
- Sustainable Development Goals. "Sustainable Development Agenda." United Nations. Accessed Jul. 2018. <https://www.un.org/sustainabledevelopment/development-agenda/>
- Biermann, F., Kanie, N., Kim, R. "Global governance by goal-setting: the novel approach of the UN Sustainable Development Goals." *Current Opinion in Environmental Sustainability*, Elsevier B.V., 2017, pp 26 - 31.

- “Turning Promises into Action: Gender Equality in the 2030 Agenda for Sustainable Development.” *UN Women*, 2018.
- Marin, Amanda B., Kuriakose, Anne T. “Gender and sustainable forest management: entry points for design and implementation.” *Climate Investment Funds*, 2017.
- Jaramogi, Kemba. Personal interview. 22 Jan. 2020.
- Jaramogi, Akilah. Personal interview. 27 June 2018.
- Asher, Kiran. “Women are to gender what trees are to forests.” *Youtube*, uploaded by Center for International Forestry Research, 25 Feb. 2015. Accessed Sept. 2018.
<https://www.youtube.com/watch?v=NKiygnApqLY&list=WL&index=12&t=0s>
- Woods Hole Research Center. “Stopping tropical deforestation.” Accessed June 2019.
<http://whrc.org/our-work/tropics/>
- Houghton, R., Byers, B. & Nassikas, A. “A role for tropical forests in stabilizing atmospheric CO₂.” *Nature Clim Change* 5, 2015, pp 1022–1023.
<https://doi.org/10.1038/nclimate2869>
- Chen, S., Yu, H., Luo, H. *et al.* “Conservation and sustainable use of medicinal plants: problems, progress, and prospects.” *Chin Med* 11, 37, 2016. Accessed Sept. 2019.
<https://doi.org/10.1186/s13020-016-0108-7>
- Caribbean Women in Forestry. Accessed Jan. 2020. <https://cawfor.weebly.com/>