

CHAPTER THREE

Interrogating Food and Environmental Policies in Canada in Light of Persistent Inequalities

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When we're not hungry for justice, it's usually because we're too full with privilege - Carlos A. Rodriguez

"The environment is man's first right. Without a safe environment, man cannot exist to claim other rights, be they political, social, or economic". - Ken Saro-Wiwa (1941 to 1995).

What I miss in the US food movement is an urgent sense of history. History about the soil on which local food is grown. About the blood of first nations and slaves in that soil. About the legacy of settler colonialism that lets some folk obsess over kale while those harvesting it can't afford to buy it.

Raj Patel- Author of Stuffed and Starved: The Hidden Battle for the World Food System

Abstract

This chapter discusses the intersection of food and environment and interrogates food and environmental policies in Canada in light of persistent inequalities. It delves into the intertwined issues of food and environmental justice, emphasizing their critical importance to equitable and sustainable development. It examines societal barriers that restrict access to nutritious, environmentally friendly food options, as well as the environmental impacts of agricultural production on low-income, disadvantaged communities and minority populations. The chapter further discusses the impact of technology and the use of genetically modified crops, and the importance of community-led initiatives in creating equitable food systems and sustainable environmental practices. In broaching these issues, the chapter explores how environmental pollutants frequently cause adverse health effects in these communities. Furthermore, the chapter examined the principles of environmental justice, focusing on the right to a healthy environment for all, regardless of race, income, or geography and concludes with a call for a holistic approach to addressing food and environmental justice, advocating for integrated policies that address the root causes of inequality and environmental harm.

Keywords: Environmental Sustainability Practices, Environmental Pollutants, Food Justice, Environmental Degradation, Environmental Harm, Terminator Technology.

Introduction

My background as a social justice researcher and advocate allowed me to interrogate issues bordering on an unequal and unjust world lacking equality and equity. Besides studying climate change in my research, I also explore concepts like economic inequality, food and social justice, and environmental sustainability. I am confronting a political imbalance between sustainability and food justice. These phenomena contribute immensely to jeopardizing the interests of the poor and marginalized groups, resulting in social exclusion, inequity, and a loss of privilege. The central principle governing food production is the inevitable uncertainty that growers have to surmount and the need to engage with social justice.

Food and environmental justice studies examine social disparities related to ethnicity, gender, age, class, and country of origin (Jampel, 2018). Research has mostly examined how food security, resource depletion, toxic industry siting, and climate change affect poor and working-class communities, particularly communities in the Global South, which often experience social inequality. According to Gottlieb and Joshi (2010), food justice seeks “to achieve equity and fairness in relation to food system impacts and a different, more just, and sustainable way for food to be grown, produced, made accessible, and eaten” (p. 223). Food justice is also the notion that all individuals should be able to obtain nutritious and environmentally friendly food (Glennie & Alkon, 2018). The concept originates from the food justice movement in the United States, which acknowledges the connection between food, health, and the environment. The food justice movement is based on a discourse that examines “historical-materialist relations responsible for the creation and re-creation of unjust circumstances” (Agyeman & McEntee, 2014, p. 216). In Canada, six policy initiatives and eight infrastructure support measures were identified as the most critical and realistic. A study has identified advancements and significant gaps in implementing policies in Canada, emphasizing the urgent need for increased focus on prioritized policies that can facilitate the move to a health-promoting food environment (Vanderlee et al, 2019).

Environmental sustainability refers to a state in which human society can manage resources to fulfil its demands without compromising the ability of future generations to meet their own needs (WCED, 1987). It entails engaging in responsible practices concerning the planet to conserve natural resources and sustain healthy ecosystems for the long term. Balancing ecological, economic, and social goals, such as reducing carbon emissions, is necessary to promote renewable energy and ensure equitable resource access. In discussing sustainability, food and social justice obstacles, I will use the example of food production and farming, varieties of seeds, food choices, the impact of technology, and terminator seed biotech on food production. Why are we modifying or terminating crops with technology that appears to be a significant turning point in food production? (Jacobsen et al., 2013). How can policies and practices ensure environmental sustainability while addressing food security?

How can systemic inequities, such as racism and economic disparities, impact access to healthy food and contribute to environmental injustices in underserved communities? Addressing these issues are paramount as it emphasizes the systemic characteristics of environmental and food injustices. It illustrates how historical and persistent discrimination, together with economic and political marginalization, create and sustain these disparities. Understanding the root causes of these problems is essential for creating practical solutions that address the systemic issues rather than simply relieving the symptoms. This chapter examines the interrelations between

sustainability and food justice by analyzing how systemic inequalities hinder development in both areas. Ascertaining potential strategies for creating more equitable and sustainable agricultural practices is essential. Understanding these difficulties is crucial for developing equitable, sustainable food systems. Food insecurity and environmental deterioration disproportionately harm vulnerable individuals, limiting their ability to thrive. Research can help guide policies and practices that promote fairness and long-term ecological balance.

This chapter calls for a holistic approach to food and environmental justice, advocating for integrated policies that address the root causes of inequality and environmental harm. As communities across the globe confront structural inequality and the escalating challenges presented by environmental degradation, the relationship between food and environmental justice has emerged as a critical area of focus. Food justice ensures equitable access to healthy, culturally acceptable, and sustainably grown food, especially for marginalized groups. Focusing on environmental justice means ensuring equitable sharing of environmental goods and externalities. These developments happened simultaneously in the past, but they have not always been fully integrated. Solving societal problems, such as unfair access to resources, environmental racism, and taking advantage of workers and land, are all closely linked. For example, industrialized agriculture facilitates climate change, deforestation, and the loss of wildlife. They also deepen social injustices by mistreating workers and distributing land unfairly. Similarly, damage to the environment, including polluting waterbodies or land, directly or indirectly affects food production and access, making things worse in a way that disproportionately hurts vulnerable communities.

