Challenging the slow violence of environmental interventions: Introducing coffee farmers' tactics of environmentalism

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Abstract

Environmental interventions are typically framed as tools to enhance global value chains of agricommodities. However, this thesis critically examines their impact on power dynamics and agency at the level of smallholder coffee farmers. Guided by Rob Nixon's theory of slow violence, the research addresses two main questions: (1) How do environmental interventions perpetuate power imbalances and contribute to slow violence against coffee farmers? (2) What forms of environmentalism do coffee farmers in Tanzania and Ethiopia practice to resist these power asymmetries? Using a qualitative approach, the research is based on the analysis of 385 interviews with farmers and local stakeholders. The findings reveal that environmental interventions can perpetuate preexisting power structures through bureaucratic rigidity, poor advice, disregard for local knowledge, penalties, and indifference toward existing inequalities. Furthermore, the findings shed light on the agency of coffee farmers, who resist these impositions through practices of environmentalism rooted in witnessing and narrating injustices, fostering collective resilience, and engaging in everyday resistance. These insights challenge the dominant narrative that portrays farmers as passive actors with inferior knowledge compared to intervention implementers. The thesis contributes to environmental justice and critical development studies by emphasizing the need to fundamentally rethink environmentalism in the coffee sector, prioritize farmer-led initiatives, and address structural injustices. Future research should employ decolonial methodologies to further investigate what I term 'coffee farmers' environmentalism,' examining its potential to transform the sector towards genuine sustainability.

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1. Introduction

Human activities drive unprecedented changes in ecosystems, critically affecting their stability and resilience. Recent research reveals that six of the nine planetary boundaries have been transgressed, underscoring the urgent need for systemic intervention (Richardson et al., 2023). The global agricultural system heavily relies on practices that transgress planetary boundaries, including agricultural expansion into protected areas, deforestation for farmland, over-extraction of water for irrigation, and excessive use of nitrogen fertilizers. Agricultural practices that violate planetary boundaries contribute to climate change, which in turn affects crop yields, water availability, and overall food system resilience. This creates a feedback loop where degraded ecosystems further reduce agricultural productivity (Gerten et al., 2020; Rockström et al., 2017). To address this multifaceted crisis, Gerten et al. (2020:200) call for a 'radical rethinking of food production and consumption patterns'. They argue that a shift towards more sustainable practices is necessary to increase the food supply while respecting planetary boundaries and ensuring a safe operating space for future generations. However, what about safe spaces for those at the heart of agrifood systems who are already experiencing environmental changes? How does the critical feedback loop of impacting and being impacted by planetary boundary transgressions relate to the 570 million smallholder farms (Lowder et al., 2016)?

Coffee production serves as a microcosm of this complex dynamic, exemplifying the intricate relationship between smallholder farming, environmental sustainability, and global power asymmetries. Unlike many crops subjected to industrial agriculture, coffee is a commodity largely produced by smallholder farmers (Coffee Barometer, 2023). Often, smallholder coffee farming practices naturally align with environmental sustainability and are unlikely to contribute to the aforementioned challenges of excessive land use, over-fertilization, and extensive irrigation due to their limited resources and traditional farming methods (Hung Anh et al., 2019). Within global comparison, East African coffee export relies particularly on the work of smallholder farmers who contribute greatly to the countries' total exports and foreign exchange earnings (Salami & Moummi, 2010). An example of sustainable smallholder coffee farming practices in East Africa is Ethiopian farmers practicing shade-grown coffee cultivation, which supports biodiversity and soil health (Jha et al., 2014).

However, the increasing global demand for coffee, particularly in the Global North, creates tensions between traditional farming practices and market pressures. The International Coffee Organization (2023:36-37) notes that approximately 70% of global coffee consumption occurs in importing countries, with consumption rising by an average of 2% annually over the past decade. This demand for a commodity that cannot be grown in the North reflects a continuation

of the commodities' colonial history, perpetuating imbalanced economic relationships between Northern consumption patterns driving Southern production, resource extraction, and economic dependency (Daviron & Ponte, 2008). Smallholder farmers are caught between traditional farming methods, and the pressures of an industry driven by price volatility, earnings below a living income, and mass consumption in the Global North. These challenges may push them towards more industrial, potentially unsustainable practices as they struggle to maintain yields and meet market demands, contributing to further environmental degradation and precarious livelihoods (Kremen et al., 2012). This situation underscores the deep-rooted power asymmetries between North and South and their inextricable link to environmental challenges.

In this thesis, I employ the term 'power asymmetries' to describe the unequal distribution of resources and agency within the coffee value chain. Drawing on Orbie's (2016:24) conceptualization of this term within EU-Africa relations, these asymmetries manifest as structural power dynamics between the 'centre' and the 'periphery'. Orbie, relying on Galtung (1973), describes how European structural power operates through exploitation, fragmentation, and penetration, resulting in the maintenance of a dependency relationship between Europe and the South. My thesis extends this framework to the broader Global North-Global South context, where the Global South primarily includes smallholder farmers and actors at the periphery of the coffee sector, who often depend on external actors. Conversely, the Global North consists of those at the 'centre' of the coffee value chain, possessing greater resources and agency. While 'power asymmetry is widely acknowledged in the literature' (Orbie, 2021:602), my research specifically examines how such asymmetries shape not only economic relationships but also environmental strategies and interventions in coffee-producing regions. Despite a shift towards responsible consumption and sustainability governance over the past two decades, the link between societal responses to environmental change and global power asymmetries remains understudied.

Within this broader context, my thesis explores the complex landscape of power and environmentalism by focusing on the intersection between environmental strategies and power dynamics in the coffee sector in East Africa. While power asymmetries in agricultural value chains like that of coffee have been widely discussed in terms of unfair price settings and labor exploitation, power imbalances in environmental interventions remain understudied. Environmental interventions encompass a range of actions aimed at protecting the natural environment in coffee-growing regions through sustainable farming practices, conservation efforts, or climate change adaptation measures. They are 'necessarily operating within multi-scalar socio-economic and political relations that are by definition uneven', as Carton and

Andersson (2018:1098) state in their analysis of a carbon forestry project in Uganda. My research investigates whether environmental interventions can effectively redistribute power back to the farmers—those at the heart of the coffee industry and on the frontline of environmental impact. I ultimately argue that a radical rethinking of environmental interventions in the coffee sector is unavoidable.

Thus, my thesis responds to calls from scholars like Wright et al. (2024:996), who assert that 'power asymmetry should be addressed at all stages of the coffee supply chain if environmental initiatives are to become truly sustainable.' It also engages with Staricco's (2019) questioning of whether environmental interventions by external actors serve as tools to advance justice or for exercising commercial power along the chain. Additionally, it explores the transformative potential of farmer-led interventions in the face of climate change, an area emphasized by Temper et al. (2018) and Wright et al. (2024). Rather than using a comparative approach, my research seeks to identify shared experiences among smallholder farmers in Ethiopia and Tanzania. It merges insights from Environmental Justice and Critical Development Studies while drawing inspiration from decolonial perspectives.

The study draws on 385 interviews conducted by the Paradoxes of Climate Smart Coffee (PACSMAC) research project in 2022 and 2023. Ethiopia and Tanzania were selected for their contrasting coffee sectors: Ethiopia's high-value Arabica market and stronger agricultural systems contrast with Tanzania's mixed Arabica-Robusta production and under-resourced extension services (Jespersen, 2021). Based on these interviews, my research critically examines how environmental interventions either perpetuate or disrupt existing power structures. Rob Nixon's theory of slow violence and the environmentalism of the poor provides a novel lens through which to view sustainability in agriculture, guiding the analysis of interview data for references to environmental injustice and local agency.

Research Questions

This thesis is guided by a central hypothesis: Environmental interventions in the coffee sector often perpetuate imperialistic power structures, failing to challenge existing hierarchies between actors and instead reinforcing environmental injustices faced by smallholder farmers. I am assuming that this represents a hidden challenge in the contemporary global food system next to more widely recognized environmental issues, such as deforestation in coffee farming. To explore this hypothesis, the research is structured around three key subquestions:

(1) What are the key trends and research gaps in the literature on environmental interventions in the coffee sector, with a focus on Tanzania and Ethiopia?

(2) In what ways do environmental interventions perpetuate, reinforce, and reflect power asymmetries at the farming level?

(3) What forms of environmentalism that challenge power asymmetry and farmer-led interventions exist at the farming level?

These subquestions converge to address the overarching inquiry of this thesis: How can environmental interventions in the agrifood sector be redesigned to challenge injustices and redistribute power to farmers while promoting sustainable farming practices?

Forthcoming Chapters Overview

The subsequent chapters of this thesis will provide a comprehensive exploration of these questions. The background chapter will introduce coffee as a lens through which to view North-South power relations and summarize the impacts of climate change on coffee farming in the researched geographical areas, thereby underlining again the relevance of the researched topic.

The literature review will present existing environmental interventions in the coffee sector, particularly in Tanzania and Ethiopia: In this section, I differentiate between interventions initiated by 'outside actors,' including non-governmental organizations (NGOs), government bodies, and private companies involved in environmental interventions at the farming level, and those implemented by 'inside actors,' such as farmers and farming communities themselves. This review will highlight gaps in academic coverage, noting that despite the rise in environmental interventions, there is still a lack of systematic comparative studies, research beyond the South American context and certifications, critical perspectives on injustices by outside actors, and attention to farmer-led initiatives.

The theoretical framework chapter will operationalize Nixon's theory of slow violence and the 'environmentalism of the poor', applying it to the context of coffee farmers in Tanzania and Ethiopia. The methodology chapter will detail the data sources, methods, and methodological considerations, including addressing questions of methodological nationalism, epistemological violence, positionality, and other ethical considerations.

The analysis chapter will apply Nixon's theory to the data, exploring how environmental interventions may perpetuate or exacerbate slow violence, as well as how coffee farmers practice environmentalism. The results and discussion chapters will contextualize the findings within broader patterns in environmental justice and critical development studies, formulate practical implications, and suggest directions for future research. In conclusion, this thesis

aims to contribute to the rethinking of environmental interventions in the coffee sector by shifting attention to existing forms of farmer-led environmentalism. It contributes to all research that is concerned with transforming environmental interventions into tools that redistribute power back to the farmers, becoming radical and transformative instruments that break with persistent power structures in the global agricultural system.

2. Background: Coffee, climate change, and power

This chapter examines the complex interplay between global power dynamics, climate change, and coffee production, with a particular focus on East Africa, by drawing on perspectives from environmental justice, critical development studies, and postcolonial theory. It introduces the North-South power hierarchies in the coffee value chain, the historical and socio-economic contexts of Tanzania and Ethiopia, and the impact of climate change on coffee farming, providing a foundation for the chapters that follow.

Coffee provides a unique lens through which to examine global power imbalances and North-South relations. Originating in Abyssinia (now Ethiopia) in the 6th century, Arabica coffee spread through the Arabic world and into Europe by the 17th century (Prendergast, 2010). The colonial period saw European powers establishing coffee plantations in their colonies, heavily relying on African slave labor, especially in Latin America (ten Brink, 2017). This exploitation created a lasting legacy in which coffee, the most widely traded tropical product, is predominantly grown in the Global South but consumed in the Global North (Daviron and Ponte, 2008).

In Tanzania, coffee's history is deeply rooted in its colonial past, reflecting broader patterns of exploitation and economic transformation. The German colonial administration, which established control over the region in the late 19th century, introduced coffee as a key crop within the plantation economy. The German East African Plantation Company established the first commercial coffee plantations in 1887, primarily in the northern highlands. These plantations were characterized by forced labor and the expropriation of land from local communities, laying the foundation for the socio-economic challenges that persist in Tanzania's coffee sector today. After Germany's defeat in World War I, Tanganyika came under British mandate, marking the British colonial period from 1920 to 1961. During this time, coffee production expanded further, particularly in regions like the Mbinga District, where British administrators promoted coffee as a commercial crop. The British also encouraged the formation of cooperative societies to manage coffee production and marketing, a structure that would play a significant role in Tanzania's post-independence coffee industry (Baffes et al., 2003; Komba, 2021).

Ethiopia's coffee history in the 19th and 20th centuries reflects a period of significant transformation and external influence, despite the country's unique status as the birthplace of Coffea arabica and its resistance to colonization. During the reign of Emperor Menelik II in the late 19th century, Ethiopia began to consolidate its control over coffee-producing regions, expanding coffee cultivation as a strategic economic asset. This period marked the beginning of more organized coffee production aimed at increasing exports, particularly to Europe and the Middle East. The early 20th century under Emperor Haile Selassie saw further centralization of the coffee sector. Haile Selassie's government implemented policies to modernize agriculture, including coffee cultivation, and worked to enhance Ethiopia's position in the global coffee market. During this time, Ethiopia faced challenges from external powers interested in its coffee, particularly during the Italian occupation from 1936 to 1941, when the Italians attempted to control and exploit Ethiopia's coffee resources. However, Ethiopia retained a degree of autonomy over its coffee production throughout the 20th century, which helped to preserve its rich coffee heritage and maintain its significance as a major coffee exporter (Garvin, 2021; Chauhan et al., 2015).

The global value chain of coffee mirrors ongoing global injustices and the continued impact of colonial exploitation. It remains buyer-driven, with large multinational companies, roasters, and retailers exerting significant influence and capturing substantial value compared to the several million smallholder farmers involved. Price volatility and overproduction, exacerbated by futures markets and international financial policies, continue to keep farmer incomes low, despite stable consumer demand (Grabs and Ponte, 2019; Daviron and Ponte, 2005; Bager and Lambin 2020; FAO, 2024). In 2015, coffee producers received less than 10% of the total value in this supply chain, highlighting the global inequality in profit distribution (Wright, 2024).

