THESIS

"IT WAS A DISASTER FOR US:"
15 YEARS OF FARMING IN THE SHADOW OF BUMBUNA DAM

Submitted by

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ABSTRACT

“IT WAS A DISASTER FOR US:”

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This thesis draws on interviews, participatory mapping, and participant observation in Kalanthuba chiefdom, Sierra Leone, to explore how Limba farmers in Kadala and Kamathor villages understand life with Bumbuna Dam 15 years after its construction. In the first chapter, I argue that the government of Sierra Leone (GoSL) and its industry partner, WeBuild, have taken Limba farmers’ land and abandoned the people. Government investment in green energy has transformed villagers into “surplus people” or “surplus populations,” who must now scrabble for survival as historic livelihood strategies become increasing untenable. In the second chapter, I borrow a phrase which recurred throughout my interviews—“sitting in the dark”—to frame how Limba farmers’ experience and theorize their position as surplus people. Villagers use “sitting in the dark” to refer to a figurative lack of education, understanding, and power as well as a literal exclusion from access to electricity. For residents of Kadala and Kamathor, I argue, darkness symbolizes not only exclusion from the material benefits of Bumbuna Dam, but also from the status of modernity. Limba leaders’ attempts to gain access to electricity for their people, therefore, can be understood as a bid for inclusion in the benefits of green energy development and in the material advantages of being “modern.”

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TABLE OF CONTENTS

ABSTRACT…ii
ACKNOWLEDGEMENTS…iii
LIST OF FIGURES…v
Introduction…1
A Brief History of Bumbuna Dam…3
The Current Study…5
Literature review…9
From Dam Development to the Agrarian Question…10
The Agrarian Question and Surplus Population…13
Light, Electrification, and Modernity…17
Methods…21
Site Identification and Accessing the Field…22
Sample and Recruitment…25
Interview Procedures…27
Limitations…33
"It Was a Disaster for Us:" Land Loss and the Material Consequences of Bumbuna Dam…34
A Brief History of Land Loss in Kalanthuba…35
A Typology of Loss: Mechanisms of Enclosure and Their Effects…41
Implications of Land Loss in Kadala and Kamathor…43
Responses to Land Scarcity: Agency and Impotence…49
Coda: Mimosa and Emerging Ecologies…57
Conclusion…61
"We Are Still Sitting in The Dark:" Surplus People and Green Energy Development…65
Electricity as Marker of "Useful" and "Useless" Africa…69
Literal Darkness: Exclusion from Access…73
Figurative Darkness: "Not Having the Knowledge"…82
How Light Came to Bumbuna: "Darkness" and Power Revisited…88
Conclusion…92
Conclusion…94
Contributions to the Literature…94
Implications…97
References…100
Appendix A: Village Interview Guide…105
Appendix B: Key Informant Interview Guide…107

LIST OF FIGURES

Figure 1: Map of area ………………………………………………………………………… 4

Figure 2: Map of Kalanthuba Chiefdom with dates of electrification …………………………. 65

Figure 3: Kamathor, early morning ………………………………………………………….. 67

Introduction

Heading north along the Magburaka highway away from the city of Makeni, Sierra Leone, the terrain and the road become rougher. Flat bollilands—neither swamp nor slope, and easily cultivated by tractor—give way to the granite hills and thin red dirt of northern Tonkolili District. The valleys are swampy, while eucalyptus and cottonwood trees cling to the dryer slopes. Through this landscape runs the Seli River, which divides Kalanthuba and Dansogoia Chiefdoms (formerly joined under British rule as Kalansogoia Chiefdom). Spanning the Seli River, just north of Bumbuna Town, lies the Bumbuna Hydroelectric Project.

The Bumbuna Dam, as it is more commonly called by local people, is small by the standards of African hydroelectric projects, producing only about 50 megawatts at full capacity and much less for most of the year. Ghana's much larger Bui Dam, for context, produces up to 400 megawatts. Despite its relatively small output, Bumbuna Dam produces around 80% of the nation's electricity, powering the regional city of Makeni and the capital city of Freetown.

The Bumbuna reservoir is long and narrow, hemmed in by Tonkolili's steep hills. Along the main access road almost at the foot of the dam lies the sprawling village of Kamathor: about 60 households scattered across three adjoining settlement areas. Just upstream from the dam, near the southern end of the reservoir, lies the tiny village of Kadala. Kadala is so close to the water's edge that snakes come up from the reservoir into people's yards during the rainy season. Kadal and Kamathor villages are both in Kalanthuba Chiefdom, home to the Limba tribal and linguistic group. The villages share kinship ties, and became the focus of my study. Beginning in the 1970s and accelerating with dam completion in 2009, land scarcity and dispossession created

by the hydroelectric project have fundamentally reordered these two villages' material conditions and social relations.

This thesis relies on interviews, participant observation, and participatory mapping exercises conducted in Kadala and Kamathor villagers during the summer of 2023. I describe the transformations created by Bumbuna Dam and explore how villagers experience life with the dam. I sought to understand how Bumbuna Dam has affected the people who live around it and whose land it occupies. I wanted to explore the long-term, slower-emerging effects of the dam over the 15 years since construction finished and then-President Ernest Bai Koroma commissioned the dam. My main argument is that Bumbuna Dam is a case of agrarian people being "rendered surplus" or expelled from the capitalist economy, rather than being incorporated as laborers and consumers (Bernstein 2023; Ferguson 2013; Ferguson and Li 2018; Li 2017). Residents of Kadala and Kamathor villages have been marginalized, left landless and frustrated as the dam they host generates benefits for others. Both villagers and government actors draw on notions of modernity, especially by invoking the idea of "light" and electric power as markers of inclusion in the "status of modernity" (Ferguson 2006). The contrast in this case, however, is not so much between modern/premodern as between modern and "abandoned" (Pulido 2016).

This framing departs from and extends existing research on large hydroelectric projects in two main ways: first, by focusing on long-term processes of adaptation and change instead of immediate narratives of resistance, dislocation, and suffering, and second, by situating dam-induced displacement within a broader literature on agrarian change and the agrarian question in the 21st century. Hydroelectric projects drive and accelerate familiar modes of agrarian change; they are not separate from longstanding processes of rural transformation. The common

environmental justice framing of dam-induced dispossession can be fruitfully augmented by drawing on theoretical insights from the agrarian change tradition.

A BRIEF HISTORY OF BUMBUNA DAM

The Bumbuna Hydroelectric Project was first begun in the 1970s, during the presidency of Siaka Stevens. Sierra Leone, an amalgamation of former British slaves and tribal societies that had been partly reconstituted and reorganized under British rule, had won independence from Great Britain only in 1961(Renner-Thomas 2010). The government envisioned Bumbuna Dam as a renewable energy source for a growing nation. The World Bank invested funds for constructing Bumbuna Dam, and an Italian company called Salini Costruttori or SalCost (now WeBuild) won the contract. The dam project was an attempt to "develop" and modernize Sierra Leone. Even today, there is a framed, printed sign hanging above the control panel in the main engineering room in the hydroelectric plant, which reads, "Your progress will be good for you, and it will be a great development for your country, if you believe in this."

Construction began in the mid-1970s, causing a local economic boom. Roads and bridges constructed for dam workers benefitted locals as well. I learned in interviews that the people who lived in Kadala and Kamathor villages at that time felt optimistic about the dam and its eventual advantages for them. In Kamathor, however, land appropriations were already well underway. The land where Bumbuna Dam now sits, as well as the spillway, buffer zones, many access roads, and SalCost camp where engineers and scientists are housed, were all constructed on Kamathor land. Residents do not believe that they were compensate for this land, nor could I find records at SalCost camp of payment or intention to pay. Progress on dam construction soon faltered. New national administrations and funding shortfalls brought trouble. When the Sierra Leonian civil war broke out in 1991, the project was already well behind schedule. Construction

ground to a total halt in 1997, as rebel forces took the area (though the dam itself remained in government hands, protected by the military).

In 2007, construction resumed at an accelerated rate under President Ernest Bai Koroma, who made completing Bumbuna Dam a key plank of his political platform. The dam was commissioned in 2009. The subsequent inundation period led to further land loss for surrounding communities, not only to the flooded areas but also to an ecological buffer zone around the reservoir and the Bumbuna Conservation Area (BCA). Parliament chartered the BCA in 2008, to offset environmental harms from inundation. The World Bank's resettlement unit and Resettlement Action Plan (RAP) were tasked with compensating the farmers who lost land or tree crops to the rising waters of the Seli River. This process was fraught with problems, however, leaving Kadala and Kamathor villages both uncompensated.

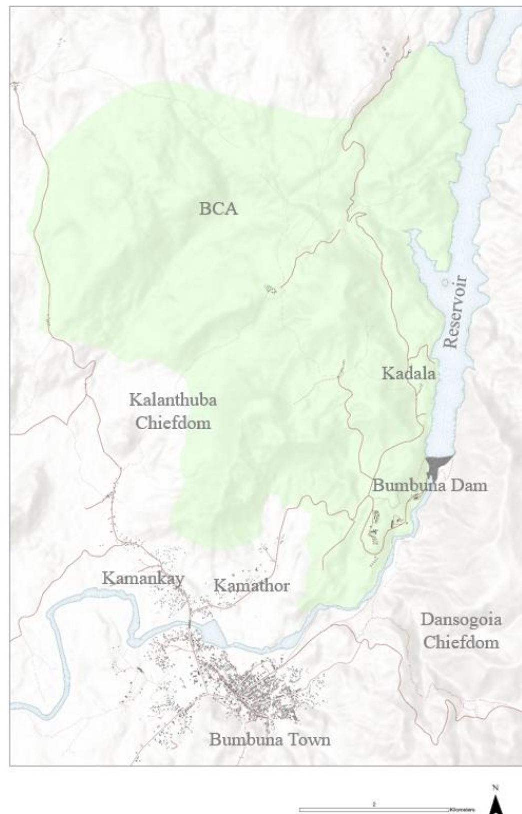

Figure 1: Map of Area. The scale bar indicates two kilometers, while green shading denotes the BCA. Note that "ka" is a Limba prefix meaning "place." Map created by Joshua Reyling and the CSU Geospatial Centroid.

After a series of local protests and a direct appeal to President Ernest Bai Koroma, in 2014 electricity finally arrived in Bumbuna Town and Kamankay village (the largest settlement in Kalanthuba Chiefdom, not far from Kamathor and Kadala villages). Electricity is expensive, however, and only a handful of wealthier households have access. There is almost no electricity in Kamathor, and none for residents of the chiefdom's other 42 villages. Following massive land losses to the project—more than 50% of their historic holdings for Kamathor, and 100% for Kadala—villagers are left "sitting in the dark," while struggling to adapt their agricultural system to new conditions of land scarcity. It is now 15 years after dam construction. What have been the long-term consequences of Limba farmers' land loss? How have local communities adapted—or failed to adapt—to challenging new realities? And how do they describe or make sense of the experience of dispossession? These are the questions that my thesis explores.

THE CURRENT STUDY

My analysis is based on two months of fieldwork conducted in the late spring and early summer of 2023, during the rainy season in Sierra Leone. I employed a variety of qualitative methods which I detail later, but interviews through translators formed the backbone of my analysis. These interviews were augmented by participant observation in Kadala and Kamathor, as well as a homestay in neighboring Kamankay, and participatory mapping in both study villages.

First, this research makes an important empirical contribution to understanding the social impacts of the Bumbuna Dam. The project and its social, economic, and ecological impacts have been understudied. In contrast to similar African projects, including Ethiopia's Gibe III dam and Ghana's Bui Dam (Carr 2017; Hausermann 2018; Norgaard 2021; Schapper 2021; Tang and Shen 2020), there has been almost no systematic investigation into the effects of BHP-1. Today, 15 years after construction has been completed, there is still no peer-reviewed literature

describing the impact of Bumbuna dam on local populations. What literature does exist is limited to internal governmental or World Bank reports, often focusing on hydrological or wildlife impacts, and a single (deeply flawed[1]) early survey done by a private consultant (4 World Bank Report No.31844-SL; World Bank IEG Report Number ICRR14876, Morlai 2012).

In order to understand the long-term changes wrought by Bumbuna Dam, I also turn to broader literatures in agrarian change and to a lesser extent, development studies. I bring together literature on dam development with the theoretical framing of the "agrarian question," and suggest that the agrarian question is a useful analytical lens for understanding long-run impacts of hydroelectric projects (Akram-Lodhi and Kay 2010a, 2010b; Bernstein 1996, 2006a). I trace a line from the agrarian question through the surplus population argument, and use both concepts to frame the question of dam impacts in rural Sierra Leone. This constitutes a second, more theoretical contribution of the current study.

Following the introduction, I engage with a selection of the (wide range of) literature that speaks to the case of Bumbuna Dam. I emphasize the emerging strand of work in the agrarian change literature and development literature that describes how rural people are made surplus or spat out of contemporary capitalism. I use this idea of "surplus people" or "surplus populations" as the main framing concept for my project (Bernstein 2023; Davis 2006; Fergson 2013; Ferguson and Li 2018; Li 2010, 2011, 2017; Pulido 2016). At the same time, I draw on the literature on the social impacts of large dams to consider how my study of Bumbuna Dam differs or is congruent with existing work. I also draw on literature on the construction of Africa as a

[1] Morlai's main research question was "(a) how have the livelihoods of households in the project-affected areas *considerably improved* as a result of the Bumbuna project?" which assumes an overwhelmingly positive social impact (Morlai 2012:6. emphasis mine). He is puzzled to find that not all dam effects are positive, and concludes that "the overall views of households in the project-affected areas reveal that the Bumbuna Hydroelectric, Environmental and Social management Project intervention somehow affected the livelihoods of households in some ways" (Morlai 2012:7). Current understandings of the impacts of BHP-1 on the study area are therefore both skewed and inconclusive.

“dark” continent and on the use of “light” to represent modernity, to contextualize research participants’ use of the phrase “sitting in the dark” to express their marginalized and excluded position. I also use sources describing the connection between infrastructure—especially electricity—in Africa and peoples’ “expectations of modernity” (Ferguson 1999) or sense of full citizenship in a modern nation state (Degani 2022).

I then turn to a more in-depth discussion of my methods, including questions of analysis, positionality, and translation. I describe how actual research practices evolved and often diverged from initial intentions. Specifically, I explain my inability to restrict my sample to my target population (adults 30 and older who had lived most of their lives in Kadala or Kamathor, and would therefore have a clear memory of the time before Bumbuna Dam). In practice, I interviewed anyone who was willing to sit with me, from teenagers to recent transplants. I explain how my interview tactics evolved to handle this change.

My first substantive chapter focuses on the material changes to people's lives and livelihoods wrought by Bumbuna Dam. I emphasize the central role of land loss as a driver of change and describe the various social and biophysical consequences of that “disaster.” In terms of the broader argument, this chapter recounts how people were rendered surplus or expelled. Chapter 1 also recounts villagers’ ongoing survival efforts as dispossessed-but-unincorporated people on the margins of the capitalist economy.

Chapter 2 centers on villagers’ descriptions of marginalization and abandonment. I use the key phrase “sitting in the dark,” which recurred throughout my interviews with multiple valances of meaning, as a lens on this experience. I draw heavily on constructions of Africa as “dark” and modernity as “enlightened” (summarized effectively in Ferguson 2006). James Ferguson’s (2006) idea of “modernity as a status” that has certain material benefits attached to it

is useful here, as villagers describe the material deprivations that stem from their lack of access to light. I also explore the value that farmers see in electricity and relate this to scholarship describing how electrification in the Global South is associated with modernity, full citizenship, and the power and legitimacy of the state (Degani 2022, Winther 2008). I argue here that the "surplus people" are not dupes of the system, but vividly aware of and furious about their marginalization. When villagers say that they are "sitting in the dark," I argue, they are issuing a powerful indictment of the national and local development actors who have abandoned them.

Literature Review

Bumbuna Dam's complex history demands engagement with diverse literatures that speak to local people's experience of "development by dispossession" (Harvey 2017) and the subsequent changes to their communities. Given the timing of my research and my focus on how people reconstruct livelihoods after catastrophic land loss, I emphasize gradual socioeconomic transformations rather than immediate grief or acts of resistance. My emphasis differs from much of the research on the social impacts of large dams. Some studies assess the success or failure of hydroelectric projects along narrowly economic lines, while others are more critical, describing harms to communities and ecosystems. Both strands of research, however, fail to fully address the longer-term social transformations engendered by dams. I argue for an alternative framing of the hydroelectric project, treating it as a chapter in a familiar tale of agrarian commodification, differentiation, and the shifting fabric of rural life (Bernstein 2010). Under this rubric, the best way to understand the new social position of Kadala and Kamathor residents after the dam is as "surplus populations" or "surplus people," who have been first dispossessed and then sidelined by global capital (Bernstein 2023; Davis 2006; Li 2011, 2017; Ferguson and Li 2018; Pulido 2016). Villagers can no longer maintain their former (non-capitalist) way of life, but neither are they fully incorporated into capitalist accumulation as proletarianized workers. They must instead engage with the market in an ad hoc way to survive, while also partly relying on subsistence agriculture.

The agrarian change story, however, is typically macrostructural and can become economistic and deterministic. I acknowledge calls for scholars of agrarian change to pay attention to more than just class and attempt to draw out the cultural and symbolic aspects of

being rendered surplus (Akram-Lodhi and Kay 2010a, 2010b; Luna 2019). To highlight the *experience* of villagers as surplus people and the ways they make sense of their position, I draw on anthropological literatures focusing on symbols of inclusion or exclusion from modernity. I focus on uses of the light/dark binary to symbolize modernity/abandonment, and on depictions of how, for people in the Global South, infrastructure development can represent progress, modernity, and full citizenship.

FROM DAM DEVELOPMENT TO THE AGRARIAN QUESTION

Hydroelectric projects are polarizing, despite their promise of providing renewable energy for developing nations. Early enthusiasm for mega dams has persisted in some circles, especially among economists and development specialists. Scholars who endorse dams as a mechanism of social and economic development are more likely to focus on evaluating whether the dam was a "success" or "failure" in economic or electricity generation terms (Awojobi and Jenkins 2015; Bradley 2010; Tang and Shen 2020). The studies tend to focus on the construction of the dam and the early years post-construction (around zero to five years into operation). Non-critical dam scholars often employ quantitative and econometric methods. While less concerned about the effects of dams on local people and wildlife, they may still be skeptical of the cost-effectiveness, efficiency, and economic potential represented by such projects. Notwithstanding consistent cost overruns, however Awojobi and Jenkins conclude that the overall benefit of 58 World Bank financed dams is substantial (2015). This ignores the cost to local populations, however, highlighting differences in how development experts and affected populations assess dam projects (Goldman 2005).

The second strand within the literature on the social impact of large hydroelectric plants is more critical of dams as a development project, and tends to focus on effects (usually harmful)

on wildlife and surrounding human populations. This critical literature is vast. Kircherr and colleagues (2016) note that most of the literature surveyed in their metanalysis of 217 articles takes a negative perspective on dams, while influential books including Sanjeev Khagram's *Dams and Development* (2004) and Michael Goldman's *Imperial Nature* (2005) adopt a critical stance towards dams as development. Dams have become increasingly unpopular in Western development circles over the past few decades. The negative impact of hydroelectric projects on local hydrology, wildlife, and human populations is hard to ignore. Critical studies tend to be in-depth case studies, usually of a single dam (the exception being the books mentioned above), using primarily qualitative data (Hausermann 2018; Kaneti 2020; Kircherr et al. 2016.). The critical literature tends to focus on acts of resistance and protest by local communities who oppose the siting and construction of hydroelectric projects on their lands (Goldman 2005; Kaneti 2020; Khagram 2004; Verhoeven 2021). This body of work often includes examples of communities successfully defeating proposed dams and of larger social movements challenging the acceptability of such projects and their logic of "development by dispossession." Most critical works, like the neutral/positive studies, focus on one dam, usually within ten years of completion, and focus on the downstream communities rather than broader social/economic impacts. Because of shared tendencies across different styles of social impact analysis in dam research, Kircherr and colleagues (2016) call for work that takes a more diverse and holistic perspective. Their recommendations include evaluating upstream *and* downstream effects, comparative analyses, mixed methods, and crucially, a longer time horizon to observe extended processes of change.