This chapter calls for a complete overhaul and development of a comprehensive approach to solving food and environmental wrongs. It stresses the need for unified policies beyond simple fixes to deal with fundamental inequality, like unequal land ownership, unfair farming policies, and farming methods that cannot last. This method tries to make fair, long-lasting systems that put people's and the planet's health first by closing the gap between food justice and environmental justice. In doing so, the chapter urges people from different fields to work together and stresses the importance of community-led projects, inclusive policies, and the use of Indigenous knowledge systems. It shows the importance of dealing with these problems simultaneously to make a fair and long-lasting future for everyone.

Bragaglio et al. (2018) provide compelling reasons why our food choices are implicated in a wide range of environmental impacts over space and time. Their study highlights the adverse effects of industrial beef production on the ecosystem. These include polluting rivers and oceans, releasing high levels of methane, facilitating deforestation/habitat loss, loss of biodiversity, soil compaction, and associated issues (such as increasing run-off, loss of topsoil, and general land degradation) and developing antibiotic resistance because of the overconcentration of antibiotics in beef production (Bragaglio et al., 2018). Society does not fully realize the impact of meat consumption on the planet. According to National Geographic (2010), a half kilogram of beef requires approximately 1799 gallons of water, one pound of poultry requires 468 gallons, and one pound of pork requires 576 gallons (Bhuva et al., 2021).

Beef production competes with humans for limited resources, leading to unfair treatment and meaningful involvement of all people, irrespective of their colour, race, nationality, or income. The enforcement of environmental laws, regulations, and policies should be strengthened to benefit everyone. This includes a safe water supply, the right to food, clean air, and natural areas to enjoy. Who then benefits from the environment's green spaces, parks, and recreational areas? The distribution of natural resources has always been uneven. The distribution of wealth has

always been concentrated among a select few who wield significant influence in politics and economic positions. Their power allows them to control laws, regulations, policies, and lobby groups. In a world of injustice, lobbyists keep fighting, wielding their influence and building alliances, while the political class remains at the center, manipulating citizens. A line is drawn for environmental benefits, but people are exposed to risks. Some groups of people face poverty; these same groups, the disadvantaged minority racial groups, face environmental burdens such as air and water pollution from factory waste, particularly in areas like Africville in Nova Scotia (Dill, 2021). It is essential to understand the history of environmental racism in Africville to know the circumstances that led to the city's demolition of the community. The state-led destruction is characterized by oppression, exploitation, social injustices, and the government's support of capitalism. Chancel (2020) argues that reducing economic inequality is essential to achieving sustainable development goals and emphasizes the difficulties in fighting poverty and inequality while protecting the environment.

This approach ensures all individuals have access to nutritious food, clean water, and a healthy environment. It also addresses social, economic, and political factors perpetuating inequality and environmental degradation. The goal is to create a fair and sustainable system that benefits everyone, particularly marginalized and underprivileged communities disproportionately affected by these difficulties. Robinson (2018) similarly questions how to reduce socio-economic inequality to enhance environmental protection. Robinson stresses the need for equal economic, political, and social rights and opportunities, noting the disproportionate impact of poverty on minority populations and the role of education in addressing oppression, inequity, colonialism, imperialism, and climate change. Food justice is primarily concerned with oppression and inequity in the food system. The issue of uprooting oppression focuses on dismantling an imbalanced power structure in the food system from community to global scales (Reynolds, Block and Bradley 2018 p.987-988).

Reducing Socio-economic Inequality to Improve Environmental Protection in the Community

Martusewicz, Edmundson, and Lupinacci (2014) state that a community is a group of people living together with a sense of trust; they depend on and care for one another. "A group of organisms living in mutually dependent relationships with each other," (Martusewicz et al. 2014, p. 23). The basic principle of democracy requires diversity as a community's strength. It works to protect the world with "human decision-making practices and responsibilities" (Martusewicz et al., 2014, p. 28). Nevertheless, the authors complicated this by highlighting the relationship of mutual support. "It is important to remember that both the environment and human communities are interdependent. Secondly, society promotes the tyranny of the majority" (Martusewicz et al., 2014, p. 28). If we desire a just and healthy community for ourselves and generations to come, we should live without showing our biases and assumptions. We need one another in diverse ways. Regrettably, economic relationships treat humans as commodities, imposing a value hierarchy that grants certain individuals' status, privilege, and value. I believe that factors such as race, class, gender, and nationality contribute to the marginalization, undervaluation, and inferiority of certain groups of people, particularly those suffering from today's climate change.

People need to live well, make meaningful contributions to their lives, and address the issues that affect them and the planet Earth, which is on the verge of destruction. The educated individuals on our planet have utilized their knowledge to cause obstacles and perpetrate cruelty.

Then what has become of education? According to Orr (2004), education does not guarantee decency, prudence, or wisdom. The lack of a standard of decency in education has exacerbated the problems facing humanity. It not only affirms human survival but also demonstrates how individuals have sold their souls for power and money, driven by a desire to dominate nature to the point where capitalism has eroded morality. We have "built a world of sybaritic wealth for a few and Calcuttan poverty for a growing underclass... living in a disintegrating culture" (Orr 2004, p. 12). The purpose of our knowledge is our responsibility to use it well in the world. Why have we decided to use it for destruction—the "monster of technology and its by-products," with no one taking responsibility for its effect on people and their communities?

Class, privilege, and prejudice deeply permeate society. Where are the democratic and human rights principles? The economy and employment sector favours a certain class of people. Consider that a specific group of individuals holds exclusive positions like managers and directors, whereas the marginalized group occupies lower positions. In most cases, whoever receives wealth has the authority to make decisions without ensuring justice. The disparity continues to exclude others from the natural world and human society. Some of the dangers of inequity is that the same groups suffer from food injustice and face educational, political, and socioeconomic issues.