Smallholder farmers form the backbone of global coffee production, yet they remain the actors with the least power in the value chain. Globally, 12.5 million coffee farms exist, primarily managed by small-scale farmers. Ninety-five percent of these farms are no larger than 5 hectares, accounting for 80% of the world's coffee supply (Panhuysen & De Vries, 2023; International Coffee Partners, 2024). In Tanzania, 450,000 smallholder coffee farms account for 90% of the country's total coffee production (USDA, 2020). Similarly, in Ethiopia, 2 million smallholder coffee farms are responsible for 86% of the country's coffee production (World Coffee Research, 2023). Despite their crucial role in the supply chain, 44% of the world's smallholder coffee farmers live in poverty, with 22% living in extreme poverty. The majority of these impoverished farmers are concentrated in six East African countries, which account for approximately 63% of the world's coffee farmers living in poverty and 71% living in extreme poverty (Carto, 2019). These economic vulnerabilities and power imbalances in the global

coffee industry set the stage for examining how climate change further compounds the challenges faced by smallholder coffee farmers, particularly in East Africa.

Climate change exacerbates existing injustices as it threatens the viability of coffee production. The coffee tree is one of the most climate-sensitive plants (DaMatta et al., 2018; Mamuye et al., 2024). Coffee farming, especially Arabica coffee, is highly sensitive to climactic changes such as high rainfall variability, temperatures outside the optimal range, extreme weather events, and shifting seasonal patterns (Adhikari et al., 2015; Craparo et al., 2015; Kath et al., 2020; Kewka & Ouma, 2019; Wagner et al., 2021). In response, farmers globally grapple with shifting growing areas, the spread of pests and diseases, reduced coffee quality, and disrupted yields (Bunn et al., 2015; Funk et al., 2015; Lara-Estrada et al., 2021; Pham et al., 2019). Research indicates that biophysical factors such as elevation lead to significant climatic variability even across small distances (Bunn et al., 2015; Ovalle-Rivera et al., 2015). In Tanzania and Ethiopia, coffee farmers are experiencing significant climate change impacts. In Tanzania, studies have shown a decline in rainfall and an increase in temperature (Mbwambo et al., 2021). These changes have led to shifting growing areas, increased pest and disease prevalence, and yield declines (Craparo et al., 2015; 2020; Wagner et al., 2021). In Ethiopia, research indicates that climate change is affecting coffee production through increased temperatures and rainfall variability (Bunn et al., 2015; Moat et al., 2017). This has also resulted in shifting optimal growing areas for Arabica coffee and increased pest and disease outbreaks (Jaramillo et al., 2011). Many farmers in East Africa are already feeling climate change's impact and projections expect the felt impact to intensify (Mamuye et al., 2024; Mbwambo et al., 2021).

The discourse surrounding environmental degradation in coffee production often reflects and perpetuates North-South power dynamics, revealing a complex web of historical and contemporary injustices. Critical perspectives continue to draw attention to the fact that, historically, imperial powers have often justified their contributions to environmental degradation by problematizing practices in the Global South (Martinez-Alier, 2002). This framing persists today, with environmental issues in coffee production frequently portrayed solely as problems of production and governance in producing countries. Such narratives divert attention from critical drivers like overconsumption in the Global North, asymmetric market power, and extractive trade relations that perpetuate inequalities (Das & Akbinsson, 2023; Kumeh & Ramcilovic-Suominen, 2023). While it is essential to avoid oversimplifying these dynamics into a mere North/South dichotomy, one must also consider class struggles and capitalist contradictions (Staricco, 2019). Critical approaches offer valuable insights to challenge prevailing sustainability and development frameworks in the coffee industry, arguing

that these frameworks often perpetuate material inequalities and epistemic injustices. By questioning the 'imperial mode of living' (Brand & Wissen, 2013) in coffee-consuming nations and advocating for transformative approaches, critical scholarship provides useful tools to address the root causes of both environmental degradation and power imbalances in the global coffee value chain, particularly as they affect vulnerable smallholder farmers in East Africa facing the compounded challenges of continued historical exploitation and climate change.

In conclusion, the coffee sector encapsulates global power dynamics, environmental challenges, and the ongoing legacy of colonialism. Climate change exacerbates these issues, particularly for coffee farmers in East Africa, who face both environmental and socio-economic vulnerabilities. This overview of global power dynamics and environmental challenges in the coffee sector not only illuminates the complexities of North-South relations but also points to the need for transformative approaches that address both ecological and social justice concerns. Thus, it sets the stage for exploring environmental interventions in the coffee sector.

3. Literature review: Environmental interventions in the coffee sector

This literature review addresses my first research question: What are the key trends and research gaps in the literature on environmental interventions in the coffee sector, with a focus on Tanzania and Ethiopia? The chapter examines environmental interventions by presenting their nature, impacts, and contextual relevance in Tanzania and Ethiopia. It concludes by identifying research gaps, particularly in understanding farmer-led interventions and power dynamics in the coffee sector's environmental initiatives.

The coffee sector has seen a significant increase in environmental interventions in response to climate change challenges. These interventions aim to enhance farmers' resilience[1] to climate change and environmental challenges, improve their adaptive capacity, and/or reduce coffee production's impact on climate change and biodiversity loss (Wright et al., 2024). Environmental interventions vary widely in their underlying theories of change, actor involvement, spatial and temporal scales, and the specific environmental challenges they address (Wright et al., 2024; Badger & Lambin, 2020; Grabs et al., 2022). To illustrate the scope of these interventions, the International Coffee Organization (ICO) reported 175

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[1]The concept of "resilience" in climate and development contexts requires careful consideration. De Roeck et al. (2018:439) argue it often functions as an "empty shell" with meanings ranging from techno-scientific to contextualized approaches. Its prevalence in policy documents may reinforce power asymmetries between the Global North and South, potentially serving as a tool to justify imposing neoliberal paradigms under the guise of development assistance. While aware of this discourse, I use the term in this thesis to refer to coffee farmers' capacity to withstand environmental challenges due to the lack of a more suitable alternative.

sustainability interventions in the coffee sector in 2023, based on available stakeholder reports. Of these, 114 focused on environmental sustainability, compared to 50 economic and 11 social sustainability interventions. Ethiopia currently hosts 18 ongoing projects focused on environmental sustainability in coffee, while Tanzania hosts 13 (ICO, 2023b). Grabs et al.'s (2022) research about specifically coffee farmer-focused climate change interventions demonstrates a steady increase in coffee farmer-focused interventions in recent years.

In this thesis, I use 'environmental interventions' as an umbrella term encompassing any action or measure conducted by various actors to address environmental challenges faced by coffee farmers, including but not limited to climate change. While multiple ways to categorize these interventions are possible, I adopt an actor-centered approach, as it aligns with my research focus on power and agency. In the following sections, I differentiate between interventions initiated by 'outside actors', including non-governmental organizations (NGOs), government bodies, and private companies involved in environmental interventions at the farming level, and those implemented by 'inside actors', such as farmers and farming communities themselves.

3.1 Outside actors' interventions

Outside actors' environmental interventions in the coffee sector can broadly be categorized into voluntary sustainability standards, programs by government-related bodies, activities by NGOs and private actors, and coffee partnerships (Wright et al., 2024). Except for coffee partnerships, all of these environmental interventions were relevant in the Tanzanian and/or Ethiopian context, according to the interviewees on whose statements this thesis is based. This section examines each of these categories in detail by looking at their potential as well as downsides, taking a farmer-centered approach.

Environmental Voluntary Sustainability Standards

Environmental Voluntary Sustainability Standards[2] (VSS), such as eco-certifications, organic labels, and carbon-neutral labeling, are established mechanisms in agricultural commodities, including coffee (Garrett et al., 2021; Minten et al., 2015). In the last half of the 2000s, sales of organic, Rainforest Alliance, and other types of eco-certified coffee quadrupled and now account for 8% of global exports (Blackman & Naranjo, 2012). These standards aim to improve the environmental performance of coffee producers by providing financial incentives to farmers who meet specific environmental standards set by the certifying bodies (Wright et al., 2024).

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[2] Environmental Voluntary Sustainability Standards (VSS) are difficult to assign to a single type of actor because they are often conducted by various mixtures of actors. When exploring NGOs, governments, and private actors' activities, I am excluding standards and certifications.

Research has documented several advantages of environmental VSS in the coffee sector, including positive impacts on the environment through increased biodiversity, reduced agrochemical use, and improved ecological conservation (Milder et al., 2014; Ibanez & Blackman, 2016; Vanderhaegen et al., 2018). These standards have also been shown to improve the income and livelihoods of coffee farmers in some contexts (Garrett et al., 2021; Meemken, 2020). However, there are difficulties in assessing these interventions' true sustainability due to a lack of credible counterfactuals and the use of standardized indicators, which can obscure the differentiated impacts and non-measurable factors (Tscharntke et al., 2015; Rubio-Jovel, 2022). In addition, high costs often exclude small-scale farmers from participation (Elder et al., 2013) and in most cases the benefits of certification are inconclusive (Gather & Wollni, 2022; DeFries et al., 2017). Scholars like Bose et al. (2016) and Mithöfer et al. (2017) argue that these systems serve the interests of coffee buyers over farmers, enabling consumer-country control over the coffee supply chain. There are also concerns about the potential reinforcement of existing power hierarchies instead of emancipating small producers and workers (Staricco, 2019; Bacon, 2010; Raynolds, 2009).

In the Ethiopian context, 90% of the produced coffee is inherently organic as farmers rarely use chemical inputs, but only 0.1% of the coffee is certified as organic (Wiesum et al., 2008; Mekuria et al., 2004). Barriers for Ethiopian small-scale farmers include high costs (Ayalew, 2014). Minten et al. (2018) report that Ethiopia obtained 2 million USD per annum higher revenue from export coffee due to certification programs, but smallholder farmers received only a third of the benefit. In Tanzania, low certification levels are attributed to unawareness, inaccessibility, prevalent coffee diseases, lack of price advantages, and high costs. While VSS have improved environmental conservation awareness and practices among participating coffee farmers, they have not necessarily improved household income, and marginalized smallholders struggle with accessing Fairtrade certification (Kangile et al., 2021; Pyk & Hatab, 2018).

Programs by government-related bodies

Foreign national governments, as well as national governments and authorities, implement projects and technical support programs aimed at delivering positive environmental and social benefits to coffee farmers. Governmental actors can also use their reach and resources to provide crucial support and structure for environmental interventions by other actors. However, they have been criticized for being unstable and top-down in their implementation, suffering from a lack of specific knowledge regarding local contexts and challenges (Bose, 2017; Taringana & Mtisi, 2019; Gladkikh et al., 2020).

In Tanzania and Ethiopia, many interventions are conducted in collaboration with regulating authorities such as the Tanzania Agriculture Research Institute, the Jimma Agricultural Research Center, and the Ethiopian Tea and Coffee Authority. The Ethiopian national government has collaborated with foreign institutions like the World Bank, Japan International Cooperation Agency, and the German Development Cooperation to prevent deforestation and promote reforestation (Todo & Takahashi, 2011). Research about the impact of these interventions is scarce. Todo & Takahashi (2011) find that farmer field schools set up by the Japan International Cooperation Agency in Ethiopia appear to have increased coffee farmers' households' real income. El Ouaamari & Cochet (2014) criticize government-related coffee programs in Ethiopia for failing to improve smallholder livelihoods, exacerbating socio-economic inequalities, and dispossessing farmers of essential forest resources necessary for food self-sufficiency.

Activities by NGOs

Environmental NGOs usually focus on coffee farmers' agricultural practices and building resilience to climate change and environmental challenges in general. They often work on capacity building, providing training on sustainable farming methods, and facilitating access to resources and information. These interventions can provide crucial support to farmers, especially where government support may be lacking, and they often have the flexibility to tailor interventions to local needs. However, their effectiveness can vary, and global-scale initiatives may lack specific knowledge of local contexts and challenges (Wright et al., 2024). In Tanzania and Ethiopia, relevant NGOs include TechnoServe, Hanns R. Neumann Stiftung, Café Africa, Solidaridad, and Vi-Agroforestry (Grabs 2022). These organizations implement various programs aimed at supporting coffee farmers in sustainable production and climate change adaptation. In Ethiopia, Abate et al. (2021) found positive short-term impacts of an NGO-facilitated training program. Apart from that I did not find any research about the impact of environmental interventions of NGO's in the Ethiopian and Tanzanian coffee sector.

Activities by private actors

Private companies are increasingly involved in sustainability-enhancing practices along the whole supply chain, including environmental interventions at the farming level. Their initiatives can bring significant resources and market access to coffee farmers and have the potential for innovative solutions driven by market demands (Bianco, 2020; Botchway, 2018; Rueda et al., 2017; Bager & Lambin, 2020). One danger lies in the discretionary nature of sustainability reporting, which results in considerable variance in disclosed indicators and the presence of numerous single-use indicators. This inconsistency can hinder comprehensive assessment

and systematic development of sustainability indicators crucial for policy and decision-making (Bradley & Botchway, 2018). Furthermore, climate change often remains under-addressed in corporate sustainability programs (Bager & Lambin, 2020; Bianco, 2020). Rueda et al. (2017) find that private environmental interventions impose high costs and complexity on farmers, potentially excluding small-scale farmers and leading to relocation of operations instead of improving local practices. This exacerbates environmental issues and fails to support local farmer communities effectively. There's a risk of prioritizing company interests over those of farmers, potentially reinforcing existing power imbalances in the coffee value chain. In Tanzania and Ethiopia, private sector involvement in sustainability initiatives continues to increase, with some coffee companies establishing direct trade relationships with farmers and implementing sustainability programs that include environmental components (Ruben & Verkaart, 2010; Wright et al., 2024). However, specific studies on the impacts of these initiatives in Tanzania and Ethiopia are notably scarce in the available academic literature.