Dams as a topic of development research are ripe for analysis through a variety of theoretical lenses. There is the narrowly economic, cost-benefit or economic growth model

common in non-critical literature; the world society/global norms and democratization approach exemplified by Khagram (2004); the environmental justice framing (Kaneti 2020; Verhoeven 2021) that focuses on dislocation and resistance; and the critical development studies approach apparent in Hausermann (2018) and Goldman (2005). Hauserman and Goldman treat dam construction as a mechanism of capitalist development oriented towards narratives of modernization, progress, and environmental sustainability. Goldman notes that hydroelectric projects, developed under the aegis of the World Bank's "green neoliberalism," are, despite their green credentials, still part of the economic growth first model of neoliberal development (2005:5). The Bank's "arrogance" is on full display in its endorsement of linear progress models, albeit in the guise of green growth. Likewise, Hausermann describes how Ghana's Bui Dam is framed as a technocratic issue and engine of national progress, in way that deliberately conceals the contested political nature of development by dispossession. She draws on Ferguson's "anti-politics machine" (1990) to highlight how Bui Dam is naturalized and neutralized. Treating the dam as inescapable and necessary for national progress dismisses the concerns of affected people.

I find this framing, with its debt to critical development studies, persuasive and useful. Dams are fundamentally associated with dreams of national progress and full citizenship in the "status of modernity" (Hausermann 2018; Ferguson 2006). Hydroelectric projects power developing national industries across the Global South, and light the homes of burgeoning middle and upper classes. Electricity is often the paradigmatic representation of modernity (Gupta 2015; Winther 2008; Winther and Wilhite 2015), and dam construction embodies state aspirations for "progress." Dams also, in theory, provide a backbone for capitalist accumulation

and reinvestment. If "development" is understood to mean the deliberate pursuit of improvement on the part of governments and other institutions[2], then dams are development writ large.

Scholars should take dams seriously as both engines and symbols of national development, and respond to calls for a longer time horizon in researching the social impacts of dams. A dam is a modernizing development project, a mechanism of capital accumulation providing the energy needed for industrialization and business, and a marker of accumulated capital for the affluent. There is a disjuncture between hydroelectric projects as a dream of progress, and the experience of communities whose lands are occupied by hydroelectric projects. If we interrogate this seriously, we end up asking what the relationship is between dispossessed rural people, and the dams that power national economic growth. This is a form of the classic "agrarian question," developed throughout a long tradition of Marxist and non-Marxist agrarian scholarship. The agrarian question has seemingly infinite formulations, but at its simplest, it asks: what is the relationship between small farmers and petty producers, and broader processes of capitalist accumulation? Approaching the effects of large dams through the lens of the agrarian question—and the oceans of scholarship it has spawned—highlights ongoing transformations catalyzed by these green energy provision schemes.

THE AGRARIAN QUESTION AND SURPLUS POPULATION

The agrarian question first emerged in Marxist scholarship in the 19th century, as an attempt to account for the transition from an agrarian society to a capitalist mode of production. Marx, Lenin, Engels, and Kautsky all attempted an account of how peasant production might be transformed by capitalism and harnessed for capitalist accumulation. Kautsky's succinct formulation of the agrarian question asks "whether, and how, capital is seizing hold of

[2] The third of Alan Thomas' three definitions of "development" (2000:777, in Bernstein 2006b).

agriculture, revolutionizing it, making old forms of production and property untenable and creating the necessity for new ones" (Kautsky 1988:12, in Akram-Lodhi and Kay 2010a). What, in short, does capitalism do to existing forms of agriculture and rural life? And what sort of obstacles might rural production and social formations pose to the expansion of capitalism?

A subsequent generation of thinkers elaborated this question or posited answers. Ideas about how capitalism subsumes or transforms rural life were multiple. There was, from Marx on, no singular answer to the agrarian question that would hold universally, and the questions and potential answers were constantly reworked. An influential reformulation of the agrarian question in the 20th century comes from Terence Byres and Henry Bernstein. Byres proposed that the countryside must go through some sort of successful agrarian transition which would allow capitalism to overcome rural barriers to its growth. This transition might not entail the wholesale adoption of capitalist social relations and relations of production in rural communities. It would require only enough transformation to make rural production no obstacle and to capitalism's domination of society, even if non-capitalist pockets remain (subservient) in the country. This "agrarian transition," sometimes shapeshifts into the narrative about a universal, inevitable transfer of population from farm to factory, country to city (Li 2017). Bernstein and Byres together offered a schematic of the agrarian question as divisible into three "problematics." These problematics are focused on rural production, rural capital accumulation, and rural politics (Bernstein 1996). Recent scholars of agrarian change tend to structure their arguments around this tripartite formula and ask how the expansion of capitalism restructures each of these areas.

The agrarian question ponders the relationship between rural lives and livelihoods and the expansive and accumulative forces of capitalism. It asks, in part, what uses capitalism has for rural people and rural production, and how rural life will evolve in response to capitalist

entanglements. Growth narratives that assume that most people will transition from own-consumption agriculture to a "proper job" and wage work have proven false (Li 2017; Ferguson and Li 2018). Rather than a singular answer, the evolving articulations between global capital and rural people have led to a proliferation of agrarian questions. Akram-Lodhi and Kay (2010b) count no less than seven distinct reformulations of the question. Each reformulation represents a different theoretical approach to grappling with the new agrarian realities of our time. Each posits a slightly different answer to the agrarian question.

Despite their different theoretical framings, two of the approaches Akram-Lodhi and Kay describe share a common preoccupation with rural livelihoods and suggest similar answers to the agrarian question. Both approaches—the "decoupled agrarian question of labour" and the "global reserve army of labour agrarian question" —show promise for analyzing the how capitalist development schemes may lead to dispossession without proletarianization for rural people (Akram-Lodhi and Kay 2010b).

The "decoupled agrarian question of labour" draws on the work of Henry Bernstein. He argues that the emergence of rural capital is no longer necessary to spur capitalist growth, nor is the accumulation of capital tied to rural production. In effect, the agrarian question no longer matters for capital. What remains is "the agrarian question of labour:" how do rural people construct a livelihood in the face of the growing productive forces of global capital, which render them redundant? Bernstein tends to focus on the "problematic of politics" and asks how political struggles and class formation shape people's access to the necessities of life (Akram-Lodhi and Kay 2010b; Bernstein 2006a).

The "global reserve army" agrarian question comes from the work of Farshad Araghi, who argues that the world-historical forces of capitalism have created, through enclosure and

dispossession, and ever greater reserve army of labor. They are "surplus" in the sense that they are far greater in number than the "functional" reserve army of labor implied by Marx (Bernstein 2023). Like Bernstein, Araghi is focused on the conditions of labor under a simple reproduction squeeze. He asks how this dispossessed, often migratory reserve army succeeds in reproducing itself (Akram-Lodhi and Kay 2010b).

The idea of "surplus people" or "surplus populations" builds on Bernstein and Araghi and their characterization of rural "classes of labor" (Bernstein 2023) as expelled, redundant, marginalized, and irrelevant to the ongoing development of capital. The agrarian question asks how capital relates to rural livelihoods and what uses it has for rural people. The surplus population thesis answers that rural life and rural people are unimportant to contemporary capitalism (Bernstein 2006, 2023; Ferguson 2013; Ferguson and Li 2018; Li 2010, 2011, 2017). The idea of surplus populations certainly has roots in the literature on agrarian change and the agrarian question. It encompasses a wider scope, however, including surplus urbanites and abandoned cities (Davis 2006; Pulido 2016). Cognate concepts proliferate, as in discussion of people being "expelled" from contemporary capitalist processes (Sassen 2013, 2014, 2016) or of informal workers who live a pieced-together, "precarious" existence (Standing 2011, 2018). Despite different terminologies, this body of work points to a central trend: the increasing number of people who have been chewed up and spat out by the capitalist economic order. Some form of dispossession has robbed people of security and placed them in the simple reproduction squeeze. While they rely on the market, market relations do not convert them into a fully proletarianized workforce, a process of "dispossession without proletarianization" (Basu and Das 2009:158, in Bernstein 2023).

The surplus population literature in all its guises offers an incisive critique and diagnosis of our current world-historical moment. It tends to be macrostructural, purporting to track global trends (Bernstein 2023; Davis 2006; Sassen 2014; Standing 2011) or offer critiques of old models of unilinear development and propose new programmatic questions for study (Ferguson 2013; Ferguson and Li 2018; Li 2017) Even Li and Ferguson, both renowned for their ethnographic work, often zoom out to a global scale when writing on this topic. They share a political agenda, endorsing government provision of basic income grants in response to the failure of the "proper job" to provide for all people. What the surplus populations literature sometimes lacks, however, is micro-level descriptions of people's experiences and meaning-making in the face of their "surplus" status. Even micro-level analyses, like Pulido's (2016) discussion of Flint Michigan, or Ferguson's (2013) description of the politics of dependency in post-apartheid South Africa, tend to be more interested in causes, effects, and structural forces than in the affectual realities of life as a surplus person.

LIGHT, ELECTRIFICATION, AND MODERNITY

The second chapter of my thesis contributes a more minute, sociocultural account of surplus people's emotions and lived experience the specific context of Kalanthuba chiefdom. To contextualize their stories, I draw on anthropological work on symbols of modernity. The use of the light/dark binary to represent modern/abandoned or modern/backward is especially common in the African context. Evocations of colonial (and contemporary) discussions of "the dark continent" stretch from Joseph Conrad's *Heart of Darkness* to the present day (Ferguson 2006; Luna 2018; Mbembe 2021). Two recent, well-known examples of scholarship that play with—and subvert—this metaphor are James Ferguson's *Global Shadows*: *Africa in the Neoliberal World Order* (2006) and Achille Mbembe's *Out of the Dark Night*: *Essays in Decolonization*

(2021). I draw heavily on Ferguson, who critiques and explores the history of Africa as "dark," and suggests the metaphor of a shadow, of a doubling or unsettling "other" to the developed West. Rather than being uplifted by globalization, he argues, Africa has been included only in a dominated, extractive fashion. Capital touches down in specific economically valuable locales within African nations, creating a dynamic of pockets of "useful Africa" surrounded by a sea of "useless"—or perhaps we could say "surplus"—Africa (Ferguson 2006: 40).

The use of light to symbolize modernity and progress slots neatly into a broader literature on how infrastructure, especially electricity, becomes a symbol of modernity (Degani 2022; Ferguson 1999; Winther 2008; Winther and Wilhite 2015). People have good reasons to desire electricity, beyond its role as a marker of modernity. Electric light promotes safety, facilitates education, offers economic/entrepreneurial possibilities, extends the working day, and increases connections with the outside world through phones, television, and radio (Gupta 2015). Electricity fundamentally reorders existing social relations, for better or for worse (Winther 2008), but it also provides an avenue of hope and a host of opportunities for improving the material conditions of life.

The distribution and reliability of electricity, however, fails to meet this ideal of opportunity and material benefit. There are pervasive problems with the quantity and quality of electricity available throughout the Global South. Even for those who are formally "electrified" (Gupta 2015), there are often extensive blackouts—sometimes deliberate shortages as a way of managing excessive demand—as well as power surges or other voltage irregularities. In much of Africa, where people may view access to electricity as the right of citizens in a modern nation state, and frequent or excessive blackouts can undermine the state's claims to power and legitimacy (Degani 2022; Winther 2008). Without a reliable power supply adequate to demand,

governments and utilities must find creative ways of regulating distribution without undermining their claims to the "status of modernity" (Ferguson 2006). In Madagascar, off the cost of Tanzania, the electric utility manages demand in part through a constant low-intensity battle against illegal connections to the grid (Degani 2022). In parts of India, promises of free power to farmers are not financially feasible for the utility, and so are combatted with planned blackouts (Gupta 2015).

Regardless of the exact strategies employed, however, electricity usually flows most reliably to government facilities, the armed forces, and the most "economically valued" areas (Ferguson 2006: 47). This follows an older history of allocating electricity to enclaves that were profitable for the colonial government, rather than to the people at large (Straeten 2021). The distribution of access to electricity and other infrastructural goods is uneven, with access concentrated in "useful" Africa. Likewise, nighttime illumination still serves as a reliable proxy for income throughout much of Africa. Nighttime darkness allows researchers to literally "see" poverty (Bruederle and Hodler 2018; Noor et al. 2008).

Because access to infrastructure represents both opportunity and inclusion, surplus people are predictably marginalized, facing decaying or non-existent electric grids, sewers, and roads. Throughout the Global South, electricity serves as a paradigmatic representation modernity and progress (Degani 2022; Ferguson 1999; Gupta 2015; Winther and Wilhite 2015). Lack of electrification becomes emblematic of abandonment.

CONCLUSION

The agrarian question in all its complexity provides a useful, flexible theoretical framework for studying the long-term effects of hydroelectric projects. I suspect that its utility also extends to other land-intensive development initiatives and green energy projects. Integrating insights from

the agrarian change tradition into work on large dams may help address some of the weaknesses in the existing literature. Namely, bringing the agrarian question to bear on hydroelectric projects clarifies the relationship between the community and the dam-as-development-project, extends the time frame of inquiry and the geographic sphere of interest, and digs into gradual, long-range processes of commodification, rural differentiation, and changing labor patterns. Scholars can ask better questions and approach hydroelectric projects holistically.

Likewise, I suggest that an offshoot of the agrarian question—the idea of surplus people—provides one plausible way of conceptualizing the effect of dams on the rural communities they dispossess. Dams are iconic development and investment projects. They are stunning examples of accumulation by dispossession, taking land and water to convert into money and energy, and rendering the people redundant. The populations around hydroelectric projects are simply shuffled out of the way of the dam. They are then left to make do as best they can. This act of abandonment demonstrates that they are, from the perspective of capital and often of governments, useless, surplus, and just plain in-the-way.

Finally, to make sense of how surplus people describe their own lives on the margins, scholars must attend to cultural and symbolic contexts. What images do people use to evoke their marginality? What resonances do their words and metaphors carry, and how do they reflect wider cultural values and aspirations? In my case, this requires selective engagement with scholarship on electrification and on the symbolic uses of light and darkness. The representations invoked by different surplus people in different places will reflect their differing contexts. As scholars of the agrarian transition are quick to point out, context matters, and there is no universal path or experience when rural people encounter leviathan capital.

Methods

This project is based on individual interviews with people from a sample of households in two dam-affected villages (Kadala and Kamathor), key-informant interviews with local leaders, dam employees and government workers to provide important context, and focus group participatory mapping exercises. My population of interest was households in Kadala and Kamathor that had at least one member who is old enough to remember life in Kalanthuba before Bumbuna Dam. In practice, I interviewed representatives of nearly all households in Kadala, including several interview participants too young to remember the village before the dam. I also interviewed people from the overwhelming majority of households from all three sections of Kamathor village—the main settlement, The Camp, and Old Kamathor—with Old Kamathor slightly underrepresented. There are cultural reasons for this saturation and my inability to restrict participation by age, which I will discuss further below.

Data collection took place between mid-May and early July of 2023, in Kalanthuba Chiefdom, Sierra Leone. For the first phase of data collection—approximately three weeks—I stayed at Salcost Camp, which is a compound originally built to house engineers, dam workers, and government employees whose jobs require them to be on-site at Bumbuna Dam. Salcost Camp is only a short walk from the dam site itself, behind three security checkpoints, and was an ideal location for conducting interviews with dam personnel and government employees. For the second part of my fieldwork, I lived with a Limba family in Kamankay, Kalanthuba's largest village/town. This family spoke some English and had access to electricity and wifi, which was useful for notetaking and preliminary analysis work.

My on-the-ground research team consisted of two translators, a highly respected local contact who made connections and handled travel arrangements, an employee of Seli Hydropower who transported us to and from the villages by motorbike, and for the first three weeks, an American undergraduate research assistant. This assistant, Anna Huizenga, began transcriptions for me, took copious notes, and conducted three interviews in Kadala under my supervision.

My interpreters were local women who spoke fluent Limba, Krio, and English, as well as other local languages to varying degrees. One is a retired school teacher, born and raised in Kalanthuba. The other is a current school teacher who was elected to serve as district councilor during my field period, though she had not yet taken office. Her family comes from Kamathor. My translators appear to be well-liked and respected in the study communities, and I consider their positionality to be an advantage. Unlike most Kalanthubans who have both strong English and strong Limba skills, these women are not "big men" with tremendous local power. Nor are they so far removed from the concerns of the village as to be insensitive to local concerns or likely to look down on study participants. At the same time, they do not live in the study villages and are thus somewhere between outsiders and insiders in the communities. Women participants appeared more comfortable with them than they had been in previous fieldwork with "big men" as interpreters. Likewise, my translators' gender reduced the power gap that their education and relative affluence creates between them and village residents.

SITE IDENTIFICATION AND ACCESSING THE FIELD

I chose study villages in consultation with local informants, including chiefdom leaders and personnel at the Bumbuna Watershed Management Authority (BWMA). Both villages experienced severe losses to the project. The first village, Kadala, was chosen for its proximity to

the dam and the fact that it has lost 100% of its traditional farmland to the inundation area and Bumbuna Conservation Area (BCA). Kadala is a tiny village of about 15 households. As waters rise during the rainy season, the edge of the reservoir comes within 50 meters or less from the houses. Farmers must now borrow lands from other villages, including Kegbema, Kamathor, and Gbulia, this last being across the river in neighboring Dansogoia Chiefdom. Kadala is accessible by car, though the roads are poor. It is located north of the first two dam checkpoints and is about 30 minutes by motorbike from the nearest large town, Bumbuna. This makes it easy to access, by chiefdom standards.

I chose to work in Kamathor after arriving in Kalanthuba, in consultation with a member of Kalanthuba's ruling house, government employees involved in community relations with Bumbuna Dam and the BCA, and other researchers who have worked in the area in the past. I also chose Kamathor because of its relationship with Kadala. Kadala village was originally settled by people from Kamathor. They share a (disputed) border, and many people in Kamathor consider Kadala to be located within Kamathor land. The residents of Kamathor, despite their own experience of land scarcity following Bumbuna Dam, are culturally obligated to share land with landless Kadala residents because they are "the same people" and "coming from the same family," and because they can sympathize with Kadala's plight. I chose Kamathor partly out of a desire to explore this relationship between the two villages, and partly to investigate attitudes towards the proposed Bumbuna II project which would further dispossess Kamathor residents.

In many ways, Kamathor is a sharp contrast to Kadala. It is, by local standards, a large, bustling village—almost a town—located on the main road and south of the security checkpoint leading to the dam. Population is difficult to estimate because of unclear, porous borders with neighboring Kamankay and because of the spread-out nature of the village. A rough roof count

suggests somewhere between 50 and 60 houses, putting the probable population somewhere between 250 and 350 people. Kamathor is divided into three sections. There is the main settlement, where the village chief (or "headman") lives. A little north of the main settlement is "The Camp," which is located beside a military base/camp for the soldiers who man the checkpoint and provide security for the dam. Finally, "Old Kamathor," is further north and up the hill away from the road, past the first dam checkpoint. Old Kamathor is the original settlement; many Kamathor residents moved their compounds to be near the road when it was first constructed, as this gives them better access to markets, government services, and other economic opportunities. Kamathor was one of the first villages to lose land to Bumbuna I (what I have generally just called "Bumbuna Dam") back in the 1970s as the beginning of construction, and may also lose land to the proposed (currently stalled) Bumbuna II project.