Our environment faces grave danger; hence, disregarding this imminent danger compromises wellbeing of present and future generations. Klein (2007) examined the tragedy of New Orleans School's floodwater, which devastated the school and provided an opportunity for think tanks like Milton Friedman, the grand guru for the movement for unfettered capitalism supported by George Walker Bush, to deprive the less privileged of the public schools of their environment. Many Milton Friedmans around the world are contributing to this 'disaster.' Capitalism, along with numerous excruciating instances of "economic shock treatments" as Klein would phrase it, wreaks havoc on marginalized communities, leaving them perpetually in agony and shock. Those in positions of power and authority have shown insensitivity, displaying self-possession in the face of dispossession, regardless of the impact on the poor. Klein (2007) elucidates how neoliberal policymakers leverage the aftermath of a crisis, like a devastating flood, to drive economic privatization and advance their corporatist agenda. Under the corporate influence of lobbyists, global corruption tends to advance in democratic societies. With this, there is no genuine willingness to build a just society. Klein (2007) asserted that, despite the impact of climate change and environmental degradation, marginalized groups experience deprivation and disempowerment due to the corruption of those in power.

Impact of Climate Change and Global Warming

It is becoming increasingly clear that the global community is not fairly distributing the impacts of the intensifying disaster of climate change. The low-income individuals and developing countries bear the brunt of global impact of a warmer climate and its severe consequences (Mishra, 2024). Marginalized groups experience a disproportionate impact from climate change, which results in disrupted livelihoods, increased vulnerability to extreme weather events, and requires immediate attention and action. The concept of global warming and climate change illustrates how the planet's temperature rises more than it would naturally, as the climate varies. Global warming has many negative consequences, both biologically and physically, in the human system. The greenhouse effect, a natural process, causes global warming by retaining some of the sun's heat in the atmosphere, enabling the Earth to maintain the necessary conditions for life. Matemilola & Alabi (2023) study found that without the greenhouse effect, the average temperature of the planet

would be -18 °C. The problem is that daily human activities maximize the greenhouse effect, causing the planet's temperature to increase considerably. It amounts to reducing greenhouse gases, such as switching to a plant-based protein source like beans instead of meat. This swap can make a significant difference in our environmental impact. We should use a powerful network and advocacy to address the sustainability challenges of climate change, food modification, water scarcity, pollution, and, most importantly, an unjust approach to food and water.

Moreover, climate change exerts an influence on agricultural production, whereas agricultural practices have a detrimental impact on the environment. This has resulted in a 'triple catastrophe' in which obesity, undernutrition, and climate change are eroding the conditions for both human and planetary well-being (Haines & Frumkin, 2021). Food justice is emerging as a compelling concept for promoting social change to tackle disparities in food access, taking into account the interconnectedness of human and environmental interactions. However, both in theory and in reality, it is a phrase that is subject to discussion and disagreement.

Shiva (2000), in a book *the stolen harvest of seed*, stated how industrial agriculture had promoted monocultures in the bid to have centralized control over the production and distribution of food, with corporate bodies reinforcing each other. Three processes intensify monopoly control over seed through the food chain: economic concentration, "patents and intellectual property rights, and genetic engineering" (p. 81). Humans had farmed for centuries, eating healthy without devastating illnesses, until 60 years ago, when industrialized agriculture in the United States and around the world began. Following World War II, chemical companies sought a market for their wartime inventions, which led them to employ pesticides in the fields, thereby developing industrial agriculture (Çakmakçı et al., 2023). Why have pesticides become essential for the development of the entire agricultural sector, with pesticides touching every aspect of our lives and causing chronic diseases and biodiversity loss? It is time to dramatically shift our food and farming systems to the type of farm-built thousands of years ago to create healthy living and sustainable food.

In the Guardian of February 24 and April 7, 1999, the Rural Advancement Foundation International (RAFI) describes how the traitor technology damaged goods. The commercialization of seeds primarily hinders essential plant functions such as reproduction, disease resistance, and seed viability. This has resulted in farmers worldwide becoming entangled in an expensive web of chemicals, intellectual property rights, and disabled germplasm, leading to a situation known as "bioserfdom". The condition, which is disastrous for both farmers and global food security, forces poor farmers to rely on and purchase farm-saved seeds every year. To meet local conditions, farmers have continually developed local varieties of seeds, which have changed to genetically sterile seeds due to cross-fertilization with genetically modified crops. We have to convince the consumers that this is beneficial for them, states Monsanto president, Hendrick Verfaillie in 1998. With the help of their sponsored media, they achieve their aim of destruction and illicit businesses. Do we think that corporations can one day control the planet, our governments, and, therefore, us? The media control impacts the quality of our national democracy and the sovereignty of other nations. Such a corporatocracy serves the interests of the same groups. Corporations are self-centred, driven by an endless hunger for profit, image-making, and the role of capitalism. Corporate bodies destroy society with utter impunity with the ideology of the bottom line, which includes the cost of unemployment, alcoholism, lost savings, child abuse, high divorce rate, crime, and wrecked lives (Orr (2004). As described by Orr (2004) and Kneen (1999), articles which illustrate how capitalism can have both positive and negative impacts.

The Issues of Terminator Technology in Sustainable Agriculture

Kneen (1999), a biotech and food industry expert, discloses that “life-science” conglomerates are genetically engineering food plants for corporate profit, with minimal consideration for the environment and health environment or health. The government enacts and vetoes laws and policies that serve the interests of corporations. Additionally, governments fail to regulate industries in a way that benefits both producers and consumers, resulting in an imbalanced reality within the food industry. The problems of terminator technologies, as the name suggests, are the “impacts on biodiversity, sustainable agricultural development, and farmers’ access to the use of genetic resources through the inability to save and re-sow seeds” (Lombardo 2014, p.1002).