3.2 Inside actors' interventions

Farmers and local communities also implement environmental interventions in the coffee sector. These inside actors' initiatives include agroecological practices, farmer-led solutions, and community-based interventions. Rooted in local knowledge and contexts, these activities represent farmers' agency in directly addressing environmental challenges.

Agroecological Practices

Agroecological practices in coffee farming involve methods that work with natural ecosystems to enhance productivity while maintaining the systems' integrity and sustainability. These practices include intercropping, use of organic fertilizers, integrated pest management, and maintenance of shade trees. Agroecological approaches offer several advantages, such as improved soil health, increased biodiversity, and reduced dependence on external inputs. Additionally, these practices can contribute to carbon sequestration and provide additional income sources through diversified production. However, implementing agroecological practices can be labor-intensive and may result in lower yields in the short term, presenting a significant challenge for resource-constrained farmers (Wienhold & Goulao, 2023; Ayalew, 2014; Häger et al., 2021). In Ethiopia, farmers employ various agroecological methods to achieve fertile soils and conserve biodiversity. These include shading, vermicomposting, coffee pulp application, cattle manure use, hand weeding, and mulching. For pest control, common cultural methods involve pruning, mulching, trapping crops, destroying affected trees, breeding resistant varietals, and using natural enemies (Ayalew, 2014; Berihun & Alemu, 2023). In Tanzania, communities respond to climate variability through practices such as

intercropping, planting early maturing and drought-resistant varieties, and implementing gravity canal irrigation systems (Temba et al., 2020).

Farmer-led solutions

Some scholars highlight farmers' agency in addressing environmental issues and implementing their own climate change adaptation strategies by pointing to farmer-led solutions to environmental challenges in the coffee sector. This encompasses a range of practices and decisions made by coffee farmers to cope with and adapt to changing environmental conditions, including adjusting planting dates, diversifying crops, implementing soil conservation practices, and adopting new varieties of coffee plants. Often based on farmers' knowledge of local ecosystems and climate patterns, these strategies demonstrate the adaptive capacity of coffee farmers (Jawo et al., 2021; Onyenekwe et al., 2024; Le et al., 2021). In Ethiopia, Adane & Bewket (2021) report that coffee farmers adjust their farming practices to adapt their coffee production to climate change. These adaptations include the use of new cultivars, rainwater harvesting, shade tree management, and shifting nursery seasons for coffee seedlings. In Tanzania, Mbwambo et al. (2021) find that smallholder farmers' perceptions of climate change align with meteorological data, with farmers observing a decline in rainfall and an increase in temperature. Their research notes that farmers' adaptation capacities vary based on factors such as gender, education level, farming experience, farm size, access to extension services, and awareness of climate change information.

Community-based interventions and cooperative structures

Community-based initiatives and cooperative structures in the coffee sector encompass collective efforts by farmer groups or communities to address environmental challenges. These initiatives range from communal soil and water conservation projects to community-managed forests, shared processing facilities, and farmer-owned, democratically managed organizations that facilitate access to resources, information, and markets. These collective approaches leverage communal knowledge and resources while strengthening social cohesion and community resilience. Cooperatives, in particular, offer significant advantages, including economies of scale, collective bargaining power, and shared risk management, making them distinctly positioned to address not only environmental concerns but also the social and economic dimensions of sustainability. However, they may struggle with management efficiency and ensuring equitable benefits for all members (Melo Torres et al., 2017; Walenta, 2015; Wright et al., 2024). In the Ethiopian context, Jena & Grote (2022) find that participation of small-scale coffee farmers in local cooperative structures certified with

Fairtrade and organic standards had low or even negative impacts on the farmers' socio-economic situation. The researchers attribute this outcome to poor organizational structures of the cooperatives and low awareness about certification among coffee farmers. Community-based environmental interventions have not yet been researched in the Tanzanian coffee sector.

3.3 Summary and research gaps

This literature review has examined environmental interventions in the coffee sector, focusing on Tanzania and Ethiopia. It has explored interventions initiated by both outside actors, such as NGOs, governments, and private companies, and inside actors, including farmers and local communities. The review has highlighted the diverse nature of these interventions, ranging from voluntary sustainability standards and government programs to agroecological practices and community-based initiatives. Taking a farmer-centered approach, the existing research shows a pattern of several recurring potentials and dangers that come with environmental interventions. Outside actors' interventions often bring resources, market access, and potential for improved environmental performance through standards and certifications. However, they can struggle with local relevance and acceptance, often exclude small-scale farmers due to high costs, and may reinforce existing power imbalances in the sector. Inside actors' interventions, rooted in local knowledge, show promise in addressing environmental challenges through strengthened community resilience. Yet, they face constraints in implementation and scaling, including labor-intensive practices that may result in lower short-term yields and challenges for resource-constrained farmers. The literature review reveals a complex landscape of interventions with varied impacts, underscoring the need for further research as it maps out four major gaps in the literature, which I summarize below.

Firstly, there is a notable lack of comparative studies and systematic overviews, with most research conducted via single case studies. This limits our understanding of how different interventions perform across various contexts and hinders the development of more comprehensive, evidence-based strategies for addressing environmental challenges in the coffee sector.

Secondly, as pointed out by Wright et al. (2024), there is a bias towards research in the Americas and on environmental VSS, with less focus on regions such as East Africa and other types of environmental interventions. While VSS are well-studied in Tanzania and Ethiopia, there is less consideration of other outside actor interventions, their strengths or limitations, and their potential to create change.

Thirdly, as highlighted by Bennett et al. (2017) and Lam et al. (2022), there is a need for more attention to inside actors' environmental interventions and their potential to address power imbalances and deliver positive social and environmental outcomes. Research that views farmers as the main agents of change is scarce. Most studies focus on farmers' vulnerability to climate change and their responsive adaptation measures rather than their active agency through environmental interventions. This gap is especially notable in the context of Tanzania and Ethiopia, where farmers' local knowledge systems remain underrepresented in scholarly analyses.

Finally, critical perspectives that examine how outside actors' environmental interventions might continue or even deepen existing power imbalances in the coffee sector, particularly from a decolonial perspective, are insufficient. Most critical research on interventions has the aim to improve the efficiency of existing interventions and thereby usually formulates an immanent critique. Only rarely is the ideology behind interventions and the power imbalances they often carry questioned in the style of a transcendent critique. This gap is especially significant given the coffee sector's colonial history and ongoing global injustices, as discussed in Chapter 2.

While there is a growing body of research on environmental interventions in the coffee sector, significant gaps remain, especially in the context of Tanzania and Ethiopia. My research aims to contribute particularly to the last three gaps mentioned. I will look not only at certifications but also at other environmental interventions in the less-researched context of East Africa and use a farmer-centered, critical approach to environmental interventions.

4. Theoretical framework: Slow violence and the environmentalism of the poor

Rob Nixon's book Slow Violence and the Environmentalism of the Poor (2011) provides a framework for understanding the intersection of environmental degradation and power dynamics by bridging various academic disciplines and research areas, such as postcolonial and environmental studies, as well as globalization and ecocriticism. The author's transdisciplinary approach is evident in his three main sources of theoretical inspiration, which are diverse in their thematic areas and geographical backgrounds: Edward Said, Rachel Carson, and Ramachandra Guha. Nixon combines Said's analysis of the symbolic and narrative dimensions of geographical struggles with Carson's critique of unregulated capitalist practices that cause extensive environmental damage, and Guha's argument (along with Madhav Gadgil and Joan Martinez-Alier) that environmentalism is not a luxury for the wealthy but a crucial issue for affected communities (Nixon, 2011:preface). Central to Nixon's perspective is that 'imperial overreach has brought to crisis a Washington Consensus ideology

premised on globalizing the "free market" through militarization, privatization, deregulation, optional corporate self-policing, the under taxation of the super wealthy, ever-more arcane financial practices, and a widening divide separating the gated über-rich from the unhoused ultra-poor within and between nation' (ibid:41). Nixon focuses on two main topics: slow violence and the environmentalism of the poor.

This chapter establishes the theoretical foundation of my thesis. I summarize the core arguments of Nixon's theory while relating their relevance to the context of environmental interventions in the coffee sector. The concepts of slow violence and the environmentalism of the poor serve as a lens through which to analyze my data, enabling a transition from the broad research questions presented in the introduction to more specific, theory-informed questions.

4.1 Slow violence: Definition and evidence in Tanzania and Ethiopia

Slow violence is a concept within the environmental justice framework that connects ecocritical and postcolonial thought. It is commonly used within critical geography and political ecology. Nixon defines slow violence as a type of violence that 'occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all' (2011:2). He contrasts this with the immediate, explosive, and visible forms of violence that dominate public awareness and media coverage. While the concept of slow violence has been applied to various contexts, such as violence unfolding within archaeological work (Hutchings & La Salle, 2015), temporal dimensions of social stigma (Barnwell, 2019), or chronic trauma of housing dispossession (Pain, 2019), Nixon focuses on slow *environmental* violence, which has long been 'not recognized as violence at all' (Nixon, 2011:2), reflecting the diminutive status of the environment within society. Revealing slow environmental violence, as I will do in the analysis chapter for the context of coffee farming in Tanzania and Ethiopia, represents a political attempt to counter this dismissive attitude towards environmental struggles, according to Davies (2022: 412).

Slow violence is characterized by being 'resistant to dramatic packaging' (Nixon, 2011:200) and hence remains 'out of sight' (ibid:2) because delayed, long-form catastrophes lack the immediate drama that captures broader public attention. Nixon asks 'how to adjust our rapidly eroding attention spans to the slow erosions of environmental justice' (ibid:8). The invisibility of slow violence leads to an underestimation of its number of victims and a lack of urgency to act. Davies connects the shifting temporalities of violence to Churchman's (1967) "wicked problems" which 'are often attritional, disguised, and temporally latent, making the articulation of slow violence a representational challenge' (Davies, 2022:410).

Nixon pronounces the urgent need to research the experience of violence even if its perpetrator is not obvious, which is the case for the slow environmental violence experienced in the coffee farming sector. Environmental challenges execute a form of slow violence as the changes are slowly increasing and some changes are more prevalent in one season and less evident in another season. Frontline communities' livelihoods are endangered but these environmental crises lack the drama that would make headlines in the news. While many farmers suffer from environmental challenges, the pictures and stories differ depending on who you talk to and where you go due to regional variability. These key characteristics, as defined by Nixon, confirm that environmental challenges in coffee farming lead to the experience of slow violence resulting in 'displacement without moving' (Nixon, 2011:19).

4.2 Systemic manifestations and theorizations of violence

I will now explore Nixon's systemic critique and structural theorizations of violence, as these aspects are particularly valuable for my research about environmental interventions. Violence has been theorized innumerably with scholars attempting to repackage violence to reveal situations of injustice. Nixon himself (2011:10) builds on Galtung's (1969) theory of structural violence. This theory sheds light on the suffering caused by the denial of basic needs and the violent outcome of institutionalized forms of discrimination, based on for example racism, sexism, classism, ableism, homophobia, transphobia, or xenophobia – any overlapping forms of oppression, to connect to Crenshaw's (1991) discussion of intersectionality. Systemic inequalities and exclusionary practices create conditions for ongoing harm that are often imperceptible compared to conventional understandings of violence as something personal and immediate. Hence, a slow, structural theorization of violence locates sources of brutality within the routineized workings of society itself, through a systemic normalization of suffering (Tyner & Rice, 2015). Thus, Nixon's concept of slow violence is situated within longer lineages of theorizing structural violence and broader critiques of the neoliberal system.

In the literature review, I have already touched on the profound and yet underresearched impact of the colonial legacy and its contemporary manifestations on power inequality in the coffee sector. According to Fitz-Henry (2020:295), Nixon 'takes some of the most critical strands of recent thinking about the politics of temporal transformations firmly into the domain of post-colonial environmental justice.' Nixon critiques the neoliberal system as part of an era of resurgent imperialism that carries out and exacerbates environmental destruction and exploitation. He argues that this occurs 'sometimes through outright, unregulated plunder, sometimes under camouflage of developmental agendas' (2011:37), creating temporal and spatial distances that obscure the original causes of slow violence experienced on the ground as the disparities between the rich and the poor widen. Drawing on Mbembe (2001), De Leeuw

(2016) echoes Nixon's postcolonial critique by warning that ongoing colonial violence is frequently overlooked, necessitating a critical and sustained examination of how colonial systems of power persist and operate in everyday, ordinary situations.

This kind of critical examination is what I aim to accomplish by researching environmental interventions in the coffee sector. As established earlier, coffee farmers suffer the slow violence of environmental challenges, and my research examines the systemic structures within which this occurs. I will explore how certain environmental interventions with their developmental agendas manifest the neoliberal system within imperialism as criticized by Nixon, and how implementing actors institutionalize forms of discrimination. Nixon's critical perspectives will help me examine the systems of power that persist and operate within environmental interventions and reveal forms of slow, structural violence.

4.3 Coffee farmers' environmentalism

The concept of slow violence is the most cited aspect of Nixon's work, with its influence extending even beyond environmental studies. This focus, however, often comes at the expense of other critical parts of his argument. Nixon devotes considerable attention to exploring the agents of resistance in the face of environmental injustice and slow violence. In this context, he introduces the notion of 'the environmentalism of the poor'. Nixon defines 'the poor' as a diverse and multifaceted group, 'subject to almost infinite local variation as well as to fracture along fault lines of ethnicity, gender, race, class, region, religion, and generation' (Nixon 2011:4). He constructs 'the poor' as 'an intentionally nebulous conglomeration of marginalized communities' (Schwarz, 2023:537) which is, just like 'the rich', not geographically bound to a certain region. 'Environmentalism of the rich', for example, can be found among elites in both the global North and South, as noted by Dauvergne (2016). Because local actors of environmentalism and resistance to top-down interventions are also at the core of my research, this part of Nixon's theoretical framework resonates with my approach and will be of use for my analysis. However, I opt for more precise terminology, rejecting the potentially reductive label of 'the poor' because it might carry negative (economic) connotations and risks oversimplification. My approach is: instead of using intentionally nebulous categories I am as specific as possible in my delineation of actor groups. Hence, moving on I use 'coffee farmers' environmentalism' instead of 'environmentalism of the poor,' as it more accurately describes the subjects of my research.