Both villages are, in different ways, exceptional cases. If there is a "typical" experience of dispossession, it is not to be found in Kadala and Kamathor. Kadala's experience of land loss is unique. The loss converted the entire village's (customary) tenure status from land-owning to non-land-owning of the entire village.[3] Kadala's proximity to the reservoir is also unusual. Likewise, Kamathor's double dispossession—from Bumbuna I and the planned Bumbuna II[4]—and its proximity to the main road and to Bumbuna Town mean that long-term effects from the dam take a different form there than they do in the interior of the chiefdom. In both cases, however, these individualized experiences shed light on processes of dispossession and transformation. Kamathor and Kadala serve as distilled microcosms or especially intense

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[3] As of this writing, rural Kalanthubans lack formal titles to their lands. The government of Sierra Leone passed a pair of bills (the Customary Rights Act and the Land Commission Act) in August of 2022, which provide for formal recognition of various forms of customary tenure and initiate a process of land titling reform. This is a work in progress, and unregistered customary tenure remains the order of the day in most of rural Sierra Leone.
[4] It now appears that Bumbuna II may never occur, but Kamathor residents have at least temporarily lost access to swamp lands intended for that proposed project.

examples of patterns that we can expect to be broadly observable to differing degrees through the chiefdom. The 20 villages in Kalanthuba that have lost land or been relocated because of Bumbuna Dam, including the 8 villages with land in the BCA, may display similar patterns.

SAMPLE AND RECRUITMENT

I recruited participants in each village through an initial meeting explaining my presence and my project—working through an interpreter—and through word of mouth. In these initial meetings, I focused especially on communicating my purpose to the village leadership. Village leaders typically consist of a chief/headman, mami queen (a Krio expression—we might also say “chair lady” but in practice mami queen is the term used), and youth leader. I also collected a list of interested participants, and requested that the village leadership and others present would spread the word to their friends and neighbors who had been unable to attend the first meeting.

In both initial meetings, I requested volunteers who self-identified as being at least 30 years of age and who had lived most of their lives in the village in question. I needed to speak to residents who were old enough to have clear memories of the time leading up to and surrounding dam construction, and who were already adults for at least part of that time. It was likewise important to speak to people who have lived most of their lives in Kalanthuba, as opposed to "strangers" (immigrants from outside the chiefdom, quite rare) or returning members of the urban diaspora (somewhat more common).

In practice, this did not work. In both villages, the local chief took charge of scheduling interviews for me. At the end of each day of interviews, I would stop by his house and he would provide me with the names of two or three people who were willing to speak with me the next day. A number of these planned interviews fell through, but I did still speak to a large proportion of people in both villages, of all ages. This deviation from my initial target population arose out

of a need to adjust to local cultural expectations. The chief in Kadala appeared to expect that I would speak to everyone, and attempts to correct this misperception were ineffective. Many of the names he gave me turned out to belong to people younger than thirty or unsure of their own age. After seriously offending one nineteen-year-old who demanded to be interviewed, I decided to speak to whomever was willing and amended my interview questions as necessary. This produced richly informative conversations I would have otherwise missed.

In Kamathor as well, the chief was instrumental in arranging interviews, especially in the main section of Kamathor. He expected that I would speak with two representatives of each household. Again, attempts to revise this expectation when working through an interpreter—or to communicate a preference for older or more long-term residents—proved ineffective, so I simply amended interview questions as necessary. In The Camp and Old Kamathor, further away from the immediate ambit of the chief, we would simply knock on doors to recruit participants for the next day at the end of each day's interviews.

I initially planned for a total of 25 interviews across the two villages, but since participation was enthusiastic and curtailing the number of participants risked offending people, I ultimately conducted 55 village interviews. This included 20 interviews in Kadala and 35 in Kamathor, with Old Kamathor slightly underrepresented in the sample due to time constraints.

I also conducted 10 key informant interviews with employees of SalCost (now WeBuild), with Bumbuna Watershed Management Authority (BWMA) personnel, and with chiefdom-level Limba leaders. These interviews provided critical background information, a variety of perspectives on the role of Bumbuna Dam in the community—some critical, others more optimistic—and nuanced oral histories of the region. Key informants included both contacts from previous trips to Kalanthuba and new contacts recommended by this initial set of

informants. Recruitment proceeded by word of mouth. There were a few people who I knew I wanted to speak to, who then recommended friends, colleagues, and acquaintances. In most cases, I would have a casual initial conversation with potential informants to see if they would be willing to sit for an interview, and then schedule a time to meet formally. In a few cases, a key informant would provide my contact information to a potential interviewee, who then reached out to me by WhatsApp. In two cases, one informant mentioned to two others that I would be interested in speaking with them, and they promptly dropped by my lodgings for an impromptu interview.

I conducted one facilitated focus-group participatory mapping exercise in each village, with my interpreters, driver, and various onlookers jumping in to help the proceedings along. In both cases, participatory mapping followed exit meetings with the whole village, in which I thanked them, discussed preliminary findings and solicited feedback, and provided a parting gift of rice. I then explained the idea of a participatory mapping exercise and requested that anyone who was interested and had time would stay after the meeting for the mapping procedure. These exit meetings were well-attended by a cross-section of interview participants. Participation was diverse in terms of age and gender, but cannot be treated as a representative sample of village interview participants. Older men, especially heads of family with more detailed knowledge of boundaries and tenure patterns, typically dominated these discussions. They were nonetheless illuminating, highlighting the issue of the disputed boundary between Kamathor and Kadala, and the extent of land loss in both communities.

INTERVIEW PROCEDURES

Interviews took place early in the morning to accommodate farmers' work schedules, given that they start work early and often must walk a considerable distance to their fields. We were

typically in the village by 6:30 and gone by 9 or 10 am. We usually conducted two or three interviews in a day, again at the insistence of villagers and my translators, who seemed to feel that I must speak to as many people as humanly possible. Most interviews were conducted in Limba, the local tribal language, working through interpreters. Some interviews took place mostly in Krio, the local trade language which I understand well but do not speak fluently, or in a mixture of Limba and Krio. Three village interviews took place mostly or entirely in English.

Interviews varied dramatically in length, from only a few minutes—as when I discovered that a participant was not a native of their village and that I therefore had relatively few questions to ask them—to an hour and twenty minutes, with most interviews lasting between thirty minutes and an hour. These are relatively short interviews, given that I was working through an interpreter, but farmers are busy and eager to leave for their fields in the morning, and this was as much time as I felt I could reasonably ask of them. Farmers frequently brought interviews to a close around the half-hour mark before I had asked all my questions, and I made a point to encourage farmers to do this if they needed to go work. My general interview guide is included as an appendix, but questions varied wildly as participants steered our conversations in myriad directions. After realizing that I could not practically restrict my sample to adults thirty and older, I also started beginning interviews by asking how long participants had lived in the village and where else they had lived, as well as ascertaining their livelihood status. This allowed me to tailor the questions that followed, so I would not ask a teenage head of household questions about life before the dam but instead focus on access to education or growing vegetables for market.

These individual interviews serve as the core of the study, but were supplemented by context-providing key informant interviews and by the pair of participatory mapping exercises.

Most of my key informant interviews were with educated and relatively affluent local leaders or employees of the government or WeBuild, so the majority of them took place in English. This allowed for much more detailed and rich conversations in the same amount of time, even though my informants clearly varied in their level of comfort in English. One interview was conducted in Limba through an interpreter. Most of these interviews were took place either at the Salcost Camp—where many key informants both live part-time and work—or at my lodgings in Kamankay town, where interviewees would simply drop by at a convenient time for us both. Again, the basic set of questions is attached as an appendix, but the actual shape of the conversation varied widely across participants.

In all cases, I requested permission to record the conversation using a handheld digital recorder, and no study participants refused permission or appeared to be uneasy about being recorded. I offered to pause the recording at their request, allow them to speak off the record, or destroy recordings at their request, but only two participants asked to take anything off the record and none have asked for recordings to be destroyed. I will destroy the recordings of interviews with BMWA, WeBuild, Seli Hydropower, or government employees, as an additional precaution since these participants could conceivably face threats to their employment. In practice, nothing was said that would be likely to put someone's livelihood security at risk, but I will take this step anyway. In a few cases, I was forced to use my phone as a backup recording device because of issues with battery or memory on the primary recorder.

Finally, these two types of interviews were supplemented by focus-group participatory mapping exercises. This methodology involved laying out a large map of the southern end of Kalanthuba Chiefdom on the ground, with a few key locations marked, including the dam and villages. We used rocks to pin down the corners of the laminated map, and offered dry erase

markers to participants. I invited them to draw in the rough boundaries of their village lands before and after the dam came, and to draw in other key land uses. This creates a more concrete picture of the land currently controlled by the village and what it is used for, as well as describing how things have changed since the time before Bumbuna Dam. In both cases, there was a period of intense negotiation among the focus group before a consensus was reached. During this process, I relied heavily on my translators. My driver—a “son of the soil” (indigene) who speaks good Limba—ended up jumping in to clarify what I was asking on several occasions. Heads of family usually ended up dominating these discussions, as they are the custodians of the shared local knowledge of boundaries, allocate land for rotational fallowing, and have a rich knowledge of who has rights to what areas.

I requested oral permission from the assembled group to audio record these discussions, but these recordings are sufficiently chaotic and little of what is said is translated into English. The most usable product of this exercise is the labelled map itself. This is a shortcoming: much of the richness of participatory mapping as a technique comes from analyzing the negotiations between participants as they outline their world (Denwood, Huck, and Lindley 2022; Gaillard and Pangilinan 2010; Laituri et al. 2023). It was still a useful endeavor, however, as it concretized land conflicts and the extent of present (and in Kamathor, probable future) land loss caused by the hydroelectric project.

Analysis and Transcription

My research assistant began the transcription process while we were still in Kalanthuba, but the majority of transcriptions I did myself. I used a voice-to-text software that allows me to listen to the interview and repeat what I hear into the transcription program, since most AI powered auto-transcription software is unsuitable for transcribing interviews with strong accents, non-standard

English, or mixed English and Krio. Since the recordings include both the Limba original and the English/Krio translation, this has provided a valuable opportunity both to refamiliarize myself with the contents of the interviews and to improve my language skills.

Transcripts use pseudonyms to protect participants identities. I will, however, destroy the audio files for interviews with BWMA or dam personnel since they face a greater risk of economic harm if confidentiality were to be breached. I will maintain copies of my transcriptions on password-protected devices (at least two separate places, to avoid accidental data loss) for a minimum of three years. Analysis of transcripts was conducted using a simple copy-and-paste filing system to map out key themes that emerged in reviewing the interviews during transcription and to generate and explore additional themes that emerged during preliminary coding and analysis. Rather than using qualitative data analysis software, I simply copied and pasted relevant snippets from transcriptions into documents labeled with the appropriate theme. This generated a series of documents with extensive quotes on animal-human interactions, the themes of light and darkness, education, weed pressure, land scarcity, and more. I use an approach approximating the flexible-coding described by Deterding and Waters in their 2021 piece, "Flexible Coding of In-depth Interviews: A Twenty-first-century Approach." This reverses the coding process usually recommended by a true grounded theory approach. Instead, the researcher begins by indexing transcripts using broad concepts and themes, guided by the questions they asked in their interviews. Only then is a finer-grained coding scheme, informed by themes emerging from the earlier broad-coding process, applied to the transcripts. This process still allows for unexpected themes and relationships to emerge, but is more efficient and acknowledges how initial questions shape the data that emerges (Deterding and Waters 2021). In addition, it allows for a more abductive approach to theorizing qualitative research, which

recognizes that we are not entering the field naively but with certain predictions about what we may find based on existing literature on the topic (Tavory and Timmermans 2014). The goal, then, to specify how the case at hand reshapes and refines—or perhaps undermines—existing theories and constructs in the literature surrounding development-induced dispossession and the social impacts of large dams.

A Note on Names

People's real names are only written down in my hard copy field notes, which are stored safely. Transcript labels use village name and interview number for ease of referencing (ie, Kadala 15 is the 15th interview in Kadala). I initially planned to have informants select their own pseudonyms. I quickly abandoned this intention, however, as the several of the first few people I asked to do this appeared either confused or offended. One older man from Kadala told me that his name had been given to him by his parents, he had always gone by it, and he saw no reason to change now. The implication seemed to be that I had asked him to lie about his identity.

Given the possibility, however slim, of negative repercussions to participants from criticizing their government and powerful local industry, and the requirements of the international review board, using real names was not possible. I therefore created culturally appropriate pseudonyms for participants in the few cases where I use direct quotes. I did this by assigning people one of the surnames that is ubiquitous in Sierra Leone—Turay, Conteh, Koroma, etc.—and picking a common first name for them. I have avoided the use of some common Limba first names that convey birth order (Sara, first son, Tamba, second son, etc.), because inadvertently changing a first-son named Thomas to Tamba feels inappropriate. Likewise, I have attempted to respect religious signifiers in first names, such that a Theresa (usually Catholic) might become Monica (usually Catholic) but not Fatmata (usually Muslim).

LIMITATIONS

My work was limited in several important ways. My field period lasted only two months, a short time to understand a complex case. The brevity of my stay also meant that my language skills never developed to a point that would allow me to conduct interviews in either Limba or Krio. My need to rely on translators to interview Limba speakers means that I have inevitably lost some of the detail and nuance. With Krio interviews, which I could understand, I fared better. Even there, the indirectness of working through a translator dilutes some of the power of interpersonal communication. My struggles to understand negotiations over meaning and boundaries during participatory mapping stems from this language barrier. On a conceptual level, there were key dynamics involving gender—how women access land, who controls the income from women's gardens, etc.—that I was unable to explore fully. Likewise, I did not successfully delineate precisely which families in Kamathor had lost land, and was therefore unable to explore changes in status due to land loss as fully as I would have liked.

"It Was a Disaster for Us:"

Land Loss and the Material Consequences of Bumbuna Dam

The main effect of Bumbuna Dam on Kadala and Kamathor villages has been the loss of huge swaths of agricultural land. These lands had been farmed by the Limba people for generations. They are now inaccessible, either covered in water or converted to a wildlife preserve. While other effects from Bumbuna Dam are important—including a blossoming local market and the direct ecological impacts of the dam on wildlife and hydrology—the loss of this land, the key resource in these villages, is the central fact from which other socio-ecological changes ripple out. Land loss is also the mechanism by which residents of Kadala and Kamathor are converted into "surplus people" or a "surplus population" (Bernstein 2023; Li 2017; Ferguson and Li 2018). Rather than being incorporated as laborers in a capitalist economy, agrarian populations in the 21st century are being rendered superfluous—evicted rather than exploited (see also Davis 2006; Sassen 2013, 2014, on people being "expelled" from productive relations). The Government of Sierra Leone (GoSL) and their partners at WeBuild and the World Bank took the land and left the people who depend on it behind.

For the Limba farmers of Kadala and Kamathor, land is everything. As Kadala's young pastor, himself a farmer, put it, losing land to the Bumbuna Hydroelectric project "was a disaster for us." Land is the biophysical basis of a subsistence agricultural economy, the primary means of production and reproduction, and the source of firewood, meat, palm wine, medicinal herbs, and building materials like wood, "rope" (vines), thatch, and mud for bricks and plaster. Land is also socially important, usually held in common by lineage groups and sometimes villages, more

rarely by individuals. Not all families own land[5], but for those who do, it is a birthright marking full membership in a community and extended kin network. Those families who do not own farmland gain access to it through ritual supplication and their neighbors' sense of obligation. Land also serves as the setting for important initiation and socialization practices, secret society rituals, and the rites and practices of traditional religion. The transformations in both Kadala and Kamathor since inundation in 2009 are mostly caused by land loss, or by the adaptations communities have made in the face of the unfamiliar experience of land scarcity.

A BRIEF HISTORY OF LAND LOSS IN KALANTHUBA

Land loss is the key effect of Bumbuna Dam on neighboring villages, but this loss was neither wholesale nor instantaneous. Rather, land was appropriated for the dam, reservoir, and conservation area in stages. This appropriation took place over several decades and was riddled with confusion and poor record-keeping. Technical difficulties in mapping the dimensions of the reservoir and keeping up with changing environmental impact requirements meant that the area required to complete the project kept expanding. Land appropriation took place in three basic phases: early appropriations for the dam site and associated buildings in the 1970s, appropriations for the reservoir and buffer zones (post 2002, up through 2007), and appropriations for the Bumbuna Conservation Area (BCA) in 2008. These three stages overlap somewhat, and areas taken for the reservoir grew slightly after the fact due to a surveying issue that miscalculated the final location of the shoreline.

In the Beginning: Early Processes of Dispossession from BHP-1

The construction of BHP-1 began in the 1970s as an economic development initiative spearheaded by then-president Siaka Stevens' regime. Even in its early stages, the project had a

[5] Through customary tenure, though attempts to formalize this through legal titling are underway. See Sierra Leone's Customary Land Rights Act and Land Commission Act, August 2022.

profound effect on neighboring communities, including Kadala and Kamathor, Kamankay and even Bumbuna. In these early days, Lima people mostly saw Bumbuna Dam as beneficial. Affected people were optimistic and excited about the project, according to present-day Limba leaders. There was a widespread belief that local communities would benefit substantially from the project, in the form of financial compensation, infrastructure development, and “free light.” Villagers and local elites expected that SalCost (the builders and eventual operators of Bumbuna Dam) and the government of Sierra Leone would provide electricity and the necessary infrastructure for a local power grid, free of charge in perpetuity. While these benefits did not materialize immediately, people remained optimistic.

Early developments in the Bumbuna project included an influx of workers in 1975 into what was then called Kalansogoia chiefdom.[6] In 1976, a was constructed at Kamankay, making access to the outside world easier. Construction generated opportunities for both direct employment on the project (usually as security guards or drivers, but sometimes also as laborers, steel benders, etc.) and indirect economic opportunities selling produce, fruit, prepared foods, and firewood to the hordes of construction workers who descended on Kalansogoia Chiefdom from all over Sierra Leone and, indeed, the world. Eldante, one of my key informants, remembers Italians, Argentinians, and Filipinos, among other nationalities working on the project. The presence of outside workers creating a market for local goods was the first step towards the market-oriented economy now dominant in Kamathor village.

Most respondents report that relations between local Limba farmers and the outsiders who came to work on the dam were peaceful, despite the wide range of nationalities and cultures

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[6] Kalanthuba and Dansogoia chiefdoms, which have different tribal and linguistic groups and different ruling houses, had been combined by the British for administrative convenience and were not formally de-amalgamated until 2017.

represented, the truly staggering number of workers present, and the limited facilities to provide for them (there was no electricity or running water at that point). Eldante, who was a boy at the time but is now a respected community leader, remembers troubles with prostitution arising in response to the influx of men at the camp. Prostitution was apparently lucrative enough that even some married women from the local villages became involved. Likewise, Mami Kahti, an old woman from Kadala village, remembers a dam worker in the 1970s—when she was young—trying to convince her to run away with him to get married. She turned him down on the grounds that she would need to stay with her family to care for her aging parents. Overall, however, relations between host communities and the men at the camp seem to have been positive.

One immediate effect of construction commencing in the 1970s was the appropriation by SalCost and the Government of Sierra Leone (usually styled GoSL in materials referencing Bumbuna Dam) of a vast swath of land from Kamathor village. This presaged the primary effect of Bumbuna Dam on surrounding communities, which is the conversion of traditional farmland, forest, and bush from common ownership (village or family based) to state-owned land. I describe Kalanthubans' traditional (but ever-evolving) tenure system in more detail later. After government appropriation, local people are excluded or have very limited, state-monitored access to their historic grounds. While most villages would not lose land until the creation of the Bumbuna Conservation Area (BCA) in 2008 or inundation in 2009, Kamathor lost land as soon as operations were under way in the 1970s. The dam site itself, SalCost camp where workers, engineers, and government personnel would live, and the turbines, spillway, and part of the transmission line all occupied Kamathor land. Kamathor residents experienced "development by dispossession" (Makki 2013) earlier than other villages. The long delay in construction—with Bumbuna Dam only commissioned in 2009—was due to shortfalls or interruptions in financing

and changing government priorities. Sierra Leone's horrific civil war, which lasted from 1991 to 2002, further delayed completion.