Kneen (1999) states that due to the culture of biotechnology, Indigenous peoples have been forced off their lands, but it’s becoming clear that technology and global agreements have rendered these methods obsolete and unnecessary. People can retain the land and remain confined to highly controlled economic relationships of similarly exploitative dependence. The key highlight is the ‘Terminator Technology’, which ensures that the seed cannot germinate after first use. Terminator Technology seems to be the ultimate weapon of corporatocracy, the ability to control the seeds of life at the root of the global food supply. Kneen (1999) emphasized a veritable war that is being waged on non-industrial sustainable farming. This trend is particularly prevalent in the global North. Kneen (1999) analyzed how Monsanto and the biotech giants have disrupted the global farming system, eradicated traditional farming methods and consolidated control over global farming within a handful of corporations. Farmers are rebranding farming systems as updated versions of age-old and customary methods for selecting and breeding seeds, plants, and animals. The control over seed and the world now depends on corporate seed supplies.

The Integration of GM Crops in the Agricultural Landscape

“Genetically modified organisms (GMOs) can be defined as organisms (i.e., plants, animals or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating and/or natural recombination (WHO, 2014. para 1).” Years of dependence on herbicides have resulted in the emergence of weed species that are resistant to herbicides. Presently, it is estimated that about 50 species of weeds are resistant to herbicides, creating serious challenges to farmers growing soybeans (Heap, 2022; Van Wyche, 2019, as cited in Winans et al., 2023). Among these weeds, water hemp is the most common and troublesome weed species in soybean production in the United States. The FlavrSavr™ tomato, created by Calgene Inc. in 1994, was the first genetically modified (GM) plant approved for human consumption. Due to their delicate nature, tomatoes are at risk of bruising throughout the harvesting process. The main objectives of tomato breeding were to enhance fruit firmness or delay softening, achieve optimal ripeness at harvest, reduce transportation damage, and prolong shelf life. Genetic engineering approaches, such as RNA interference (RNAi) targeting the polygalacturonase (PG) gene, are seen as means to enhance the growth and distribution of tomatoes (Aragao and Faria, 2009, cited by Anushi et al. 2024). Genetic modification is a technology that involves altering DNA or genome of an organism. Unfortunately, the cost of seeds and pesticides has significantly reduced the available seed supply, thereby diminishing farmers’ profits and enriching corporate entities.

Innovative genetic modifications applied to crops are revolutionizing agriculture by enabling resistance to pests, diseases, and environmental stressors. The application of innovative genetic modifications to crops allows them to develop resistance to pests, diseases, and

unfavourable environmental conditions. Anushi et al (2025) study revealed that biotechnology provides a high level of precision and specificity in altering the genetic makeup of plants, which allows for the improvement of desirable characteristics, such as taste, durability, and nutritional content, offering significant potential to improve agricultural productivity and food quality. But the key question is, what are the long-term safety implications of consuming these GMO crops, given their biotechnology composition? Most studies on genetically modified (GM) foods have shown that they may induce common toxic effects, including hepatic, pancreatic, renal, or reproductive effects, as well as alter hematological, biochemical, and immunological parameters (Dona, 2009), suggesting that clinical trials and years of animal research are necessary. Can eating GMO foods contribute to the development of cancer? What is the impact of consuming GMO foods on the body's levels of potentially carcinogenic substances? Also, GMOs have undergone genetic modification to become resistant to particular antibiotics (Kharate & Zaware, 2021).

GMOs have received considerable recognition for their potential for reducing challenges related to food security. The adverse effects of GMOs on health, the environment, and cultural practices need examination through a multidimensional perspective. It has implications for health, the environment, and cultural practices (Tsatsalis et al., 2017). The extensive application of herbicides and pesticides combined with GMOs has been connected with soil degradation and water contamination (Zhou & Achal, 2024). There is an increasing apprehension regarding the long-term health implications associated with them. The GMOs undermine Indigenous agricultural systems and the traditional practices of seed preservation (Demi and Sicchia, 2021; Kamakaula, 2024).

Due to the controversies surrounding GM foods and their safety required that food produced using GM technology must be assessed on a case-by-case basis rather than blanket statements on the safety of all GM foods (WHO, 2014). Caradus (2023) described the concerns that revolve around the potential risks of food safety related to toxicity, allergenicity and the environmental risks associated with gene flow.

The development of resistance in weeds and insects (Tabashnik et al, 2013) and the genetic disturbances that could lead to unintended compounds, new diseases, or antibiotic resistance (European Food Safety Authority EFSA, 2004). Genetically modified (GM) technologies, like other non-GM technologies, might pose dangers. However, these risks have been carefully monitored and measured, enabling decisions that balance commercial, societal, and environmental benefits against quantifiable concerns. Although it is necessary to have systems of 'checks' and 'balances', regulatory frameworks should prioritize the equilibrium between risks and benefits, rather than solely focusing on checks.

Health Impacts of Environmental Pollutants

Among marginalized and underserved populations, environmental pollutants, such as air, water, and soil contamination, cause adverse health effects in communities. Harmful particles such as PM_{2.5}, nitrogen oxides, and sulphur dioxide, leading to respiratory illnesses like asthma and chronic bronchitis, are released by air pollution from vehicle emissions, industrial activities, and wildfires (Revesz, 2022). The risk of cardiovascular diseases, cancer, and premature death is caused by persistent exposure to these pollutants (Revesz, 2022). The health of the Indigenous and low-income communities is impacted by their proximity to industrial zones and highways, which worsens their exposure to air toxins. Harmful substances like lead, mercury, and bacteria cause diseases such as cholera and cognitive impairments in children through water pollution from industrial waste, agricultural runoff, and aging infrastructure, contaminating drinking water

sources (Di Fonzo et al., 2022).

Soil contamination from pesticide use, mining activities, and improper waste disposal, which results from toxins introduced into the food chain, also impacts community health. Consuming crops grown in polluted soil can cause long-term health issues, including organ damage and developmental delays. Furthermore, Indigenous communities, many of whom rely on traditional practices for sustenance, such as the Indigenous community's food sources and livelihoods, are disrupted and affected by environmental degradation (Ford et al., 2020). The spread of pollutants through extreme weather events like wildfires and flooding, intensifying respiratory issues and waterborne diseases, is worsened by climate change. Equitable policies addressing pollution and environmental justice are needed to promote public health outcomes for humanity.