Nixon (2011:4) contends that 'if the neoliberal era has intensified assaults on resources, it has also intensified resistance, whether through isolated site-specific struggles or through activism that has reached across national boundaries in an effort to build trans-local alliances'. This

intensified resistance is different from environmentalism stemming from postmaterialist concerns. Local fights for environmental justice are often characterized by their agents' multilayered motivations which intertwine the necessity of the environment as fundamental for survival, the struggle for (economic) power, and the concern to maintain cultural practices. Nixon emphasizes that local communities cannot afford the single-issue activism that is common in the Global North as they 'patch together threadbare improvised alliances against vastly superior military, corporate, and media forces' (ibid). This theorization relies strongly on the work of Martinez-Allier and Guha (1997) who first introduced the notion of environmentalism of the poor by assuming that 'whereas wealthier people of the north have in general lost the idea of the environment as their source of livelihood, the poor and largely rural populations of the south are more connected to the environment, and thus have a more intimate understanding of what is at stake by not managing it carefully' (Martinez-Allier, 2012:515). Hence in my thesis context, 'coffee farmers' environmentalism' describes the actions of farmers in Tanzania and Ethiopia who protect the environment they live in and depend on, driven by diverse, multilayered motivations.

Connecting this back to the concept of slow violence, coffee farmers' environmentalism also encompasses all forms of living with, questioning, talking about, and resisting slow environmental violence and its systemic catalysts. Davies (2022:419) encourages including 'bearing witness' and 'slow observations' as environmental tactics of resistance. It should be noted that witnessing exceeds the visual: He emphasizes that for those affected, no matter how gradually slow violence appears, it 'is not necessarily a formless threat but can be a very real and often tangible brutality' (2022:410). The definition of resistance used here which includes practices of witnessing and observing can be linked to Scott's (1989) well-known theorization of everyday forms of resistance. Although subversive tactics are often too subtle to make headlines, they are useful in reaching (modest) goals. Thus, following this theory, my thesis will include observing, pointing out, or complaining about the symptoms of slow violence as a form of coffee farmers' environmentalism.

4.4 Critical reception of Nixon's theory and application to this thesis

Critical theories such as Nixon's are not static but ideas that take shape when used, added to, discussed, and criticized – ultimately being turned into a discourse by other scholars. Hence, I don't restrict myself to using only Nixon's seminal book as the base for my theoretical framework. Rather, I see the discourse of slow violence as the main basis of my thesis. In the following section, I will focus on how his work can be connected to other theories and ideas (i.a. Davies, 2022; Churchman, 1967; Mbembe, 2001; Galtung, 1969; De Leeuw, 2016; Scott,

1989; Martinez-Allier, 2012; Spivak, 1988; Shiva, 1988) and how I operationalize the discourse of slow violence and the environmentalism of the poor to suit my thesis context.

Nixon suggests that slow violence should be addressed through documentation, media coverage, and activist scholarship, pointing out the value of the agency of frontline communities. Simply put, he argues that public awareness will eventually pressure decision-makers to act. However, scholars such as Rezwana & Pain (2021) and Schwarz (2023) argue for the urgency of both immediate relief and long-term solutions that address the root causes of environmental harm in addition to raising awareness. Furthermore, Davies (2022) critically questions Nixon's statement that slow violence is underrepresented because of a lack of 'arresting stories, images, and symbols' (Nixon, 2011:3). Focusing on the invisibility of slow violence risks downplaying ongoing (everyday) resistance. Slow violence persists not because of a lack of awareness or local action but because existing stories are disregarded by decision-makers. These issues of epistemic and epistemological violence need to be addressed when researching slow violence and environmentalism (Spivak, 1988; Shiva, 1988).

Christian and Dowler (2019) assert that the invisibility of slow violence is shaped not only by its everyday nature but also by gendered and racialized epistemologies privileging the public, rapid, and spectacular. They criticize Nixon's theory for its reliance on binary distinctions. Nixon's thesis largely overlooks that feminist traditions have long analyzed how violence is experienced in mundane, intimate, and routinized ways. By challenging binary epistemologies, feminist scholars link the invisible to the visible to draw attention to often overlooked forms of violence. In particular, Baird (2021) emphasizes the need to recognize the interplay between catastrophic and slow violence. She suggests that only by challenging this binary and understanding the structural interconnections can the full spectrum of environmental violence be effectively addressed. For my operationalization of Nixon's theory this implies that I will refrain from trying to fit everything into binaries (e.g. fast and slow violence; good and bad interventions), instead paying attention to the potential interplay between categories. Acknowledging the feminist critiques of the discourse around Nixon's theory, I will also pay extra attention to structural conditions that lead to the disregard of slow violence. As Willet et al. (2021:115) state: 'Any environmental justice solution must jointly aim for environmental fairness and structural equality or it is not an environmental justice solution and will not resolve slow violence.'

In summary, this chapter has explored the definition and main characteristics of slow environmental violence, including its out-of-sight nature, non-dramatic presentation, undercounting of victims, classification as a wicked problem, delayed catastrophes, and the resulting lack of urgency to act. Nixon's structural critique targets the neoliberal system as part

of an era of resurgent imperialism and systemic inequalities. Simultaneously, Nixon draws attention to local agency, claiming that with increasing injustices, resistance also increases, challenging both environmental injustices and power inequalities. I have argued that coffee farmers experience slow violence as they face ongoing environmental challenges that threaten their livelihoods. It is crucial to research the structural power imbalances that enable this slow violence, with environmental interventions in coffee farming playing a significant role in the system where slow environmental violence operates. I introduced the concept of 'coffee farmers' environmentalism' to describe the agents of intensified and everyday resistance, whose environmentalism is motivated by various factors, including survival, economic necessity, cultural values, and the fundamental dependence on a healthy environment.

By operationalizing Rob Nixon's theory of Slow Violence and the Environmentalism of the Poor, I am offering a new lens through which to view environmental interventions in agriculture. This lens guides my data analysis of the extent to which the interviewees' statements carry references to power, injustice, and local agency. Based on this theoretical framework, I have refined my broad research questions to more theory-informed inquiries:

1. In what ways do environmental interventions act as systemic catalysts of slow violence in the coffee sector that perpetuate or exacerbate power imbalances experienced by farming communities in Tanzania and Ethiopia?

2. What forms of 'coffee farmers' environmentalism' are practiced in Tanzania and Ethiopia to challenge power asymmetries and environmental injustices?

These questions will guide the subsequent analysis, ensuring a theoretically grounded examination of environmental interventions and local responses in the coffee farming sector of Tanzania and Ethiopia.

5. Methodology: From an inductive to an abductive approach and ethical considerations

This chapter outlines the methodological approach employed, detailing the data sources, analytical procedures, and theoretical framework that form the foundation of my research. I begin by presenting the core data utilized in this thesis, followed by an explanation of the critical approach adopted in its analysis. This approach culminated in the development of a coding framework informed by Nixon's (2011) theory of slow violence and the environmentalism of the poor. The chapter concludes with a reflexive discussion of my positionality as a researcher and its implications for this study.

5.1 Data and methods

To address the overarching research question, 'How can environmental interventions in the agrifood sector challenge injustices and redistribute power to farmers while promoting sustainable practices?', I employ a multifaceted methodological approach that integrates a review of existing literature with empirical data analysis. The literature review, presented in Chapter 3, answers the first sub-question: 'What are the key trends and research gaps in the literature on environmental interventions in the coffee sector, with a focus on Tanzania and Ethiopia?' The review establishes the current state of academic research and identifies gaps in the literature. To address the remaining two sub-questions - 'In what ways do environmental interventions perpetuate, reinforce, and reflect power hierarchies and injustices at the farmer level?' and 'What forms of environmentalism that challenge power asymmetry and farmer-led interventions exist at the farming level?' - I conduct a qualitative data analysis adhering to the principles of academic empirical research. The following sections detail the data sources and analytical procedures employed.

5.1.1 Presentation of the data

The data used in this thesis was made available to me through the PACSMAC (Paradoxes of Climate-Smart Coffee) project, a five-year collaborative initiative funded by the Danish Ministry of Foreign Affairs through the Consultative Research Committee for Development Research and the Danida Fellowship Centre. I was actively involved in this project as a student assistant, contributing to various research activities, including project coordination, data organization, and analysis tasks. The PACSMAC project brings together researchers from Copenhagen Business School (Denmark), the University of Dar es Salaam (Tanzania), Jimma University (Ethiopia), Lafayette College (USA), and ESADE Business School (Spain), with the aim of investigating the effects of climate change on smallholder coffee producers and their value chains in Tanzania and Ethiopia.

The dataset comprises 385 interviews conducted by researchers from Ethiopia and Tanzania between May 2022 and June 2023. These interviews are categorized into two main types: interviews with stakeholders and interviews with smallholder coffee producers (referred to as farmer interviews). In Tanzania, researchers conducted 113 stakeholder interviews and 128 interviews with smallholder coffee producers, while in Ethiopia, 114 stakeholder interviews and 30 interviews with smallholder coffee producers were carried out, totaling 385 interviews across both countries (see Table 1).

Interview type	Tanzania	Ethiopia	Total
Stakeholder interviews	113	114	227
Farmer interviews	128	30	158
Total	241	144	385

Table 1: Structure of the interviews

The stakeholder interviews were predominantly semi-structured and served as an initial phase to gather data that would refine the research questions, help identify potential correlations for the main fieldwork phase, and inform the design of the farmer interviews. These interviews included conversations with a variety of actors, such as cooperative experts, public servants, sustainable development professionals, and, in Tanzania specifically, exporters, millers, and estate managers. This type of interview provided insights into the broader systemic challenges and opportunities within the coffee value chain. For my research, they were particularly helpful in framing the context in which smallholder farmers operate. Interviews with smallholder coffee producers were primarily conducted through focus group discussions, involving 7-12 participants per group. In Tanzania, researchers organized separate encounters with men, women, youth, village governments, and cooperative representatives to ensure diverse perspectives were captured. Recognizing that these farmers are experts in their own right, particularly regarding local environmental challenges and adaptive strategies, these interviews were essential for answering my research questions. They provided detailed, context-specific knowledge and captured the nuanced, lived experiences of the farmers.

The site selection process, detailed in Bekele et al. (2023), was based on several key criteria. These included areas known for significant smallholder coffee production, regions reflecting the relationship between household characteristics and climate change adaptation strategies, and locations representing a variety of current and potential future adaptation strategies. Additionally, sites were chosen to represent critical geophysical factors such as elevation and precipitation variability, and areas likely to have experienced significant shade-grown coffee expansion, forest cover changes, competition for land, market exposure, and ecosystem value. A complete list of the selected kebeles/villages where farmer interviews were conducted as well as their geographical distribution is shown below.
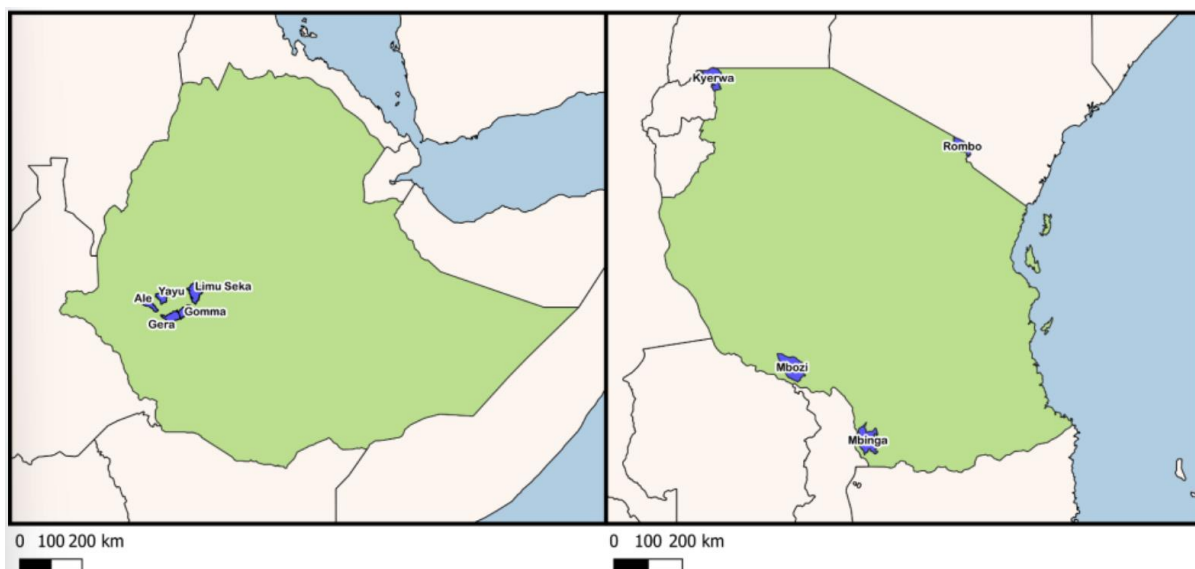
Map 1: Study Region Locations in Ethiopia (left) and Tanzania (right) (Bekele et al., 2023)