No living residents of Kamathor know the terms of this initial agreement between GoSL and their "parents and forefathers," and no documentation of this agreement is readily available. It is possible that documents detailing the terms of the original deal and compensation plans were lost or destroyed during the Civil War. The transmission line compensation plan delt with the reality that documents had been lost or destroyed during the war; it is possible that something similar happened to documents outlining compensation plans for dispossessed Limba farmers. A few Lima leaders believe, however, that the original terms of the agreement have been deliberately suppressed by the government to minimize the potential for Kamathor residents to claim compensation. In either case, the reality is that people do not know what the agreement was. Kamathor people maintain that they were not compensated for their land or for what are locally called "economic trees," valuable permanent crops like oil palm, mango, and cashew.

The issues surrounding the original agreement between GoSL and the residents of affected villages are complex, beyond the information asymmetries which made the agreement a black box for affected people. In Limba culture, there is a strong norm surrounding land sharing. Members of landowning lineages are socially obligated to allow non-landowners and even "strangers" from outside the village or tribe to farm in their lands, if supplicants follow the normal procedure for respectfully requesting land. This norm may have made it difficult for the older generation of Kamathor residents to deny a request for land, even from the government and a foreign company: norms of land sharing, in the absence of standard procedure for renting or selling land, may have worked to ease the negotiations for GoSL, Salcost, the World Bank, and their representatives. As many Kamathor residents attested, earlier generations were "not having

the idea" to charge money for the use of land, only expecting that a portion of the harvest would be returned to the land owner as compensation. Again, there may not have been an existing procedure to cope with a type of land use that would be permanent and not result in a conventional harvest. The idea of a truly permanent transfer of land—in a context where land rights were likely negotiable and renegotiable, rather than customary in any "fixed" sense (Berry 1992)—may have been foreign.

Likewise, current residents believe that their "parents" (meaning predecessors more broadly) were unaware of the sheer quantity of land taken first for Bumbuna and later for the BCA. Villagers told me that their parents thought that the government was taking a "small piece of land," but instead they have taken or "occupied" a vast expanse of once-productive farmland, bush, and forest resources. Finally, there is the issue of language and literacy, with most adult Kamathor residents even today being unable to read or speak English. In the past, when there was substantially less access to education, the likelihood that anyone in the village would be able to read and understand a formal agreement is low, even if they were given the opportunity to review and sign such a document.

More Recent Processes of Dispossession, 2002 - Present

Kamathor's experience of early, substantial land loss to Bumbuna Dam was exceptional, however. Due to lack of funding, disinterest from subsequent governments after the initiation of the project, and a brutal civil war lasting from 1991-2002, the already-behind-schedule project stalled for more than a decade between 1997 and 2007. Most villages, including Kadala, did not lose land until the 2007-2009 period, in which farmers were gradually excluded from the reservoir area, from the buffer zone around the reservoir, and then from the Bumbuna Conservation Area following its creation in 2008.

Attempts to document the extent of the eventual inundation zone, the land that would be lost, and the loss of "economic trees,"[7] were fraught with difficulties. Technical problems involving surveying the eventual waterline meant that measurements had to be redone at least once, and even then the eventual water height exceeded expectations. The World Bank and its partners were left scrambling to compensate farmers for land and trees that had been lost contrary to their projections. This scramble—and the strife among the project partners and consultants[8]—was likely responsible for the strange state of affairs in which Kadala was not compensated, because they were not predicted to lose farmland to the inundation area.

Land lost to the reservoir was substantial and attempts to compensate for this loss failed to consider the extent of the harms suffered by Limba farmers or to provide sustainable alternatives to subsistence farming. However, by far the greatest source of land loss stems from the Bumbuna Conservation Area. This conservation area, chartered by the president and parliament of Sierra Leone in 2008, comprises 3,532 hectares of land entirely within the borders of Kalanthuba chiefdom. The conservation area was created in response to the World Bank's environmental impact study, which showed that the dam project would harm a rare population of West African chimpanzees, among other valued species. GoSL's solution was to create a nature preserve to offset negative impacts from the dam on local flora and fauna. This is a source of great frustration to residents of Kadala and Kamathor, who see the conservation area and the rules against hunting and trapping animals as evidence that the government and the World Bank care more about the animals than the people. Impacts on Kadala and Kamathor from the conservation area *are* impacts from Bumbuna Dam, since the conservation area was created as a

[7] "Economic trees" is the ubiquitous term in Kalanthuba for tree crops with cash value, such as oil palm, mango, and cashew.
[8] Conflict among project partners was rampant and dramatic, as detailed by many progress reports gathering dusk in a room at SalCost camp.

direct result of the hydroelectric project and its expected environmental costs. Land lost to the conservation area is still land lost because of Bumbuna Dam and has the same sorts of implications for local people; the only difference is the mechanism and justification for dispossession.

While there were seemingly good faith efforts to compensate people for their loss of land and economic trees to the reservoir and the buffer zone, there have been, to my knowledge, no efforts to compensate villagers for land lost to the conservation area. The exclusion of local peoples from their traditional farming and hunting zones has made them into "conservation refugees" (Dowie 2009) and victims of "fortress conservation" (Brockington 2002). At Salcost camp, there is a little room piled high with dusty environmental impact studies and resettlement reports, progress reports and discussions of disaster preparedness measures in the case of a dam break. There are detailed reports of how compensation was disbursed to affected villages in Kalanthuba, with Kadal and Kamathor mistakenly omitted. I have not encountered a report detailing any such process for the much more extensive landholdings taken for the conservation area, and contacts in the Bumbuna Watershed Management Authority (BWMA) who oversee both environmental issues and community relations in the watershed are unaware of any such process. While no compensation could have been adequate for losses from the conservation area, this oversight shows an indifference to and lack of comprehension of the needs of local communities. This is an unpaid debt to the people of Kalanthuba, who are unwillingly subsidizing electricity generation for the rest of the nation.

A TYPOLOGY OF LOSS: MECHANISMS OF ENCLOSURE AND THEIR EFFECTS

There are multiple types of land "loss" associated with the completion of Bumbuna Dam, which fall into three major categories. The first is land lost to the inundation, which is total and

irrevocable. Farmers could not plant in these flooded areas even if they tried. The second is land lost to the hydroelectric facility and to the SalCost camp, from which traditional users are excluded, their lands having been truly "occupied" (as they say) by other land uses. While these lands may not be flooded, they are out of reach of local communities. The final source of land loss is ecological exclusion areas, both in the form of the Bumbuna Conservation Area and the buffer zones surrounding the reservoir. These zones measure between 250 meters from the waters' edge on the southern end of the reservoir near the dam and 100 meters at the northern end. People are prohibited from clearing land (brushing), burning, and planting in the buffer zones. Buffers are important for filtering water and minimizing sediment and biomass that interfere with the turbines.

This last type of land loss—ecological exclusion zones—are lands where the people of Kamathor and Kadala could still physically farm, hunt, and gather forest products, but they are legally prevented from doing so. As such, they are a source of ongoing conflicts between local communities, wildlife, and government and development agencies. In some cases, as in Kadala, residents have limited access to these protected areas. Certain land uses—including planting permanent tree crops like oil palm, oranges, and other fruits—are allowed but closely monitored. In other cases, as with Kamathor, local communities are totally excluded from these reserved areas, with severe repercussions for trespassing. Regardless, ambiguity surrounding the boundaries of the exclusion zones and the rules of use creates additional conflict.

Ecological Exclusion: Ambiguity and Conflict

Two examples of this ambiguity leading to conflict stand out from interviews with residents of Kadala and Kamathor, both cases where unclear rules and boundaries lead to farmers being penalized for seemingly unintended transgressions. A year or two ago in Kadala, a group of six

villagers identified a place to farm collectively, which they believed to be sufficiently far from the dam and the water's edge for brushing and burning to be allowed. This was expressed as being far enough away that they "couldn't see" the dam from the proposed farm site. The farmers were mistaken, however, and the plot of land they had chosen fell within the buffer zone for the reservoir. Brushing and burning was therefore a threat to the water quality of the reservoir and likely to contribute biomass that could damage the turbines. The six were caught burning their fields and told that the ash would "spoil" the dam. They were arrested and had to pay a fine to avoid being locked up (another version of what seems to be the same story claims that they were in jail for three days, then released on bail paid by Eldante).

Similar cases have occurred in Kamathor, including one in the old portion of the village, where people live much closer to the dam, conservation area, and buffer zone. An older man described a case where he was brushing and burning in his family's land—not in the conservation area or the buffer zone—and the smoke poured down into the Salcost Camp and settled there, to the annoyance of the SalCost/WeBuild employees. He was also arrested and locked up, and again Eldante paid his bail and secured his release. Even if there were rules that had been broken, these rules were unclear and so the consequences seemed harsh, arbitrary, and unpredictable.

IMPLICATIONS OF LAND LOSS IN KADALA AND KAMATHOR

The effects of land loss are not identical across Kadala and Kamathor villages. Their different sizes and locations, and the differing extent and causes of land loss, inevitably lead to some diverging outcomes. There are, however, similar patterns of cause and effect that emerge in both villages. In both cases, patterns of land tenure and land access have been reshaped by dam-driven dispossession, and in both cases, dispossession has led to the novel experience of land scarcity.

At the end of this discussion, I describe how farmers exercise creative agency in the face of this new scarcity and consider the limits to creative adaptation.

Land tenure and dispossession

One outcome of dispossession in Kalanthuba has been the reshaping of land tenure relations within and between villages, by creating a new class of landless farmers. This, in combination with the novel conditions of land scarcity discussed below, changes relationships of land access within villages and enhances rural class differentiation. I first explain how land ownership functions in the villages of Kalanthuba, and the traditional relationship between landowning and non-landowning families.

Land Tenure in Kalanthuba

Land tenure throughout most of Sierra Leone is governed by a complex set of customary arrangements—the exception is the capital of Freetown and its immediate environs, governed by Western freehold tenure (Renner-Thomas 2010). Most land is held by families, meaning extended patrilineal kin networks. Some is held in common by the village, or more rarely, owned by individuals. Family lands are usually extensive, to accommodate rotational bush fallow agriculture. In Kalanthuba, as is common elsewhere in the nation, individuals and households belonging to landowning families typically access land through their lineage group. This follows a prescribed, consistent process, described in detail in both Kadala and Kamathor. Someone who wants to farm will go to the head of their family—or perhaps send an older member of their household to the head of family—and ask to be "shown a place to farm." The head of family takes the would-be farmer out into the family lands, and based on their extensive knowledge of boundaries and how long various parcels have lain fallow, shows them a plot where they can

plant. Plots are generally allocated to maximize regeneration time, and in accordance with household size (see also Renner-Thomas 2010).

Not all village families own land, however. In Kalanthuba, this has historically not posed livelihood issues for non-landowning farmers. They simply borrow or "beg" a "place to farm" from the landowners. This is similar to the process by which households from landowning families have farmland allocated to them. The non-landowner goes to the head of the landowning family, and showing proper respect, asks for a place to farm. The supplicant brings a small "token" as a sign of respect when requesting land, and gives a small portion of their harvest to the landowning family. This token or "kola" may literally be kola nuts, but in recent years is often a small sum of money. The share of the harvest is usually a specified quantity of rice—the amount that fits in a midsized basket or small plastic basin, or so I was told. This is rarely conceptualized as rent (though "rent" as such seems to be more common in Kamathor) but is treated as a matter of "respect" and "appreciation." "You have to go and appreciate the landowner with some small sum of money," is the common refrain.

People in Kadala and Kamathor emphasize that no one who requests land is ever refused. The one instance in which someone might be denied access to a place to farm is if they are disrespectful, or fail to undertake the proper procedure. This granting of land access appears to be a moral obligation and it extends even to outsiders. Strangers—that is, people from other parts of Sierra Leone—can access land in the same ways as members of non-landowning families (see also Berry 1992, 1993). At least one man assured me that if I, a white woman and an outsider, came to request land and followed the proper forms, they would give me a place to farm. It would have to be a small place, because they do not have "vast lands" after the dam has "occupied a big place," but they would find some scrap of dirt for me to use.

There are still differences in status between landowning and non-landowning families, however. The difference is magnified by the new relations of scarcity. Landowners can simply go to the head of family and request a place to farm. The token they give may be less, and they can generally keep all their harvest. They are, after all, farming in their own lands. When there is not enough land landowners may become increasingly jealous of their lands, allocating only small, marginal parcels to the non-landowners who rely on them. Some people will have access to plenty of space to farm in their family lands, while others will have only "a small place." While the portion of harvest used to "compensate" the landowner is small, out of a small harvest it may feel burdensome. In short, while norms of care and reciprocity prevent villagers from going totally landless, access to land *is* influenced by ownership status. Quality and quantity of land are likely to be better for members of land-owning lineages, and land in Kalanthuba is the basis of wealth.

Impact of Bumbuna Dam on tenure status

Bumbuna Dam took massive amounts of land from people in Kamathor and Kadala, changing many residents from landowning to non-landowning families practically overnight. This is most pronounced in Kadala, which lost 100% of its historic farmland. Most villages in Kalanthuba, prior to the dam and inundation, contained a mixture of landowning and non-landowning families. Kadala, however, is a small village with only two families, both originally landowning: the Banguras and the Turays. The two families used to farm together and pooled their lands for better results. Since inundation, however, neither family owns any land. The whole village has been converted, wholesale, from landowning to non-landowning status. Both families resent their demotion and tend to see the lands around them (in the BCA and the buffer zones alike) as still theirs. Because the land around has been left untouched for so many years, it has grown what the

Limba call a “strong bush:” tall and thick, indicative of fertile soil and the possibility of a good crop with few weeds. The fact that it cannot be cleared for planting frustrates people.

In Kamathor, by contrast, land loss has only affected some families, not all. Kamathor has lost between half and two-thirds of its traditional landholdings to the dam and BCA, according to the estimates provided by heads of family during participatory mapping. Dispossession has been uneven; some families were landless from the start, some have become landless, and others still access relatively abundant family lands. Those who used to own land must now “beg” for a place to farm from their neighbors. They likely to be bitter about this change, and may see landowning families as selfish or stingy in their apportionment of land. Likewise, landowning families must now provide land not only for their kin and the original landless of Kamathor village, but also to the newly landless members of their community. Finally, many households from now-landless Kadala haved “begged” land from Kamathor over the past few years. Whether they go to Kamathor or to other neighboring villages largely depends on where Kamathor is in the fallow rotation—that is, how close available, fallowed lands are to the people of Kadala. All in all, land dispossession from Bumbuna Dam has created (in Kadala) and exacerbated (in Kamathor) a situation of haves and have-nots. This amplifies rural differentiation (Bernstein 2010). Those whose land has been taken, in either village, feel their impoverishment keenly. They remember the freedom that comes from farming in your own land, near your own household. Having to beg for small pieces of land on sometimes far-flung hillsides and swamps is an inconvenience and an indignity, as well as a material privation.

Farming under land scarcity

The other key result of land being taken for the reservoir, dam site, and conservation area, is that Bumbuna Dam has created what is for the people of Kalanthuba a novel experience: land as a

scarce resource. This scarcity leads to a host of ramifying consequences, both socio-economic and ecological, which I discuss below. That this experience of scarcity *is* novel is one of the most unambiguous findings of my research. People in both communities described their villages and families as having had "vast lands" prior to inundation and the creation of the Bumbuna Conservation Area. Descriptions of farming practices and methods for obtaining land prior to Bumbuna corroborate this characterization. In the past, entire extended families would often farm together, sharing responsibilities for cooking for the workers and making farm labor a far more social experience than it is on today's smaller plots. This splintering of farms may have happened anyway—it has happened elsewhere in West Africa for other reasons(Luna 2020)—but it was clearly initiated by dam-driven land scarcity. The large farm size of past years also appears in the much larger families that were then typical, as a large number of children both requires a big rice farm to feed them, and a large rice farm requires the labor of a big family. Fallow periods were reportedly much longer—averaging ten or fifteen years—and people from non-landowning lineages could easily gain access to a "big place" to farm. Today, as I have described above, while they can still gain access to land by following traditional practices of "begging" a piece of land and "compensating" or "recognizing" the landowners with part of the harvest, the piece of land they are given is often small and may be rocky, far from the village, or of poor fertility.

The size of pre-dam landholdings is substantiated by participatory mapping exercise in both villages, in which a group of residents—with male heads of family playing a key role—were asked to sketch the rough boundaries of pre-Bumbuna Dam village lands on a large, simplified map of the area. Kamathor's lands were indeed vast, with more than half of them now being flooded or within the conservation area. Residents are excluded from any economic use of the lands that the government has, in local parlance, "occupied." Kadala's land holdings were

substantially smaller, proportional to the much smaller size of Kadala village, which numbers around a dozen households. It is worth noting that there is a dispute between Kadala and Kamathor residents as to the location of the historic boundary—Kamathor claims to have owned the majority of what Kadala residents see as "their" land. This permeability of boundaries and contested, overlapping ownership is not unusual in West African customary tenure (Berry 1992). Regardless of how the original boundary should be drawn, however, Kadala retains *none* of its traditional farmland. It has all been taken for either the reservoir or the conservation area.

RESPONSES TO LAND SCARCITY: AGENCY AND IMPOTENCE

As I describe above in terms of changes in tenure status, the emerging experience of land scarcity has made it more difficult for non-landowners to gain access to sufficient quantity and quality of land. The reduced size of landholdings—and the increased weed pressure and decreased fertility from shortened fallows—also affects landowners, though perhaps not to the same extent. Land scarcity has driven the newly landless villagers of Kadala and a few of the landless in Kamathor to turn outwards in search of new places to farm.

Evolving strategies of land access

There are no open frontiers or empty lands i Kalanthuba. Land may appear to outsiders to be unused, but farmland is generally owned by some family or other and appended to a village. The newly landless Bangura family in Kadala is not hewing fresh fields out of virgin forest, or claiming land as "theirs" by clearing it, as Tania Murray Li describes in *Land's End* (2014). Instead, they cross the reservoir in to Dansogoia Chiefdom, where they "borrow" land from villages there. During my fieldwork, most residents of Kadala were "begging" land from Gbulia village, with fields located on the slopes facing the reservoir. Some travel yet further (though within Kalanthuba) to Kamera or Kasasi villages. In the recent past, many Kadala households

were farming Kamathor land, evidence of the strength of the ethic of land-sharing. Land-poor as Kamathor has become, they will not turn away their neighbors. Now, however, Kamathor is in a different phase of their rotation. The available farmland is too far from Kadala people to make farming at Kamathor a viable option at present.

This journey to Gbulia is a serious hardship—a major source of "suffering"—for the people of Kadala. Because Gbulia is located on the far side of the river, in Dansogoia Chiefdom (home of Koronko speakers, not Limba people), most farmers cross the reservoir in hand dug canoes. It is a risky journey. One elder in the Bangura family does not like boats, and so he instead walks across the road atop the dam to the far side of the reservoir. He then hikes into the hills to his farm fields. Because most people must walk several kilometers after crossing the river, it is not practical for them to come and go between their farms and the village every night. Instead, they build what my translators called "farm houses" in their fields and stay there for most of the week. These farm houses are constructed of sticks lashed together with ropes, with a rough thatching of palm leaves for a roof and palm leaf matting for walls. They are similar in appearance to the fences which confine livestock or create privacy for "wash yards" (sheltered outdoor bathing places) within the village. Beds are woven platforms. The whole structure is decidedly less comfortable and spacious than even the small, unlit mudbrick houses of Kadala village. Whole families stay in such places from Monday through Saturday evening during the peak of the farming season, coming back to Kadala only sporadically. Most people will come home Saturday even to bathe and prepare to go to Sunday services at the small village church.

While this is a hardship for the families who stay in their fields, far from friends and relations and in relative discomfort, it is even worse for the people who are left behind. Those who cannot make the journey stay in the village to fend for themselves for days at a time.

Typically, people who are left behind are the sick and the elderly, often women, who may struggle to care for themselves in their children's absence. This is the case even when their children return every few days to leave food for them—often these women cannot cook for themselves anymore—and see to their needs, medical or otherwise. There are three older women in particular in Kadala who cannot go to the fields. One is half blind. One is sick with some long-lasting, lingering illness. One is truly ancient—the oldest person in the village—and beginning to struggle with memory and confusion. In addition to these three women, there are a few others who rarely make the journey to the fields, or who were unable to do so while I was there due to temporary injury or illness. A few are lucky enough to have places to work near the village, or to have children who do not need to travel so far.