The Concept of Food Justice

The concept of food justice, which started in the United States, has received considerable attention. There are various definitions of food justice, each focusing on the scope of the concept. The concept of food justice describes a social movement and set of principles. It is participatory and community-specific, and it demands the recognition of human rights, equal opportunity, and equitable treatment, all of which are in accordance with the objectives of social justice. According to Murray et al., (2023), twelve essential definitions of food justice were identified in a thorough analysis of the existing literature. Alkon and Agyeman (2011) investigated food justice by analyzing how racial and social inequities are ingrained within the food system. They emphasize the systemic obstacles encountered by marginalized communities in obtaining healthy and sustainable food, highlighting the necessity for alternatives that are both environmentally sustainable and socially equitable. Gottlieb and Joshi (2010), expanded in 2013 with (103) definition, cited twenty-three times, address four primary themes in food justice: food security, social equity, food systems transformation and community participation and agency. The analysis identified two primary strategies for achieving food justice. Murray et al., (2023) studied that the first approach, known as the 'humanistic' approach, was founded on eleven definitions that prioritize the well-being and agency of individuals through values such as dignity, self-determination, equity, access, justice, and participation. The second approach, known as the 'more-than-human' approach, is characterized by the integration of social and environmental justice concepts. It tackles broader issues such as distribution, involvement, recognition, and their full potential. This differentiation illustrates various points of view within the realm of food justice, including both a concentration on human well-being and a more comprehensive examination of environmental issues.

Transformative change toward a healthier, more sustainable, and more equitable food system necessitates community participation and agency in food justice decision-making. Food justice is a concept that emphasizes the importance of ensuring that all people, irrespective of their socioeconomic status, race, or geographic location, have access to healthy, affordable, and culturally appropriate food. The concept aims to rectify the inequity in the food system. It entails identifying and addressing the systemic inequalities and structural barriers that exacerbate food insecurity and poor nutrition, particularly in marginalized communities. Food justice also includes the equitable treatment of food workers, sustainable agricultural practices, and community control over food systems. The goal is to establish a just and equitable food system for everyone - to know where the food comes from and how it is made.

Marginalized communities are utilizing the food justice movement to address their food demands, relying on an emancipatory discourse known as intersectional agriculture. This movement is different from the dominant food movements: food sovereignty, ethical consumption, and local food movements (Cadieux & Slocum, 2015).

The dominant food movements aim to establish equitable and sustainable food systems characterized by a conflict between corporate agriculture (marketization) and local food systems (social protectionism) (Lombardozzi 2024). Although the exact role of food justice in this larger movement is not entirely obvious, its objective is to transform the way food is produced, distributed, and consumed and influence various social, cultural, political, economic, and environmental factors. Using Nancy Fraser's triple movement framework, food justice is interpreted as the liberating element of the broader 'triple food movement', particularly in the context of Black farmers and queer communities in the United States (Fraser 2013). These communities are establishing venues to meet their food needs and confront systems of control about race, class, agriculture, sexuality, gender, and food.

The study of food justice involves disciplines that focus on social movement activism, alternative food practices, and inequality in traditional and alternative food systems. Glennie and Alkon (2018) adopted Hislop's (2014) definition of food justice as 'the struggle against racism, exploitation, and oppression taking place within the food system that addresses inequality's root causes both within and beyond the food chain.' Food justice is a developing idea that encompasses both a social movement and a set of ideas. It follows the principles of social justice, advocating for human rights, equal opportunities, fair treatment, and being inclusive and tailored to the needs of the community. Murray et al., (2023) state that the current understanding of food justice is skewed. The term "food justice" encompasses a comprehensive and structural perspective of the food system. Food justice advocates value the promotion of nutritious, environmentally friendly, and fair food as a fundamental entitlement for every individual. They also recognize the importance of overcoming systemic obstacles to provide this right. Active community involvement and empowerment in making food justice decisions are critical for bringing about significant and positive changes in creating an equitable food system that is healthy, sustainable, and equitable (Murry et al., 2023). Food justice constitutes a vision-driven framework that seeks to rectify disparities within the food system.

It aims to guarantee that all individuals have access to nutritious, affordable, and culturally appropriate food while simultaneously advocating for equitable labour practices, environmental sustainability and the empowerment of the communities within the food systems (Gottlieb & Joshi, 2010). Inequities pervade the entire food system, with historical and ongoing disparities in access to financial support and resources. Logan (2023) states that White farmers have long benefited from loans and subsidies provided by the United States Department of Agriculture (USDA), aimed at discouraging over-production and facilitating access to new technologies. In contrast, this support has been historically denied to Black, Native American, Latino, and women farmers. These groups have faced significant barriers in the agricultural sector due to systemic discrimination. Currently, some marginalized groups are pursuing legal action against the USDA to seek redress for these inequities and to address the long-standing disparities in the distribution of agricultural support and resources.

The denial of support to Black, Indigenous and Brown farming families constitutes discrimination. This discrimination extends to environmental injustices. The United States Environmental Protection Agency (EPA) describes environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, colour, national origin, or income,

with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies” (EPA, 2021, para 2). The civil rights movement and the 1968 Memphis Sanitation Strike serve as the origin of the environmental justice movement in the United States. This strike aimed to address hazardous working conditions and received the support of Dr. Martin Luther King Jr. The matter gained more publicity in the 1980s, as advocates for civil rights and environmental protection organized a sit-in protest in Warren County, North Carolina, opposing the disposal of hazardous trash at a local landfill. One of the initial pivotal events of the environmental justice movement was the demonstration, which ultimately proved unsuccessful (Logan 2023). The key question that begs for an answer is, why are we still having problems trying to rectify an issue that has been affecting communities since 1968? Despite decades of awareness and policy efforts, environmental injustice remains a pervasive issue. Since 1968, communities of colour and developing nations have disproportionately borne the brunt of toxic waste facilities and environmental hazards. Despite high-level commitments such as President Bill Clinton's 1994 executive order on environmental justice, these communities continue to suffer from environmental inequities.