Tanzania	Villages	Ethiopia	Kebeles
Mbozi	Ipyana, Iyula, Ilomba, Mpito, Halungu, Igamba, Itentula, Nambinzo	Ale	Kundi, Jeto Koyami, Sambe Enole, Keto Gelecho, Gumero Abo, Yobi Mari
Mbinga	Litembo, Mnyangayanga, Maguu, Utiri, Mkumbi, Ukata, Ngima, Buruma	Goma	Tesosedecha, Ketabero, Koyuseje, Genjailbu, Kadimesa, Getobore
Rombo	Alleni Chini, Manda Chini, Mengwe Chini, Shimbi Kati, Machame Aleni, Makiidi, Mamsera Kati, Mamsera Juu	Yayu	Geri, Wabo, Bondawo, Achebo, Hamuma, Aredin Onigo
Kyerwa	Kamuli, Nyakatuntu, Kikukuru, Kakerere, Iteera, Kibare, Karukwanzi A, Murongo	Limu Seka	Mero Chisa, Sacheni, Atnago Town, Dale Wadera, Gejib, Koma
		Gera	Wanija Kerisa, Sed Loya, Kola Kinbibit, Kele, Genida Chala, Gure Dako

Table 2: Sampled research sites (Bekele et al., 2023)

For this thesis, I opted to utilize the entire dataset of 385 interviews rather than making a pre-selection based on country or attempting to create a representative sample with equal numbers from each interview group. I made this decision after considering the diverse nature of the interviews, which varied significantly in structure depending on factors such as the

interviewer, interviewee, timing, and language. Because my research questions are oriented toward a systematic critique rather than a statistical analysis, I approached the dataset as a living archive of stories, each holding intrinsic value in addressing the research questions about power hierarchies, injustices, and forms of environmentalism at the farmer level. While the data's heterogeneity complicates comparative analyses, this approach aligns with my thesis' transnational approach, which focuses on shared coffee farming experiences. By embracing the diversity of my dataset, my research transcends the artificial constraints of (colonial-drawn) national borders and methodological nationalism, which can limit the scope and depth of analysis (Wimmer & Schiller, 2002; Beck, 2007). By prioritizing the shared experiences of smallholder farmers upstream in the value chain over national contexts, I can research North-South hierarchies and asymmetric relations as well as the diverse actors conducting environmental interventions, which include regional and foreign governments but also NGOs, and private actors.

5.1.2 Inductive approach: Critical interview reading

The interviews conducted as part of this research project were facilitated by various researchers who employed semi-structured interview guides, a format that allows for more flexibility to respond to specific contexts and subjects introduced by the interviewees or to pursue more in-depth explorations of particular themes (Galletta, 2013). Consequently, the questions asked and topics covered varied significantly. The interviews were conducted in Swahili and Amharic, and translated in parts by the researchers and in parts with AI tools, which affects the clarity and comprehensibility of the content. The interviews were either fully transcribed or summarized, depending on the discretion of the interviewing researchers. All these factors make the dataset quite diverse, encompassing a broad range of topics, with some interviews easier to interpret than others.

I approached the interviews in a purely inductive approach. In line with what Brinkmann (2015:413) perceives as an inductive approach in qualitative research, I sought to 'let the empirical world decide which questions are worth seeking answers to', instead of approaching the interview transcripts and summaries with a strict set of preconceived ideas and theoretical concepts. After reading my way through a representative sample of the data and informal talks with some of the researchers who were involved in the data gathering, I decided to narrow down the scope of my research to farmers' power and agency in relation to environmental interventions. At this stage, Nixon's framework was not yet applied; the focus was purely on deriving insights directly from the empirical data.

My next step was to extract all passages from the data that carried references to farmers' power and agency in relation to environmental interventions. I did this by reading all transcripts and summaries through a critical lens informed by critical scholars from fields like environmental justice, critical development studies, and postcolonial theory, as introduced in Chapter 2. In other words, both the samples of the interviews I had read as well as existing scholarship allowed me to assume that environmental interventions are entangled in a complex web of power structures. The interviewees, living within this web, provided testimonies of their situated knowledges about environmentalism and power (Davies, 2022).

For my critical reading of the interview transcripts, I adopted a community-based, capabilities-centered approach to justice, power, and agency. This perspective draws on Sen and Nussbaum's (1993) argument that justice should be evaluated not just by resource distribution, but by how these distributions affect people's capacities to generate freedom by acquiring commodities, to function fully in their chosen lives, and to achieve well-being (Schlosberg & Carruthers, 2010). My understanding of power goes beyond visible forms of agency and decision-making. This expanded view of power and agency is inspired by O'Hara and Clement's (2018) critique of simplistic notions of empowerment in international food security and development discourses. Rather than equating empowerment solely with increased individual agency or decision-making power, I considered the multifaceted nature of power. Power operates not only through overt actions and decisions but also through relationships of influence and domination, as well as through hegemonic forms of knowledge and ideas (Freire, 1970; Lukes, 2005). During my critical reading of the transcripts, I focused on identifying these various dimensions of power and agency.

These multifaceted understandings of justice, power, and agency informed my first reading of the 385 interviews. This process yielded 505 relevant quotes related to power and agency in the context of environmental interventions. Table 2 illustrates the distribution of relevant quotes within the dataset.

Interview type	Tanzania	Ethiopia	Total
Stakeholder interviews	26/113	77/114	103/227
Farmer interviews	128/128	30/30	158/158
Total	154/241	107/144	261/385

Table 3: Distribution of relevant quotes within the interviews

The distribution table shows that given the farmer-centered approach of my thesis, all interviews with farmers included a relevant reference to environmental interventions and

power or agency. The stakeholder interviews often did not include anything relevant because the interviews often did not address environmental issues at all. In the analysis, I indicate when statements are predominantly based on data from one country or one group (farmers or experts) for the sake of transparency. To analyze the 505 selected quotes from the dataset of 385 interviews, I developed a coding framework informed by Rob Nixon's theory of slow violence and the environmentalism of the poor which is presented in the subsequent section.

5.1.2 Abductive approach: developing and applying the coding framework

After conducting a literature review about environmental interventions in the coffee sector and operationalizing Nixon's theory of slow violence and the environmentalism of the poor, I constructed the following coding framework to guide my analysis of the interview extracts that resulted from my first critical reading.

1) Environmental interventions as systemic catalysts of slow violence

    a) Bureaucratic rigidity

    b) Poor advice

    c) Disregard for local knowledge

    d) Penalties instead of support

    e) Reinforcement of existing inequalities

2) Coffee farmers' environmentalism

    a) Witnessing & narrating injustice

    b) Collective resilience

    c) Everyday resistance

Overall, it can be said that I started the research inductively, letting the empirical data guide me to my research questions (Brinkmann, 2015). The rest of the research process can be characterized as predominantly abductive, aligning with a social constructivist ontology. Abduction involves an iterative process of navigating between theoretical literature and empirical data throughout the research process. Making use of both inductive, data-driven, and deductive, concept-driven approaches, abduction follows a non-linear path in exploring the relationship between theoretical review and empirical research (Delputte & Orbie, 2016; Schwartz-Shea & Yanow, 2011; Schreier, 2012).

The coding framework reflects this abductive methodology. It represents a synthesis of Rob Nixon's theoretical concepts and empirical insights derived from the data. Nixon's key ideas were operationalized and adapted to fit the specific context of this thesis, serving as a guiding structure for the analysis. However, throughout the analysis, these concepts were continuously refined and adjusted based on emerging themes from the empirical data

(Brinkmann & Kvale 2015), particularly in how they intersected with farmers' lived experiences of environmental interventions. For instance, I found it necessary to adjust the framework to better capture the nuances of local resistance strategies and the role of collective resilience in challenging hegemonic environmental practices. My coding framework will provide conceptual guidance throughout the analysis and allow for an assessment of the relevance of Nixon's theoretical concepts within the thesis context.

5.2 Ethical considerations and critical reflections

In undertaking research on power entanglements in environmental interventions within the coffee farming sector of Tanzania and Ethiopia, I adopt a methodology grounded in critical scholarship from Environmental Justice, Critical Development Studies, as well as feminist and postcolonial thought. This approach necessitates a critical examination of my own positionality and the ethical dimensions of my research. My critical stance in evaluating and contributing to academic knowledge draws on Haraway's (1988) postmodernist concept of situated knowledges, calling for continuous self-reflection throughout the research process. Complementing this, I draw on Spivak's (1994) exploration of epistemic violence which provides a lens for examining power dynamics inherent in knowledge production. This methodological approach challenges the Western positivist notion of the researcher as a detached, objective observer, instead recognizing the researcher's entanglement in the co-creation of knowledge, particularly in qualitative research (Flores Golfín et al., 2022).

Navigating the power dynamics inherent in academic research is particularly challenging when working with marginalized communities, such as coffee farmers in Tanzania and Ethiopia. The risk of perpetuating epistemic violence is ever-present to me, especially given that I am interpreting interviews conducted by others which have undergone summary and translation processes, instead of engaging directly with the farmers myself. As an outsider to the communities under study, it is crucial to question my authority to interpret and represent the farmers' experiences, acknowledging that my outsider position increases the potential for misinterpretation. Instead of attempting to hide these limitations in pursuit of academic credibility, I openly disclose these challenges and risks, along with the strategies I employ to address them. However, this situation also presents certain advantages. The interviews were conducted by local researchers who share cultural and linguistic backgrounds with the interviewees, likely facilitating a greater degree of trust and openness than might have been achieved had I conducted the interviews myself.

First, I engage in continuous self-reflection to assess personal biases and privileges, maintaining a critical awareness of my role and its potential impacts. Most important to

disclose at this point are my political and ethical commitments to addressing climate change, human rights infringements, and the continuation of colonial exploitation as this shapes the research perspective employed. Second, acknowledging my privileged position as a Global North student researcher, I strive to listen to and center marginalized voices (Spivak, 1988). Drawing on De Leeuw's (2016) approach, I present narratives that humanize abstract inquiries into colonial geographies, emphasizing the importance of bringing 'everyday, experienced and material realities of colonization to light through the voices of those who most deeply feel, and also make sense of, its ongoing force' (ibid:16). Connecting to this, thirdly, I prioritize reciprocity by choosing a research topic relevant to many interviewees and local actors, aligning with the methodological commitment to provide useful academic resources back to participants and promote the interests of underrepresented groups within academia (Robben & Sluka, 2007). The fourth strategy involves working with utmost care. Following Davies' (2022) advice, I carefully consider how to represent complex, slow-developing issues without resorting to invasive narratives that distance the research from those actually impacted. This care extends to conceptual adaptations, such as modifying Nixon's 'environmentalism of the poor' to 'coffee farmers' environmentalism' to more accurately reflect the agency and knowledge of the farmers in this context.

Despite these employed strategies, my positionality as a Global North student who has never visited most of the researched regions necessitates ongoing critical self-reflection. This reflection extends beyond writing this chapter and continues after submitting the thesis. I remain conscious of my own positionality and potential impacts, understanding that openly addressing challenges and limitations is an ongoing process rather than a task to be completed.

6. Analysis: The slow violence of environmental interventions and coffee farmers' environmentalism

This chapter presents a critical analysis of coffee farmers' experiences with environmental interventions in Tanzania and Ethiopia. Taking a farmer-centered perspective, the analysis reveals the paradoxical impacts of outside actors' interventions while highlighting farmers' often-overlooked agency. The analysis is structured in two main sections. I first examine how environmental interventions can contribute to injustices. Then, I explore the prevalent forms of environmentalism that emerged from the interviews. Hence, the chapter answers my two theory-informed questions: (1) In what ways do environmental interventions act as systemic catalysts of slow violence in the coffee sector that perpetuate or exacerbate power imbalances experienced by farming communities in Tanzania and Ethiopia? (2) What forms of 'coffee

farmers' environmentalism' are practiced in Tanzania and Ethiopia to challenge power asymmetries and environmental injustices?

6.1 Environmental interventions as systemic catalysis of slow environmental violence

This first part of the analysis investigates the structural foundations of the slow violence that coffee farmers experience in relation to environmental challenges, focusing on interventions by outside actors. As Davies (2022:414) asserts, 'to evoke slow violence without attending to its structural foundations is an impoverishment of the concept.' The analysis of the interviews reveals that environmental interventions by outside actors are often perceived by farmers as a 'threat multiplier' (Nixon, 2011:3) rather than reducing slow violences. The environmental interventions referenced by farmers and examined in this section include environmental VSS, programs by government-related bodies, NGO activities, and private actor initiatives. The findings indicate that in the context of coffee farming in Tanzania and Ethiopia, these interventions often serve as systemic catalysts of slow violence. The analysis identified five cross-cutting, interrelated reasons, and repeating patterns in the interviews that explain how environmental interventions by outside actors disadvantage farmers and contribute to their experience of slow violence. These reasons are:

1. **Bureaucratic rigidity**: Inflexibility prevents timely and adaptive responses to the dynamic environmental challenges faced by coffee farmers and extensive paperwork keeps farmers from accessing interventions.

2. **Poor advice:** Environmental advice provided to farmers is often ineffective due to its top-down delivery, lack of contextualization, and conflicting priorities.

3. **Disregard local knowledge:** Many interventions overlook valuable local expertise on environmental resilience and adaptation.

4. **Penalties instead of support:** Farmers often face punitive measures rather than receiving the necessary educational or material support to effectively implement sustainable practices and address environmental challenges.

5. **Reinforcement of Existing Inequalities:** Environmental interventions tend to exacerbate both global and local disparities, further marginalizing smallholder farmers—especially women, poorer farmers, and rural farmers.

6.1.1 Bureaucratic rigidity

A significant factor contributing to power imbalances and coffee farmers' continued experience of slow environmental violence in Tanzania and Ethiopia is bureaucratic rigidity. This aspect was particularly emphasized by stakeholders working in Ethiopia who witnessed firsthand the challenges smallholder farmers face when navigating the bureaucratic nature of interventions. However, the criticism was also present in Tanzania and also voiced by farmers themselves.