Mami Kahti, the most ancient and venerable of the left-behind women, told me a story about a time when a ball python—the snake they call the *buma* in Krio—came up from the reservoir into the village. This is a common occurrence; one of the major grievances of the Kadala people against the dam is the prevalence of snakes in their village, because of proximity to the water. On this particular day, however, a snake came up into the center of the village and there was no one there who could kill it or drive it away. Everyone else had gone to the fields, leaving the old women to fend for themselves. They just had to wait, full of fear, until it left. Ball pythons have swallowed goats whole in Kadala. Withered little Mami Kahti would not pose much of a challenge for a hungry *buma*.

In Kamathor, too, a handful of landless farmers travel to other villages or even other chiefdoms to find places to farm. The practice is much less common, however, since some village lands remain and traveling far afield—often to Kathombo, Kamankay, or Bumbuna—is expensive in terms of time and labor. Many villagers in Kamathor also have access to more

fertile swampland, which can grow swamp rice (distinct from upland rice) during the rainy season and vegetables for market and for household consumption during the dry season. Unlike upland and the semi-swamp bolliland, swamp land can also be farmed every year, since organic material washed off the hill slopes keeps the soil rich. As one ancient woman from Old Kamathor explained, regularly planting and tilling swamps actually improves the soils' texture instead of depleting nutrients. Kamathor is wealthier in land and in labor, with better access to the market and the road. Landless and land-poor people in Kamathor are much more likely to have the resources to avoid the taxing journeys and relatively isolated life in the fields that people in Kadala endure regularly.

Labor intensification

Another strategy that farmers employ to make do with less land is simply to work harder. This takes the form of intensification of farm labor, and of pursuing off-farm employment, palm-wine tapping, and other kinds of complementary livelihood strategies. This greater labor burden is exacerbated by land loss but also reflects changing norms around education for children (see also Luna 2020). Children are now usually in school for much of the year, and the loss of their labor means an equivalent increase in work for adults. Especially in Kadala, children who attend school must walk miles to reach the school building. Parents seldom expect them to help on the farm when they return at night, recognizing that they will be tired from a long day at school and need time to study. At the height of the planting season, too, children cannot feasibly journey from school to Kadala, to the distant fields where their families now work.

At the same time, fields that have had only short fallows require more labor to produce a good harvest. With only a short period for the ground to "rest" between plantings—a year or two, instead of the 10 to 15 years that was common before the dam—farmers are dealing with a

"weak bush." This bush, when it is cut and burned, will provide only a small amount of nutrients for the soil and the subsequent crop. It will not burn hot enough to kill weeds and diseases, and it will not have been tall enough and dense enough to shade out weeds during its brief life span. The current solution is for adults to put more labor into their rice fields, especially in the form of weeding. In previous years, weeding was a once-and-done affair, usually done around planting time. Now, fields must be weeded two or three times to produce a decent harvest, and sometimes even then the harvest will fail.

The increased labor burden lies especially heavily on women. Weeding has traditionally been women's work. Men and children may sometimes help, but weeding is more likely to fall to the women of a household. At the same time, other social changes not directly attributable to the dam or to the loss of children as workers have conspired to increase demands on women's time. These include increased expectations for cleanliness in and around the family compound. Women describe spending more time sweeping away detritus and taking other steps to prevent disease than in the past. Like wearing shoes and using yards, enhanced norms of tidiness appear to be tied up with notions of modernity and respectability. Likewise, the decline in the practice of polygamy, while perhaps beneficial in other ways, has increased the time each individual woman spends cooking. In the past, co-wives would take turns cooking on different days and perhaps collaborate in childcare and other household tasks. This has become less common with the decline of multiple-wife households.

Turning towards the market

Farming under land scarcity has contributed to a major shift away from subsistence-only rice farming and vegetable gardening and towards the production of tree crops and vegetables for the market. The turn towards the market is related to the intensification of women's labor, since

women are often, though not always, disproportionately responsible for garden work. It is not clear from my interviews who within the household controls the income from vegetable selling, but it is clear that the dam makes market gardening possible. Dam construction led to roads that link Kadala and Kamathor with the Bumbuna Town market across the river. Bumbuna Dam created a larger population of people who do not farm. These non-farmers have both the money to buy fruits and vegetables and a need for produce. The non-farmers include teachers and ministers, engineers, technicians, and drivers for SalCost/WeBuild, shopkeepers, okada (motorbike taxi) drivers (though this usually not someone's only occupation), and the various employees of the gold mining company in Dansogoia.

At the same time, the dam has made market gardening necessary for many of the people of Kamathor and Kadala to survive. The loss of land means that many households—especially the newly landless, and the entire population of Kadala—can no longer reliably grow enough rice for household consumption. The source of the rice shortfall varies by household, and a few of the wealthier people in Kamathor may still manage to provide for their own needs. In general, however, residents worry that rice no longer stretches from one harvest to the next. The shortfall is driven partly by land scarcity, and partly by poor harvests from weed pressure, pests, and infertile soil.

Changing labor patterns make shortages harder. Children are in school instead of serving as a labor source for their families, and households farming in far-flung locations are not able to pool their labor as easily as in the past. Most households will find themselves needing to buy rice a few cups at a time, for increasingly steep prices (inflation was rampant in Sierra Leone in the spring and summer of 2023). This is especially true during the hungry season: May through June or July. It would be more economical to buy rice by the 50-kilo bag then by the cup, but no

farming households from the villages can manage the 740,000 or more Leones that 50 kilos of rice cost during my study period.

Families need money to buy rice and other goods, and market gardening—combined with selling firewood, fish, and palm wine—is the dominant solution. Market gardening is more prevalent in Kamathor, while selling firewood and fish is more common in Kadala. Vegetables are a useful revenue stream as they are ready for harvest at staggered times throughout the year. Most village families grow vegetables anyway, and have the skills and capital (seed stock, hoes, etc.) necessary to do so. Those with access to the more fertile swamps do especially well. Potatoes, bananas, plantains, various greens, peppers, and groundnut were all doing a brisk business in the market and along the roadsides in May and June. Other marketable crops that come ripe throughout the year include pumpkin, "garden eggs" (eggplant), cucumber, oranges, lemons, grapefruit, mangos, various types of beans (black-eyed beans and *konshu*, a small grey bean, among others), onions, garlic, and okra. This is a space-efficient approach; with a limited patch of land, it may be easier to grow mixed crops for sale and then buy rice than to grow the rice. Vegetable gardens are generally close around the family home, and more carefully tended then rice fields. They may retain fertility for more successive plantings, as people—especially women—turn weeds under to use as "manure," burn and spread household wastes, and sometimes buy and spread tiny bags of chemical fertilizer from the Bumbuna Market. Swamp gardens maintain their own fertility. Though some women who are gardening the same (dryland) space around their house year after year report declining yields, others do not.

I have framed this shift from rice farming for household consumption to gardening for the market as driven by the need to buy rice and the lack of land. This is true, in part, but the reality is of course more complicated. Gardens have not fully replaced rice farming, and garden produce

is consumed by the household as well as sold for cash. The shift away from land-extensive upland rice farming also reflects the loss of children's labor, as discussed above.

Likewise, the need to buy rice is only one part of this turn toward the market. Even those few lucky families who can still provide for their own consumption must also have something to sell to generate cash flow. As one woman told me, "everything is money now." Parents must pay school fees for their children, or if they attend a free government school, at least pay for their books and uniforms. Western medicines from the pharmacy in Bumbuna are replacing traditional herb lore, and these cost money. Women need money, they told me, to buy salt, soap, Maggie (bouillon powder), shoes for the children, earrings, and other adornments. Bumbuna Dam's occupation of Kadala and Kamathor farmland has hastened and amplified a shift from self-sufficiency to the commodification of subsistence (Bernstein 2010). This shift would undoubtedly be happening anyway, but land loss has amplified it. People who can no longer rely fully on farming must rely on the market. Capitalist relations become compulsory (Li 2014).

For some people—especially in better-off Kamathor—this turn to the market has been beneficial. Some report that "hunger is less" now than it was in the past because when the rice runs out, they can go to the market and buy more. Those with more productive gardens may do quite well, and be able to afford little luxuries that their parents could never have purchased. For these people, hunger has become less common, largely due to the ability to buy rice. The ability to send children to school, too, is seen as a sign of progress, and being able to pay for school supplies out of the proceeds of the garden is exciting. For many, however, the shift represents a reduction in their overall standard of living. These are the households who are working harder, walking further, and in many cases eating less. Many people described how before the dam, people would eat twice a day and be careless with food, allowing some of it to go to waste or be

spoiled by vermin. Now, they say, people only eat once[9], and they "manage themselves carefully," i.e. ration, to make the food stretch. I heard from many, many people that "if you work hard, you will eat," a phrase that seems to be something of a watchword or a common cultural saying. In these land-scarce days with children who do not work, however, people must work very hard indeed, and often eat very little.

CODA: MIMOSA AND EMERGING ECOLOGIES

"This is *that* one, that weed they are talking about," said Mami Sesay. She pointed with a stick to a mat of dark, ferny leaves growing in the compacted red dirt of the roadside. The weed had fuzzy pink flowers and appeared almost soft, as though covered in fine hairs "Look," Mami Sesay said, and poked the plant with the stick. Each ferny compound leaf that the stick touched folded up in the middle, the leaflets tucking in tight before the whole leaf sagged. In a quarter hour, the leaves would reopen and lift back toward the sky. This plant, *mimosa pudica*, is a member of the pea family and a native of South and Central America. It has spread throughout the tropics as an invasive weed. It is common in West Africa, and is grown as an ornamental in the United States, where it is called "sensitive plant," because of how its leaves fold up and droop when touched. Normally when people from Kadala or Kamathor described it, my translators would just give me a look and say, "*that* weed."

"When I was little," Mami Sesay told me as we walked slowly along the side of the road from Kadala towards Kamathor, "we hardly ever saw that plant. We children would play with it if we found it—touch it to make it close up. But now it is everywhere." This is both visually true—I saw it wherever I went in Kalanthuba, its delicate compound leaves and fuzzy flowers

[9] This means, only eat a proper cooked meal with rice and sauce once, usually in the evening. Many if not most families will have some potatoes, cassava, or bananas in the morning to provide energy for the day. For Limba people, though, you have not "eaten" unless you have had rice.

unmistakable—and widely reported by farmers from both villages. People attributed the increased prevalence of mimosa to reduced fallow periods and the lack of a "strong bush." Since the dam came and fallow periods have shortened from 10-15 years to a year or two, the bush seldom becomes tall enough and old enough to crowd out weeds like mimosa. This is true of all weeds; a longer fallow period means less weed pressure.

I learned about mimosa by asking people what has changed about the work of farming since the dam has "occupied" much of their historic lands. Sometimes I asked specifically about weeds; sometimes the information was volunteered. Weeds have become a problem for farmers in Kadala and Kamathor alike. Since farmers in Kadala must go to other villages—Kamathor, Kasokira, and Gbulia across the river in Dansogoia chiefdom—the fact that they also report troubles with weeds indicates how widespread this problem has become. In the days before the dam, they tell me, women would weed the rice fields once, usually right after plowing. They would go through the fields with little hand hoes and knives, to pull out grass and roots and cut away any woody weeds that survived brushing, burning, and plowing. Now, the women tell us over and over, they have to weed "more than twice" to get a good harvest. Women weed at planting and at least once more, usually twice more. Weeding is primarily women's work, and so this burden falls squarely on their shoulders—and lower backs, and hands. Of all the weeds and "grass" they deal with, mimosa is the only weed they mention by name or describe. It is everywhere, they tell us.

Mimosa comes up so frequently not only because it is ubiquitous, but also because it is vicious. Aggressive, difficult to eradicate, and quick to choke out rice or other crops, it is a source of "suffering." "Suffering" is a concept frequently invoked by people in Kalanthuba and in Sierra Leone more widely. As used in Krio, it most nearly means hardship, scraping by. Once,

I asked a widow in Kamathor for examples of suffering, and she laughed. To work under the hot sun and pouring rain, isn't that suffering? Weeding is suffering, she tells me. Weeding mimosa, I learn from others, is especially bad. Its soft appearance is deceptive. The fine hairs that sense touch and tell the plant to fold up its leaves and the fuzzy pink flowers hide wickedly sharp thorns along the bottoms of its stems. I once tromped barefoot through a patch of mimosa, a painful learning experience that I will not forget. The women of Old Kamathor described how mimosa tears their hands when they weed. They use what little spare money they have to buy socks to wear as makeshift gardening gloves. This is scant protection. In Kadala, by contrast, women go after mimosa with "cutlasses" (machetes) to keep their hands away from its fangs. Either way, they must attack it or they will have a poor harvest, with little to eat or sell.

The ubiquity of mimosa tells an ecological story as well as a story about women's changing labor burden under the conditions of land scarcity imposed by Bumbuna Dam. Mimosa is a weed that thrives in disturbed landscapes and poor soil. It is common along the sides of roads and other areas where the sun is hot and the soil is thin. The fact that it now abounds on the slopes of upland rice farms is telling, pointing to degrading soils. The places where people must grow their staple crops have become like roadbeds or construction sites. *Mimosa pudica* does not tolerate shade, so a ten- to fifteen-year "strong bush," dense and dark, would control if not eliminate it. Mimosa's commonness points to the changing conditions of Kalanthuba farmland; the young, "weak bush" that cannot choke out this sun-loving invader and the worsening texture and fertility of the soil.

The relationship between *mimosa pudica* and Bumbuna dam may be even closer than I have described. I was quick to attribute the spread of mimosa merely to the shifting ecologies and degrading farmland created when the dam withdrew vast tracts of land from farmers'

rotations. Rukoh, a strong, late-middle-aged woman from Old Kamathor, described it differently. "This is the dam's weed," she said, describing how its thorns and its ferny matts carpeted her fields. I asked her what she meant, curious to hear if she too saw its spread as reflective of changing conditions of soil and shade. She explained instead that when they were building the dam, the earth movers—which create the sorts of compacted, disturbed conditions in which mimosa thrives—tore up mimosa plants and spread their seeds and roots across Kalanthuba. The bulldozers and backhoes and trucks dragged the seeds along roadsides and ditches, earth piles and access paths. This is the dam's weed in two ways, then: spread by the builders of the dam, and flourishing in the environmental conditions which the dam's land-theft made possible.

But what of the land taken by the dam? Only a relatively small portion of the area taken for Bumbuna Dam is under water or houses dam-associated buildings. The rest is held in ecological exclusion zones, either the filtration buffer around the reservoir or the Bumbuna Conservation Area (BCA). In sharp contrast to degrading farmers' fields, these ecological exclusion zones are dense and verdant, swarming with monkeys, birds, and other pests who will come out of the bush to destroy farmers' crops. Over the past 15 years, these zones have become a very strong bush, eyed with envy by the people who can no longer farm or hunt there. They are havens of biodiversity, yes, but in the eyes of Limba farmers, they are pockets of soil fertility populated by bold, protein-rich pests, neither of which they may benefit from nor touch. This is a key source of Kalanthuba people's resentment toward the dam. Locals believe that the government and outsiders value animals more highly than people, a frustration I discuss further in the chapter that follows. At the same time, the contrast between the degrading areas left for human use and the fertile pockets from which they are excluded creates a mosaic of exclusion, of

ecological wealth and ecological poverty, which reinforces Limba farmers' sense of being abandoned and marginalized by the development of Bumbuna Dam.

CONCLUSION

Bumbuna Dam represents a dream of modernity for Sierra Leone. First conceived in the 1970s, it did not become a reality until almost forty years later. The dam provides clean, renewable energy that is desperately needed. While they were building a dam to power the nation's future, however, the government of Sierra Leone and its international partners were fundamentally altering the lives and livelihoods of the people who live around the dam. In Kalanthuba Chiefdom especially, where the Bumbuna Conservation Area is located, the hydroelectric project took broad tracts of farmland from some of the nation's poorest people. This land theft—for theft it was, since it was neither voluntary nor properly paid for—has created a novel situation. For the first time in memory, Kadala and Kamathor villagers are experiencing land scarcity.

This scarcity undermines Limba farmers' traditional way of life. For many of the most severely affected, scarcity forecloses self-reliant subsistence farming as a livelihood option. The ecologically stable practices of rotational bush fallow have been replaced by a mosaic of degrading and preserved areas. The land-extensive practices of farming, honed over generations, no longer work. Without enough farmland for the population of their villages, fallow periods have shortened, weeds have multiplied, and fertility and yields have plummeted. This has led, in turn, to a series of social and economic changes familiar from the literature on West African agrarian change (Luna 2019, 2020; Berry 1993; Netting 1993). Agriculture becomes more labor and input intensive and must turn towards the market. In Kalanthuba, this is marked by a shift from "farming" (primarily upland rice and groundnut) to "gardening" (primarily vegetables). In Kamathor in particular, land loss has led to more labor and input-intensive gardening, with crops

destined for the local market in Bumbuna. In Kadala, which has lost essentially all farmland and is much further from Bumbuna, this shift has been more muted and less successful, leading to immiseration rather than marketization.

At the same time, traditional systems of land ownership and land access, while not abolished, have been modified by the presence of the dam. When the government took land for Bumbuna Dam, it created a class of new landless farmers, who are dependent on their neighbors for access to farmland. While the customs surrounding land access remain much the same, the class of people who must "beg" land from landowners is much larger. The landowning class, in turn, has shrunk, as has the quantity of land available. Many farmers must now migrate to nearby villages or nearby chiefdoms in search of land. This is especially pronounced in landless Kadala. The set of changes produced by the dam undermined existing, non-capitalist social formations, and forced formerly independent farmers to become increasingly dependent on market relations.

Land loss has not created a proletariat, however. This is a case of dispossession without proletarianization (Bernstein 2023). Kalanthuba farmers who lost land to Bumbuna Dam do not generally become laborers for WeBuild. WeBuild employs only a few unskilled laborers—a source of additional resentment for displaced farmers—and then typically only on a temporary basis, for clearing and maintaining roads. Dozens, if not hundreds of people have lost land, and WeBuild only employs a handful as technicians, drivers (like the father of my host family), or security guards. These lucky few are more likely to be relatively well-off to begin with, to live in Kamankay, speak English, and be literate. Nor do the dispossessed typically cross the river to labor for the Chinese-run Kingho gold mines of Dansogoia chiefdom, though the mines draw laborers from all over Sierra Leone. Instead, most continue to eke out a living from the soil, from a mixture of subsistence farming, market gardening, palm tapping, and sometimes fishing. In

Kamathor, a few people prosper from their turn toward the market—those with strong backs, active families, and ample lands. There is some indication—as we might expect—that the few who prosper are offset by those whose livelihoods plummet, increasing rural class differentiation (Bernstein 2010). Most only survive. In Kadala, even survival is a luxury for the privileged.

It is the combination of dispossession and destruction of existing social relations without the provision of viable alternative that creates a surplus population (Bernstein 2006a, 2023; Davis 2006; Ferguson 2013; Ferguson and Li 2018; Li 2010, 2011). Residents of Kamathor and Kadala villages have not been incorporated into a market-based, capitalist world economy. They must deal with the monetary economy constantly—as my informant Sarah remarked, "everything is money now"—but they have not been incorporated as laborers, nor does the market provide for their subsistence or meet their needs. Instead, the Limba farmers of these two villages have a foot in each world, needing both market and non-market relations to (barely) keep their families alive. Their land was useful to the workings of a national and international capitalist economy, as the site of a valuable green energy development project, an opportunity for investment, and a location from which to build a more "modern" future. The displaced Limba people are not useful to this economy. They are surplus people.

How do these "surplus" people experience life with the dam? The experience of loss was perhaps bewildering to Kadala and Kamathor people, who did not understand what was happening and why, or the extent of their losses, until long after their land has been taken. They understand perfectly well, however, that they have been shut out and excluded, kept ignorant, forced to bear the costs without enjoying the benefits. This experience of frustration and exclusion is epitomized by the phrase "sitting in the dark," which person after person used to describe both their lack of understanding and power and their ongoing lack of access to

electricity. The irony of sitting in literal darkness mere meters from the nation's major power source is not lost on them. I turn to these questions of meaning-making and to people's understandings of their life with the dam in the next chapter.