Ensuring Environmental Justice in Our Communities

In the past three decades, environmental justice (EJ) has emerged as a rallying call for social movements and communities globally that are endeavouring to safeguard their environment and cultures from the appropriation, transformation and destruction of nature. The environmental justice movement began in earnest in the late 1960s, as marginalized communities increasingly protested against the disproportionate siting of hazardous waste facilities in their neighbourhoods. This activism brought to light the systemic inequalities in environmental policy and practice, highlighting how race and socioeconomic status often determined exposure to environmental risks. There are persistent inequities and proximity to toxic waste in communities of colour, and racialized communities are still overwhelmingly located near toxic waste facilities. These sites pose significant health risks, contributing to higher rates of diseases such as cancer, respiratory illnesses, and developmental disorders (Hossain, 2023). The environment is conceptualized broadly to include all components that have the potential to impact the lives of both humans and non-humans on earth (Miller & Tyler, 2003, cited in Adekunle, 2017). There are two different dimensions to environmental justice: first is distributive - how are environmental benefits and burdens distributed? Second, participatory justice: how are these distributive decisions made? Who participated in their making? (He, 2023; Neuteleers, 2023).

Álvarez and Coolsaet (2020) argued that environmental justice frequently employs Western paradigms to define the concepts of ‘environment’ and ‘justice.’ Environmental justice explains equitable allocation of environmental positive and negative impacts, ensuring that individuals of all socioeconomic backgrounds and races have equal opportunities to enjoy a safe and healthy environment (Mohai et al, 2009). A healthy environment is defined as being “clean, healthy, and sustainable.” (Canadian Environmental Protection Act [CEPA], 1999).

Van Horne et al., (2023) state that during the multinational People of Colour Environmental Leadership Summit, which took place in Washington, DC, from October 24 - 27, 1991, the people of colour formulated and embraced 17 principles of environmental justice. They came together to initiate a national and international movement to combat the destruction and seizure of their lands and communities. They reaffirm their spiritual connection to Mother Earth, pledge to respect and celebrate their diverse cultures, languages, and beliefs, and commit to healing themselves and ensuring environmental justice. After over 500 years of colonization and oppression, the multi-

national people of colour aim to promote eco-friendly economic alternatives and strive for political, economic, and cultural liberation. The reason is that centuries of colonization has resulted in poisoning of their communities and land and the genocide of their peoples. They affirm and adopt the Principles of Environmental Justice. Since then, the principles have served as a defining document for the growing grassroots movement for environmental justice.

Colonialism's connection to food production exposes human beings to harm and environmental damage. Through control of economic and production forces, Western and settler colonial societies maintain their dominance, confirming their treacherous and deceptive practices. CarMicheal (2023) explores environmental justice, including the equitable allocation of environmental positive and negative effects, guaranteeing that individuals of all socioeconomic backgrounds and races have equal opportunities to enjoy a clean and secure environment. It focuses on the unequal effects of environmental risks on marginalized communities, intending to correct these inequities and advocate for fair environmental policies. In the United States, environmental justice has become increasingly important because of the clear inequalities in the location of hazardous waste dumps and industrial facilities near minority and low-income communities. Environmental justice is a principle that prioritizes equitable treatment of all individuals and communities, regardless of their socioeconomic level, concerning safeguarding their environment and ensuring equal access to natural resources.

According to the United States Environmental Protection Agency (EPA), environmental justice means ensuring fair treatment and meaningful involvement of all people, regardless of income, race, colour, national origin, tribal affiliation, or disability, in federal decision-making affecting human health and the environment (Russell & Gruber, 1987). The goal is to protect everyone from disproportionate and harmful impacts on human health and the environment, such as climate change, environmental burden accumulation, and structural obstacles like racism. Ensuring everyone has access to a healthy, sustainable, and resilient environment for living, working, learning, growing, worshipping, and cultural or subsistence practices (Carmichael, 2023).

Sustaining the Development of Food and Environmental Justice

Although the United Nations Sustainable Development Goals have received widespread international support, there is an increasing prevalence of environmental injustices globally. The battles highlight individual instances of an interconnected system of discrimination that benefits a small few while causing suffering for the majority and posing a risk to the environment. Murray et al., (2023)'s study shows that global farmers generate a sufficient amount of food to nourish the entire population. Meanwhile, there is a significant amount of food waste, inadequate food distribution, and widespread production of overly processed and nutritionally deficient food. As a result, there is a growing number of people experiencing hunger, an increasing prevalence of undernourished individuals, a significant rise in obesity rates reaching epidemic levels, and a detrimental influence on public health due to the rising rates of chronic diseases associated with diet. Examining the multidimensional and intersectional aspects of environmental injustice involves analyzing the various forms of oppression that both connect and separate these conflicts. These forms include gender, race, poverty, and indigeneity. The social aspect of sustainability and its connection to human rights and environmental justice have been overlooked (Coolsaet, 2020). Atapattu et al., (2021) state that before sustainable development became a buzzword, the Global South advocated for the right to development as an expression of their right to self-determination. The concepts of the right to growth and sustainable development coexisted until the establishment of the SDGs in 2015. Sustainable development has become the primary

framework for environmental governance and a possible alternative to the prevailing economic development model. Sustainable development has made significant progress since its initial rise in popularity with the publication of the World Commission on Environment and Development (WCED's) 1987 report, commonly referred to as the Brundtland Commission. Sustainable development is characterized as the practice of satisfying the needs of the present generation while ensuring that future generation can also meet their needs without any compromises. Initially, sustainable development necessitated the maintenance of equilibrium between two fundamental ingredients for growth, economic development and protecting the environment. During the 1995 World Summit for Social Development, the inclusion of a third pillar, social development, altered the binary framework of sustainable development. As elucidated in the Summit's Declaration:

[E]conomic development, social development and environmental protection are interdependent and mutually reinforcing components of sustainable development, which is the framework for our efforts to achieve a higher quality of life for all people. Equitable social development that recognizes empowering of the poor to utilize environmental resources sustainably is a necessary foundation for sustainable development. I also recognize that broad-based and sustained economic growth in the context of sustainable development is necessary to sustain social development and social justice (United Nations, 2002, p.).