Bureaucratic rigidity manifests primarily in two ways: the inflexibility of regulations and their complexity. Firstly, bureaucracy often fails to account for the dynamic nature of the environment, exacerbated by climate change, and its impact on coffee harvests. A key example of this is government harvest permissions, which are issued as part of broader governmental programs. These permissions, along with coffee bean orders from certifying bodies or private farm owners, are frequently granted without regard for actual crop readiness or local environmental conditions. This forces farmers to operate on arbitrary timelines that may not align with their crops' needs. As one interviewee noted, "Permits for coffee harvesting are issued on a specific day without considering whether the coffee in your farm is ripe or if others have finished. Some coffee beans start falling to the ground while others are not ripe yet, and if you harvest without a permit, you will be penalized." Secondly, bureaucratic processes, such as certification, are typically created in a language that is difficult for smallholder farmers to understand. Numerous interviewees referenced certification processes as being prohibitively costly, time-consuming, and requiring extensive paperwork. The disconnect between bureaucratic processes and local realities is evident in the words of one interviewee: 'It is not generally based on the economy and society of developing countries'. Another interviewee further illustrates this point: 'The requirements are many. So it takes a lot of time to get this certificate.'

A Northern-centric, bureaucratic approach to certification and regulation fails to adequately consider environmental dynamics and the specific contexts and needs of farmers in Tanzania and Ethiopia. Consequently, these bureaucratic processes perpetuate systemic inequalities by favoring larger, more resourced operations. Smallholder farmers feel disadvantaged by the bureaucratic rigidity in environmental interventions, which becomes a mechanism through which power imbalances are maintained and exacerbated.

6.1.2 Poor advice

Environmental interventions in the coffee farming sector of Tanzania and Ethiopia often provide misaligned and inadequate guidance to farmers, exacerbating power imbalances and contributing to slow environmental violence. This issue manifests in three primary ways: the

advice's top-down delivery, its lack of contextualization, and an overall insufficiency of support. These aspects contribute to rendering many interventions impractical or even counterproductive. Additionally, a factor that further complicates outside actors' advice from a farmer-centered perspective is the dilemma between output maximization and sustainable practices.

The core of the problem lies in the disconnect between the advice provided and the realities on the ground. Advice is frequently delivered in a top-down manner, disregarding farmers' local knowledge and experiences. A General Manager's admission illustrates this issue: "Sometimes they (farmers) are resistant but we force them to adapt to the new climate-resistant varietals". This approach undermines farmers' agency and exploits existing power inequalities. Furthermore, the guidance provided often lacks proper contextualization to local realities. For instance, government-recommended seedlings frequently fail to perform as expected due to the region's strong climate variability, which is not adequately considered. Rural farmers reported that they wanted to plant seedlings but were too far away to manage the transport, highlighting the disconnect between recommendations and practical realities. The inadequacy of support is further intensified by discontinued or insufficient assistance. Many farmers report that they "lack proper follow-up from experts", which hinders effective cooperation between farmers and outside actors while breeding frustration and distrust on the ground.

Adding to these challenges is a fundamental dilemma between environmental conservation and output maximization. As one interviewee noted, "We need to strike a balance between our production goals and environmental considerations." This tension leaves farmers caught between the advice of interventions that tend to prioritize profit and those favoring sustainable practices, often leading to conflicting recommendations that are difficult to reconcile. By failing to provide contextualized, supportive, and consistent guidance, environmental interventions risk alienating the very farmers they aim to assist. This situation underscores the need for a more collaborative, farmer-centered approach to environmental interventions in the coffee sector, one that addresses practical realities and provides sustained support to farmers.

6.1.3 Disregard for local knowledge

Many environmental interventions in the coffee farming sector fail to recognize and incorporate the valuable local knowledge possessed by farmers. Coffee farmers in Tanzania and Ethiopia demonstrate a strong environmental consciousness and awareness of resilience techniques.

One interviewee stated, "There may be adaptation strategies being practiced by communities that science has yet to reach." Many farmers' agroforestry practices are culturally anchored,

with traditional methods of forest protection being particularly evident in Ethiopia. For example, "The culture of the community protects forests by maintaining flowering trees, which is highly recommended by experts." However, both farmers and stakeholders across Tanzania and Ethiopia criticize the devaluation of this local knowledge in favor of Western scientific approaches. An NGO director explained that "agroforestry is a traditional adaptation practice, practiced by most people long before NGOs entered the field." Yet, standardized, top-down training by outside actors often fails to recognize the environmental value of existing practices. The disregard extends to cultural and spiritual dimensions as well. One interviewee noted, "Indigenous knowledge is based on traditional ecological knowledge, local and practical knowledge that has been gathered from generations of people living in a particular environment. This knowledge is holistic as it encompasses the physical and spiritual dimensions of the environment." Some interviews suggest outside actors' practices of instrumentalizing local knowledge, using it to gain trust before enforcing modern-scientific farming practices or even appropriate ideas and local knowledge, a form of epistemic violence (Spivak, 1994). The frustration with the lack of genuine engagement is expressed by one farmer:

> "But did you come thinking of us? Is it to take our ideas away, or to really take them into our coffee fields and solve our problems? Will you provide us with training in the future as you are asking us now? Will you support us? If yes, what kind of support will you give us? And if you come quietly looking for our ideas, it will be a waste of your time and there is no need to talk much. No discussion will change our lives and there is no point in just talking to each other and walking away."

While many interviewed stakeholders advocate for integrating local and scientific knowledge, they admit that implementation remains limited. One interviewed expert noted, "National policies are often subject to changing political forces, and while they may pay attention to indigenous knowledge at certain points in time, this attention may not be sustained over the long term."

This systematic undervaluation of farmers' expertise perpetuates power imbalances. Consequently, it contributes to the slow environmental violence experienced by coffee farmers, as potentially valuable adaptation strategies are overlooked in favor of externally imposed solutions.

6.1.4 Penalties instead of support

Environmental interventions often fail to provide the necessary support to coffee farmers, instead imposing a system of inspections and penalties. This approach adds to the challenges farmers face in adapting to environmental challenges and implementing sustainable practices.

One farmer describes their situation as being "like playing cards," with various stakeholders such as "bosses, wives, foreigners" influencing their operations while failing to provide much-needed support. The punitive nature of the system is evident in the farmers' testimonies. As one farmer states, "They impose fines that are so high that the farmer cannot afford them, so they end up imprisoning you." Another farmer points out the lack of educational support: "No, experts never come to inspect the farm and give us seminars on what to do. They might come to inspect and question why we harvested unripe coffee, and possibly penalize us, but they don't come to educate us. We need agricultural officers to guide us on what to do in our community for improvement. That has never happened." As one interviewee suggests, currently, communal responsibility, mutual advising, and even traditional forms of punishment are more effective than existing legal/formal systems in addressing environmental challenges. Farmers clearly articulate their need for both educational and material support. They require guidance on adapting to climate change and implementing sustainable practices. Materially, they struggle to afford essential production inputs, irrigation systems, and quality pesticides or fertilizers. The high cost of these resources, exacerbated by inflation in Ethiopia, further hampers farmers' ability to respond effectively to environmental challenges.

This system of penalties without adequate support underscores the need for more adaptive, supportive frameworks that empower farmers against the backdrop of increasing environmental challenges. Such a shift would challenge the extent to which farmers experience existing power hierarchies.

6.1.5 Reinforcement of existing inequalities

The sections above demonstrate how outside actors' environmental interventions can act as systemic catalysts of slow violence. This final section deepens the analysis by focusing on a critical aspect that has surfaced throughout the previous sections: the reinforcement of existing inequalities. Rather than fostering transformative justice, environmental interventions often exacerbate disparities, marginalizing vulnerable communities further.

Both the accessibility and impact of environmental interventions are not experienced uniformly across all farmers. Instead, they tend to disadvantage marginalized villages and individuals the most. At the local level, smallholder farmers, particularly women, elderly, and rural farmers,

are disproportionately disadvantaged. As one interviewee notes, "Only a few farmers, or what we used to call them "Model or Leading Farmers," are often included in any research or initiatives. They are frequently chosen unlawfully rather than directly." They refer to the selective approach of governmental and NGO environmental training programs. Rural farmers often miss out on training and resources due to infrastructure problems, especially during rainy seasons when extension officers cannot reach them. As one participant explained, "Extension services are so limited in the areas - during the rainfall season majority of farmers cannot be reached due to the problem of infrastructure." Gender inequalities are also perpetuated through intransparent selection processes for trainings. "Women are much less likely to participate in training than men unless their husbands are present." Another interviewee stated, "They do come, but they come for the men, not the women." The fact that environmental interventions by outside actors don't take existing inequalities into account reinforces the structural violence of classism and sexism.

On a global scale, environmental interventions tend to reinforce North-South power imbalances. The colonial continuity and how it is felt by coffee farmers' is illustrated by this farmer's quote: "So, who owns the farm? It's the wealthy person. You live like a slave to take care of those seedlings, and this happens because of the lack of empowerment." The global asymmetry of power is particularly evident in the realm of environmental VSS, where sustainability standards of certifications are set in a non-participatory way by Northern countries without adequate consideration of local contexts. As one interviewee critiques, "The drawback of this certificate is that most of the coffee produced in Ethiopia is organic. So, if they are judging this country by the same standards as Brazil, it is not a good thing, because they have to understand the realities of our country." The non-participatory nature of these standards is a point of contention. As one interviewed local expert stated, "farmers seek Rainforest Alliance certificate to please certain buyers," highlighting the lack of choice and agency farmers face. Another interviewed expert in Ethiopia noted, "There are efforts underway to develop their own national certification standard that considers for example forest biodiversity and coffee genetic biodiversity." This highlights the desire for more locally relevant and participatory approaches to environmental interventions, particularly for VSS.

By not considering how they might be reinforcing existing inequalities, environmental interventions by outside actors risk perpetuating systems of injustice, contributing to the slow violence experienced by farmers in Tanzania and Ethiopia, especially those who are most marginalized within the systemic structures. A transformative approach to justice is needed, one that prioritizes inclusivity, local context, and genuinely participatory interventions.

6.2 Coffee farmers' environmentalism

Nixon argues for the importance of not only attending to the systemic manifestations of slow environmental violence but also looking at the forms of environmentalism that emerge from the ground up. I collect these acts of resistance and environmentalism under the term "coffee farmers' environmentalism", my adaption from Nixon's original terminology "environmentalism of the poor". Using Nixon's work as a base, my analysis identified various forms of environmentalism practiced by coffee farmers in Ethiopia and Tanzania in the face of environmental challenges and environmental interventions that exacerbate injustices. This section explores in detail how coffee farmers' environmentalism challenges environmental injustices. The analysis of the interviews reveals that coffee farmers' environmentalism can be categorized into three main forms, each addressing different aspects of environmental injustices. These forms are:

1. **Witnessing & narrating injustice:** Coffee farmers engage in slow observations and articulate injustices as well as their needs through narratives and advocacy, revealing systemic challenges.

2. **Collective resilience**: Farmers demonstrate bottom-up organization, sharing resources and knowledge about traditional agricultural practices, and building a strong sense of community that enhances environmental resilience.

3. **Everyday resistance:** Farmers adopt informal practices, display dismissive attitudes toward external interventions, and make strategic changes in crop choices to better suit local conditions and needs, demonstrating forms of environmental agency.

6.2.1 Witnessing and narrating injustices

A crucial aspect of coffee farmers' environmentalism is their role in witnessing and narrating injustices. This form of environmentalism, as Davies (2022:419) suggests, includes "bearing witness" and engaging in "slow observations" as "environmental tactics of resistance." These practices represent a subtle yet powerful form of environmental activism. The fact that I am writing this thesis is a product of the interviewees practicing this type of environmentalism. Coffee farmers demonstrated environmentalism as they shared observations of systemic challenges with researchers. When I first read the interview transcripts and summaries in the inductive phase of my research, I noticed the claims of injustices and made them the topic of my master's thesis. My finding of 505 references related to power, agency, and environmental interventions shows that bearing witness, slow observations, and narrating injustices are integral to coffee farmers' environmentalism.

The narratives provided by coffee farmers are characterized by explicit articulations of experienced injustices. For instance, when discussing the roles of extension officers sent by the government, one farmer uses the metaphor that the current forms of support are like giving paracetamol for a broken leg - they don't address the root causes. Other farmers ask directly "Has your organization ever taken any action in our favor to fight environmental challenges?" and, "Is there a single exporter that really cares about climate change?". With these statements, farmers clearly express frustration and challenge the authenticity of outside actors' environmental interventions. This reflects farmers' critical engagement with the broader socio-economic contexts in which they operate. They identify instances of what could be termed "greenwashing" in the Global North. One farmer observed how Northern buyers are sometimes shown dried-up coffee plants by exporters to increase their willingness to pay, illustrating how environmental concerns are utilized for marketing purposes. This awareness is further exemplified by the farmers' statements: "Good quality and cheap prices are buyers' first priority. Other environmental stuff comes after. It's about selling a good story." and "Private companies could help with Climate Change but they need to check their motives." Such insights reveal a sophisticated critique of the commodification of environmental concerns within the coffee industry coming from coffee farmers. The farmers' narratives also reveal an awareness of the disconnect between publicized environmental concerns and actual practices. As one farmer observed, "The government or other organizations only provide help for news, not for actual action." Overall, the interview transcripts underscore the farmers' critique of environmental efforts that are not driven by genuine concern for the environment.