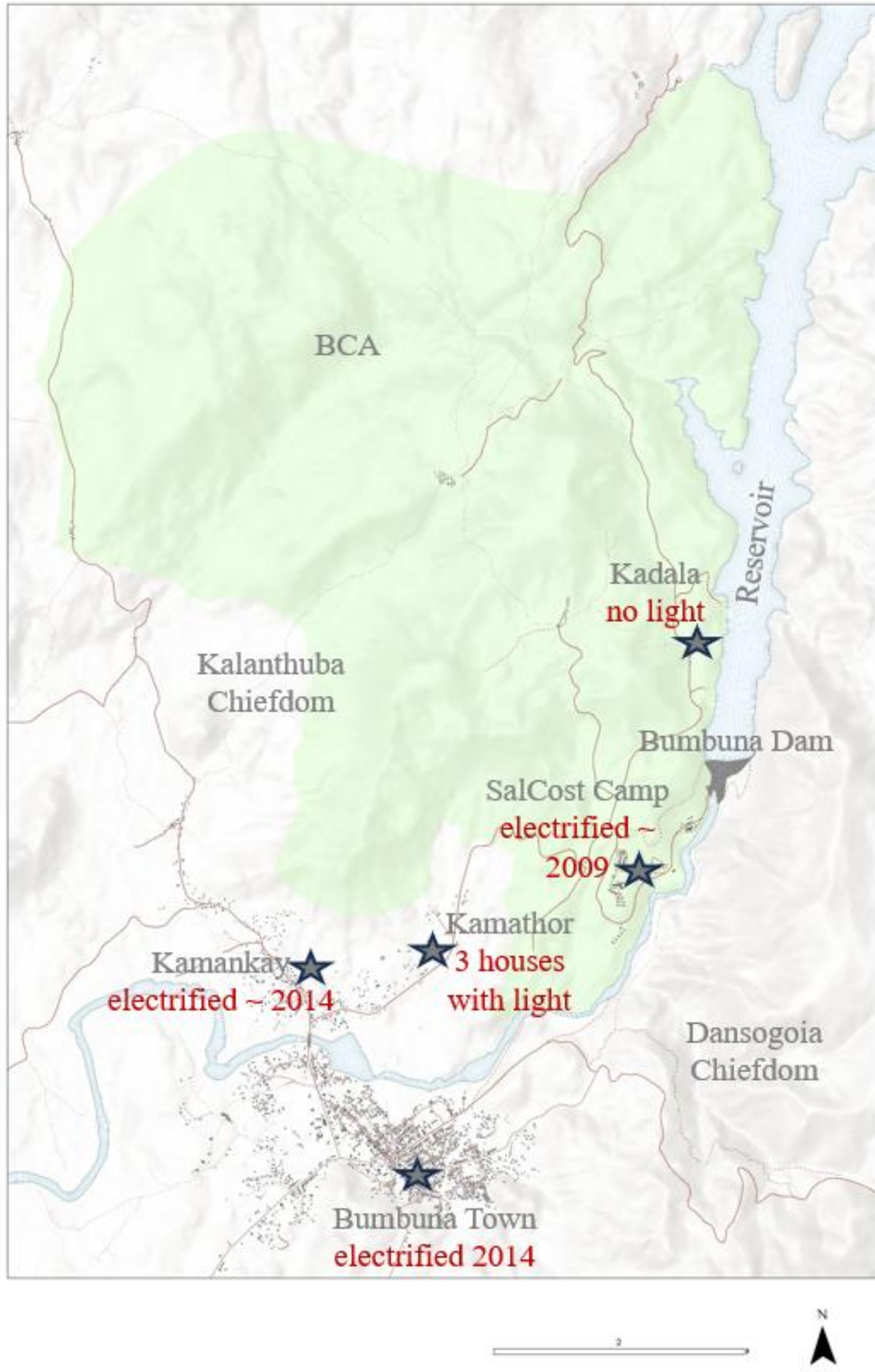

Figure 2. Map of Kalanthuba Chiefdom and surrounding areas with dates of electrification.

What does it mean to sit in the dark? For the Limba farmers of Kadala and Kamathor villages, darkness is an ordinary and inescapable feature of life. Only three houses out of the approximately 55 dwellings in Kamathor have any electric light. In smaller, poorer Kadala, a literal stone's through away from the dam itself, no households have electricity. Open fires or chunky, solar-powered flashlights in faded yellow and sky blue are the only source of illumination after sundown.

After Bumbuna dam began generating electricity in 2009, light leapfrogged over the local communities as power ran directly to Freetown, more than 230 kilometers away on the coast. The dam supplied electricity first to the furthest location—Freetown—then to the regional city of Makeni in Bombali District, then to Magburaka, the capital of Tonkolili District. In 2013, four years after then-President Ernest Bai Koroma commissioned Bumbuna Dam, there was still no electric light in Bumbuna Town. Or rather, there was no electric light outside of the Paramount Chief's compound and a few streetlights. Bumbuna and its twin town of Kamankay, just across the Seli River, might still be without electricity if not for the events of 2014 and the activism of some of Kalanthuba's "leading citizens." Outside of Kalanthuba's southern tip, the chiefdom is still "in the dark." Kamankay is formally connected to the grid, though only wealthy households have light in their homes. The southern parts of Kamathor have nominal access to the grid. Three Kamathor households out of approximately 60 had light during my study period, an indication of their relative wealth and of increasing rural class differentiation. Like all villages north of the dam, Kadala lacks both a connection to the grid and people who could afford electrification.

Figure 3. Kamathor, early morning. This is one of three houses in Kamathor with any form of electric light.

The true darkness of night without electric lights is foreign to most Westerners. On my first night staying in Kamankay—the only village in Kalanthuba where electricity is widespread, and even there, an inconsistent luxury—we had a power outage in the early evening. Without the fans running, the inside of the house was hot, still, and pitch dark. We sat outside instead, chatting about the day and munching on salted groundnuts that my hostess, Sama, had boiled over a small charcoal fire. The sky was still greyish, half-light, but under the mango tree where we sat in the back garden, details of the world were invisible. I learned from people in Kalanthuba that when it is dark, you sit still and wait. You cannot see your surroundings, so mobility and activity are hampered. The world around you is incomprehensible and a little

threatening—several people mentioned to me that thieves prefer neighborhoods without electricity.

This chapter explores the idea of "sitting in the dark," a phrase widely used by Limba farmers to describe their exclusion, frustration, and bewilderment. I draw on interviews, participatory mapping, and participant observation to explore how Limba farmers in Kalanthuba Chiefdom, Sierra Leone describe their experiences of living with Bumbuna Dam almost 15 years after its construction. I use the phrase "sitting in the dark"—"aneeó kafintima" or "andongó kafintima" in Limba—to explore how Limba farmers' theorize their status as surplus people.

"Sitting in the dark" has multiple valances of meaning. The first is literal: while the dam generates electricity for the rest of the nation, most people in Kalanthuba are "still sitting in the dark" without access to light and power. The second set of meanings is figurative, describing both a lack of education and a lack knowledge and understanding more generally. Limba farmers use this same phrase—"sitting in the dark"—to describe their lack of schooling and their exclusion from the decision-making and negotiation processes that the government used to take their land. This second, figurative use of "sitting in the dark" echoes another common phrase people use to signify a lack of understanding, "not having the knowledge." These multiple meanings of darkness are intertwined in Kalanthuba: people were excluded from the benefits of dam construction in part because they did not understand what was happening or how to negotiate. Exclusion and exploitation were exacerbated by a lack of formally-educated people who could "speak for" their villages or read over and understand documents transferring ownership or promising compensation.

For Limba farmers, I argue, darkness symbolizes not only exclusion from the material benefits of Bumbuna Dam, but also from "modernity as a status" (Ferguson 2006). I begin with

the French colonial categories of "useful" and "useless" Africa, and show how Kalanthuba contains both of these categories, side by side. The tradition of useful/useless Africa sharpens an analysis of surplus populations in the African context. I spend most of the chapter exploring the two meanings of "sitting in the dark" in Kalanthuba. Finally, I recount the story of how Limba leaders—including John Bangura* and Eldante* —successfully demanded electricity for Bumbuna Town and eventually Kamankay. Given the symbolic importance of electricity as a representation of modernity in Kalanthuba[10], this series of protests should be seen as a bid for inclusion in "modernity as a status," as much as a demand to share the benefits from dam construction. Ironically, bringing "light" to Bumbuna involved deploying the power of secret societies, which Eldante sees as "dark" (morally and spiritually) as well as embarrassingly unmodern.

ELECTRICITY AS A MARKER OF "USEFUL" AND "USELESS" AFRICA

I first noticed the lights at the Regent Chief's house in Kamathor on the morning when I came to interview him. I had met him once before, on a visit to his house earlier in my trip. On that occasion, I sat under the palm-thatched awning in the rain, and then on his porch as the rain picked up and poured through the awning, threatening to soak my notes. Even on a dark day, I had not noticed the light. On this second visit, it was a sunny morning, but still early and the day was not yet bright. The illuminated bare bulb attached to the rafters of the chief's porch caught my attention. I had stayed in Kalanthuba long enough to understand the rarity and the significance of this bulb. Chief James Momo Kamara greeted us still in his night clothes, so we waited on the porch for him to dress for the day. We sat under the dim bulb in the colored, molded plastic chairs that his family set up for us. When the chief reemerged from the interior of

[10] As throughout much of Africa. See Van der Straeten 2015; Degani 2022; Ferguson 1999; Winther 2008; Winther and Wilhite 2015.

the house, wearing a wax-print suit, matching hat, and his trademark grin, I glimpsed the semi-dark interior of the house. It was half-lit with a second bare bulb. After a few minutes, a young woman pushed aside the door curtain and came out to turn off the porch light: electricity is expensive, and the sun had risen. Even a chief cannot afford to waste this luxury.

In Kalanthuba Chiefdom, as throughout Sierra Leone and much of sub-Saharan Africa, the distribution of electrical power mirrors the distribution of political and economic power (Bruederle and Hodler 2018; Noor et al. 2008; Winther 2008; Winther and Wilhite 2015). I first noticed this pattern in Kamathor village and its surroundings. The Regent Chief's house in Kamathor—the current seat of traditional authority—stands no taller than its neighbors. Its metal roof and concrete walls (as opposed to the thatch and mudbrick of poverty) blend in among its neighbors. Perhaps it would be grander if James Momo Kamara held the role of Paramount Chief, but he is only the regent, leading his people until the central government decides to hold chieftancy elections. His house only stands out because of its covered, open-air sitting area in front of the porch and the presence of electric light. The two lightbulbs are an almost nonexistent luxury outside of Kamankay, the largest and most urbanized village in the chiefdom. Kamankay lies just inside the chiefdom's border, almost an outpost of Bumbuna Town. Even here in bustling Kamathor, the Chief's abode is one of only three houses that have any form of electric light. Kamathor and neighboring villages are not "economically valued spaces" (Ferguson 2006: 47), which is reflected in the absence of electricity.

By contrast, the spaces within rural Kalanthuba that constitute what French colonial officials designated as "useful" Africa are fully electrified (Ferguson 2006: 40). "Useful Africa" refers to profitable and heavily guarded enclaves of economic activity and investment, which are directly linked to the "flows" of global capital. These are contrasted with "useless Africa," the

economically marginalized and excluded background of poverty in which these enclaves are set. This dichotomy is visible in Kamathor: mere yards from an outlying neighborhood that residents call "the camp" is an army barracks from which the place gets its name. The Sierra Leonian soldiers who live in the barracks are the guards of Ferguson's "guarded enclaves." The soldiers are in Kalanthuba to protect Bumbuna Dam. They guard the checkpoint that controls road access to the interior of the chiefdom and the dam itself. There are numerous exterior lights on the barracks, which are often still lit at nine or ten in the morning. The soldiers who guard the dam even have running water, an unheard-of luxury in the villages. More than this I do not know, not having been inside the long, rectangular white buildings myself.

Further up the dam road, well into the interior of the chiefdom, lies SalCost Camp, the heart of economic activity in Kalanthuba, the one local space that is plugged into wider webs of capital and investment. SalCost Camp is a large compound with landscaped courtyards and covered walkways, metal or tiled roofs, painted cement walls, hot showers (usually), and a pool. This camp houses the scientists and technicians of the watershed authority and the engineers who run the hydroelectric plant. Light is necessary, of course. There may be frequent blackouts—a standard part of the experience of electrification in the Global South (Gupta 2015)—and the government side of the compound has fallen into relative disrepair. However, even in the more rundown parts of the complex, there are semi-functional air conditioners and flush toilets. The contrast between the living quarters of the people who service the dam and those who merely host it is stark. It matters materially and not just symbolically that "useless Africa" is shut out of the light that floods the economically valued enclaves: there is a widespread consensus among development actors that access to affordable electricity "has a positive impact on human

development" and an apparent link between ongoing poverty and limited electrification (Winther 2008:1).

For Ferguson, mineral or petroleum extraction is the paradigmatic example of guarded investment enclaves in the useless/useful Africa model (see also Appel 2012 on the "modularity" of offshore drilling), but the Bumbuna Hydroelectric Project also fits this model. "Useful Africa" in this case applies to the dam itself, and to the other enclave spaces—barracks for soldiers protecting the dam, living quarters for engineers and other employees—that directly contribute to its maintenance. The Bumbuna Conservation Area, created to mitigate the impact of the Bumbuna Dam on certain protected species, especially West African Chimpanzees, is also "useful." The BCA is, in many ways, a public relations tool that promotes the conservation of charismatic megafauna and lends the dam a greater appearance of sustainability. Indeed, the BCA conforms to what Ferguson calls the "point-to-point model" of environmental regulation and protection, connecting Western environmental interests with a patch of "valuable" nature (2006: 47). As is typical of national parks in much of Africa, it is itself a guarded enclave that excludes local people from their land. The BCA is a relatively benign example of "fortress conservation," however, lacking the heavily militarized administration and shoot-to-kill policies that many similar enclaves have toward trespassers (Brockington 2002; Ferguson 2006).

The designation of "useless Africa," in this example, applies to all the communities around Bumbuna Dam. Their land was useful for the construction of the dam and the creation of the BCA, but the people themselves are now superfluous from the perspective of WeBuild and the government of Sierra Leone. The distinction between spaces that are "useful" to the wider economy and "useless" spaces occupied by "expelled" people is made tangible—visible—through the presence and absence of light at night. The distribution of access to electric light in

the communities surrounding Bumbuna Dam, as in West Africa more generally, follows the distribution of wealth (Bruederle and Hodler 2018; Noor et al). It also reflects the distribution of power and perceived importance across space. In the case of villages in Kalanthuba and the SalCost Camp, "useful" and "useless" Africa are side by side, and their relative value in the national economy and international business are marked by the distribution of electricity. Kamathor has very little light; neighboring Kadala has none. Meanwhile, the places directly involved in the administration of the dam are fully electrified. This is also a reflection of relative poverty, but the poverty of places so immediately adjacent to a source of great wealth is itself telling.

What are the experiences of the people who live in these economically "useless" spaces? The central argument of my thesis is that Bumbuna Dam's construction rendered the residents of surrounding villages as "surplus population." People who used to be self-sufficient smallholders are now partly dependent on market for their survival, in a process of the commodification of subsistence (Bernstein 2010). At the same time, dispossessed farmers have not found jobs as wage workers in the local economy. I draw on a strand of literature in the agrarian change tradition, which argues that rural populations in the 21st century are often marginalized and abandoned rather than incorporated and exploited. The development of the Bumbuna Dam green energy project has transformed the residents of Kadala and Kamathor into "surplus people" (Bernstein 2023; Li 2017; Ferguson and Li 2018) who have been "expelled" from their land and from capitalist economic structures (Davis 2006; Sassen 2013, 2014).

LITERAL DARKNESS: EXCLUSION FROM ACCESS

The sharp difference in access to electricity between the people who work on the dam and those in the surrounding communities is a source of frustration and resentment for the Limba farmers

in Kadala and Kamathor, as well as for the educated Limba leaders who make up Kalanthuba's traditional leadership structure and informal network of "big men." At the beginning of the construction process, there was a widespread assumption that the surrounding communities would be given free electricity—always expressed as "free light"—in compensation.

I heard this from all of the community leaders in Kalanthuba who spoke with me. Eldante (he chose the pseudonym), a highly respected community leader and former health worker, told me how the people of Kalanthuba were initially excited about the dam. They saw it as an opportunity for the community, and believed that they would be given access to free electricity. This was in part because of the experience of communities surrounding a smaller dam in Eastern Sierra Leone. That community had been given "free light," or so Kalanthubans believed, and they expected that the same would happen for them. Another community leader and school teacher, Peter Kamara,* told me that the communities had actually been promised electricity, and that the builders had reneged on their agreement. Kamara and Eldante are both angry that Kalanthuba residents have to pay for light when they have already been impoverished by the dam taking their land.

Both Eldante and Kamara agree that there was a bank account set up for then-Kalansogoia Chiefdom (now split into Kalanthuba and Dansogoia), into which SalCost or GoSL paid a portion of the profits from the dam. Eldante informs me that this was only operational for a few years. The account is no longer traceable, and Eldante was told by someone—he would not say—that the account had been drained. By whom, he does not know. The communities and their leaders do not have access to the compensation documents or original terms of the agreement between SalCost and GoSL. They cannot prove that they have been cheated or effectively claim rights to light or funds (more on this in the next section). Free light has never materialized, and

this is a grievance felt by villagers and local elites alike. Even now, when some amount of electricity has become available to those in Kamankay, Bumbuna, and a few people in Kamathor, the fact that people are paying for electricity remains a sore point.

In Kamathor, where people have easy access to the main road, a school that has recently been approved by and funded by the government, pump wells, zinc roofs, and other amenities, residents still describe the dam's presence only in negative terms. They do not attribute any of the improvements to their community's facilities to the dam, and multiple people told me that they are do not see any benefit to hosting the dam. This was often framed explicitly in terms of the fact that they do not have access to light. Still no light after all this time, the people I spoke with complained. The dam has occupied all this land, and *we are still sitting in the dark*.

The value that Kalanthuba people place on light also appears in the community's negotiations with Seli Hydropower LLC. Five years before my field period, Seli Hydropower had won the rights from GoSL to develop Bumbuna Phase II[11]. Phase II was to include another dam further north at Yiben, which would help regulate the water level in the reservoir during the dry season, and a substantial expansion to the generating capacity of the Phase I dam. Seli had negotiated an additional land transfer from Kamathor. Community members expressed optimism about what Seli would do for them, and the jobs and job training that they expected the company to provide. They described Seli as a model of community engagement and communication, at least relative to SalCost in the 1970s. Seli had promised compensation and community development projects—primarily infrastructural—but what interested Kamathor's headman most was the possibility of obtaining free light. This optimism and belief that free light in exchange

[11] As of this writing, it appears that relations between GoSL and Seli Hydropower have completely broken down, after five years of the government delaying approval to begin operations. According to Seli employees in Kalanthua, the company gave GoSL an ultimatum some time in 2023. Since then, Seli has reportedly given up on developing phase II, and has dismissed local staff.

for their lost land would *finally* be forthcoming echoes the optimism that their parents felt about SalCost and Phase I back in the 1970s. Phase II stalled, however, and no compensation could be forthcoming until work could begin. It seems now that the project may never take place.

Limba people in Kalanthuba expressed a consistent and urgent desire for access to electricity, and its lack was felt as both a deprivation and as an insult. In the latter part of my fieldwork, I spent time trying to tease out what access to electricity would mean, practically and symbolically, for the Limba farmers in Kadala and Kamathor. Many respondents highlighted the how electricity could facilitate other goods, especially education and certain kinds of business opportunities. At the same time, however, access to electricity represents respect from the wider political-economic community (Winther 2008; Winther and Wilhite 2015). "Sitting in the dark" meant being devalued and dismissed. Showing respect and appreciation are crucial to Limba society; leaving residents without electricity while Bumbuna Dam is "occupying" their lands is a form of disrespect. I discuss these two aspects—electricity as possibility and electricity as respect—in the sections that follow.