Green gentrification exacerbates racial tensions in historically marginalized urban neighbourhoods now enjoying new environmental amenities, including parks, gardens, shoreline restoration, and greenways in the West. The manner in which community members express their concerns and demands regarding racial issues associated with green redevelopment varies between Europe and North America. Additionally, settler colonial practices, persistent exposure to pollutants and re-segregation in the United States, and neocolonial spatial and social practices in Europe influence the perception and interaction of racialized community members with new green amenities. Lewartowska et al., (2024) provide an international analysis of how urban greening in North American and European cities can exacerbate racial injustices, particularly through gentrification and racial exclusion compounding environmental racism. It emphasizes that green infrastructure projects often worsen existing environmental racism and perpetuate racial inequalities in access to environmental benefits, affordable housing, political rights, and cultural protection. It emphasizes that historical injustices and colonial legacies influence current interactions with green spaces and calls for urban policies and community interventions to address displacement impacts and ensure inclusivity. It advocates for decolonial and emancipatory approaches to urban planning, recognizing histories of dispossession and supporting vulnerable communities to prevent green spaces from becoming exclusive to privileged groups.

White privilege in urban sustainability has led to injustices by disproportionately exposing low-income, non-white populations to environmental hazards, a phenomenon known as environmental racism. Historical processes of urban development, such as suburbanization in Los Angeles, were driven by white middle-class desires to avoid living near immigrants and people of colour (Pulido, 2000). Urban planning tools like redlining and exclusionary zoning have perpetuated this privilege, maintaining racial discrimination in housing markets. Understanding environmental racism requires recognizing how white privilege determines access to environmental benefits and protection from hazards. In June 2021, the United States White House officially recognized how exclusionary zoning had created racial discrimination in the housing

market (Kotsila et al., 2022, cited in Rouse et al., 2021). Kotsila et al., (2022) argued that in May 2020, amid the pandemic, a Via Campesina activist from Ciudad Juárez highlighted the severe impact of COVID-19 on immigrant farmworkers, likening their struggle to being ignored while struggling in water. This metaphor illustrates the unequal effects of urban sustainability efforts. Despite initiatives to promote sustainability, privileged groups often benefit the most, while disadvantaged communities face continued injustices. Ten drivers of injustice that exacerbate inequalities emphasize the need for urban sustainability to address issues of displacement, accessibility, and inclusivity. In order to guarantee that marginalized communities experience outcomes that are genuinely equitable and just, sustainable urban development must integrate decolonial and reparative justice practices. Summers et al., (2024) state that the impoverished and undeserved communities experienced the full impact of the calamity, highlighting wider social disparities and encouraging the communities to build their resilience capacity to withstand such hazards, which is a vital justice aspect of environmental management.

During food equity in Detroit, Michigan, USA, White (2018) investigated food inequality in Detroit, Michigan, USA. Over the past few decades, a city once renowned for its flourishing automotive industry has experienced a significant economic decline. The economic downturn led to substantial population decline and pervasive poverty. The economic collapse has resulted in the closure of numerous grocery stores, creating "food deserts" where the availability of fresh, affordable, and nutritious food is limited. Food deserts, a manifestation of food injustice, disproportionately affect Detroit's predominantly African American neighbourhoods. In areas where fresh produce is scarce and unhealthy, processed foods are prevalent, and residents frequently depend on convenience stores and petrol stations for their food. Higher rates of diet-related ailments, including hypertension and diabetes, are associated with the absence of access to nutritious food in these communities. Systemic racism, transportation, and economic barriers have all been present. Residents are unable to purchase fresh produce, even when it is available, due to their high poverty levels. Many residents are unable to access supermarkets that are situated outside of their neighbourhoods due to an absence of reliable transportation. Poverty and disinvestment have been concentrated in African American communities as a result of historical redlining and discriminatory lending practices. To address food injustice, the community established organizations like the Detroit Black Community Food Security Network (DBCFSN). In order to supply inhabitants with fresh produce, they established urban farms and community gardens. Furthermore, they advocate for policy modifications that will enhance food access and support urban agriculture.

Therefore, Detroit's experience underscores the intersection of economic decline and systemic racism, which results in the formation of food deserts that disproportionately affect African American communities. Although community-led initiatives are essential for addressing these injustices, sustainable change necessitates broader policy support. Narain (2017) examined the environmental justice in Bhopal, India. A catastrophic gas leak occurred on December 2, 1984, at the Union Carbide pesticide plant in Bhopal, Madhya Pradesh, India. The leak released methyl isocyanate gas, exposing over 500,000 people to hazardous chemicals. This incident is considered one of the world's most catastrophic industrial disasters. The Bhopal disaster exemplifies severe environmental injustice, where marginalized communities suffer the consequences of corporate malfeasance and government neglect. To protect vulnerable populations, the ongoing struggle for justice underscores the need for stronger environmental regulations and accountability mechanisms. Environmental injustices largely impacted the impoverished population residing in densely populated slums close to the factory. Following the event, there was a significant loss of

life, with survivors experiencing ongoing health issues such as chronic respiratory ailments, eye discomfort and several types of cancers. Hazardous waste continues to negatively affect the soil and groundwater, polluting the ecosystem. The primary concerns revolve around business negligence, governmental inaction and societal inequality. Union Carbide, currently under the ownership of Dow Chemical, disregarded safety regulations and maintenance, placing greater importance on reducing costs rather than ensuring human safety. The Indian government's response was sluggish and insufficient, as it did not promptly deliver medical assistance or satisfactory compensation to the victims.