In addition to this, farmers actively articulate their needs and address relevant actors. Their demands are often specific and concrete, focusing primarily on educational and material support. For example, one farmer stated, "It would be better if a soil expert came and educated us about improving the fertility of our land rather than making empty promises." This direct claim shows that farmers are not passive recipients of aid but active participants in seeking solutions to the challenges they face. Farmers also critically evaluate the effectiveness of current support systems. One interviewee noted, "Government support often involves providing things we don't need or can't use, like recommending the wrong tree species that harm our coffee plants." Such critiques highlight the gaps between provided services and actual needs, reinforcing the broader issues discussed in the "poor advice" section, where the disconnect between advice and practical realities is a recurring theme. This demonstrates the farmers' role in identifying and articulating areas for improvement, emphasizing the need for interventions that are better aligned with their actual needs and local conditions.

The act of witnessing and narrating injustices forms a critical component of coffee farmers' environmentalism. Through observations, articulations, and critiques, farmers actively shape the discourse around environmental justice in their communities and beyond.

6.2.2 Collective resilience

Another significant aspect of coffee farmers' environmentalism is the manifestation of collective resilience. This is characterized by bottom-up organization, knowledge sharing, and resource distribution among farmers in Ethiopia and Tanzania. Collective organization enhances environmental resilience and contributes to social and economic empowerment at the same time.

A key feature of collective resilience is the farmers' capacity for self-organization, primarily through cooperatives and unions. There are also references to female farmers organizing in groups to strengthen their position in a male-dominated field. These structures serve as local platforms for knowledge exchange and decision-making, operating with minimal government interference. As one farmer noted, "At the coop, all farmers are decision-makers." According to the interviewees, coops are characterized by transparent and trust-based processes, as evidenced by another farmer's statement: "They also openly talk and forward decisions transparently. There is no pseudo-information among the members. Everything is fact-based. The members know each other very well. They never lie."

These bottom-up structures have a strong ability to mobilize community participation. One coop member observed that "when the government calls the community as a whole for a meeting, all people are not coming, but in the coop, all their members are participants." This high level of engagement, referred to by another interviewee as the "coop spirit," facilitates rapid information dissemination and collective action on environmental issues. For instance, one farmer reported, "We managed to prevent the pest from spreading to other wards—we convened village meetings and made resolutions to control the strange pest. We set out a task force to control it, and we succeeded." Some unions have initiated environmental projects to distribute locally-made cookstoves or provide solar energy to their members, demonstrating a proactive approach to environmental sustainability. Additionally, these structures can play a role in livelihood improvement and gender empowerment, with one interviewee mentioning the establishment of a high school for farmers' children by a cooperative. However, it is important to note that coops and unions are not without challenges. Several interviewees highlighted issues related to power hierarchies within cooperatives and unions, indicating that these bottom-up organizations may also reproduce certain social inequalities.

Central to collective resilience is the practice of sharing knowledge, resources, and seedlings. This culture of mutual support is particularly evident in times of environmental stress. As one farmer stated, "We never received any help. But as farmers, we learn from each other." This informal system of knowledge transfer appears to be deeply ingrained in the farming communities, with farmers directing each other to experienced individuals for specific advice on agricultural practices and environmental management. "Maybe your neighbor will direct you to someone who is an experienced farmer who will tell you what to do, and how to apply pesticides, for example. If I say I sprayed a pesticide yesterday, he will tell you how to use that specific pesticide. In other words, if you don't know, your colleague will guide you." Even governmental interventions rely on farmers' organizations and knowledge-sharing practices. Often, only a few individuals ("model farmers") from one village are trained, and the government relies on these individuals to train other farmers. There are many references in the farmer interviews to knowledge being shared within villages by those who have participated in climate-related training.

The sharing of seedlings is another crucial aspect of this collective environmentalism. Farmers maintain traditional seedlings, create new ones, and share them within and beyond their communities. This practice becomes increasingly important in the context of climate change, as new environmental conditions necessitate adaptive agricultural strategies. Through their bottom-up networks, farmers can source needed seedlings from distant locations, enhancing their collective adaptive capacity. These sharing practices contribute significantly to the communities' environmental resilience. As one interviewee noted, "Resources can move similarly to how information does. These resources can either be physical (like materials or machinery) or immaterial (knowledge, skills, and experiences)." This flow of tangible and intangible resources across generations and communities forms a core component of coffee farmers' environmentalism.

In conclusion, collective resilience, manifested through bottom-up organization and resource sharing, represents a powerful form of environmentalism among coffee farmers. These practices not only enhance the farmers' capacity to respond to environmental challenges but also contribute to broader social and economic development within their communities. This resilience is characterized by self-organization, transparent decision-making processes, and a strong sense of community engagement.

6.2.3 Everyday resistance

The third dimension of coffee farmers' environmentalism manifests through various forms of everyday resistance. While only one interviewee refers to striking, "For example, due to the

current situation, you have to go on strike to be able to get fertilizer for your farm", many other quotes suggest subtle forms of everyday resistance. These include skeptical attitudes towards interventions, adherence to traditional practices, engagement in informal practices, and strategic income diversification.

Many farmers exhibit a hesitant or dismissive stance toward top-down environmental interventions, particularly those promoting exclusively "Western-scientific knowledge." This skepticism is evident in farmers' reluctance to accept environmental advice from external actors, such as the adoption of new seedling varieties, technologies, and techniques like pruning or using pesticides. As one farmer stated, "Some of us have been farming for a long time, so we have experience and we are more knowledgeable than these so-called experts." This sentiment is echoed in another farmer's comment: "It's difficult for us to trust something that is not native to us." This resistance is not only reported by farmers but also acknowledged by interviewed professionals who work with implementing interventions. One project manager noted, "The project staff has not been able to gain the trust of local people and has routinely encountered resistance in implementation mainly due to past bad experiences with government agencies." A notable example of this resistance that came up in the interview transcripts and summaries is the successful pushback against non-site-specific coffee varietals in Ethiopia 30-40 years ago. Now, authorities take more care to focus on varietals being site-specific.

In the context of environmental injustice, certain informal practices adopted by farmers can be viewed as forms of resistance to an exploitative system, thereby demonstrating agency in the face of systemic challenges. For instance, some Ethiopian farmers have resorted to mislabeling coffee origins, labeling coffee as Yirgacheffe even when it comes from different regions because they are now capable of producing similar taste profiles due to climate change. Another informal practice involves providing high-quality samples to secure contracts but later delivering lower-grade coffee. Rather than judging these practices solely on ethical grounds, they can be interpreted as strategic responses to environmental injustices, showcasing farmers' deep environmental understanding.

Another form of resistance emerges through farmers' strategic decisions to diversify their income sources or relocate their coffee production. As one farmer explained, "Most importantly, it is crucial to have other sources of income besides coffee production when climate change becomes overwhelming." This diversification includes planting alternative crops, rearing livestock, seeking additional employment, or starting businesses. Some farmers have even chosen to abandon coffee farming entirely, as evidenced by an interviewed expert's statement: "It has reached a point where we see that this coffee farming is not helpful. People

prefer uprooting coffee and growing rice or maize because the price is unclear." There is limited support for income diversification from outside actors and even perceived efforts to discourage these practices, according to a farmer: "They try to dissuade farmers from uprooting trees, including through the use of premiums". Farmers persisting in their choices demonstrates their deep environmental knowledge, as switching to crops that are easier to grow in given conditions without the use of chemical inputs is likely the more environmentally friendly option in the face of climate change. At the same time, it shows farmers' proactive approach to securing livelihoods in the face of environmental uncertainties. If outside actors' environmental interventions were genuinely farmer-centered, they would support farmers' diversification. However, the opposite seems to be the case, according to the interviews.

By resisting top-down interventions, adhering to traditional practices, engaging in informal market practices, and diversifying their income sources, farmers demonstrate agency in the form of a direct rejection of outside actors' profit motives and exploitation of nature. This resistance can be viewed as a form of environmentalism that prioritizes local knowledge, adaptability, and community resilience in the face of continuing power inequities and exacerbated environmental challenges due to climate change.

7. Discussion: Valuing coffee farmers' environmentalism to counteract slow violence

This chapter presents and interprets the key findings of my research on the power dimensions of environmental interventions in the coffee sector. It presents the major outcomes of the analysis, contextualizes them within broader academic fields, outlines practical implications and recommendations, and acknowledges the research limitations while suggesting directions for future research.

7.1 Key findings

My research investigates the power dimensions of environmental interventions, which are becoming increasingly prevalent in the coffee sector. Guided by Nixon's theory, the analysis sought answers to two theory-informed research questions: (1) In what ways do environmental interventions act as systemic catalysts of slow violence in the coffee sector that perpetuate or exacerbate power imbalances experienced by farming communities in Tanzania and Ethiopia? (2) What forms of 'coffee farmers' environmentalism' are practiced in Tanzania and Ethiopia to challenge power asymmetries and environmental injustices? The analysis reveals two major findings that answer these research questions:

(1) The systematic harm caused by environmental interventions to farming communities in Tanzania and Ethiopia is often underestimated. Environmental interventions by

outside actors can perpetuate, reinforce, and reflect existing power hierarchies and injustices that flow both from North to South and within coffee farming communities, acting as catalysts of slow violence in the coffee sector. Characteristics of environmental interventions that make them catalysts of slow violence include bureaucratic, top-down approaches that disregard local knowledge.

(2) Despite continuously facing challenges and experiencing slow violence, coffee farmers are not passive actors who face environmental degradation but active agents of environmentalism. My thesis uncovered pathways of 'coffee farmers' environmentalism' which include witnessing and narrating injustices and making claims, collective resilience through strong bottom-up organization and a culture of sharing, as well as everyday resistance practices.

These findings highlight the disconnect between outside actors' environmental interventions and the realities of coffee farmers, pointing to the need for a reevaluation of approaches to environmentalism in coffee farming. In the subsequent section, I will contextualize the findings within broader academic research fields.

7.2 Interpretation of the findings

My findings confirm many arguments made within Rob Nixon's theory of slow violence and the environmentalism of the poor. They also contribute to broader academic discourses on environmental justice and critical development studies.

The application of Nixon's theory to the coffee sector provides a novel perspective on environmental interventions. As Davies (2022:409) argues, 'Slow violence demands we look beyond the immediate, the visceral, and the obvious in our explorations of social injustice.' By doing this, my research revealed that interventions, despite their benevolent intentions to mitigate environmental challenges, often act as structural catalysts for injustices experienced by coffee farmers, indeed causing slow violence. Nixon's (2011:19) notion of 'displacement without moving' aptly describes the situation under study. Coffee farming communities struggling with slow violence remain physically in place but lose the land and resources that sustained them, leaving them stranded in increasingly uninhabitable environments and in a system of power asymmetries. The gradual intensification of environmental challenges due to climate change impacts in the study regions exemplifies the phenomenon of slow violence.

My research aimed to examine the systemic structures through which the slow violence of environmental challenges is experienced by farmers. The analysis has revealed that multiple systems of power persist and operate within environmental interventions, both locally and

globally. Outside actors, through their interventions, institutionalize intersecting forms of discrimination. Particularly marginalized farmers, who already have the fewest resources to react to environmental challenges, are the least likely to benefit from these interventions. The analysis highlights how environmental interventions often carry developmental agendas rooted in neoliberalism and imperialism, thereby deepening North-South power hierarchies. This is how environmental interventions perpetuate existing inequalities, reinforcing the dominance of global powers while exacerbating local disparities.

Contrary to narratives portraying farmers as passive victims, the analysis revealed significant agency among smallholder coffee farmers. The research uncovered resistance to interventions born out of farmers' environmental consciousness as well as numerous tactics they pursue to mitigate their experiences of slow environmental violence. This aligns with Nixon's concept of the environmentalism of the poor, which draws attention to often overlooked resistance that exists wherever slow violence occurs. Kressner et al. (2020:5) employ the theory of the environmentalism of the poor to 'challenge the notion of environmental degradation as inevitable and unveil neocolonial and neoliberal tactics that prescribe passivity and inaction as the only possible attitude.' My research similarly demonstrates that farmers' attitudes are diverse but do not exhibit passivity or inaction. As O'Lear (2016: 4) suggests, slow violence 'can result from epistemic and political dominance of particular narratives or understandings.' The findings from my analysis challenge these neocolonial and neoliberal narratives by drawing attention to coffee farmers' environmentalism.

In the broader context, this research confirms the core argument of environmental justice scholars that certain populations are rendered less valuable than others. Davies (2022:421) explains this as 'a politics of indifference about the suffering of marginalized groups helps to sustain environmental injustice.' Based on my analysis, this statement can be extended by arguing that there is also a politics of indifference about the agency of marginalized groups. This critique of outside actors' environmental interventions aligns with generations of feminist scholars who ask why some voices are never heard by decision-makers, pointing to epistemic violence as the result of this indifference.

Simultaneously, my findings align with Critical Development Studies scholars' arguments about alternative paradigms and knowledge systems. My finding that environmental interventions often feature bureaucratic rigidity, poor advice, and disregard for local knowledge aligns with the summary of the disadvantages and dangers of outside actors' interventions in the coffee sector, as detailed in Chapter 3. The emphasis on bottom-up organization, farmer-led initiatives, and local knowledge systems to challenge the dominance of Western, market-based solutions in environmental interventions is a finding echoed by other scholars studying

environmental interventions in the coffee sector. My research provides a case that confirms other scholars' arguments. In particular, the identified dilemma between environmental conservation and output maximization aligns with critiques of development approaches rooted in capitalism, highlighting the disconnect between outside actors' environmentalism and coffee farmers' environmentalism (Staricco, 2019; Bacon, 2010; Raynolds, 2009).

These interpretations situate my findings within broader academic discussions on Rob Nixon's framework, environmental justice, and critical development studies. By revealing patterns of structural violence perpetuated through interventions, while also highlighting the often-overlooked agency and environmental knowledge of coffee farmers, my findings align with core arguments across these theoretical domains, enriching these scholars' argument through a transnational case study in the East African coffee sector.