Electricity As Possibility

Kadala and Kamathor village residents want electricity for many reasons, most often for the material benefits that electrification provides. Electricity offers access to a host of new technologies, comfort (fans and light at night) and food preservation through fridges and freezers (Winther and Wilhite 2015). Electricity is, for many residents who are scraping by on their much-diminished farmland, a way to diversify economically and buttress their insecure livelihoods. People often mentioned economic and entrepreneurial possibilities as one of the benefits of having "light" in Kalanthuba, where "light" seems to mean both literal electric light and electricity more generally. Pa Koroma, the headman of Kamathor, described how family

members can come together and buy a “freezer,” and “when you get your freezer in your house, you can do a business with it, you sell cold water.” I heard similar accounts of the value of an “icebox business” from women in Kamathor.

My hostess in Kamankay had just such a business, a little stall in the front of a not-yet-occupied storefront along the Binkolo Highway just outside of town. Eldante described her “business” to me before I saw it, telling me that she had a “place” in the big house along the highway. There she sells “food stuffs, and drinks… cold water, she has a big freezer there, and people go to buy cold drinks.” I spent many afternoons there during my fieldwork. It was not necessarily a lucrative business, though she brought in some small sum of money each day. The “business” consisted of a mobile phone charging station, the aforementioned “freezer” (a big chest refrigerator to American eyes) full of icy bagged water and juice bottles, and a little wooden table loaded down with tiny sachets of Maggi, dried and fresh peppers, two kinds of rice sold by the cup, and biscuits in their bright wrappers. The table sat at the front of a large, square concrete room, which could be opened to the road or closed off with metal barn-style doors. At the back was a fan, a large flatscreen TV tuned to Nigerian programming, and plastic chairs for customers to sit in the cool with their cold drinks and talk or watch television. The presence of the television is perhaps especially telling: as many scholars have pointed out, one of the main impacts of electricity is to integrate local places into wider political and cultural sphere through communication technologies (Straeten 2021; Winther and Wilhite 2015).

Entrepreneurship—having a “business”—offers the promise of economic opportunity and improved standards of living. It provides access to cash, in a rural economy where villagers complain that “money is now everything.” Sama’s work supplements her husband’s income, and comes at a low cost to her. She can do her cooking and her laundry at her stall. She often pauses

to sit in the shade and chat with friends throughout the day, instead of hacking at thorny mimosa weeds under the hot sun. It is easy to see why her lifestyle appeals to people in Kamathor. Implicitly, it offers membership in the modern, wealthy world "inside," where there is cold water, television, and electric light, versus "outside," where people are sitting in the dark. Even the presence of cold water—long a symbol of modernity and Western taste—is telling (Hobart 2023). People in Kamathor have good reasons to desire these things, and to see them as genuine benefits to accessing electricity.

Likewise, light facilitates children's studies in practical ways (I will discuss its use as a metaphor for knowledge and education later). Multiple community leaders, including Pa Koroma and Eldante, highlighted the importance of electric light in allowing children to continue studying into the evening. In Sierra Leone, the sun goes down around seven p.m. year-round. Unless children have electricity or poor-quality "Chinese torch lights," their learning ends abruptly at sundown. One of the major transformative impacts of electric light arriving for the first time in any community is the blurring of the boundary between night and day and the possibility of extending productive labors (and leisure activities, especially television watching) in to the evening (Gupta 2015; Winther and Wilhite 2015; Straeten 2021). Contrast this with the constraining darkness I described in the introduction to this chapter.

In Kamathor, children sometimes congregate at the few houses that do have electric light, or walk to the homes of friends or relatives in Kamankay to study. I witnessed this while staying in Kamankay. My host family was relatively well off and had an electric light on their tiled porch. On many nights when the weather was good, my hostess Sama would sit out on this porch with her seven-year-old daughter and a large, portable chalkboard. Sama's young half-brother from Kamankay and sometimes some of her cousins would gather on the porch to practice

reading and spelling as well. Pa Koroma invoked children's migratory learning when describing why he wants widespread electrification in Kamathor. "If they have light here," he explained, "children will have access to study at night. They will not move from one house to another house," as the boys who studied on the veranda of my homestay did. Eldante also stressed the importance of electric light for children's education. He described children in Kamankay gathering around the streetlights at night with their books and papers to continue studying after the sun went down. This ability to study into the evening was new, he stressed—since the arrival of the dam, and with it (for some), electric light.

Electricity as Respect

Electricity offers economic and educational opportunity, and the people of Kadala and Kamathor have good reason to want it for that reason alone. It also has symbolic value. Being able to access light is a status marker, associated as it is throughout Africa with wealth and importance (Degani 2022; Noor et al. 2008; Straeten 2021; Winther 2008; Winther and Wilhite 2015).

Lack of access functions as an indicator of low status and poverty, of the systematic devaluation of Limba people and their sacrifices—however unwillingly made—for the electrification of the nation (cf Hausermann 2018). The connection villagers draw between electricity and respect/appreciation may partly reflect traditional Limba norms of land access. People who "borrow" land from a landholding family for farming return some small "token" of appreciation—usually a small basin full of rice or some other symbolic tithe of the harvest—to the landowning family. It seems likely that expectations of free light and fury at its absence reflects a cultural norm that the land users—SalCost and GoSL—would return a token portion of their electrical "harvest" to the landowners. The farmers have given their land to the dam, and have not been "appreciated" (compensated) for the use of that land, as the Limba say. The Limba

still see the land as theirs. My translators' choice to describe SalCost as having "occupied" rather than purchased or acquired land reflects the belief that the land belongs to the people. This shows up in the occasional comment from village people that Bumbuna Dam is "our dam" or "belonging to us." No one ever describes SalCost as a landowner. The company is, after decades, still a squatter that cannot be evicted and will not pay rent.

There is also a well-studied association between electrification and "modernity as a status" (Ferguson 2006). Winther and Wilhite (2015) make this point persuasively, charting the history of how electricity comes to represent wealth, modernity (cf Ferguson 1999), and even full citizenship in the nation state. Their description of how people in a Zanzibar community began to describe their village as a town "on the day that the streetlights were turned on" is memorable shorthand for the connection between electrification and "progress" (571). Denying Limba farmers electricity is denying them progress, modernity, even full citizenship—and by so doing, denying them both material goods and respectability.

If access to electricity would be a sign of respect, appropriate "appreciation," and an indication that the landowners are "valued" by their government and general society, then "sitting in the dark" is an indication of disrespect and devaluation. Two of my respondents from Kamathor made this connection particularly explicit.

Sarah was one of the few women I spoke with who married in from outside the chiefdom, in her case from Safroko Limba, a nearby Limba-speaking area. She was middle-aged and could not remember clearly how many years she had lived in Kalanthuba. Despite her transplant status, Sarah voiced many of the same themes that have become familiar from our other interviews—the lack of land, the hardships of weeding, the pros and cons of having children in school. She also brought up the idea of "sitting in the dark." The electricity comes from Kamathor land, Sarah

points out, but the vast majority of Kamathor residents do not have electricity. Sometimes she and her neighbors go to Bumbuna, Sarah told me, and people from Bumbuna "will try to provoke them" with rude comments. These town dwellers will say to her, "at Kamathor, *they are still in dark*, they don't have light." I could hear the anger crackling in Sarah's voice. I clarified: people will say "you're still in the dark" as an insult? Sarah nodded, and explained that some townsfolk will scoff and say, "the dam is coming from this village that doesn't have light." The irony of hosting the dam without being able to access electric light becomes a source of shame. As Winther (2008) describes in Zanzibar, being excluded from the benefits of electricity development becomes a source of shame, something mean-spirited people from more prosperous Bumbuna Town can use to mock their rural cousins.

The second example of darkness representing devaluation and disrespect comes from Rukoh, the Kamathor Mami Queen's[12] niece. When I asked her about losing land to the dam, she invoked the familiar idea of sitting in the dark, but with a twist of her mouth and a hard smile. She drew a contrast between how the animals in the reserved bush (BCA) are treated compared to the people of Kalanthuba. Much of the land that the government took from Kamathor was for the BCA. People can no longer farm or hunt within its borders. Rukoh told me that the animals in the conservation area are "better" than the people, adding that even the animals in the bush have "light" while the people in the village are still suffering in the dark. "Light," again, can mean literal light or electricity more generally. At first, I thought that she was just using bitter humor to make a point: Rukoh laughed when she said that the animals have light, and my translator and

[12] "Mami Queen" is a Krio/English term for the headwoman or "village chairlady" in each community. Chairlady may sound more appropriate to Western ears, but local people—including Limba speakers—use "Mami Queen" exclusively. I follow Anya Bonanno's spelling, avoiding both "mammy" and "mommy" for their problematic connotations.

the older women sitting with us on the porch laughed too. She drew this contrast for a reason, though.

Rukoh explained that the animals do literally "have" electricity in the bush, in the form of wildlife cameras to monitor the local population of West African Chimpanzees. These cameras also serve to reinforce the expulsion of Rukoh and her neighbors from what used to be their land. Rukoh has the sense that there are cameras everywhere in the reserved bush. If anyone enters, they will "see them right there in the office" at SalCost, and jail and fine the trespasser, as has happened many times. The same government that has discarded or abandoned local farming communities is so concerned for the wellbeing of the region's non-human residents that it created a reserved area for them. GoSL even extends electricity into the bush for the animals' benefit and protection. The animals are "living comfortable" in the bush, while the people are "really suffering." The contrast is clearly painful. Rukoh's use of the presence/absence of light to demonstrate that the animals are more important than the people frames light as a marker of respect—and of governmental care.

FIGURATIVE DARKNESS: "NOT HAVING THE KNOWLEDGE"

I turn now to the figurative meanings attached to phrase "sitting in the dark." This symbolic dimension of darkness is linked to ignorance, lack of understanding/knowledge, and lack of access to education. There is, of course, a long colonial tradition of constructing Africa and Africans as "dark" in this way—ignorant, backward, unenlightened, sometimes even occult. This tradition encompasses everything from Joseph Conrad's *Heart of Darkness* to ideas of "the dark continent" and "blackest Africa." These colonial and imperial traditions of a dark[13] Africa are

[13] There are also often racialized aspects of this use of darkness (Luna 2018), but I do not deal with this possibility here. Racial interpretations of light/dark may exist in Kalanthuba, but were not immediately apparent in my interviews.

ethically troubling, and finding analogous uses of light/dark in Kadala and Kamathor can feel shocking. This is especially so given that being "in the light" for villagers often refers to specifically Western-style institutionalized education (see also Luna 2018). This education involves English instruction, and follows a standardized school year out of sync with the farming system. Meanwhile, villagers characterize their "parents and forebearers" with their rich cultural knowledge, as "in the dark" and "not having the knowledge."

James Ferguson's *Global Shadows* (2006) which summarizes and reworks the history of constructing a "dark" Africa, provides useful guidance here. Ferguson deals explicitly with the idea of mimesis, of Africans apparently wanting to become like the West (to the horror of Western anthropologists who delight in African culture). He suggests that wanting to be modern, Western, etc., is about obtaining the "status of modernity"—the material goods and security available to people in the developed world—rather than cultural envy. In Kalanthuba, education is the primary pathway to being "in the light" in multiple senses of the word. It represents access to the goods of modernity (Ferguson 2006). The link between education, literacy, and English fluency also means that educated people are less likely to be kept "in the dark" about government decisions affecting them—decisions like building a hydroelectric project and taking their land.

For the residents of Kadala and Kamathor villages, "darkness" as ignorance is explicitly linked to education, but also seems to refer to a general lack of knowledge and understanding. It can also refer to the specific experience of bewilderment and being kept "in the dark" (as we say in English) about development decisions that affect their lives. "Sitting in the dark" seems to function as a more picturesque equivalent to another widely used phrase in my interviews, "not having the knowledge." "They were not having the knowledge" is a common refrain applied usually to past generations and "parents" (understood loosely as predecessors) who "were not

having the knowledge" to sell vegetables, send their children to school, use modern medicine, wear shoes, worship the Christian God, etc. Their predecessors were also "not having the knowledge" to ask for payment for their lands, either from neighbors who were "begging" a place to farm or from SalCost and GoSL. Limba people in the 1970s were "not having the knowledge" to negotiate with SalCost or demand better compensation for their land.

"She Wants the Children to Be in the Light"

I first encountered the idea of "sitting in the dark" in a previous trip to Kalanthuba, years before the fieldwork for this project. At that time, I only heard "sitting in the dark" used to refer to people's lack of education, rather than in connection with electric light. This use of "sitting in the dark" came up repeatedly during my recent fieldwork as well, especially in Kadala. Kadala is poorer than Kamathor, having lost all its land to the hydroelectric project and reservoir, and being farther from the market. It is harder for people in Kadala to replace farming with market-oriented gardening. Education, then, becomes increasingly important as people contemplate their futures and the futures of their children. Parents repeatedly described themselves as "sitting in darkness," or "still in the darkness," and hoped that their children will "get educated" and "be in the light." One mother herself as being stuck "in the dark room" because of her lack of education, and told me that she "wants the children to be in the light." This is despite the manifold costs of education, in terms of both financial expenditure and lost family labor (Luna 2019).

Having children who are "in the light" benefits the entire community, not just the children themselves or their parents. Many parents—perhaps especially in Kamathor—voiced the hope that their educated children will take care of them in their old age, or buy them better houses. There is a widespread belief the educated children will "bring development" and "not be

forgetting" their natal village. Many parents, when probed, do not seem to have a clear idea of what kinds of development they hope that children will bring. That will be up to the children, they say. It seemed that some parents were unsure of what exactly development might look like, other than being a good thing. A few parents did name schools and hospitals as examples of hoped-for "development."

The "light" of education is also seen as a path to a better life for the children lucky enough to be educated. Many parents cannot afford to send all their children to school—maybe three out of seven, or one out of three. Those who are educated are often expected to leave the village, and embark on some sort of work or career other than farming. This is clearly a source of hope and joy for the parents who sacrifice so much for their children's education. The youth leader in Kadala showed me his arm, which he broke as a child climbing trees to tap palm wine. It had never healed properly and could not bend fully. He hoped that none of his children would ever suffer an injury like this. His two oldest boys were beginning secondary school, and he told me with pride that his little one—Andrew, a shy toddler of 18 months—might one day be a pilot, or an engineer, or president! The boy's mother was more cautious. She did not think there would be money to send her youngest child to school. The material conditions of poverty often undermine access to education, which these now-landless parents see as the ticket to a better life. In an even more brutal reminder of the toll that poverty takes, Andrew died two weeks after my conversation with his father, from an unknown illness.

In addition to its role in bringing "development" and giving people a chance at the "status of modernity" (Ferguson 2006), having educated people in the villages is an important safeguard against the misuse of "development." Village residents described the value of having people who could "speak for" them and read documents for development projects that the government or

World Bank might bring. Even if there *were* documents outlining the terms and conditions of compensation for the land ceded to the Bumbuna Hydroelectric Project, it is unlikely that any village residents could have read English well enough to understand them. This inability to read the reports, documents, forms, and contracts—the paper trail—that development work generates is yet another way in which the Limba farmers of Kalanthuba are kept "in the dark." The importance of "light" as education for negotiating access to electric light and the other benefits of development cannot be overstated.

"We Don't Have Any Documents"

While "sitting in the dark" can and does refer to a lack of education or generalized knowledge, it is also closely associated with "not having the knowledge" about the conditions under which residents of Kadala and Kamathor lost their land. Present-day farmers are "in the dark" about the terms of the land agreements with GoSL and therefore feel powerless to seek redress. For Kamathor, even if a written agreement existed at one point, has been lost to the intervening years. The project began in the 1970s: there would be no electronic records, and it seems possible that paper records may have been lost or destroyed in the chaos of the civil war. Eldante believes that the records have not been lost or destroyed, but rather suppressed—kept in the dark. He named one long-term employee of SalCost who he suspects knows the location of the papers or the terms of the agreement. If the employee does know, he is not telling. Another researcher[14] who works in Kalanthuba made a trip to Freetown to search for the lost records. After several visits to the ministry of energy, the U.S. Embassy, and anyone else who seemed sympathetic or potentially useful, she uncovered nothing.

[14] Anya Bonanno, a Ph.D. candidate in anthropology at the University of Georgia.

Most of the records that do exist—from SalCost, the World Bank, and their various consultant partners—are piled in a dark and dusty room at SalCost camp, largely forgotten. Among other details, some of these reports describe which villages were compensated, and for what. In part through surveying failures and gaps in communication during the protracted construction period and intervening civil war, neither Kadala nor Kamathor were compensated for their last land. Flawed projections of the eventual waterline lead the World Bank and its partners to believe that Kadala was losing a sacred site, but no farmland.

The Bank's maps were wrong and Kadala lost most of its farmland. The remaining lands were absorbed into the conservation area, in the farmers' line of sight but out of their reach. Most of the residents of Kadala are not literate, and none of them have access to the dark, grubby "library" at SalCost. They had no idea about this sequence of events. They were left wondering why they, seemingly alone of all the neighboring villages, had received no financial compensation[15] for their lands, especially when their losses were so great. During my last visit to Kadala I met with as many of the residents as possible, who had assembled to hear my report and my thanks. I explained to them through my translator what I had read in the World Bank report. For the first time in the 15 years since their land had been taken, the people of Kadala understood why they had not been paid[16]. They seemed relieved to understand that they had not been

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[15] Kadala did receive some "compensation" in the form of gifts or "development assistance." These projects were woefully inadequate and quickly failed. The women were given money to buy groundnut to plant and sell in the market, but monkeys came out of the conservation area and ate the groundnut. With some of the money, they also bought a bike, which they intended to rent out to people who needed to take goods to market. The bike was promptly stolen. They were also given two goats: one got sick and died, and the other was eaten by a ball python that came up out of the reservoir.

[16] Kamathor was also overlooked for compensation, seemingly because of the construction process's discontinuities and personnel turnover. Most of the land that Kamathor lost to Bumbuna Dam had already been taken for the construction site, SalCost Camp, and surrounding buildings. It is unclear whether consultants believed that Kamathor was not losing land because it was downstream of the reservoir, or whether they mistakenly believed that Kamathor had already been compensated for their lost land.

deliberately passed over, and to hear that the lack of compensation was not in some way their parents' fault. Kadala residents were in the dark about the World Bank's decisions and deliberations concerning the village's fate.

Kamathor people, like their neighbors in Kadala, were unaware of the existence of the World Bank reports or their contents. They emphasized that they do not know the terms of the agreement between their "parents and forefathers" and the government, and some people suspect that there never *was* a written agreement. Kamathor residents describe how their parents were "not having the knowledge" to negotiate for a better deal, and contrast this with their own savvier negotiations with Seli for compensation in the event that Seli beings work on Bumbuna Phase II. It is likely that any agreed-upon compensation for Phase I was minimal, if it existed. As local teacher and politician John Bangura explained, in the past there were no norms of corporate social responsibility: "They come, they say, 'we will bring development for these people.' You clap and then they start to work, no paper, no anything." Kamathor residents, like their neighbors in Kadala, are really and truly in the dark about what exactly happened and about what they might still be legally owed. Without knowledge, they have little room to maneuver, to fight back, or to demand restitution.