Urban Agriculture Initiatives

Urban agriculture is growing across North American cities, often aiming to achieve social justice. However, success varies widely. Hammelman's (2019) study of two urban agriculture projects in Toronto highlights challenges in realizing social justice goals. Despite strong municipal and civil support for urban agriculture, bureaucratic barriers still prevent food cultivation on public land, especially for organizations with limited resources. Hammelman (2019) uses Swyngedouw's concept of the post-political condition to analyze this issue, noting that the focus on the processes of urban agriculture rather than on who benefits can lead to uneven development. Nevertheless, addressing these municipal barriers can improve environmental justice and food governance, helping urban agriculture initiatives better meet their social justice objectives. Hammelman (2019) cited Santo et al., (2010), who indicated: "While urban agriculture alone will not solve the many dilemmas of our food system, from ecological collapse to inequitable access to healthy food, it can be part of a constellation of interventions needed to reform the food system into one that is more socially just, ecologically sound, and economically viable." (Santo et al., 2016, p. 33). Addressing injustices, empowering communities, and proposing alternatives made it necessary to foster urban agriculture (UA) projects that enhance social equity. Instead of downplaying the significance of such efforts, it is crucial to comprehend the barriers that impede marginalized communities from gaining access to land for food production. This entails examining who benefits from completed projects and how small-scale growers with limited resources can access institutional land.

There are challenges to achieving social justice through urban agriculture (UA) projects. While not all UA initiatives aim for social justice, many do. To address these issues, decision-making must prioritize the geographies and voices of marginalized groups, ensuring that the types of UA spaces created are inclusive. Meetings and consultations have often seen the interests of marginalized residents and civil society organizations diluted by the priorities of more influential stakeholders, reducing the transformative potential of the projects. Certain social norms and assumptions embedded in local governance and food systems limit progress towards social equity. To achieve these goals, it is essential to avoid replicating existing injustices. As a movement, urban agriculture can address a variety of issues, but individual projects require careful and thoughtful structuring to achieve specific goals.

Food Policy Councils (FPCs) in North America often promote UA to increase economic opportunities for marginalized groups. However, the focus frequently shifts to technical questions about UA types and their locations, overlooking who benefits. It is necessary to imagine a more just future by emphasizing who these projects empower; therefore, inclusive and participatory decision-making is critical. Elliott (2023) argues that although Indigenous peoples, Black people, and people of colour face a significant disparity in access to food, the efforts to rectify this injustice have been primarily led by white settlers, who have achieved limited progress. Indigenous Peoples

of Turtle Island (now Canada) widely acknowledge settler colonialism as a fundamental factor leading to food insecurity. This occasioned a lack of all life necessities, leading to a life of obesity caused by less access to healthy food, lack of good food, and exercise. Indigenous people are impacted negatively; they lose more than they have gained (Smallwood et al, 2021). It is also a significant factor contributing to food insecurity among Black individuals and people of colour. The Canadian food system now remains fundamentally reliant on the racialized exploitation of land and labour, which are key components of both settler colonialism and racial capitalism.

Conclusion

The chapter explored the relationship between environmental sustainability and food justice, which is naturally complex, as both concepts are fundamentally grounded in systemic inequalities that sustain disparities in access, opportunity, and outcomes. Environmental sustainability highlights the responsible ways to use natural resources to safeguard ecosystems for the benefit of future generations. However, food justice aims to guarantee equitable access to nutritious, affordable, and culturally appropriate food for all communities. Nevertheless, systemic barriers—such as poverty, racism, and exploitative agricultural practices—impede advancement in both areas, disproportionately affecting marginalized communities.

This chapter examines the process by which these systemic inequalities prevent the achievement of food justice and environmental sustainability. For example, industrialized agricultural systems frequently prioritize financial gain over the well-being of individuals and the environment, resulting in environmental degradation, a decline in plant and animal life, and the exploitation of workers. Likewise, marginalized communities often experience limited access to nutritious food options as a result of food deserts, discriminatory policies, and economic deprivation. These challenges highlight the interrelatedness of environmental issues and injustices. By conceptualizing these intersections, this chapter identifies realistic ways for the advancement of more equitable and sustainable food systems. Possible solutions include encouraging farming methods that help restore ecosystems, supporting community-based food projects, and advocating for policies that tackle unfair systems. We should objectively cultivate systems that emphasize both environmental sustainability and social equity, thereby ensuring a healthier and more equitable future for all individuals.

The key policy areas include limiting ads aimed at children, setting important nutrition goals, and introducing a tax on sugary drinks. It should discuss support for infrastructure improvements, such as monitoring nutrient intake, updating Canada's Food Guide, and regulating the Healthy Eating Strategy. Experts believe these changes will help create healthier food environments across Canada, with some suggestions already put forward and others still to come from the government. Finally, achieving food and environmental justice necessitates a holistic and integrated approach that considers the interconnected nature of social, economic, and environmental issues. We can cultivate a more just and resilient food system by advocating for equitable access to healthy, sustainable food and ensuring that marginalized communities have a voice in environmental decision-making. This chapter has emphasized the significance of cross-sector collaboration, community-driven initiatives and policy reforms in the advancement of food and environmental justice, establishing a more and healthier future for mankind.

Recommendation

Existing food policies have affected especially marginalized communities, including Indigenous populations, racialized groups, and low-income households. Hence, systemic inequality has affected food accessibility. It is necessary to promote equity-focused policy reforms by formulating and providing policy suggestions that emphasize social and food justice by tackling structural obstacles, advocating for sustainable agriculture methods and guaranteeing equitable resources distribution to establish a just and resilient food system for all Canadians. Combining social justice values like dignity, self-determination, fairness, access, and participation with environmental justice ideas that focus on involvement, fair distribution, equal procedures, recognition, and abilities helps create a broader and updated view of food justice. To establish a just and resilient food system for all Canadians, it is necessary to promote equity-focused policy reforms by formulating and providing policy suggestions that emphasize social and food justice, tackle structural obstacles, advocate for sustainable agriculture methods, and guarantee equitable resource distribution.

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