7.3 Practical implications of my research and recommendations

The data analysis has drawn attention to the weaknesses and dangers of environmental interventions by outside actors. Below I will first summarize how existing interventions can be improved based on my findings by formulating six recommendations to practitioners of environmental interventions. Then I make the argument that it is necessary to not only improve existing interventions but, more importantly, to explore alternatives to the existing structures by supporting existing bottom-up approaches.

Improving existing interventions

By implementing the following recommendations, actors conducting environmental interventions can work towards more equitable, effective, and farmer-centered approaches that address both environmental sustainability and social justice in the coffee sector.

Prioritize farmers' flexibility in bureaucratic processes. My analysis revealed that rigid timelines and complex paperwork often disadvantage smallholder farmers, particularly during climate-induced changes in crop readiness. For instance, government harvest permissions and coffee bean orders from certifying bodies are frequently issued without regard for actual crop readiness or local environmental conditions. Adapting regulations to local environmental conditions and simplifying certification processes would make interventions more inclusive and effective.

Contextualize environmental advice. My findings highlight that one-size-fits-all approaches frequently fail due to regional climate variability and diverse local conditions. Practitioners should tailor their recommendations more to specific local contexts, considering factors such

as soil types, microclimates, and existing farming practices but also existing socio-economic hierarchies. This approach would help avoid situations where, for instance, government-recommended seedlings underperform due to unexpected local climate patterns or are not even accessible to rural farmers. Additionally, the current approach to setting sustainability standards often fails to consider local contexts adequately. Supporting the creation of locally relevant certification systems and developing more participatory approaches to standard-setting would help address the power imbalances between Global North actors and local farmers.

Integrate local knowledge. Many interventions disregard valuable traditional ecological knowledge, leading to ineffective or counterproductive outcomes. NGO representatives acknowledged that practices like agroforestry were traditional adaptation techniques used by farmers long before formal interventions. Creating genuinely participatory processes that incorporate farmers' expertise in intervention design and implementation would not only improve outcomes but also build trust and engagement with local communities. This is particularly important given the strong environmental consciousness and climate change awareness demonstrated by the interviewed farmers.

Focus on support rather than penalties. Penalties leave farmers struggling to implement sustainable practices without the necessary resources or knowledge. Farmers reported facing hefty fines or even imprisonment for non-compliance, while also noting a lack of educational support and guidance. Shifting the focus to educational and material support, such as providing irrigation systems or quality inputs, would be more effective in achieving environmental goals while also supporting farmers' livelihoods. Interviewees expressed a desire for more hands-on guidance and seminars to improve their farming practices.

Support income diversification. Farmers often seek to diversify their streams or revenue as a strategic response to climate uncertainties, but face resistance from some external actors. Many interviewees stressed the importance of having alternative income sources besides coffee production to cope with climate change impacts. Recognizing this need for livelihood security and providing support for diversification efforts would better align interventions with farmers' real needs and strategies.

Consider existing inequalities. My analysis reveals that interventions often reinforce or exacerbate local and global power asymmetries. They particularly disadvantage women, the elderly, and rural farmers. Interviewees noted that often only a few so-called model farmers are selected to be included in research or initiatives. Designing interventions with the aim of

reducing local power dynamics by prioritizing marginalized farmers as recipients of training and resources would help mitigate these issues.

Rethinking environmental interventions

While implementing these changes can work towards more equitable, effective, and farmer-centered approaches, the main implication of my research goes beyond merely improving existing interventions. The power hierarchy inherent in outside actor interventions will likely always meet distrust and disappointment on the ground, eventually causing slow violence. While improvements are necessary, the sector needs a fundamental rethinking and a new agenda for the future of environmentalism. Therefore, the primary recommendation is to prioritize support for existing farmer-led initiatives, even if outside actors do not fully understand them.

My research reveals a rich culture of bottom-up approaches and sustainable practices present on the ground, demonstrating significant resistance born out of coffee farmers' environmental consciousness. Farmers employ various tactics to create safety from slow violence and already lead their own interventions towards resilience and sustainable farming. Often, environmental interventions by outside actors hinder these efforts instead of supporting them. Interventions should work with and strengthen existing farmer cooperatives and unions, recognizing their role in knowledge sharing and community mobilization. Facilitating these networks could enhance the spread of sustainable practices and improve farmers' capacity to respond to environmental challenges. As Nixon (2011:39) warns, no collectivized ethical behavior can combat climate change without backing from well-implemented transnational accords. Therefore, institutions must support farmers' existing efforts in a manner that avoids co-opting these initiatives for greenwashing purposes. Instead of undermining local agency, such support should empower and amplify farmer-led initiatives, representing a crucial shift towards more sustainable and just environmental practices in the coffee farming sector.

In conclusion, while improving existing interventions is important, the coffee sector must prioritize supporting and scaling up coffee farmers' environmentalism. This approach not only addresses the shortcomings of current interventions but also reduces power asymmetries.

7.4 Limitations and further research directions

Below I will acknowledge the limitations of my master thesis research and accordingly point to areas of further academic research that emerge from these constraints. By acknowledging the boundaries of my understanding, I hope that further scholarly inquiry can build upon and extend the findings presented in this thesis.

In this thesis, I have employed a broad categorization of actions implemented by external actors as 'environmental interventions,' potentially overlooking nuanced distinctions. Further research is needed to explore the intersections between power asymmetries and specific types of environmental interventions (e.g., seedling distribution programs) or particular external actors (e.g., national government agencies). While sustainability certificates and standards have been extensively researched (Wright et al., 2024), all other interventions and actors remain understudied. Future investigations should not only assess the efficacy of these interventions but also provide critical examinations of their underlying narratives, ideologies as well as motivations, and theories of change. It is also essential to explore the role of external actors in perpetuating inequalities, considering whether these actions are driven by a deliberate profit motive or stem from a lack of awareness. Understanding this distinction could reveal whether these actors might potentially become partners in supporting farmer-led environmentalism. Such explorations may have implications beyond addressing power asymmetries at the farming level in Tanzania and Ethiopia, potentially informing efforts to foster justice along global value chains for various agricultural commodities and stakeholders across diverse Global South contexts.

While some researchers have applied Nixon's concepts of slow violence and the environmentalism of the poor to farming contexts (e.g., Brickell, 2024; Carte et al., 2019; Willemin & Backhaus, 2023), I am not aware of any research applying this framework to the coffee sector or environmental interventions specifically. My research shows that coffee farmers' struggles with environmental challenges and their agency align well with this theoretical framework. Future studies could operationalize Nixon's concepts in a similar style to assess power asymmetries in the coffee sector, potentially gaining valuable insights about environmentalism. Research should investigate why coffee farmers' environmentalism and their experience of slow violence are so often disregarded by powerful actors in the sector. To do this, particular attention should be given to innovative approaches for documenting slow violence and coffee farmers' environmentalism. Researchers like O'Lear (2021:231) advocate for collaborative, qualitative, and ground-truthed projects that 'allow researchers to see through and beyond numbers and metrics that limit our view to what we already know.' However, as Brickell (2024) emphasizes, such research must be conducted with 'care, responsibility, and trust.' This documentation is crucial, as understanding how coffee farmers build resilience against slow violence may inform strategies for enhancing bottom-up environmentalism in the face of top-down interventions across various contexts.

A significant limitation of this research is my reliance on data collected by others, which necessitated interpreting translated transcripts and researcher summaries rather than directly

engaging with the interviewees. This constraint underscores the need for field research employing a deductive approach to validate and refine my findings. Given that my research suggests that farmers perceive outside actors' environmental interventions as flawed and practice various forms of environmentalism themselves, further investigation into the potential of farmer-led environmentalism to transform the coffee sector towards greater sustainability is needed.

To gain a clearer picture of the power relations at play, I advocate for the adoption of decolonial methodologies. These approaches should historicize the research context, evaluating how the colonial history of coffee as a commodity continues to impact smallholder coffee farmers today. While in this thesis, I have researched 'power asymmetries,' I acknowledge the caution that this discourse may inadvertently reproduce epistemic violence (Orbie, 2021; Sebhatu, 2020) and that scholars like Haastrup et al. (2021) call for a more overt examination of the 'coloniality of power', emphasizing the need to contextualize the origins of economic disparities between the Global North and South, tracing them back to colonial structures and ideologies that continue to shape contemporary relationships. The testimony of one farmer, who stated, "You live like a slave to take care of those seedlings, and this happens because of the lack of empowerment," underscores the relevance of investigating the coloniality of power in this context. Future research should also explore how colonial narratives may persist in environmental initiatives led by external actors.

Additionally, for understanding the complexities within this research it is crucial to acknowledge feminist critiques of binaries. Feminist contributions to the discourse on slow violence have drawn attention to the dangers of fitting everything into categories (e.g., fast and slow violence) and instead call for acknowledging and exploring the interplay between binaries. This approach can be valuable for contextualizing the findings of my thesis, especially in terms of my grouping of actors. While it facilitated my analysis to distinguish between the binary of the inside and the outside actor, in reality, there are many actors simultaneously belonging to both categories. Similarly, the distinction between top-down and bottom-up approaches is not always clear-cut. Incorporating feminist critiques of categorization and adopting an intersectional approach that explores gendered, class, and race dynamics within these contexts can enrich the slow violence discourse. Scholars like Christian and Dowler (2019) and Baird (2021) have highlighted the importance of these perspectives. These critiques are particularly valuable for navigating the nuanced relationships between North and South, slow and fast violence, modern and traditional practices, and local and global dynamics. Such an approach is critical for a comprehensive understanding of power dynamics in environmental interventions.

In conclusion, this section has critically reflected on the limitations of my research. At the same time, it has highlighted several important areas for future research on environmental interventions, power dynamics, and farmer agency.

8. Conclusion

This thesis set out to explore the complex interplay between coffee production, power dynamics, and environmental interventions in East Africa, focusing on the experiences of smallholder farmers in Ethiopia and Tanzania. The central hypothesis was that environmental interventions in the coffee sector often perpetuate imperialistic power structures, reinforcing environmental and power injustices rather than challenging existing hierarchies. This research aimed to uncover how such interventions can be reimagined to effectively redistribute power back to farmers who are at the frontline of environmental impacts.

Guided by Rob Nixon's theory of slow violence and the environmentalism of the poor, my analysis revealed that many environmental interventions, despite good intentions, often reinforce existing power asymmetries and contribute to the slow violence experienced by coffee farmers. These interventions frequently employ top-down, bureaucratic approaches that disregard local knowledge and fail to address the structural injustices inherent in the global coffee trade. However, the thesis also uncovered significant agency and resistance among smallholder coffee farmers, challenging narratives that portray them as passive victims. I found evidence of what I term 'coffee farmers' environmentalism' manifesting through witnessing and narrating injustices, collective resilience, and everyday resistance practices. This aligns with Nixon's concept of 'environmentalism of the poor' and highlights the often-overlooked potential of farmer-led initiatives in addressing both environmental and social challenges.

Revisiting my three original research questions introduced in the introduction, I conclude that:

1. Research on environmental interventions in the coffee sector lacks (1) systematic-comparative studies, (2) studies beyond the South American context and environmental VSS, (3) critical perspectives challenging power asymmetries perpetuated by outside actor interventions, and (4) research on farmer-led interventions and their potential to challenge power imbalances. My thesis addresses gaps 2-4 by focusing on a range of environmental interventions in Tanzania and Ethiopia, providing a critical perspective on power dynamics and farmer-led initiatives.

2. According to the testimonies of interviewees in Tanzania and Ethiopia, environmental interventions by outside actors can perpetuate, reinforce, and reflect existing power

hierarchies and injustices that flow both from the Global North to the Global South and within farming communities.

3. Farmers challenge these power hierarchies through practices of everyday resistance and their own forms of environmentalism. These include witnessing and narrating injustices, making claims, fostering collective resilience through strong bottom-up organization, maintaining a culture of sharing, and engaging in everyday resistance practices. These farmer-led initiatives, while often overlooked, bear significant potential for addressing environmental injustices and reducing power asymmetries in the coffee sector.

Put together, these findings answer my overarching research question: To become truly transformative, environmental interventions must actively redistribute power along the coffee value chain. This can be achieved by acknowledging and addressing the slow violence perpetuated by current interventions and, most importantly, by prioritizing and empowering existing farmer-led initiatives and local practices of environmentalism, as identified in this study. This approach is essential for achieving genuine sustainability. As scholars like Willet et al. (2021) argue, an environmental justice solution must aim not only for environmental fairness but also for structural equality; without addressing these dimensions, such solutions cannot fully resolve the slow violence experienced by marginalized communities. The findings contribute to broader discussions in environmental justice and critical development studies by revealing the complex dynamics between global environmental challenges, local agency, and persistent power asymmetries in the agrifood sector. They underscore the need for a fundamental rethinking of environmental interventions in the coffee sector and beyond, questioning the "imperial mode of living" (Brand & Wissen, 2013) that continues to shape global agricultural systems.

As society faces transgressed planetary boundaries and tries to ensure food system resilience, my research highlights the importance of centering the experiences and knowledge of smallholder farmers. It suggests that truly transformative solutions to environmental challenges lie in coffee farmers' own environmentalism, rather than in externally imposed interventions. Furthermore, the future of coffee farming is not only dependent on addressing ecological concerns but also hinges on actively dismantling patterns of power inequality. Future research should prioritize decolonial methodologies and field studies that further investigate the potential of farmer-led environmentalism to transform the coffee sector towards greater sustainability and justice at the same time. By doing so, it will be possible to create environmental interventions that are not just ecologically sound, but also socially just and

empowering for those at the heart of global food systems, the long-term experts in sustainable agriculture practices: smallholder farmers.

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