HOW LIGHT CAME TO BUMBUNA TOWN: "DARKNESS" AND POWER REVISITED

While there was minimal, if any, resistance to dam construction and subsequent dispossession, Kalanthuba people did not suffer in total silence. Attempts to address the "suffering" caused by land loss focused on accessing electricity as a form of compensation or redress. A few years after the dam became operational, a few local "big men" lead an audacious bid for inclusion in the benefits of this green energy project. Given the symbolic importance of "light" and the practical importance of electricity for Limba people, it is unsurprising that their efforts focused on access

to the grid. I heard two versions of how electricity eventually came to Bumbuna and Kamankay.[17] The first version of the story, from Eldante, goes like this:

> …The dam was commissioned in 2009, in November, that was when really it started functioning…there was just light in Freetown, and Makeni…in 2012-13, I realized that this was unfair, for us to host the dam and we are not getting the light. So, I had to go around and educate people to come together and so we wrote a letter, a 4-page letter to the president.... When that letter was received by his excellency the former president [Ernest Bai Koroma] he was shocked. "You mean there is no light in Bumbuna? That is unfair. We have not treated these people fairly." So it was then that the government had the proactive move, they had people from Magburaka, Makeni… work for us here in Bumbuna. They were here for like a month, that is how we got light here.

Eldante presents the efforts of Kalanthuba's leaders to bring light to Bumbuna as an orderly appeal to the central government. Ernest Bai Koroma was a political ally (most people in Tonkolili district are members of the All People's Congress (APC), President Koroma's party). He appears as a benevolent figure who was "shocked" by the unfairness of the situation. Eldante's story also presents the arrival of light in Bumbuna as the righting of a wrong. He invokes the government's debt to the people who host the dam. His letter-writing campaign appears as a decorous request for inclusion in the benefits of development. The surplus people are reincorporated as full citizens, whose government cares about them and appreciates their sacrifice. Eldante did mention, however, that the light in Bumbuna and Kamankay is not free, and that this upset him. It seems unfair to him that the people whose lands and livelihoods were taken for the dam should have to pay for light. They are, in effect, paying twice.

The second account of how light came to Bumbuna comes from John Bangura, a school teacher and community leader with government and development work experience. While it shares some of the themes of Eldante's tale, it is wildly different in key ways. It goes like this:

> … in November 2009 [the dam] was commissioned by the then-president, Ernest Bai Koroma. And then it started generating light, and they distribute light direct to Freetown and later Makeni, [and] Magburaka.

[17] Both of these interviews took place in English. Quotes are direct quotations from a transcribed recording.

> (KS: Yeah, I hear that Bumbuna didn't get light until quite late. Can you tell me about that?)
>
> Yeah, it was in 2014. Around 2013-2014, thereabouts. *We had to strike*. I was the secretary of the committee, [Eldante] was the chairman. You see, we had to write letters. We went to Freetown. We went to see the president. It was not easy…not easy. So not until when we demonstrated—we used our local devils, you know…and then the government took it serious. …A week later they brought in poles. We saw poles, and they sent these electric workers and they began to connect light and houses and send meters and so on. But even with this, we are not happy, because we are paying for this light for which we are not supposed to pay. You see, *we are not supposed to pay.*

I was puzzled by his story, especially by the "devils." When questioned further, Bangura clarified: the "local devils" are men in costume who are part of the secret societies. The "strike" was a roadblock, created by having the devils out "playing"—dancing or doing secret ceremonies that no non-society members may see—in the roads. Women, children, and men from outside the chiefdom or who are otherwise "not society people," were unable to go out while the devils were "playing." This roadblock created a major problem for the government. During this time, on the Bumbuna side of the Seli River—now Dansogoia Chiefdom—a gold mining corporation called African Mineral Limited (AML—now Kingho Mining), was in full swing. Trucks were coming and going all day and night. AML was a major source of government revenue, according to Bangura. He grinned as he told this part of the history:

> Yes, it was in the high peak of the AML, when they were working here. And then the whole of the night we were playing, the workers were unable to come and work. So, the government took it seriously. The following day, we saw poles. Later…they sent workers.

Unlike the orderly bid for inclusion in "modernity as a status" described by Eldante, Bangura's story involves secret knowledge—devils "playing" which cannot be seen by the uninitiated. The way that Kalanthubans finally won access to electricity for Bumbuna and later Kamankay relied on deploying privileged knowledge and policing the boundaries of who can know or witness what. In this way, winning electricity for Bumbuna oddly mirrors the creation of the dam and the

use of keeping people "in the dark" as a form of power. Whether or not the parallels are apparent, however, depends on who is telling the story.

The acquisition of electricity, that most symbolically potent symbol of modernity and progress, relied upon traditional power structures and economic coercion. It was not simply an appeal up the chain of command to a political superior, but a desperate demand for incorporation by people who had been left outside, "in the dark." Where Bangura's and Eldante's narratives agree is in their sense of injustice, of being wronged. They both see the absence of light in Kalanthuba as deeply unfair, especially given the loss of land. Both highlight how light hopped over the left-behind rural communities to go straight to the urban centers. Both men see achieving light for Bumbuna and Kamankay as a small victory, but insufficient. That light is not free, nor does it extend to the interior of the chiefdom. Free light for all the dispossessed, they insist, is what the people deserve in compensation for their lands.

After hearing Bangura's story, I returned to Eldante to try to reconcile the two versions. What about the societies, I wanted to know. I told him that I heard that they were involved. Eldante hesitated. He seemed embarrassed to acknowledge their role. Eldante is a highly educated local leader. He has strong opinions about development and governance, about making the chiefdom up-to-date, about orderliness, hard work, and proper channels and procedures and modernity and *development*. He is also a Protestant Christian and shares the acute discomfort with traditional spiritual practices which is common among Protestants in Kalanthuba and the surrounding area. Like John Bangura, he was initiated into a society as a young man. Unlike John Bangura, who has a Catholic's relaxed syncretism and an affection for the societies, Eldante sees them as a bad influence.

For Eldante, admitting the role of the societies and the use of economic coercion through a work stoppage undermines his vision of an orderly appeal to a sympathetic political superior. When pressed, however, he admitted that Bangura's version is basically correct. He explained that the societies are a sort of court of final appeal—the people you turn to if you cannot get justice any other way. Their involvement contradicts his own narrative about light as merited compensation, generously bestowed by Ernest Bai Koroma. To someone like Eldante, the role of traditional and non-Western, non-rational societies, may undermine a bid for inclusion in "modernity as a status." Eldante's hesitancy to acknowledge the role of the societies suggests, though I do not know this for sure, a fear that the involvement of "local devils" will undermine his claim to the status of modernity and the benefits of that status. These benefits include, paradigmatically, electric light.

CONCLUSION

What is it like to live in the shadow of Bumbuna Dam? How does it feel for Limba farmers to be the source of electrification and power for the rest of the nation, even as they are "still sitting in the dark?" What is the experience of surplus people in their own words, from the outside in "useless Africa," looking into the well-lit, air-conditioned interior of "useful Africa?" The phrase "sitting in the dark" functions as a frame, an evocative meditation on the affective and symbolic aspects of exclusion from the benefits of green energy development.

My interviews with people in Kadala and Kamathor villages exposed deep frustrations and residents' keen sense of the injustice that had been perpetrated against them. One can, as John Bangura told me, hear the anger in people's voices. That anger is perhaps clearest when they are describing the differences in how the government values animals versus people. The farmers are not dupes, unaware of what is happening to them. They level an indictment against

their government, and against WeBuild and its partners. To explain their experiences as surplus people, they invoke a set of multilayered metaphors revolving around a light/dark binary.

Limba farmers' experience of marginalization and their sense of grievance are important both for theoretical discussions of the fate of "surplus people" and for green energy development policy. The case of Kadala and Kamathor villages highlights the role of green energy projects in producing dislocated surplus populations. Dislocation comes in part from the BCA; the history of fortress conservation schemes expelling indigenous populations is hardly new. Likewise, recent scholarship and activism have recognized the profound social costs of large hydroelectric projects (Hausermann 2018; Kaneti 2020; Khagram 2004). What I hope to do here is to draw these insights into a broader agrarian change literature. Scholars should see dams as drivers of agrarian change and specifically as producers of the "surplus populations" created by a capitalism that no longer needs rural people (Bernstein 2010, 2023; Davis 2006; Ferguson 2013; Li 2010, 2011, 2017; Pulido 2016; Sassen 2013).

More practically, green energy development as a driver of expulsions and producer of surplus people matters because of our global need to shift to low-carbon energy sources. Understanding what went wrong with Bumbuna Dam, and how people who live there experience their marginalization, is a crucial policy learning opportunity. Many types of green energy generation—including wind farms, solar fields, and hydroelectric plants—are land intensive. They will need to go somewhere, and the temptation will always be to site them on the "underutilized" lands of poor, subsistence people. How can we, globally, shift to renewables without leaving vulnerable populations outside "in the dark?"

Conclusion

The case of the Bumbuna Dam in northern Sierra Leone offers insights into the longer-term effects of hydroelectric projects on surrounding communities. Research over the past few decades records the immediate and short-term effects of large dams on local people, flora and fauna, hydrology, and climate. The accumulating evidence has eroded hydroelectric projects' popularity in development and government circles (Khagram 2004). Both development agencies and most states—with the notable exception of China—hesitate to fund new hydroelectric projects, for good reason. What is less well understood, however, is the legacy impact of existing dams on the communities surrounding them. Longer-term outcomes, especially for the people who lose their lands to dam development, are gradual, slow-moving, and seldom studied.

In Kadala and Kamathor villages, Bumbuna Dam has accelerated prevailing patterns of agrarian change in Africa. There is, in Kalanthuba, a mismatch between the traditional system of rotational bush fallow agriculture and the new situation of land scarcity. The mismatch leads to land degradation, followed by a rapid shift from subsistence to market-oriented agriculture. Rural differentiation emerges as villagers' life outcomes diverge according to their access to land and ability to sell crops in the market. At the same time, land theft creates a cast-off surplus population, a rural people unneeded by capitalist development. Limba farmers both recognize and resent their new status as "surplus people." The dam has created, in effect, immiseration without exploitation.

CONTRIBUTIONS TO THE LITERATURE

This project argues for the application of theoretical perspectives from the agrarian change tradition to the study of the social impacts of large dams. The utility of this approach lies in its

ability to illuminate the effects of hydroelectric projects in the long run. In their systematic review of the social impacts of hydroelectric projects (2016), Julian Kircherr and collaborators note as a limitation of this literature that must studies happen between the beginning of construction to around 10 years after dam completion. My work on Bumbuna Dam took place around 40 years after the beginning of construction, and 14 years after the dam was commissioned. With this longer timeframe in mind, slower processes of socio-economic and ecological transformation stand out, with land loss functioning as the primary lever or mechanism of change. Initial resistance was minimal, as people were excited by what they saw as a beneficial development opportunity. Post-construction protests, aimed at wringing concessions in the form of infrastructure from dam developers and the government of Sierra Leone, have petered out.

Through this lens, the story of Bumbuna Dam increasingly resembles classic narratives of agrarian change in Africa (Bernstein 2010; Berry 1993; Netting 1993). The presence of a massive, World Bank funded, Italian-run project in the hinterlands of northerns Sierra Leone represents a classic case of global capitalism "penetrating" a rural subsistence community, with predictable results. Through the "great global enclosures of our time" (Araghi 2001), in this case taking the form of land acquisition for a state-sponsored development project, many farmers find that subsistence agriculture is no longer tenable. They must increasingly engage in production for the local market.

Despite a turn toward the market, residents of Kadala and Kamathor remain stubbornly un-proletarianized, representing at best a semi-proletariat (Bernstein 2023). Famers in Kadala and Kamathor remain half-in, half-out of the local market. The market alone will not provide for their subsistence without own-consumption agriculture subsidizing their reproduction. The

position of Limba farmers in Kadala and Kamathor is best understood using the concept of "surplus people" or "surplus populations" (Bernstein 2023; Davis 2006; Ferguson 2013; Li 2010, 2011; Pulido 2016; Standing 2018). While market dependence and the shifts in agricultural production would likely have happened anyway,[18] the Bumbuna Dam served as both catalyst and accelerant for these processes. By withdrawing vast swaths of land from subsistence production and "expelling" locals from their land (Sassen 2014), it forced farmers to turn to the market earlier than they might otherwise have done. Since that market has neither absorbed nor fully supported the disposed, the construction of the dam directly contributed to the production of Kadala and Kamathor residents as "surplus people."

This project also contributes an analysis of the symbolic and affective dimensions of dispossession and being rendered surplus. A focus on desires and aspirations, borrowed from ethnographic work on African infrastructure and electrification, bridges the gap between tracking political economic changes and understanding how people interpret these changes. The phrase "sitting in the dark" became the key to exploring villagers' frustration and bewilderment. Limba farmers' characterization of themselves as "in the dark" parallels the long history of constructing a unitary, underdeveloped Africa as "the dark continent," while light represents modernity, enlightenment, and the developed Western world (Ferguson 2006).

I draw on Ferguson and his retooling of the notion of Africa's "darkness," but this project does not deal with the fate of Africa and in the global economy. Instead, I explore a small community of particular Africans, who are theorizing their own marginalization in the local and national economy. Residents of Kamathor and Kadala villages are not making a neutral observation about their lack of access to electricity. Nor are they offering an abstract diagnosis of

[18] See Jessie Luna (2020) for an eerily similar discussion of social and economic changes in a Burkina Faso cotton farming community. These types of socio-economic shifts appear to be increasingly common across West Africa.

some universal African condition. Instead, they are lodging a complaint against their own government and that government's business partner, WeBuild. Villagers are bitterly aware of the forces that have, by taking their land but not their labor, converted them into surplus people. They are stuck in "useless Africa" with a clear view into the well-lighted interior of "useful Africa." When Limba farmers say, "we are sitting in darkness," it is an indictment, an accusation, a claim for inclusion in the status of modernity.

IMPLICATIONS

Understanding how dams transform people's lives and livelihoods over the decades following construction may clarify broader questions about the human costs of "green" land uses. Various forms of "green grabbing" are on the rise, and will likely intensify due to climate change (Edelman, Oya, and Borras 2013). The ills of fortress conservation and national-park style exclusion are well-documented, and the Bumbuna Conservation area offers just one more example of indigenous populations being disregarded in favor of protecting charismatic wildlife. The legacy of hydroelectric projects and other forms of green energy development, however, is still unfolding. Even in the context of hydroelectric projects, which scholars have scrutinized for decades, understanding of long-range consequences is limited. What becomes of dispossessed people fifteen, thirty, or fifty years after they lose their land?

As the experiences of Kadala and Kamathor villages illustrate, we should consider hydroelectric projects not only in terms of displacement, resistance, and sometimes violent conflicts between national and local interests. These projects are often economically and ecologically necessary, but are also likely to produce surplus people. A green transition is necessary and inevitable, but as a global community, we ought to approach this shift in a way that will minimize harm to affected people. Pursuing green energy—whether that be through

hydroelectric projects, nuclear energy, or vast solar farms—in a way that generates "expulsions" and "surplus population" is not truly sustainable.

The case of Bumbuna Dam is a cautionary tale that presents a learning opportunity for future policymakers and development practitioners. The project was, from its outset, riddled with communication problems, delegitimized by a lack of transparency, and callous towards the existing residents of the Seli River watershed. Initial promises of free light and the benefit sharing scheme meant to disburse profits from the dam to affected communities would have gone a long way towards mitigating harms. Including the people of Kalanthuba and Dansogoia chiefdoms in the decision to create the dam, and in planning for appropriate compensation, would have been better yet. While it is possible that no compensation could equal the value of the lost land, villagers long for light and see electricity as the most appropriate type of redress. Of course, free light has not been extended to the dispossessed farmers, and the bank account intended to for their use has disappeared, along with its contents.

As the second chapter describes, villagers' experience of powerlessness and being "in the dark" about the Bumbuna Project was not only painful, but a practical barrier to negotiating (or demanding) better outcomes. Bumbuna Dam also functioned as a learning experience for Kamathor residents, who negotiated actively with Seli Hydro regarding their compensation for the proposed Bumbuna II project. It now seems the second phase of the hydroelectric project has folded, but perhaps other would-be dam developers, like Kalanthuba residents, can learn from the failings of Bumbuna Dam.

More importantly, while there are certain broader lessons—and important questions about equity in green energy development—that we can draw from the case of Bumbuna Dam, this is a single isolated case. There is a need for more case studies and cross-case comparative work

exploring the longer-term effects of green energy development on host communities. How do hydroelectric projects, solar farms, and other renewables create disruptions or dislocations for the people who live around them? And what happens to these communities in the decades following green energy development?

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Appendix A: Village Interview Guide

Throughout this interview, I'm going to ask you to think back to how things used to be in your village years ago, when you were younger—maybe 15 or 20 years ago, before the dam, when Kalanthuba was still part of Kalansogoia Chiefdom—and to compare how things were then to how they are now. I want to know how things have changed over the course of your life: farming, land, pests, work, families. Throughout the interview, I will ask you "how has this changed?" or "how has that changed?" but if it hasn't changed, that's fine. You can just say so.

1. First, I want to get to know you a little.
   Are you from this village, or did you grow up somewhere else?
   Have you always farmed? (Have you travelled to find work?)
   What crops do you grow?
   What crops do you keep for the family, and which ones do you sell?

2. I'll ask more specific questions later, but in general terms, what sorts of changes have you seen in this community over the last 15 or 20 years?

A. Land-use change.

I want to ask you about the relationship between people and the land they live on. Think about all the ways people use land—for farming, for hunting or fishing, or for other purposes. Think about what the land here is like—what kinds of forest or bush there are around the village, whether it is wet land or dry, stony or smooth. Think back to how things used to be when you were younger. I'm going to ask you some questions about how these things have changed during your lifetime.

1. How did people gain access to land when you were younger—say 15 to 20 years ago?
2. Can you tell me a bit about how farming worked?
3. Can you tell me about how things have changed since then?
4. If I were to walk out into the farm or garden with you 20 years ago, what would it look like?

   [prompt if necessary]

   a. What kind of crops would be growing and what kinds of pests or weeds would we see?
5. Can you tell me how things look different today?
6. I know that people in this village have lost land because of the reservoir or the BCA. Can you tell me what that was like?

B. Food security

1. Can you tell me about how people got food for themselves and their families when you were younger?

2. How have things changed since then?

    [prompts if necessary]

    a. Prompt: For example, have there been changes in how much people hunt or fish, farm, or buy food with wages from work outside the village?

3. Can you tell me about the kinds of foods that people mostly ate when you were younger?

4. Can you describe how this has changed since you were younger—15 or 20 years ago?

    [prompt if necessary]

    a. Compared to when you were younger, how likely are people to buy food instead of growing it, or getting it from the land around the village?

5. Since you were younger, how has hunger changed in your village?

    [prompt if necessary]

    a. Compared to 15-20 years ago, how often do people have trouble getting enough food to eat?

C. Changes in farming practices and/or labor patterns

1. In general, how would you describe how farming has changed in the past 15-20 years?

2. What changes in other kinds of work—housework, working for a wage—do you see since when you were younger?

3. What are your biggest concerns or challenges in farming these days?

4. How have these concerns changed since when you were younger?

Appendix B: Key Informant Interview Guide

Throughout this interview, I'm going to ask you to think back to the time when the dam was being constructed in Kalanthuba, and what that time was like. I'm going to ask you some very general questions, but I am mostly interested in hearing your account of how things happened. If at any point in time a question makes you uncomfortable, you can choose not to answer and just skip to the next question. As a reminder, you can quit the interview or ask to speak off the record at any point in time.

1. Tell me a bit about how you ended up where you are now.
    Where are you from?
    What is your educational background?
    What is your role in (the chiefdom/BWMA/Salini)

2. Can you tell me a bit about the history of the dam?
    [prompts if necessary]
    Who was responsible for building it?
    When was the construction work taking place?
    How did people feel about it then?

3. Can you tell me about what kinds of things the government, Salini, or the BWMA did compensate people for their land?

4. What was it like for the Kalanthuba people during that time?

5. What was it like for the people working on the dam, or the people in the BWMA or Salini at that time?

6. Can you tell me what it was like for them before the dam came, or how you think things have changed for them since then?

7. I have heard that there is going to be a second phase of the Bumbuna Hydroelectric Project built in the next ten years. What do you know about that?
    [prompts if necessary]
    Do you know who is funding it?
    Do you know when they will begin construction?
    Do you know where it will be placed?

8. Is there anything else you think I should know about Kalanthuba and its history, the dam, or changes that have been happening around here in the last few years?